جامعة أبوظبي
Abu Dhabi University

UNDERGRADUATE

CATALOG

2025-2026



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NATIONAL ACCREDITATION:

Abu Dhabi University is licensed by the United Arab Emirates Ministry of Education, and all of its degree programs have received accreditation by the Ministry of Education, Department of Education and Knowledge (ADEK), and Knowledge and Human Development Authority (KHDA)

INTERNATIONAL ACCREDITATION:

ADU is the only national private University in the UAE and was one of the youngest in the world under 15 years old to receive international academic accreditation from the "Western Association of Schools and Colleges: Senior College and University Commission - WSCUC". ADU's international accreditation is for a period of 6 years and was awarded for the University's success in upholding the highest international academic standards of higher education institutions worldwide in teaching, scientific research and community service and for its commitment to three core values: student learning and success outcomes, quality and improvement, and institutional integrity, sustainability and accountability.

ADU's College of Business is accredited by the Association to Advance Collegiate Schools of Business (AACSB) and the prestigious EFMD Quality Improvement System (EQUIS) for all its undergraduate and postgraduate programs. Only 2 % of business schools worldwide have this double accreditation. Additionally, the College of Engineering has also earned the accreditation of the world-renowned Engineering Accreditation Commission (EAC) and Computing Accreditation Commission (CAC) of ABET for six of its engineering programs. ADU houses the only architecture program to hold accreditation by the Royal Institute of British Architects (RIBA). The College of Health Sciences has earned accreditation from the Agency for Public Health Education Accreditation (APHEA). Our Aviation Department in particular has also received the accreditation as an Authorized Training Center (ATC) from the International Air Transport Association (IATA).

SHEIKH KHALIFA EXCELLENCE AWARD (SKEA):

In 2010, Abu Dhabi University outdid a large number of industrial and developmental institutions in the country and became the first higher education institution to win the prestigious Sheikh Khalifa Excellence Award for pursuing excellence in all of its operations while achieving its primary strategic objectives and goals.

MOHAMMED BIN RASHID AL MAKTOUM BUSINESS AWARDS:

At the cthe conclusion of The World Entrepreneurship Forum 2013, Abu Dhabi University was awarded "Best Supporting University for Entrepreneurship" in the UAE and the Arab World during the Mohammed Bin Rashid Award for Young Business Leaders in its 8th cycle. Organized by the Mohammad Bin Rashid Establishment for Small and Medium Size Enterprises Development, the awards held under the patronage of His Highness Sheikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, recognize individuals and organizations who contribute to the development of SME sectors in the country, which earned ADU this significant achievement.

QUACQUARELLI SYMONDS (QS):

For the thirteenth year in a row, Abu Dhabi University has been ranked as a top higher education institution in the Quacquarelli Symonds (QS) World University Rankings since 2012–2013. In the 2026 edition, it ranked 391 globally, rising by 110 places from the previous cycle. Moreover, ADU is ranked among QS's top 150 universities under 50 years*, 12th in the Arab World, and 4th in the UAE in the QS WUR: Arab Region 2025. In the QS by Subject Rankings 2025: Social Sciences and Management climbed 110 spots to rank 178th globally. Business and Management Studies and Accounting & Finance are ranked in the top 201–250 globally. Engineering and Technology made its debut, ranking within the top 386 globally. Law entered the ranking for the first time in the top 251–300 globally. The Engineering–Mechanical, Aeronautical, and Manufacturing program ranked 451–500 globally.

TIMES HIGHER EDUCATION (THE) WORLD UNIVERSITY RANKINGS:

ADU is among the top 3 universities in the UAE and ranks globally at 191st while also ranking 101-125 globally for World Reputation. It holds the number one position in the UAE for the teaching pillar. In the prestigious THE Asia Ranking 2025, it secures the 70th position. ADU an impressive performance in THE Young University Rankings 2023 for the world's best universities that are under 50 years old or younger, ranking 60th globally. ADU ranks 4th in the UAE and 172 globally for its research quality. With over 100 nationalities, ADU is ranked 5th globally for the most international university. The College of Business is ranked as the number one in the UAE and the Arab Region and among the top 62 academic institutions in the world for business and economics. ADU's graduates are highly employable, ranking first in the UAE for graduate employability and 174 globally (THE graduate report). Cementing its global reputation, ADU ranks 13th globally for international outlook.

THE BIZZ AWARDS:

Organized by the World Confederation of Businesses (WORLDCOB), the prestigious Bizz award recognizes companies and organizations for innovation, business excellence and outstanding management performance, making Abu Dhabi University one of the first higher education institutions to ever receive the Bizz award in the Middle East region for three years running, including the recognition of the "Inspirational Company" in the Bizz Awards 2012.

**QS World University Rankings 2021*

ABU DHABI UNIVERSITY
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MESSAGE FROM **THE CHAIRMAN**

Dear Students,

Welcome to Abu Dhabi University—an institution built on ambition, guided by vision, and driven by a deep belief in the power of education to transform lives.

From the beginning, our purpose has been clear: to empower the next generation of leaders, thinkers, and changemakers. Whether you are just starting your undergraduate journey or advancing your expertise through postgraduate studies, you are now part of a vibrant academic community that values excellence, innovation, and integrity.

Our commitment to international standards ensures that the education you receive is globally recognized and locally relevant. More importantly, it prepares you to meet the challenges of a fast-changing world—confidently, competently, and with purpose.

At Abu Dhabi University, we take pride not only in our achievements, but in the success stories of our students and alumni. Their accomplishments across industries and continents reflect the spirit of resilience, creativity, and service that we cultivate here. You are now part of that legacy.

This is your time to grow—not only academically, but as a citizen of the world. Embrace curiosity. Challenge assumptions. Engage with your peers. Learn from your professors. Take pride in your heritage while reaching for new horizons.

As Chairman of the Board of Directors, I assure you that every effort is made to provide you with an environment where you can thrive—intellectually, socially, and professionally.

We are honored that you have chosen Abu Dhabi University. May this chapter of your life be filled with discovery, inspiration, and lasting success.

Warm regards,

> **"At Abu Dhabi University, you will gain the knowledge to achieve and the wisdom to lead."**

Dr. Ali bin Harmal Aldhaheri
Chairman of the Board of Directors



WELCOME FROM
THE CHANCELLOR

Congratulations on choosing Abu Dhabi University, one of the top three universities for the teaching pillar in the UAE*. You've joined us at an exciting time, as ADU accelerates its journey of growth and impact. You're now part of a vibrant community of learners and ambitious individuals who proudly call Abu Dhabi University, their home which ranks 2nd in the Arab Region and in the top 200 universities globally in the prestigious Times Higher Education (THE) World University 2025 Rankings.

Since it opened in 2003, Abu Dhabi University has been dedicated to developing leaders who contribute to national and global betterment. Our programs are designed to meet the future needs of the region and are benchmarked against the best programs offered by leading universities worldwide. At ADU, we are dedicated to equipping you with the knowledge and skills necessary to make a meaningful impact on your community and the global stage. This ensures that you're fully prepared to join the job market upon graduation. Our graduates are the most employable in the UAE according to the THE's Global Employability University Rankings for 2025.

Abu Dhabi University is internationally recognized for its quality education and research. According to the QS World University Rankings, our university is recognized among the top 150 universities under 50 years of age. Furthermore, according to the 2026 edition of the QS World University Rankings, ADU is now among the top 400 universities in the world, climbing over 110 spots compared to the previous year, currently holding the 391st position worldwide. This achievement marks our highest-ranking since 2013, solidifying ADU as the 5th best university in the UAE.

Our research performance is strong, and we rank 4th in the UAE and 172 globally for our research quality according to the THE World University Rankings 2025. We take pride in our diverse community, ranking 5th globally for the most international university, according to the prestigious THE Rankings 2025. With students and staff representing diverse cultures and talents from around the world, you will have the opportunity to learn from and form friendships with talented individuals.

ADU has recently been ranked as the 70th best university in all of Asia. Additionally, we have made an impressive performance in THE Young University Rankings 2024, securing the 60th position globally among the world's best universities under 50 years old or younger. Further solidifying our global standing, ADU ranks 8th worldwide in THE's Best Small Universities Rankings 2024.

Our programs are accredited by prestigious bodies such as AACSB, EQUIS, ABET, RIBA, APHEA, and WASC, ensuring the recognition and respect of your Abu Dhabi University degree by employers and higher education institutions internationally.

Abu Dhabi University's success lies in its clarity of vision and values. We prioritize the pursuit of knowledge, supported by professional staff and excellent facilities. Our campus, with state-of-the-art teaching and research facilities, a comprehensive student center, and impressive outdoor spaces, provides a key resource for students, businesses, and the local community. We have laboratories outfitted with state-of-the-art equipment. Our library opens to you a wide world of knowledge and research. We provide a variety of classroom settings that allow you to engage with your teachers and fellow students through the latest forms of interactive and face-to-face instruction.

Our partnerships include renowned institutions such as the University of Connecticut, the University of International Business and Economics, the University of Management and Technology, the Royal University for Women, Technische Hochschule Mittelhessen, Arab Open University, Menlo College, and Brest Business School. These collaborations reflect our commitment to global engagement and academic excellence, offering our students and faculty valuable opportunities for international learning, research, and innovation.

At ADU, we understand the investment you and your family are making in your future. We are committed to providing you every opportunity for success as you engage with us in your growth and intellectual development.

We believe that students are the heart of a university. Together, we aim to enhance the university's reputation, contribute to the economy and society, and ensure your time at Abu Dhabi University is memorable. We are here to help you achieve your academic potential, develop the skills and qualifications for productive careers, and support your personal growth as a well-rounded individual.

Welcome to Abu Dhabi University, where our goal is to assist you in your pursuit of a more fulfilling life

"We are here for you. Welcome to your University, Abu Dhabi University!"

**Times Higher Education World University Rankings 2025*

Professor Ghassan Aouad
Chancellor, Abu Dhabi University

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ABOUT
ABU DHABI UNIVERSITY

Abu Dhabi University (ADU) was established in 2003 as a private university under the patronage of H.H. Sheikh Hamdan Bin Zayed Al Nahyan, the Ruler's Representative in Al Dhafra Region and President of ADU's Board of Trustees.

Today, ADU is home to approximately 8,000 students from over 100 nationalities across its three campuses: Abu Dhabi, Al Ain, and Dubai.

The University has five colleges: the College of Arts, Education, and Social Sciences (CAESS), the College of Business (COB), the College of Engineering (COE), the College of Health Sciences (CHS), and the College of Law (COL).

ADU follows the American model of higher education. Most classes are taught in English, with a few offered in Arabic. All degree programs are open to students of all nationalities

At Abu Dhabi University, teaching and learning are our top priorities. Our faculty are internationally recognized and play a key role in helping students learn actively and prepare for careers in the UAE and around the world.

Research and scholarship are also important, as they enhance graduate employability and help ensure that students receive a high-quality education. Faculty involvement in research, allows them stay up to date with the latest teaching methods and developments in their fields, which improves the learning experience in the classroom.

Everyone at ADU is encouraged to contribute to the University and the wider community, supporting our mission to serve the UAE and its people.

Our Philosophy

Abu Dhabi University is a top-quality, internationally recognized private university that supports the UAE's social, educational, cultural, and economic growth by educating both UAE citizens and international students. It is managed with a focus on efficiency and high standards, combining the best practices from American and Arabian models of education, while reflecting the UAE's multicultural identity.

ADU places a high value on research and scholarship, recognizing their crucial role in supporting the country's progress and equipping students with the latest knowledge and skills.

Student selection is based solely on academic ability, interest in the chosen field, and alignment with the University's philosophy, values, and goals.

Institutional Licensure and Program Accreditation

Abu Dhabi University obtained institutional accreditation from the UAE's Ministry of Education in 2003. The University and all its programs are accredited and approved by the Ministry of Education

In the UAE, universities must be officially licensed and have their programs accredited to be recognised by the Ministry of Higher Education and Scientific Research

International Accreditation

Alongside its UAE accreditation, Abu Dhabi University is committed to meeting the highest global academic standards through international accreditations

ABET (USA)

ADU's Chemical, Civil, Electrical, Computer, and Mechanical Engineering bachelor's programs are accredited by the Engineering Accreditation Commission of ABET. The BSc in Information Technology is accredited by ABET's Computing Accreditation Commission.

ABET is a leading global accreditor for programs in science, computing, engineering, and engineering technology. This accreditation confirms that ADU's graduates are prepared for careers in fast-moving, high-tech industries.

RIBA (UK)

ADU's Bachelor of Architecture program is accredited by the Royal Institute of British Architects (RIBA). It was the first program in the UAE to receive this honor. RIBA accreditation is a mark of international quality in architectural education

AACSB (USA) & EQUIS (Europe)

Our College of Business holds dual accreditation from the AACSB in the USA and EQUIS in Europe, covering all undergraduate, master's, and doctoral business programs.

Only 1% of business schools worldwide have both accreditations.

APHEA (Europe)

The BSc in Public Health is accredited by the Agency for Public Health Education Accreditation (APHEA).

This accreditation promotes high standards in public health education and training worldwide.

WASC (USA)

In 2016, ADU received full accreditation from the WASC Senior College and University Commission, one of the six official accrediting bodies in the USA responsible for accrediting public and private universities and colleges, as well as secondary and elementary schools, and foreign institutions of American origin. ADU is the only private university in the Middle East to earn this distinction.

In 2022, WASC granted a 10-year reaccreditation following a thorough review, recognizing the strength and quality of ADU's programs.

IATA (Canada)

ADU's Department of Aviation is an authorised IATA Training Center (ATC), accredited by the International Air Transport Association.

IATA is a global industry leader representing nearly 300 airlines. Its certifications are recognized worldwide and open doors to careers in aviation, cargo, and travel

Current Abu Dhabi University Undergraduate Programs

The following list includes the undergraduate academic programs that are accredited by the CAA and are currently being offered:

College of Arts, Education, and Social Sciences

Bachelor of Arts In International Relations

Bachelor of Arts in Mass Communication (Concentration in Media Production and Strategic Communication)

Bachelor in Mass Communication (Arabic) (Concentration in PR and Advertising and Media Production)

Bachelor of Arts in Psychology

Bachelor of Arts in Video Game Design

College of Business

Bachelor of Business Administration

Bachelor of Business Administration in Accounting

Bachelor of Business Administration in Finance & Fintech

Bachelor of Business Administration in Human Resources Management

Bachelor of Business Administration in Digital Marketing Communications

College of Engineering

Bachelor of Architecture

Bachelor of Science in Aviation

Bachelor of Science in Chemical Engineering

Bachelor of Science in Chemical Engineering with concentration in Water Technology

Bachelor of Science in Civil Engineering

Bachelor of Science in Computer Engineering

Bachelor of Science in Computer Engineering with Concentration in Artificial Intelligence

Bachelor of Science in Electrical Engineering

Bachelor of Science in Electrical Engineering with Concentration in Robotics and Automation

Bachelor of Science in Information Technology

Bachelor of Science in Information Technology with Concentration in Cybersecurity

Bachelor of Science in Information Technology with Concentration in Game Development

Bachelor of Science in Interior Design

Bachelor of Science in Mechanical Engineering

Bachelor of Science in Mechanical Engineering with Concentration in Industrial Mechatronics

Bachelor of Science in Mechanical Engineering with Concentration in Metallurgy

Bachelor of Science in Biomedical Engineering

Bachelor of Science in Cybersecurity Engineering

Bachelor of Science in Industrial Engineering

Bachelor of Science in Software Engineering

Bachelor of Science in Software Engineering with Concentration in Big Data Analytics

Bachelor of Science in Software Engineering with Concentration in Web and Mobile Applications Development

Bachelor of Science in Artificial Intelligence Engineering

Bachelor of Science in Renewable and Sustainable Energy Engineering

College of Health Sciences

Bachelor of Science in Biomedical Sciences - Laboratory Medicine

Bachelor of Science in Environmental Health and Safety

Bachelor of Science in Human Nutrition and Dietetics

Bachelor of Science in Molecular and Medical Genetics

Bachelor of Science in Public Health

Bachelor of Science in Clinical Psychology and Mental Health

College of Law

Bachelor of Law in Arabic



Vision

To be a leading university in the MENA region, providing graduates with the knowledge, skills, and mindset to become leaders of tomorrow, and engaging in research and innovation that make a difference to society



Mission

We aim to transform society through:

- preparing graduates for dynamic careers through life-changing, technology-enhanced, internationally accredited, world-class education;
- research and innovation that enhance academic disciplines and contribute to societal development and economic growth; and
- mutually beneficial collaboration with our stakeholder communities.



Core Values

Integrity
We act with honesty and the highest ethical standards in everything we do.

Excellence
We strive for excellence in teaching, research, and service, holding ourselves accountable to the highest standards of performance

Innovation
We fooster creativity and innovation to enrich the student experience and maintain global competitiveness.

Diversity
We celebrate our diversity and cultivate a welcoming, inclusive community built on respect and shared purpose.

Strategic Goals

1. Sustainability

Abu Dhabi University leads by example in addressing global sustainability challenges. Guided by the UAE's vision and the UN Sustainable Development Goals, our strategy focuses on three core pillars:

- Environment and Operations
- Social and Community
- Education and Research

These pillars shape our long-term actions and position us as a regional leader in sustainability in higher education.

2. Student Success and Experience

Our students are at the center of everything we do. We provide a dynamic and supportive learning environment, both on campus and online, that fosters personal and academic growth. A vibrant campus life, together with career-focused programs and holistic development, prepares students to succeed in a dynamic world and make meaningful contributions to society.

3. Teaching and Learning

We are known for excellence in teaching, flexible learning, and global relevance. Our programs are designed to meet the demands of today's economy while anticipating tomorrow's needs. Through research-informed practices and strong academic partnerships, we deliver high-impact learning experiences that build confidence, competence, and character.

4. Research and Innovation

Our research drives progress in academia, the economy, and society. We champion innovative thinking, applied knowledge, and real-world impact. By aligning our research with national and industry priorities, we deliver creative, practical solutions that support the UAE's development agenda and position ADU as a hub of innovation in the region.



AN OVERVIEW

Why Choose Abu Dhabi University?

With so many universities to choose from, why study at Abu Dhabi University?

At ADU, we understand that choosing where to study is a major decision. That's why we focus on delivering real value through high-quality education, internationally recognized degrees, and a supportive learning environment to help you succeed.

Abu Dhabi University is accredited by the WASC Senior College and University Commission (WSCUC) in the USA, the same body that accredits top universities like Caltech, UCLA, and Stanford, meaning your degree is globally recognized and respected.

ADU is proud to be ranked among the top three universities in the UAE, third in the Arab region, 70th in Asia, and in the top 200 globally, according to Times Higher Education. We are also ranked #1 in the UAE for teaching and graduate employability. QS World University Rankings place us among the top 150 universities under 50 years old globally.

Our approach combines the best of UAE traditions with modern, technology-driven education models from around the world. ADU is the right fit for you if you're looking for a university that is:

- Among the best in the UAE and globally
- Internationally accredited and recognized
- International in outlook, with faculty, staff, and students from over 100 nationalities
- Built on the best of Arab and American, educational systems
- Focused on helping you build strong English, technical, and analytical skills
- Committed to your personal and professional growth
- Blends academic theory with real-world experience
- Home to the #1 College of Business in the UAE and the region (THE Rankings)

When you choose ADU, you're joining a dynamic and ambitious community. We continually expand our programs, campuses, and facilities to deliver the best possible experience for you.

Abu Dhabi University is more than classrooms and textbooks. It's a hub for learning, culture, innovation, and personal development. Join us and be part of our vision to become one of the world's leading universities.

Our Campuses

Abu Dhabi Campus

Located in the UAE capital, ADU's main campus offers a vibrant, high-tech learning environment. Classrooms feature the latest educational tools, and computer labs, campus-wide Wi-Fi, and a fully equipped library give students easy access to information and resources.

Students can live on campus in comfortable, apartment-style dorms, with eight dining options to suit all tastes. At ADU, you'll find the perfect mix of academic excellence and top-tier facilities.

Al Ain Campus

Known as the Garden City, Al Ain is rich in heritage and lush green landscapes. Our Al Ain campus, named after H.H. Sheikh Tahnoun bin Mohammed Al Nahyan, welcomes over 1,800 students from 40 different nationalities. Inspired by the Ghaf tree, the campus reflects sustainability and cultural values.

The campus features over 70 classrooms and labs, 137 offices, an Innovation Center, an Academic Success Center, a gym, a café, a library, and exceptional sports facilities. It offers students a modern, comfortable, and collaborative learning space designed to prepare them for the future.

Dubai Campus

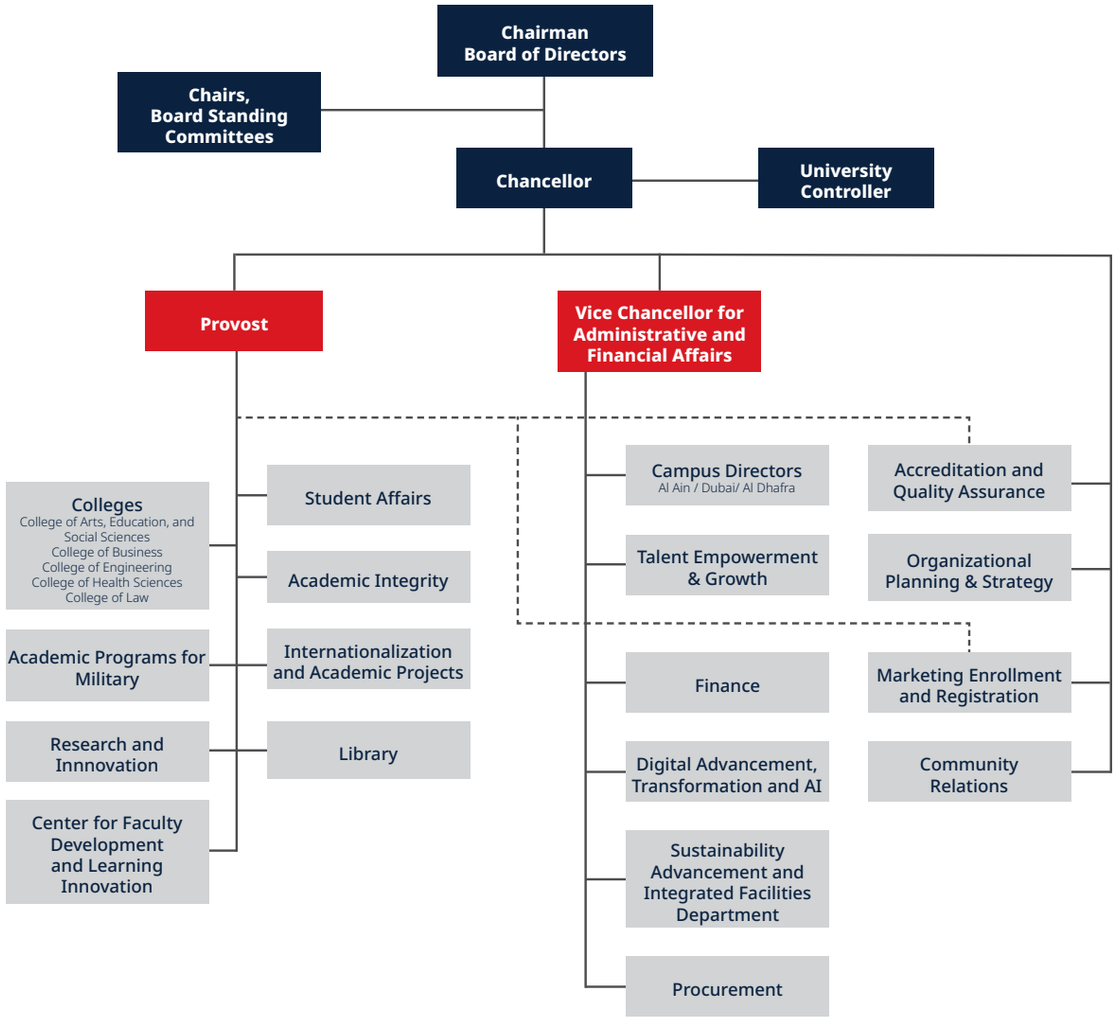
Located in the heart of Dubai Knowledge Park, our Dubai campus offers specialized Master's and Doctorate programs for professionals in business, engineering, law, finance, healthcare, and education.

Our faculty brings a strong combination of academic and industry experience, and our classrooms and labs are equipped with advanced instructional technology. The library is connected to global databases, supporting advanced research and scholarly studies.

We also offer a vibrant student life, including social events and extracurricular activities. Our focus on industry partnerships and real-world learning helps students develop valuable skills and establish connections that enable them to succeed in today's global economy.

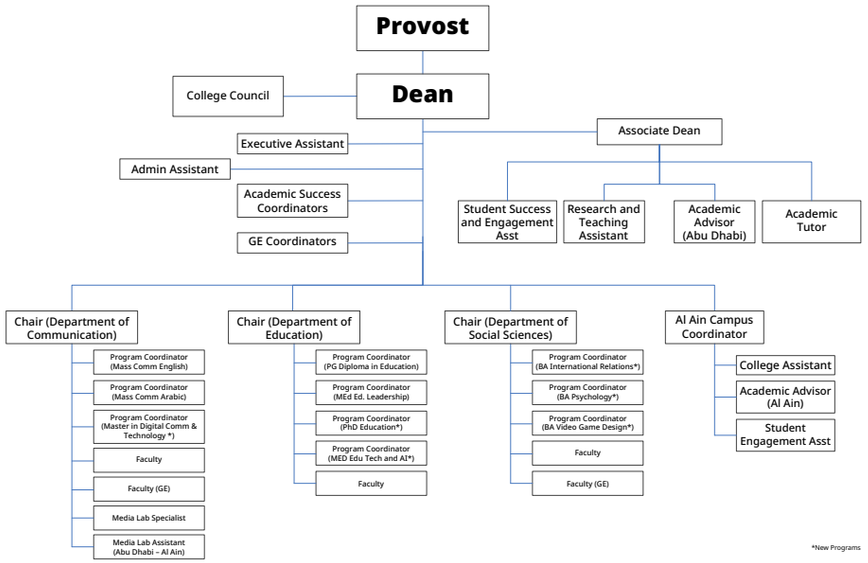
The campus's central location places students near major companies, public transportation, dining options, and cultural landmarks—an ideal setting for both academic and personal growth.

Abu Dhabi University
Organizational Chart

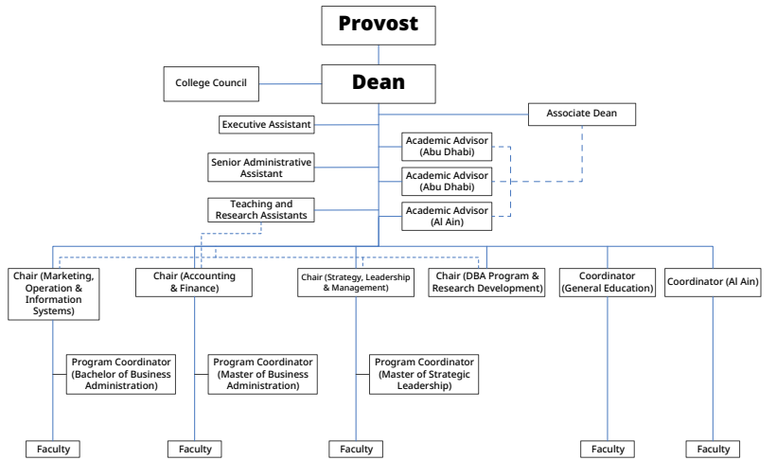


Abu Dhabi University
College Organizational Chart

COLLEGE OF ARTS, EDUCATION, AND SOCIAL SCIENCES



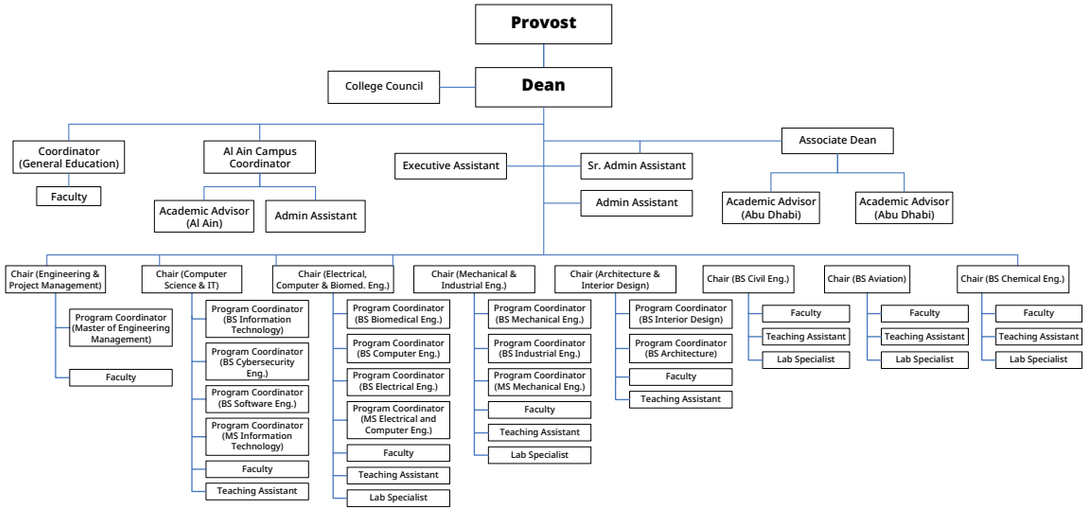
COLLEGE OF BUSINESS



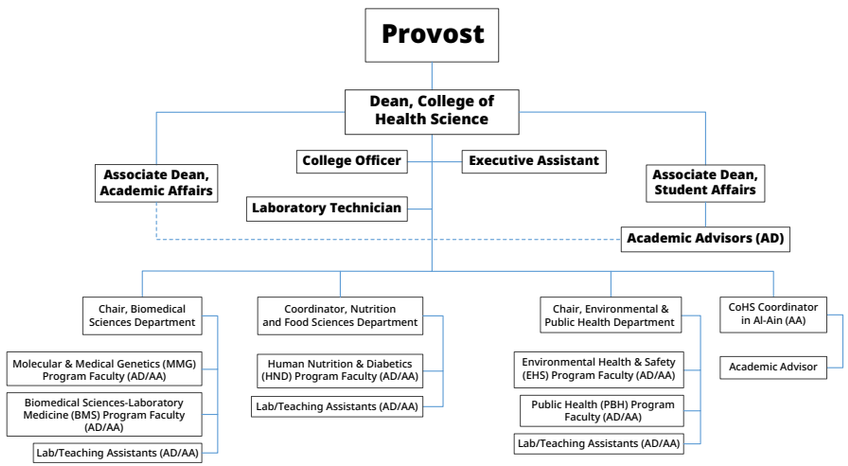
Abu Dhabi University

College Organizational Chart

COLLEGE OF ENGINEERING



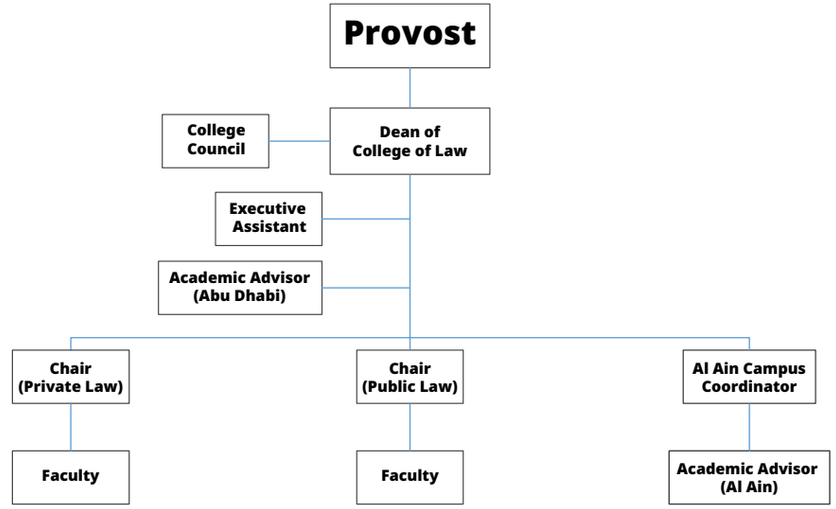
COLLEGE OF HEALTH SCIENCES



Abu Dhabi University

College Organizational Chart

COLLEGE OF LAW





ADMISSION, ENROLLMENT AND REGISTRATION

Undergraduate Admissions Requirement

The Admissions Committee, comprising the Provost, Admission and Student Recruitment Associate Director, the Registrar and the appropriate College Dean, will consider the certificates issued by other educational systems, only if they meet the conditions set by the UAE Ministry of Education.

All students applying for undergraduate admission to the University need to have one of the secondary school certificates recognized below:

1. **Original UAE Secondary School Certificate:** or its equivalent approved by the Ministry of Education in the UAE.
2. **British Curriculum Certificates:** Completion of the 12th Grade (13 or 12 years of schooling). Passing of five (5) subjects in the average level (IGCSE or GCSE) with minimum grade of E; passing of two (2) subjects in the GCE Advanced Subsidiary Level or one (1) subject in the GCE Advanced Level with minimum grade of D.
3. **American High School Diploma (HSD):** Successful completion of Grades 10th, 11th and 12th with minimum 5 subjects in each stage. Minimum passing grade is 65% for conditional admission for specific majors. Higher grade is required for direct admission to the program.
4. **International Baccalaureate (IB):** Successful completion of 12th grade. Passing 6 subjects covering the following subjects: English Language, Math and one (1) Science subjects with minimum grade of 3. Minimum grade requirement is 21 points.
5. **Indian Certificates:** A senior secondary school certificate is required. The minimum required average for university admission is the equivalent of 43%. A higher average is required for direct admission into Abu Dhabi University's Colleges/Majors. Students with an average of 40-42.9 may be given conditional admission based on the recommendation of the College Dean.
6. **Pakistani Certificates:** A higher secondary school certificate is required. The minimum required average for university admission is the equivalent of 43%. A higher average is required for direct admission into Abu Dhabi University's Colleges/Majors.
7. **Iranian Certificates:** A certificate of completion of the pre-university year is required. The minimum required average for university admission is the equivalent of 12/20. A higher average is required for direct entry into Abu Dhabi University Colleges/Majors.
8. **Lebanese, Moroccan, Tunisian, Algerian, French and all French-Patterned Educational Systems:**

   A certificate of completion of the pre-university year is required. The minimum required average for university admission is the equivalent of 10/20. A higher average is required for direct entry into Abu Dhabi University's Colleges/Majors.
9. **German Certificates:** A certificate of completion of the pre-university year is required. The required average for university admission is the equivalent of a maximum of

   3.6 out 6. A higher average is required for direct entry into Abu Dhabi University's Colleges/Majors.
10. **Armenian Certificates:** are accepted only if the student provides a grade 12-completion letter from the institution where he/she studied, attested by the educational authority of the country of study with a minimum average of 3 out 5. A higher average is required for direct entry into Abu Dhabi University's Colleges/Majors.
11. **Philippine Certificates**: are accepted only if the student provides a grade 12-completion letter from the institution where he/she studied attested by the educational authority of the country of study with a minimum average of 2.5 out of 5. A higher average is required for direct entry into Abu Dhabi University's Colleges/Majors.
12. **Commercial/Technical School Certificates:** Students with Commercial/ Technical school certificates might be required to submit an equivalency Letter from Ministry of Education (for Certificates from outside UAE and certificates from all the United Arab Emirates except Abu Dhabi (from Abu Dhabi Educational Council).

The University will consider equivalent certificates and grades from other educational systems by evaluating them using the World Education Services (www.wes.org) or the on-line education database for education systems and academic institutions around the world (www.classbase.com). The International Academic Credential Evaluation Services will convert educational credentials from any country in the world into their U.S. equivalents. It describes each certificate, diploma or degree that the student has earned and states its academic equivalency in the United States.

International Students Required Documents

The following documents must be received along with the application fee as per the published Abu Dhabi University fee schedule:

- A high school certificate duly attested by the Ministry of Education, Ministry of Foreign Affairs and Embassy of UAE in the country where the certificate is issued. Students who are not able to attest their certificates and transcripts on time may be conditionally admitted for one semester. By the end of the semester they should have attested all their papers or their accounts will be on hold.
- A copy of the student's passport (valid for at least 6 months);
- Passport-size photograph;
- A letter of adequate funds (5000 USD or convertible currency for tuition, accommodation and cost of living); and
- A standard form indicating that the applicant will abide by the Abu Dhabi University rules and regulations.
- Police Clearance
- Good conduct letter from the school

If the applicant meets the admissions requirements of Abu Dhabi University, and after he/she decides to join Abu Dhabi University, a proof of payment of the International Student Fee will be required.

Authentication

The University has the responsibility of verifying the authenticity of certificates presented by applicants. To satisfy the following conditions of attestation, certificates issued by secondary schools following the UAE curriculum must:

1. Be original certificates or a notarized copy,
2. Show grades received for each subject, and
3. Be attested by the issuing school, the issuing board, and the UAE Ministry of Education (for Certificates from all the United Arab Emirates except Abu Dhabi (attested from ADEK).

If a certificate is issued by a school in the UAE that is governed by an educational authority in another country, it should be attested by the official educational authorities of the country of study, such as the British Council, the embassy of the country, and the Ministry of Education, UAE.

If the certificate is from a government school in the GCC Countries (Gulf Cooperative Council Countries), the certificate then needs to be attested by the Ministry of Education of the issuing country. If a certificate is issued by a school in the GCC that is governed by an educational authority in another country, it should be attested by the official educational authorities of the country of study, such as the British Council, the embassy of the country, and the Ministry of Education in the country of study.

Submission of Equivalency letters (from Ministry of Education in UAE) is required for all certificates issued Outside UAE.

If the certificate is from a licensed school accredited in another country and governed by an educational authority, recognized councils, or accrediting associations in that country, it must:

1. Be an original certificate or a notarized copy,
2. Show grades received for each subject, and
3. Be attested by:
   a. the official education authorities of the country of study, e.g. Ministry of Education, British Council, etc.,
   b. the Ministry of Foreign Affairs in the country of study,
   c. the Embassy of the UAE in the country of study, or the embassy of that country in the UAE plus the Ministry of Foreign Affairs of the UAE, and
   d. If b) and c) are not possible, the authenticity of the certificate can be verified through the embassy of the country of origin and the Ministry of Foreign Affairs in the UAE.

Table of Equivalent Scores on tests of English Language Proficiency or other approved option mentioned in the policy

ELI Courses	IELTS Scores Overall	iBT Scores	ITP Scores
IELTS 2	4.5	45 - 60	450 - 499
IELTS 1	4.0	41 - 44	437 - 449
GENERAL ENGLISH 2	3.5	19 - 40	347 - 436
GENERAL ENGLISH 1	3.0	18 below	346 below

TOEFL	IELTS Academic
450 (133 CBT, 45 iBT)	4.5
500 (173 CBT, 61 iBT)	5.0
530 (197 CBT, 71 iBT)	5.5
550 (213 CBT,79-80 iBT)	6.0

English Proficiency

All students applying for admission to the university will need to meet one of the following English proficiency requirements to be able to enroll in the university and register courses after the admission:

1. A minimum overall score of 5.0 on the academic version of the International English Language Testing System (IELTS), s, or
2. 61 on the internet-based version of the TOEFL (iBT), or
3. 500 + in the Institutional TOEFL (ITP) which is administered by AMIDEAST.
4. Others as mentioned in the above table

The TOEFL or IELTS tests should have been taken no more than two years prior to admission to Abu Dhabi University. In case Abu Dhabi University doubts the authenticity of the TOEFL/IELTS certificate, the student will be requested to sit for the ITP TOEFL test at Abu Dhabi University. Students who do not meet the English Proficiency as stated above are required to take the Intensive English Levels offered.

Credit Transfer

Undergraduate students may apply for a credit transfer for courses, taken at a licensed institution, or other organization approved by the Commission in the UAE, or recognized institutions of higher learning located outside the UAE; prior to joining ADU only when they first apply for admission to ADU.

All transfer students required to present a valid certification (TOEFL, IELTS or other certification approved by the Commission) demonstrating the required language competency scores for full admission; all admission requirement must be met by the student.

Credit should not be counted twice towards awards. Therefore, credit cannot be transferred from a BA/BSc/BBA degree that the student has already achieved to the one he/she is planning to pursue. This is different from a student transferring some portions (credits) taken during his or her studies and bringing them into a new award. However, credit transfer from a Diploma or an A Level degree to a Bachelor degree is acceptable.

The conditions for the transfer of undergraduate credits are as follow:

1. Students transferring from other institutions into the same program major, should be in good academic standing (for undergraduates, a minimum CGPA of a 2.0 on a 4.0 scale, or equivalent) based on the

teaching, learning and assessment system employed in the organization at which they initially enrolled, demonstrated by certified transcripts or other evidence;

2. The transfer of credits may be accepted towards fulfilling the requirements for a university degree provided they are deemed equivalent (relevant and at the appropriate level of study) to a specific course and program. The Dean of the appropriate College will decide what credits can be transferred towards the completion of an ADU program;

3. Transfer credits for students whose CGPA is less than 2 is possible if they are transferring to a major different from the one they are transferring from, if their GPA in that course is C and above and if the learning outcomes are equivalent. This would apply to University College credit courses and any other courses that might be taken as electives;

4. Requires that transfer students meet all of the admission requirements of the receiving institution and program, and does not allow, under any circumstances, transfer students to be admitted under the provisions stipulated for conditional admission;

5. The applicant should have completed successfully at least one full semester in an accredited institution of higher education with a minimum CGPA of 2.0, before an application may be considered for credit transfer to Abu Dhabi University to the same major;

6. The maximum approved transfer credits must not exceed 50% of the total credits towards a bachelors program at Abu Dhabi University.

7. Courses completed at another institution more than 5 years prior to registration at Abu Dhabi University as an undergraduate student may not be transferable, depending on the program of study and the recommendation of the relevant dean;

8. The course credit hours to be transferred must be equal to or higher than the credit hours of Abu Dhabi University courses;

9. Courses completed outside Abu Dhabi University with a lower number of credit hours than three (e.g., two) can be transferred, providing students can successfully pass a challenge exam. A challenge exam, developed by the respective Department/ College, will cover the Learning Outcomes of the course for which the credit is being transferred. The minimum passing grade for the course will be a C for undergraduate;

10. Transfer credits may be given for equivalent Abu Dhabi University courses when, in the opinion of the appropriate Dean and Chair of Department, the outcomes of the proposed transfer courses and the level of study are deemed equivalent to that of Abu Dhabi University's course(s);

11. The Abu Dhabi University residency requirement for the completion of a bachelor degree is a minimum of three (3) regular semesters whereby at least two of those three semesters are at the senior level (final year of the program);

12. Advanced Placement Credits (APCs) may be granted after a special review by the appropriate College Dean and Chair of Department of the applicant's achievements in the Advanced Placement examinations and the subject syllabus. Only Grades four (4) and five (5) may be considered;

13. Courses from other institutions with grade of Passed (P), Exempted (EX), Challenged Passed (CX) or Transferred (T) are not transferable. Only courses with the grades of A, B and C, or

14. Students may request a re-evaluation of credit transfer when the program they are transferring to was not offered at the time of the admission;

15. Does not allow credits for graduation projects and theses to be transferred;

16. Limits the number of transfer credits which may be applied to a specific undergraduate degree program; the limit may not exceed 50% of the total number of credits which are required to complete a degree.

Official transcripts as well as official copies of the course outline or syllabi from the previous institution's catalog are required to be sent to the Admissions, Enrollment & International Relations Department in order to process requests for the transfer of credits. Admissions, Enrollment & International Relations Department will send the courses for the evaluation committees in the colleges for further evaluation. The process of credit transfer takes up to 3 weeks from receiving the request depending on the time and the volume of requests received.

Transferred courses will appear in the student's transcript with a "T" grade and will not be counted towards the calculation of the GPA.

In case of rejection, students may appeal for re-evaluation by submitting more documentation that covers the course or additional course work as proof of equivalency to Abu Dhabi University courses.

If a student is dismissed from other institutions of higher education for academic reasons, and request a transfer to Abu Dhabi University, he/she may be admitted if he/she

Visiting Students

Visiting students are students attending courses or undertaking postgraduate research with the prior approval from the Colleges concerned, without seeking a degree at Abu Dhabi University.

The student will be responsible to accredit/transfer the course/s taken at Abu Dhabi University to his/her home university. They will normally:

a. Provide evidence of proficiency in the English language;

b. Participate, at their choice, in registered course-work, and sit for the examinations set for that course, and;

c. Be given, at their request, a transcript of courses taken at Abu Dhabi University.

Documents required for admission of visiting students are as follows:

1. Completed online application form with the required application fee;

2. Copy of passport and residence visa, if applicable;

3. Photographs (to be uploaded in the online application);

4. No-objection letter issued by the visiting student's home university;

5. Copy of either IELTS or TOEFL or proof of English proficiency;

6. Copy of Emirates ID.

Students who opt to complete their degree at Abu Dhabi University and change their status to that of regular student must meet the admission requirements. Please refer to the current admission policy and credit transfer policy if applicable.

Re-admission Procedure

This policy applies to:

a. Former Abu Dhabi University students, whose enrolment at Abu Dhabi University has been voluntarily or involuntarily interrupted/stopped, including academic suspension, for more than two consecutive semesters (excluding summer semesters) or more than four discrete semesters (excluding summer semesters) during the whole period of study. Those semesters include the semesters from which the student has withdrawn with the approval of the concerned Dean.

b. Former Abu Dhabi University students who formally withdrew from the university by filling a Withdraw University Form.

c. Students who were dismissed from the University except for those who were dismissed for academic integrity violations (these students will not be readmitted).

Those students must petition the Admissions, Enrollment & International Relations Department in writing for readmission to the University indicating the semester for readmission is being requested stating the following:

1. Reasons for leaving Abu Dhabi University and reasons for returning;

2. Evidence proving that all conditions for readmission have been fulfilled;

3. Current contact information;

4. Medical report for students who withdraw from Abu Dhabi University for reasons of illness;

5. Clearance from the Finance Department at Abu Dhabi University;

6. Valid copy of Passport, Visa, UAE National ID Card and English proficiency test (IELTS/TOEFL) results.

If the student meets the current admission requirements, a committee comprised of the Provost, UC Dean, Head of the Office of Academic Integrity, Dean of the concerned college, Head of Admissions, Enrollment & International Relations Department, and the Registrar will look into the request and decide on case by case basis. In some cases, an interview with the student may be required. The committee will evaluate the student's Abu Dhabi University transcripts and course syllabi. New admission policies might apply whenever appropriate including entrance and language tests.

Based on the committee's recommendations, the student might be readmitted either by:

a. Reactivating his/her account in case any of his/her Abu Dhabi University courses are counted.

b. Creating a new account: in case that all his/her Abu Dhabi University courses are not counted.

Courses taken at Abu Dhabi University with grade less than C prior to re-admission shall be omitted.

Once readmission is granted, the student has to pay the admission application and registration fees or reactivation fees.

Upon withdrawal, students must know and understand that readmission is not certain and is contingent upon a comprehensive reevaluation of the student petition.

College of Arts, Education, and Social Sciences Undergraduate Admission

Direct Admission into CAESS:

A minimum average of 70 % or its equivalent in the UAE National Secondary School Certificate can be directly admitted to the programs.

Conditional Admission to the College

Applicants whose UAE National Secondary School Certificate average is between 65 % and 69.9 %, or its equivalent, for College programs will be granted Admission into CAESS. These students have to meet the following conditions to be eligible to formally join the college and confirm their major:

1. Completion of a minimum of 24 credit hours of General Education Requirements, including transferred credits, with a minimum CGPA of 2.0.

The table below summarizes the types of admission into CAESS:

Program	High School Curriculum	Min. Grade Requirement*	Language Proficiency Test
BA Mass Communication in English BA in Psychology BA in Video Game Design	MOE Advance	70%	• IELTS 5 • TOEFL IBT 61 • TOEFL CBT 173 • ITP 500 • Cambridge 154-161 • IESOL/SESOL B1/B2 • Pearson PTE 36-41 • English from advanced High school grades with 80% and above • English from general High school grades with 90% and above • English preparatory course • And other as mentioned below
	MOE General	70%	
	MOE ADEK	70%	
	UAE Literary Streams High School (Before 2017)	70%	
	UAE Science Streams High School (Before 2017)	70%	
	**American/Canadian	70%	
	**British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School)	70%	
	**Indian/Pakistani/Bangladesh	50%	
	**International Baccalaureate (IB)	24 points	

BA Mass Communication in Arabic	MOE Advance	70%	• IELTS 4 • ITP 400 • TOEFL IBT 40 and equivalent CBT, Cambridge, IESOL/ SESOL, Pearson PTE • English from High school grades with 70% and above. • English preparatory Course. • And others as mentioned below.
	MOE General	70%	
	MOE ADEK	70%	
	UAE Literary Streams High School (Before 2017)	70%	
	UAE Science Streams High School (Before 2017)	70%	
	**American/Canadian	70%	
	**British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School)	70%	
	** Indian/Pakistani/Bangladesh	50%	

* ** General Guidelines to be Considered:

1) Students who studied curriculum outside the Ministry of Education system are not required to prove English language proficiency if their curriculum is taught in English

2) Students who studied curriculum outside the Ministry of Education system in a language other than English can demonstrate proficiency by passing internationally standardized tests as determined by the university.

3) Students who studied curriculum outside the Ministry of Education system can prove proficiency in subjects relevant to their specialization as determined by the university

4) Universities may grant conditional admission to students, provided they complete preparatory or remedial courses or programs offered by the university

College of Business Undergraduate Admission

Direct Admission to the College

1. A minimum High School Average of 70% for Advanced or Elite Track or 75% for General Track or equivalent in Standardized International.
2. The IELTS 5 Academic or an equivalent English Proficiency Test was approved by the CAA.
3. Passing a personal interview set by the College of Business in addition to other conditions of admission set by the university.

The table below summarized the types of admission into COB:

Program	High School Curriculum	Min. Grade Requirement *	Language Proficiency Test**
Bachelor of Business Administration	MOE Advance/Elite	70%	• IELTS 5 • TOEFL IBT 61 • TOEFL CBT 173 • ITP 500 • Cambridge 154-161 • IESOL/SESOL B1/B2 • Pearson PTE 36-41 • English from advanced High school grades with 80% and above • English from general High school grades with 90% and above • English preparatory course • And other as mentioned below
	MOE General	70%	
	MOE ADEK (Level 3 in Math & Physics)	70%	
	MOE ADEK	70%	
	UAE Literary Streams High School (Before 2017)	70%	
	UAE Science Streams High School (Before 2017)	70%	
	**American/Canadian (subjects are more Science & Math Oriented)	70%	
	**American/Canadian (subjects are more Literary Oriented)	70%	
	**British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School) (subjects are more Science & Math Oriented)	70%	
	**British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School)	70%	
	**Indian/Pakistani/Bangladesh	50%	
	**International Baccalaureate (IB)	24 points	

** General Guidelines to be Considered:

1) Students who studied curriculum outside the Ministry of Education system are not required to prove English language proficiency if their curriculum is taught in English

2) Students who studied curriculum outside the Ministry of Education system in a language other than English can demonstrate proficiency by passing internationally standardized tests as determined by the university.

3) Students who studied curriculum outside the Ministry of Education system can prove proficiency in subjects relevant to their specialization as determined by the university

4) Universities may grant conditional admission to students, provided they complete preparatory or remedial courses or programs offered by the university

** Foreign curriculum or curriculum which does not follow the UAE curriculum are required to submit an Equivalency Letter issued by the UAE Ministry of Education.

*** All students apply for College of Business are required to pass in a personal interview set by the College of Business.



College of Engineering Undergraduate Admission

Direct Admission to the Engineering programs:

1.1. Direct Admission to the Engineering Majors:

A minimum average of 75% Advanced Track, 80% General Track for or equivalent in Standardized International Systems is required and can be directly admitted to the College of Engineering.

2.2. Conditional Admission to the Engineering Majors:

A minimum average between 70% to 74.9 Advanced Track, or 75% to 79.9% General Track or another track equivalent in a standardized international system. If the applicant's Math and Physic high school scores are required to meet as per the table below**, then the student can be admitted directly; if not, the applicant will be conditionally accepted and needs to meet one of the following:

a) Pass the Math Placement Test and/or Physics Placement Test.

OR

b) Pass the remedial Mathematics and/or Physics courses.

The table below summarizes the types of admission into the College of Engineering (Engineering Programs) :

The types of admission into none Engineering Program	High School Curriculum	Min. Grade Requirement*
BSc in Biomedical Engineering BSc in Civil Engineering BSc in Computer Engineering BSc in Chemical Engineering BSc in Electrical Engineering BSc in Mechanical Engineering BSc in Cybersecurity Engineering BSc in Software Engineering BSc in Industrial Engineering BSc in Artificial Intelligence Engineering BSc in Renewable Sustainable Energy Engineering	MOE Advance & MOE ADEK (Level 3 in Math & Physics)	75%
	MOE Elite	65%
	MOE General	80%
	UAE Science Streams High School (Before 2017)	75%
	Literary Streams High School	80%
	American/Canadian (Subjects are more Science & Math Oriented)	75%
	British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School) (Subjects are more Science & Math Oriented)	75%
	Indian/Pakistani/Bangladesh (Subjects are more Science & Math Oriented)	50%
	International Baccalaureate (IB) (Subjects are more Science & Math Oriented)	24 points

1.2. Direct Admission to the College of Engineering in non- Engineering Programs:

A minimum average of 75% Advanced Track, 80% General Track, or equivalent in Standardized International Systems is required. Applicants can be directly admitted to the College of Engineering in the following undergraduate programs:

1.1.I.2. Interior Design,

1.1.I.3. Architecture,

1.1.I.4. Aviation

1.1.I.5. Information Technology

The table below summarizes the admission into the College of Engineering non Engineering Programs:

The non-Enginering Program	High School Curriculum	Min. Grade Requirement.*
BSc in Interior Design BSc in Architecture BSc in Aviation BSc in Information Technology	MOE Advance	75%
	MOE General	80%
	MOE ADEK	75%
	UAE Literary Streams High School (Before 2017)	80%
	UAE Science Streams High School (Before 2017)	75%
	**American / Canadian	75%
	**British Curriculum or IGCSE / GCE (Completed Year 13/Grade 12 of High School)	75%
	**Indian/Pakistani/Bangladesh	50%
	**International Baccalaureate	24 points

1.2.1. The following condition applies to the Bachelor of Architecture program:

All applicants to the Bachelor of Architecture program are required to submit or present a portfolio of graphic work for evaluation as part of the admission requirements. The portfolio should demonstrate creativity and/or artistic skill; it may include freehand drawings, paintings, furniture, sculpture, craft objects, creative photography, construction projects, etc. The applicants may be selectively interviewed by two members of the teaching staff. The staff will be looking for a genuine interest in the subject demonstrated by background reading, current affairs, and, where possible, work experience. The interviewers are looking for evidence of creative intent.

1.2.2. Conditional Admissions to the non-Engineering programs

A minimum average between 70% to 74.9 Advanced Track, or 75% to 79.9% General Track or another track equivalent in a Standardized International System.

These students must meet the following conditions to be eligible to formally join the College and confirm their major

1) Completion of a minimum of 18, including transferred credits, with a minimum CGPA of 2.0.

1.3. ADU could conditionally admit students whose UAE National Secondary School Certificate average or its equivalent is between 70%–74.9% or equivalent upon the College Dean's recommendation based on solid evidence of experience and knowledge.

These students have to meet the following conditions to be eligible to formally join the college and confirm their major:

Completion of a minimum of 18, including transferred credits, with a minimum CGPA of 2.0. Failure to achieve a CGPA of 2.0 will result in repeating courses until the GPA is raised to 2.0. Students are allowed a maximum of 2 repeats for the same course/level.

If the applicant's Math and Physic high school scores are required to meet as per the table below, then the student can be admitted directly, if not, he/she will be conditional admission and need to meet one of the following:

a) Pass the Math Placement Test and/or Physics Placement Test
OR
b) Pass the remedial Mathematics and/or Physics course

<u>English requirement as pe the below:</u>

English Language Proficiency for programs
· IELTS 5 · TOEFL IBT 61 · TOEFL CBT 173 · ITP 500 · Cambridge 154-161 · IESOL/SESOL B1/B2 · Pearson PTE 36-41 • English from advanced High school grades with 80% and above • English from general High school grades with 90% and above · English preparatory course · And other as mentioned below

**General Guidelines to be Considered:

1.1.1. Students who studied a curriculum outside the Ministry of Education system are not required to prove English language pro-ficiency if their curriculum is taught in English

1.1.2. Students who studied a curriculum outside the Ministry of Education system in a language other than English can demon-strate proficiency by passing internationally standardized tests as determined by the university.

1.1.3. Students who studied a curriculum outside the Ministry of Education system can prove proficiency in subjects relevant to their specialization as determined by the university

1.1.4. Abu Dhabi University may grant conditional admission to students, provided they complete preparatory or remedial courses or programs offered by the university.

2) If Math and Physics are applicable for conditional students or do not meet the high school score, then below are the options for Math and Physic requirements for Engineering programs:

Mathematics	Physics
• Math Subject in General Track, math score of 85%	• Physics Subject in General Track, Physic score of 85%
• Math Subject in AP, IB or AL/ AS/ American High school of 70%	• Physics Subject in AP, IB or AL/ AS/ American High school of 70%
• Math Subjects in Indian, Bangladesh, or Pakistani high schools of 60%	• Physics Subject in Indian, Bangladesh, or Pakistani high schools of 60%
• Math Subject in ADEK Track passed Math 3 high school of 80%	• Physics Subject in ADEK Track passed Math 3 high school of 80%
• Math Subject ADU Preparatory Course of 80%	• Physics Subject ADU Preparatory Course of 80%
• Advanced Track Math score of 80%	• Advanced Track Physics score of 80%
• Elite Track Math score of 70%	• Elite Track Physic score of 70%
• Placement to Pre-Calculus level in ADU Math Placement Test	• Pass the placement test and secure the required score as per the college
• Math SAT score of 555	

College of Health Sciences Undergraduate Admission

Direct Admission into CoHS:

1. Direct Admission to the BSc Public Health & BSc Environmental Health & Safety, Bss Clinical Psychology and Mental health Programs:

1.1 A minimum average of 70% UAE General Secondary Certificate are those of all streams curriculum or equivalent in Standardized International and above to be di-rectly admitted to the program.

2. Conditional Admission to the BSc Public Health & BSc Environmental Health & Safety Programs, Bsc Clinical Psychology and Mental health Programs:

2.1 Applicants whose UAE General Secondary Certificate are those of all stream's curriculum or equivalent in Standard-ized International average is between 65% - 69.9% will be granted admission into CoHS. These students must meet the following conditions to be eligible to formally join the CoHS and confirm their major:

2.1.1 Completion of a minimum of 18 credit hours of general education requirements, including transferred credits, with a minimum CGPA of 2.0.

2.2 Abu Dhabi University could conditionally admit students whose UAE General Secondary Certificate are those of all stream's curriculum or equivalent in Standardized International average is between 60 – 64.9% upon the College Dean's recommendations and their background. These students must meet the following conditions to be eligible to formally join the College and confirm their major:

2.2.1 Completion of a minimum of 18 credit hours of general education requirements, including transferred credits, with a minimum CGPA of 2.0.

3. Direct Admission to the BSc Biomedical Sciences: Laboratory Medicine, BSc Human Nutrition & Dietetics, & BSc Molecular & Medical Genetics:

3.1 A minimum average of 80% UAE General Secondary Certificate are those of all streams curriculum or equivalent in Standardized International and above.

4. Conditional Admission to the BSc Biomedical Sciences: Laboratory Medicine, BSc Human Nutrition & Dietetics, & BSc Molecular & Medical Genetics:

4.1 Applicants with UAE General Secondary Certificate are those of all stream's curriculum or equivalent in Standardized International average of 70.0% -79.9%, or its equivalent.

4.1.1 Students must complete a minimum of 18, including transferred credits, with a minimum CGPA of 2.0.

4.2 Abu Dhabi University could conditionally admit students whose UAE General Secondary Certificate are those of all stream's curriculum or equivalent in Standardized International average is between 65 – 69.9% upon the College Dean's recommendations and their background. These students must meet the following conditions to be eligible to formally join the College and confirm their major:

4.2.1 Completion of a minimum of 18 credit hours of general education requirements, including transferred credits, with a minimum CGPA of 2.0

The table below summarizes the types of admission to the College:

Program	High School Curriculum	Min. Grade Requirement*	Language Proficiency Test**
BSc Public Health BSc Environmental Health & Safety Bsc Clinical Psychology and Mental health	MOE Advance	70%	• IELTS 5 • TOEFL IBT 61 • TOEFL CBT 173 • ITP 500 • Cambridge 154-161 • IESOL/SESOL B1/B2 • Pearson PTE 36-41 • English from advanced High school grades with 80% and above • English from General High school grades with 90% and above • English preparatory course • And other as mentioned below
	MOE General	70%	
	MOE ADEK	70%	
	UAE Literary Streams High School (Before 2017)	70%	
	UAE Science Streams High School (Before 2017)	70%	
	**American/Canadian	70%	
	**British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School)	70%	
	**Indian/Pakistani/Bangladesh	50%	
	**International Baccalaureate	24 points	
BSc Biomedical Sciences: Laboratory Medicine BSc Human Nutrition & Dietetics BSc Molecular & Medical Genetics	MOE Advance	80%	
	MOE General	80%	
	MOE ADEK	80%	
	UAE Literary Streams High School (Before 2017)	80%	
	UAE Science Streams High School (Before 2017)	80%	
	**American/Canadian (subjects are more Science & Math Oriented)	80%	
	**British Curriculum or IGCSE/GCE (Completed Year 13/Grade 12 of High School) (subjects are more Science & Math Oriented)	80%	
	**Indian/Pakistani/Bangladesh	50%	
	**International Baccalaureate	24 points	

** General Guidelines to be Considered:

5) Students who studied curriculum outside the Ministry of Education system are not required to prove English language proficiency if their curriculum is taught in English

6) Students who studied curriculum outside the Ministry of Education system in a language other than English can demonstrate proficiency by passing internationally standardized tests as determined by the university.

7) Students who studied curriculum outside the Ministry of Education system can prove proficiency in subjects relevant to their specialization as determined by the university

8) Universities may grant conditional admission to students, provided they complete preparatory or remedial courses or programs offered by the university

College of Law Undergraduate Admission

Direct Admission into CoL:

1. **Minimum Average**

A minimum average of 70% UAE General Secondary Certificate is those of all streams curriculum or equivalent in Standardized International and above.

2. **Language Proficiency**

General Guidelines to be Considered:

1.1 Students who studied a curriculum outside the Ministry of Education system are not required to prove English language proficiency if their curriculum is taught in English

1.2 Students who studied curriculum outside the Ministry of Education system in a language other than English can demonstrate proficiency by passing internationally standardized tests as determined by the university.

1.3 Students who studied curriculum outside the Ministry of Education system can prove proficiency in subjects relevant to their specialization as determined by the university

1.4 Universities may grant conditional admission to students, provided they complete preparatory or remedial courses or programs offered by the university.

1.5 Student also can obtain the English Language Study as per the below mentioned table**.

1.6 The student must obtain Math results as per the below table ** or all equivalent certificates approved by the ministry as per the rules.

2. **Entry Exam**

2.1 The College of Law organizes an Entry Exam to the Undergraduate Law Program prior to the start of every academic semester. The results of the Entry Exam shall be announced before the start of the semester.

3. **Admission Interview**

3.1 The student is eligible to pass the Admission Interview if heshe obtains 60% of the final grade at the Entry Exam.

3.2 The College of Law shall process interviews on all campuses concerned following the announcement of the Entry Exam results.

3.3 Passing the Admission Interview successfully concludes the definitive admission of the student into the Undergraduate Law Programs unless otherwise prescribed by the Commission for Academic Accreditation in relation to the limitation of students enrolled.

4. **Conditional Admission**

A minimum average between 60% to 69.9% UAE General Secondary Certificate is those of all stream's curriculum or equivalent in Standardized International and above.

4.1 Completion of a minimum of 18 including transferred credits, with a minimum CGPA of 2.0.

**** The table below summarizes the types of admission to the College:**

Program	High School Curriculum	Min. Grade Requirement*	Language Proficiency Test**
BA Law in Arabic	Elite Track	70%	• IELTS 4 • ITP 400 • TOEFL IBT 40 and equivalent CBT, Cambridge, IESOL/SESOL, Pearson PTE • English from High school grades with 70% and above • English preparatory course • And other curriculum as per the general rules above.
	MOE Advance	70%	
	MOE General	70%	
	MOE ADEK	70%	
	UAE Literary Streams High School (Before 2017)	70%	
	UAE Science Streams High School (Before 2017)	70%	
	**American/Canadian	70%	
	**British Curriculum or IGCSE / GCE (Completed Year 13/Grade 12 of High School)	70%	

All applicants must meet the requirements of the Abu Dhabi University Undergraduate General Admission Policy.

*** Students who achieved a score below maybe admitted conditionally, depending on the program and the minimum requirement of the Ministry of Education.**
**** Foreign curriculum or curriculum which does not follow the UAE curriculum are required to submit an Equivalency Letter issued by the UAE Ministry of Education.**

ACADEMIC TERMINOLOGY FOR **ABU DHABI UNIVERSITY**

Academic Year – The period of formal instruction that is divided into semesters and terms.

Add/Drop - A process at the beginning of the semester whereby students can delete or add classes online.

Assessment - The gathering of evidence of student learning and achievement to guide instructional decisions and aid student learning.

Blackboard or Blackboard Learn – Web-based tool that allows students to access course materials and resources.

Concentration - It is best thought of as a grouping of courses which represent a sub-specialization taken within the major field of study. A concentration may be specified on the diploma or in the student's academic record (transcript).

Cumulative Grade Point Average (CGPA) – The overall average of all course grades attained during the student's enrollment at Abu Dhabi University. The CGPA is used for a number of academic decisions, including awards and academic probation.

Degree – Diploma or title conferred by a college, university, or professional school upon completion of prescribed program of studies.

Degree Program – The term degree program is used at Abu Dhabi University to indicate the total academic credit requirements a student must complete in order to earn a specific degree/diploma from the University, i.e. a B.B.A. degree program in Management.

Early Registration – A process of choosing classes in advance.

Elective – Course that student may choose to take for credit toward their intended degree, as distinguished from a course that they are required to take.

Field – The term field is used at Abu Dhabi University to indicate a broad academic area that generally includes several disciplines or subfields i.e. the field of business administration includes the disciplines of management, marketing, finance, accounting etc.

Full-time Student – A student who is enrolled at the university taking at least a minimum load of 12 credits per semester.

Grade Point Average (GPA) – A system of recording achievement based on a numerical average of the grades attained in each course in a given semester or term.

Internship – An organized and supervised career-related professional experience. Academic credits are awarded for the learning acquired through their work experience, depending upon their performance evaluation. Internships are administered using well planned syllabi and work plans during the period of training, which are supervised by site-supervisors and college-supervisors.

Major – A student's principal field of study.

Midterm exam – An exam administered midway during the academic term covering class material studied until that point.

Minor – A subject in which the student takes the second greatest concentration of courses.

Pre-requisite – Program or course that a student is required to complete before being permitted to enroll in a more advance program or course.

Professional Academic Advisor – A full-time staff member within each college who advises and counsels students on programs and course selection, institutional policies, career choices, effective study habits, and/or other academic and career-oriented decisions.

Study Plan - Each degree program will have study plans for students entering in Abu Dhabi University. These study plans will specify the appropriate sequences of courses that students must take in order to graduate. Study plans should include university requirements, major and elective courses.

Term - Some courses may be offered in a time-shortened period not less than 6 weeks, called a term, which nonetheless offers class contact time and out-of-class assignments equivalent to a semester course.

Theme – The term theme is used at Abu Dhabi University to indicate a free choice of 9 credits from a selected list of courses in a sub-discipline at the undergraduate level.

Transcript – A certified copy of a student's educational record.

Withdrawal – An administrative procedure of dropping a course or leaving a university.

Non-refundable application fee (online payment).

Once an application and the required documents are submitted, a response will be provided no later than one week from the date the application was received.

Registration

Students will register during the online registration period that is announced every semester by the Office of the Registrar.

- Registered students may add/drop courses prior to the first day and during the first calendar week of the semester and during the first two days of the Winter/Summer term. A full refund will be given for courses dropped by students during this period.
- Late registration should be completed within the first calendar week after the semester registration period is over.
- A late registration fee will be charged for students registering courses after the add/drop period.
- Students wishing to continue their studies at Abu Dhabi University but who fail to pay the prescribed fees on or before the published payment deadline, will be considered to have been dropped from courses which they are registered.
- Students may seek to defer their registration by applying in writing to the Registrar. This should be done at least one week before the specified date of registration. Fees for late registration will be charged and students will be required to register on, or before the deferred registration date.
- Students will only be permitted to sit for examinations and receive grades if they are registered for the courses and have settled their fees in full.

Registration Procedures

Students must register online at the beginning of each semester. Registration procedures are as follows:

a. Before students meet with their Academic Advisor, they should identify the list of courses they should take in each semester to satisfy the requirements of the program of study leading to their degree.

b. Students register online at www.adu.ac.ae and then print out their own schedule cards. If a section is full, another selection will need to be made in consultation with the Academic Advisor. Once the schedule card is finalized, tuition fees are to be paid either online, through bank transfer or in person at the Finance Department.

Add/Drop Course Regulations

A student is allowed to add/drop one or more courses during the first week of the regular semester and during first two days of the Winter/Summer term. A student may withdraw one or more courses during the tenth week of the semester. In such cases, the "W" grade reflects the student's voluntary Withdrawal from the course. This grade is not computed in the student's GPA but determines student's progress towards completion of the college requirements. If the student does not officially withdraw from courses during these specified periods, he/she is considered registered for the courses and is held accountable for completing them.

Dropping Fall/Spring Credit Courses

- Students dropping courses within the first calendar week of the Fall/Spring semester will receive a 100% refund of the tuition fee.
- Students dropping courses in the second calendar week of the Fall/Spring semester will receive 75% refund of the tuition fee. In such cases, a "Withdrawal without Penalty" (W) grade will be entered in their records.
- Students dropping courses in the third calendar week of the Fall/Spring semester will receive a 50% refund of tuition fees. In such cases, a (W) grade will be entered in their records.
- Students dropping courses after the third week of the Fall/Spring semester will receive no refund, and will be awarded a (W) grade for that course.
- If students do not withdraw from courses during these specified periods, they will be considered as being registered for the courses and be held accountable.
- A 100% refund of tuition fees will be given for courses cancelled by Abu Dhabi University.

Dropping Summer/Winter Credit Courses

- Students dropping courses within the first two days of the calendar days of the Winter/Summer semester will receive a 100% refund of the tuition fee.
- Students dropping courses in the third and fourth calendar days of the Winter/Summer semester will receive 75% refund of the tuition fee. In such cases, a "Withdrawal without Penalty" (W) grade will be entered in their records.
- Students dropping courses in the first and second days of the next calendar week of the Winter/Summer semester will receive a 50% refund of tuition fees. In such cases, a (W) grade will be entered in their records.
- Students dropping courses after the two days of the second week will receive no refund, and will be awarded a (W) grade for that course.
- If students do not withdraw from courses during these specified periods, they will be considered as being registered for the courses and be held accountable.
- A 100% refund of tuition fees will be given for courses cancelled by Abu Dhabi University.

Administrative Drops

Abu Dhabi University officials in the Office of the Registrar or the Dean's Office may initiate an administrative drop. A student may be administratively dropped from one or more classes (or withdrawn from all classes) for any of the following reasons:

a. Failure to meet certain preconditions, including but not limited to:
   - failure to pay tuition and fees by designated deadlines;
   - class cancellations;
   - failure to meet course prerequisites;
   - failure to meet the specific academic requirements of the degree program;
   - failure of comprehensive or preliminary examinations

b. When the safety of the student, faculty member, or other students in a course would be jeopardized;

c. Academic suspension, including but not limited to, failure to attain or maintain a required grade point average (GPA) of 2.0 after being placed on Academic Probation;

d. Disciplinary suspension for violation of the Student Code of Conduct;

e. Disruptive behavior determined by the faculty member, Dean and Registrar (and if required, a disciplinary committee) if found to be detrimental to the progress of the course and the education of students;

f. Exceeding the allowable number of absences from a course for a given semester;

g. Exceeding the allowable number of credit courses stipulated on course load policy.

Withdrawal from the University

Students who wish to leave Abu Dhabi University before graduation must complete a University Withdrawal Application Form obtainable from the university website or from the Office of the Registrar. Official withdrawal will be granted after completion of the clearance procedure.

A "W" grade will appear against all courses taken by the student on the semester he/she withdraws from Abu Dhabi University.

Re-Enrollment

Students falling under below categories may apply for re-enrollment at Abu Dhabi University:

a. A former Abu Dhabi University student in good academic standing, whose enrolment at ADU has been voluntarily or involuntarily interrupted (such as Financial issues, Medical conditions, work related issues etc), for more than one semester (excluding summer/winter terms). Those semesters include the semesters from which the student has withdrawn with the approval of the concerned Dean.

b. Former Abu Dhabi University students who formally withdrew from the university by filling-out a Withdrawal Request Form.

Those students must petition the Office of the Registrar in writing for re-enrollment to the University. Students are encouraged to begin the re-enrollment process at least two months prior to the beginning of the semester stating the following:

1. Reasons for leaving Abu Dhabi University and reasons for returning
2. Current contact information
3. Medical report for students who withdrew from Abu Dhabi University for reasons of illness.
4. Clearance from the Finance Department at Abu Dhabi University.

If the student meets the requirements, a committee comprised of the Provost, Dean of the concerned college, and the Registrar will look into the request and make a decision on a case to case basis. In some cases, an interview with the student may be required. The committee will evaluate the student's Abu Dhabi University transcripts and course syllabi.

Independent Study

An independent study course is a course that involves one-on-one interactions between a student and a faculty member which enables a student to undertake a learning opportunity which is otherwise unavailable. Independent study courses must have an appropriate learning plan (typically a syllabus) learning outcomes, end of term evaluations and appropriate assessment.

Independent Study is open to students who have earned more than half of the credit hours in the program of study with at least a 3.0 CGPA. Students may not register for Independent Study for the purpose of making up deficiencies resulting from failures in other courses.

A student must have the Independent Study approved at the department and college level prior to registration. The student must submit, to the relevant department chair, the description of the Independent Study course and the basis for the final grade, and the proposal must be endorsed by the faculty member who will supervise the work and assign the grade. The proposal must then be approved by the department chair and the dean. Departments may set additional criteria that students must meet in order to register for Independent Study.

Independent study is only allowed for undergraduate studies, and only in rare cases. Undergraduate students may not register for more than six credits of Independent Study in a student's program. Independent Study may not be used to award credit for off-campus work which is not under the direct supervision of an Abu Dhabi University faculty member.

Credits Earned at other Academic Institutions

Continuing Abu Dhabi University students with good academic standing who wish to enroll in courses at other institutions where the credit earned will be used to fulfill degree requirements at Abu Dhabi University must satisfy one of the following conditions that delay the student's graduation:

1. The course is not offered in the current semester and not taking it, will delay the graduation;
2. The course is offered but conflicts with another required course.

The course to be taken outside Abu Dhabi University has to be equivalent to an ADU course, as defined in the credit transfer policy. The respective College advisor will evaluate the student's request against the above conditions. If the student meets the conditions specified above and are in compliance with the university's residency requirements, his/ her request will be forwarded to the College Dean along with all the supporting documents. If approved, the Office of the Registrar will issue a Letter of Approval to the other academic institution.

Course Load Limitation

Full time undergraduate students carry a minimum load of 12 credit hours per semester. Part time undergraduate students carry a load of less than 12 credit hours per semester.

1. The maximum number of credit hour per semester is 18.
2. A student may register for up to a maximum of 6 credit hours in any summer or winter term.

Exceptions

Exceptions to these limits can only be made for a maximum of an additional 3 credits if students are in their final graduation semester or term.

Undergraduate students who are under academic probation have to abide by the load specified in the relevant Academic Standing Policy.

Graduation Requirements

Undergraduate students must successfully complete all course requirements, as well as other academic activities assigned to their specialized study plan. The CGPA of each undergraduate student must be at least 2.0 out of 4.0.

Students must complete the Application for Graduation Form online no later than the end of the second week of the semester (first week in the case of Winter/Summer semester graduation) in order to be eligible for graduation at the end of that semester.

Applying for Graduation

Undergraduate students graduating from Abu Dhabi University must officially file an application online for graduation at the beginning of the semester in which they plan to graduate. The Office of the Registrar does not initiate the diploma preparation until a student officially files for graduation.

NOTE:

Students must complete all requirements toward their degree in the semester they intend to graduate, or their graduation application will be disapproved.

Students wishing to graduate in the current semester, who were disapproved for graduation in any past semester, must re-file for graduation.

Students filing for graduation prior to the deadline may submit a graduation application request online through their PeopleSoft Student Center.

Applying for graduation on time will help to include your name in the commencement program; if you plan to participate in the ceremony, apply on time.

Deadline to file for graduation:

Deadline for applying for graduation is published in the student calendar available in the Abu Dhabi University website.

For any clarifications needed please contact the Office of the Registrar.

How to apply for graduation online?

- Go to www.adu.ac.ae to apply.
- Login in PeopleSoft using your username and password.
- Click on self service.
- Click on degree progress/graduation.
- Click on apply for graduation.
- Click on the program for which you want to apply for graduation.
- Select the expected graduation term from the drop down list.
- Read carefully any comments in the Graduation Instruction section. Any information to be conveyed to the expected graduates from the Office of the Registrar would be displayed on the graduation instruction section.

Graduation Clearance

Graduating students will be required to get clearance from certain departments of the University. Below is the guideline to initiate the online graduation clearance:

1. Login to PeopleSoft-SIS and navigate to Self-Service—Degree Progress/Graduation—Graduation Clearance Requests.
2. Select career and graduation term on following page and click Submit a New Request.
3. A Request page will appear with your personal and academic details. In this page, you can do the following: edit your UAE Emirates ID, Marital status and Passport Number; verify or update your contact number and email address; select your current Emirate of residence; select appropriate response to questions about employment and give any feedbacks or comments about your data.
4. On the same page, attach a copy of your Passport, Emirates ID and your updated CV.
5. Click Submit to initiate your request. On successful submission of request, you will receive an auto-generated email notification with request number.

Awarding Degrees and Diplomas

1. Abu Dhabi University will award undergraduate degrees upon the recommendation of Abu Dhabi University's Academic Council and University Council to students who have fulfilled the requirements of an approved program of study.
2. Abu Dhabi University will award Bachelor Degrees when a candidate has successfully completed a program approved by his/her College.
3. Given that the official language of Abu Dhabi University is English, the diploma certificates for an academic award will generally be in English. The documents show the full name of the recipient, the title of the study program completed and honor's awarded if any.
4. The diploma certificate bears the official seal of Abu Dhabi University, as well as the signatures of the Chairman and the Chancellor of the University.
5. Abu Dhabi University may withhold the conferral of an academic degree or diploma to a student who has outstanding payments due to Abu Dhabi University, who has unreturned materials on loan from the Abu Dhabi University Library, or who has any other outstanding obligations to Abu Dhabi University.



COURSE RELATED INFORMATION

Undergraduate Grading System and Scale

Course grades will be based upon a combination of examinations, class participation, quizzes/tests, projects and homework assignments. Students benefit from attention to their performance fue to the maintenance of smaller class sizes. ADU average a gross student-faculty ratio is 29.67 and an FTE student-faculty ratio of 12.95. Students receive a preliminary assessment of the course grade after mid-semester tests, and a final evaluation at the end of the semester. Abu Dhabi University undergraduate students will be assigned final grades for their academic course work according to the following scale:

Grade	Point	Percentage	Meaning of the Grade
A	4.00	90-100	Excellent
B+	3.50	85-89	Very Good
B	3.00	80-84	Very Good
C+	2.50	75-79	Good
C	2.00	70-74	Good
D+	1.50	65-69	Satisfactory
D	1.00	60-64	Satisfactory
F	0.00	Less than 60	Fail
NP	N/A	N/A	Not Pass
SP	N/A	N/A	Special Pass
P	N/A	N/A	Pass
S	N/A	N/A	Successful Completion
U	N/A	N/A	Unsuccessful Completion
I	N/A	N/A	Incomplete
IP	N/A	N/A	In Progress
T	N/A	N/A	Transfer
H	N/A	N/A	Final Grade on Hold
W	N/A	N/A	Withdrawal from a Course
WA	N/A	N/A	Withdrawal Due to Absence Limit

Undergraduate Grade Definition

While composing grade criteria, faculty members will seriously consider and incorporate as appropriate, the official university grade definition guidelines below:

A
Excellent Mastery of Course Material

B+
Very Good Mastery of Course Material

B
Very Good Mastery of Course Material

C+, C
Good Mastery of Course Material

D+, D
Satisfactory Performance in the Course

F
Unacceptable Performance in the Course (Failure)

P (credit)
Satisfactory Completion of Credit

P (non-credit)
Satisfactory completion of non-credit ELI or Undergraduate course/Internship. (This grade is not computed in the student's GPA but determines student's progress towards completion of degree requirements.)

S
Satisfactory completion of graduate courses (This is not computed in the student's GPA but determines the student's progress towards completion of degree requirements.)

U
Unsatisfactory completion of graduate courses (This grade is not computed in the student's GPA but determines the student's progress towards completion of degree requirements.)

I (Incomplete)

An "I" grade is given when the student is unable to complete the course requirements for a reason deemed legitimate by the Office of the Registrar.

Advanced courses may not be taken if the course with an Incomplete grade is a pre-requisite for the advanced course.

The maximum period of time to resolve the "I" grade must not be more than one semester from the time the "I" is given, excluding the summer semester. Failure to resolve the "I" grade within the time specified will result in the conversion of the "I" grade into an "F" grade. This grade is not computed in the student's SGPA and passed credit hours.

IP (In Progress)

The "IP" grade is awarded when certain course-related activities, such as internships and projects require a longer time to be completed than the deadline for grade submission. This grade is not computed in the student's GPA but determines student's progress towards completion of degree requirements. The IP grade must be resolved within one month from the time the "IP" is given.

T (Transfer)

The "T" grade reflects a transfer of credit for an equivalent undergraduate course taken at another accredited academic institution with a minimum grade of "C". This grade is not computed in the student's SGPA and passed credit hours.

W (Withdrawal from a Course)

The "W" grade reflects the student's voluntary Withdrawal before Thursday of the tenth week of the semester. This grade is not computed in the student's GPA but determines student's progress towards completion of degree requirements.

WA (Withdrawal Due to Absence Limit)

The "WA" grade reflects the administrative withdrawal of the student from the course for exceeding the absence limit as per ADU Attendance Policy. This grade is not computed in the student's GPA but determines student's progress towards completion of degree requirements.

H (Final Grade on Hold)

Final grade on Hold (This grade is given to a student until pending administrative issues are resolved.) This grade is not computed in the student's SGPA and passed credit hours.

GPA Scale

At Abu Dhabi University, the GPA scale ranges from 0.0 to 4.0, and a minimum GPA of 2.0 is required to be awarded a bachelor's and postgraduate diploma degrees.

Grade Change

These events may result in a change of the final grade of students:

1. A grade appeal request by the student (after an "informal" discussion with the faculty member); and
2. An error in calculating the student's final grade is discovered.
3. An "I" or "IP" grade will be changed when the actual grade is released.

The time limit for changing a grade is one semester from the date the grades are posted by the Registrar.

Semester Grade Point Average

A student's semester grade point average (SGPA) is obtained by dividing the total quality points earned in a given semester by the total number of credit hours taken in that semester. Quality points of any course are calculated by multiplying the number of credit hours of that course by the earned grade points of the same course.

Courses with grades of "P", "I", "IP", "T", "W", "WA", and "H" are excluded from computing the SGPA. The semester credit hours for which a grade of "I", "IP" or "H" is assigned are excluded from computing the grade-point average until it is replaced by a letter grade.

Cumulative Grade Point Average

A student's cumulative grade point average (CGPA) indicates a student's achievement in all courses taken at ADU until the end of a given semester. The CGPA is obtained by dividing the total quality points earned from the initial enrollment at ADU to the end of the given semester by the total number of credit hours taken until the end of that semester. Courses with grades "P", "I", "IP", "W", "WA", and "H" are excluded from computing the CGPA. Courses transferred from another college/university will appear on the student's transcript with a "T" grade and will be excluded from computing the CGPA.

Mid-Semester Advisory Grades

By the end of the seventh week of classes, during each academic semester, mid-semester advisory grades will be submitted by instructors of all undergraduate courses. Valid mid-semester advisory grade entries will include A, B+, B, C+, C, D+, D, F, and P. Grade reports for all students will be made available to the students and the advisors of the students. The University will use the mid-semester advisory grades to identify "at-risk" students and take remedial action.

Transcripts

Transcripts are the chronological, permanent and the most complete student educational record. Incompletes, failures and withdrawals; academic standing and all academic awards; majors, minors and concentrations are recorded thereon.

Students who have not settled their financial tuition/fees or other obligations to ADU will not be issued transcripts.

Graduation with Honors

ADU grants Latin honors to eligible students graduating from undergraduate programs. The eligibility requirement is to achieve a CGPA of 3.5 or above.

The titles of the Latin honors and the corresponding CGPA's are as follows:

Cum laude: 3.50-3.69

Magna cum laude: 3.70-3.89

Summa cum laude: 3.90-4.00

Honors are listed in the student transcript and the diploma certificate.

Non-honors Academic Classification for Undergraduates according to student's CGPA upon graduation:

Satisfactory: 2.0 - 2.49

Good: 2.5 - 2.99

Very Good: 3.0 - 3.49

Dean's List

ADU is committed to recognizing academic excellence by publishing the Dean's List at the beginning of every regular semester according to the Semester Grade Point Average (SGPA) attained by outstanding students. Any student who is registered with full-time status and achieves an SGPA of 3.50 or above, with no Incompletes (I) in that given semester, no disciplinary action and/or no academic integrity violation will be eligible for the Dean's List. Students on the Dean's List will receive a certificate of recognition.

Grade Appeals

Students have the right to appeal their final grade in a course during the period announced by the Office of the Registrar. The following is the Grade Appeal Procedure to be followed by the students:

Consultation:

In an attempt to resolve a grade appeal, the student must first meet with the following individuals, in the order listed, to discuss the matter:

1. Faculty member teaching the course;
2. Chairperson of the department in which the course is offered; and
3. Dean of the college in which the course is offered.

The consultation(s) should take place as soon as possible after the final grade or the relevant component grade is released. It is assumed that the department chairpersons and the deans will make every effort to resolve the grade appeal.

In the case of a final course grade appeal, if the matter is not resolved, the student may proceed to the Committee Grade Appeal process as soon as possible but no later than the start of the early registration period in the following regular semester.

Committee Grade Appeal Process:

The student may initiate a Committee Appeal Process by filing the Grade Appeal Form with the Office of the Registrar. The form must be submitted prior to the beginning of the early registration period in the regular semester subsequent to the semester in which the grade in question was given.

The Office of the Registrar will forward the form to the college dean, who will refer the Grade Appeal Form to a committee of faculty selected by the dean. The committee will review the student's performance in the course. This review may include interviews with the student and the faculty member teaching the course. The chair of the committee will forward the grade recommendation to the college dean for final approval. There are three possible outcomes to an individual grade appeal:

1. The original grade is upheld;
2. The grade is lowered relative to the original; and
3. The grade is raised relative to the original.

The decision of the dean is final. The Grade Appeal Form will be returned to the Office of the Registrar to inform the student of the decision.

The entire process should be concluded before the end of the semester during which the appeal form was submitted.

Double Major

Any undergraduate student may declare and complete two undergraduate majors, with the understanding that the student receives one baccalaureate degree upon graduation. In situations where a student completes majors under two different degrees (e.g., B.A. and B.S.), the student must declare the degree he or she wishes to receive upon graduation at the time when the second major is declared. Students who wish to complete two majors must first satisfy the entry requirements of both majors and then must take all the courses required for both majors. The total number of credits a student must take to complete the two majors can be no less than 30 credits above the number of credit hours in the major with the greater number of required credits.

Student Classification

Students are classified in terms of their progression towards their Bachelor Degree according to the number of credit hours passed:

College of Arts, Education, and Social Sciences (CAESS)

- First Year/Freshmen 00 - 29 credit hours
- Second Year/Sophomores 30 - 59 credit hours
- Third Year/Juniors 60 - 89 credit hours
- Final Year/Seniors 90+ credit hours

College of Business (COB)

- First Year/Freshmen 00 - 30 credit hours
- Second Year/Sophomores 31 - 60 credit hours
- Third Year/Juniors 61 - 90 credit hours
- Final Year/Seniors 91+ credit hours

College of Engineering (COE)

B of Architecture

- First Year 00 - 34 credit hours
- Second Year 35 - 69 credit hours
- Third Year 70 - 102 credit hours
- Fourth Year 103 -132 credit hours
- Fifth Year 133+ credit hours

B.Sc. in Artificial Intelligence Engineering

- First Year/Freshman 00 - 31 credit hours
- Second Year/Sophomores 32 - 65 credit hours
- Third Year/ Juniors 66 - 103 credit hours
- Final Year/ Seniors 104+ credit hours

B.Sc. in Aviation

- First Year/Freshmen 00 - 34 credit hours
- Second Year/Sophomores 35 - 67 credit hours
- Third Year/Juniors 68 - 98 credit hours
- Final Year/Seniors 99+ credit hours

B.Sc. in Biomedical Engineering

- First Year/Freshmen 00 - 35 credit hours
- Second Year/Sophomores 36 - 69 credit hours
- Third Year/Juniors 70 -104 credit hours
- Final Year/Seniors 105+ credit hours

B.Sc. in Chemical Engineering

- First Year/Freshmen 00 - 33 credit hours
- Second Year/Sophomores 34 - 68 credit hours
- Third Year/Juniors 69 - 106 credit hours
- Final Year/Seniors 107+ credit hours

B.Sc. in Civil Engineering

- First Year/Freshmen 00 - 35 credit hours
- Second Year/Sophomores 36 - 72 credit hours
- Third Year/Juniors 73 -111 credit hours
- Final Year/Seniors 112+ credit hours

B.Sc. in Computer Engineering

- First Year/Freshmen 00 - 31 credit hours
- Second Year/Sophomores 32 - 65 credit hours
- Third Year/Juniors 66 -103 credit hours
- Final Year/Seniors 104+ credit hours

B.Sc. in Cybersecurity Engineering

- First Year/Freshmen 00 - 34 credit hours
- Second Year/Sophomores 35 - 66 credit hours
- Third Year/Juniors 67 - 102 credit hours
- Final Year/Seniors 105+ credit hours

B.Sc. in Electrical Engineering

- First Year/Freshmen 00 - 31 credit hours
- Second Year/Sophomores 32 - 65 credit hours
- Third Year/Juniors 66 -104 credit hours
- Final Year/Seniors 105+ credit hours

B.Sc. in Industrial Engineering

- First Year/Freshmen 00 - 35 credit hours
- Second Year/Sophomores 36 - 70 credit hours
- Third Year/Juniors 69 -104 credit hours
- Final Year/Seniors 105+ credit hours

B.Sc. in Information Technology

- First Year/Freshmen 00 - 30 credit hours
- Second Year/Sophomores 31 - 60 credit hours
- Third Year/Juniors 61 - 93 credit hours
- Final Year/Seniors 96+ credit hours

B.Sc. in Interior Design

- First Year/Freshmen 00 - 34 credit hours
- Second Year/Sophomores 35 - 69 credit hours
- Third Year/Juniors 70 -102 credit hours
- Final Year/Seniors 103+ credit hours

B.Sc. in Mechanical Engineering

- First Year/Freshmen 00 - 34 credit hours
- Second Year/Sophomores 35 - 68 credit hours
- Third Year/Juniors 69 -107 credit hours
- Final Year/Seniors 108+ credit hours

B.Sc. in Renewable and Sustainable Energy Engineering

- First Year/Freshmen 00 - 34 credit hours
- Second Year/Sophomores 35 - 69 credit hours
- Third Year/Juniors 69 -104 credit hours
- Final Year/Seniors 105+ credit hours

B.Sc. in Software Engineering

- First Year/Freshmen 00 - 32 credit hours
- Second Year/Sophomores 33 - 66 credit hours
- Third Year/Juniors 67 - 104 credit hours
- Final Year/Seniors 105+ credit hours

College of Health Sciences (CoHS)

B.Sc. in Public Health

- First Year/Freshmen 00 - 31 credit hours
- Second Year/Sophomores 32 - 62 credit hours
- Third Year/Juniors 63 - 93 credit hours
- Final Year/Seniors 94+ credit hours

B.Sc. in Environmental Health and Safety

- First Year/Freshmen 00 - 31 credit hours
- Second Year/Sophomores 32 - 65 credit hours
- Third Year/Juniors 66 - 98 credit hours
- Final Year/Seniors 99+ credit hours

B.Sc. in Biomedical Sciences - Laboratory Medicine

- First Year/Freshmen 00 - 32 credit hours
- Second Year/Sophomores 33 - 71 credit hours
- Third Year/Juniors 72 - 110 credit hours
- Final Year/Seniors 111+ credit hours

B.Sc. in Molecular and Medical Genetics

- First Year/Freshmen 00 - 32 credit hours
- Second Year/Sophomores 33 - 68 credit hours
- Third Year/Juniors 69 - 100 credit hours
- Final Year/Seniors 101+ credit hours

B.Sc. in Human Nutrition and Dietetics

- First Year/Freshmen 00 - 32 credit hours
- Second Year/Sophomores 33 - 66 credit hours
- Third Year/Juniors 67 - 100 credit hours
- Final Year/Seniors 101+ credit hours

College of Law (COL)

- First Year/Freshmen 00 - 29 credit hours
- Second Year/Sophomores 30 - 59 credit hours
- Third Year/Juniors 60 - 89 credit hours
- Final Year/Seniors 90+ credit hours

All transfer students will be classified on the same basis according to the number of credit hours they have earned.

Credit Hours

Courses are calculated in credit hours. Each course carries a certain number of credit hours that are awarded after the successful completion of that course.

Students admitted to a Bachelors Degree must complete the required number of credit hours of courses taught according to a program approved by the College Council.

Students must successfully pass any remedial or other courses during the first academic year. These pre-degree courses, including the ELI Levels, are not counted towards the GPA, although they appear on student's transcripts.

One semester credit hour of lecture/tutorial is defined as 70 minutes per week for 13 weeks. One credit hour of laboratory is defined as 140 minutes per week for 13 weeks. Customarily, weekly quizzes and mid-term examinations are included in the 13 week semester, with final examinations occurring in a special 14th week set aside just for these exams.

Some courses may be offered in a time-shortened period, often called a term, such as a summer term or Winter term, which nonetheless offers class contact time and out-of-class assignments equivalent to a semester course.

Student Record Confidentiality

The Student record is defined as any paper-base or online documentation that contains information directly related to the student, such as academic evaluations, transcripts, test scores and other academic records, counseling and advising records, disciplinary records, and financial aid records. Academic and non-academic student information is confidential and is protected against release to anyone except the student, the guardian, the sponsor and/or otherwise specified by the Student Release of Information Form.

Student Assessment and Late Coursework Guidelines

ADU believes that quality assessment should both document student success (assessment of learning) and help students improve and learn better through provision of timely feedback on their performance (assessment for learning) and how to improve it. Moreover, faculty should develop assessment methods and tasks that serve both purposes of assessments and target knowledge mastery as well as higher order thinking skills and abilities. In sum, excellence in assessment is integral to achieving excellence in teaching and learning, which is in harmony with ADU vision and mission.

Definition

Assessment is the gathering of evidence of student learning and achievement to guide instructional decisions and aid student learning.

Purposes of Assessment

Assessment serves multiple purposes. It provides feedback to the two main immediate users of assessment information or results: students and faculty.

- Students receive relevant feedback on their performance and how to improve it, and instructors receive feedback on their strategies of instructional delivery. Moreover, assessment results help students to reflect on their learning experience, to adjust their learning strategies and skills, and to identify where they need help.
- Faculty receive feedback which helps them to reflect on their instructional strategies, to make necessary adjustments, to track student progress, and to identify which students need extra help.

Assessment Types

There are three major types of assessment: diagnostic, summative and formative.

- Diagnostic assessment is usually conducted at the beginning of the semester and is used to identify student strengths and weaknesses. It provides information that can help both students and instructors to build on the strengths and remedy the weaknesses.
- Summative assessment, on the other hand, is usually carried out at the end of the semester and is used to determine the extent to which the students have achieved the course learning objectives or outcomes (grading function). It helps instructors make decisions and judgments for purposes of student promotion and/or graduation. Final exams and projects, among other forms, serve this purpose.
- Formative assessment, in contrast to summative assessment, is conducted throughout the semester and is used to enhance the learning and teaching process. Information provided by this ongoing assessment helps students improve their study skills, learning strategies and achievement, thus support ongoing student progress, and helps instructors diagnose and respond to student needs (development and improvement function).

Assessment Methods

Accurate and sound assessment requires that a variety of appropriate assessment methods be used and aligned with the intended learning outcomes. There are generally two main assessment methods: traditional and alternative/authentic. The former includes tools such as paper-and-pencil tests and exams while the latter includes tools similar to performance tasks, essays, presentations, projects, practical work, case studies, reports, portfolios. The choice among these tools depends on the discipline, the nature of the individual course as well as the intended learning outcomes.

The following are the assessment tools that ADU faculty members can choose from in assessing their student performance and achievement:

- Tests and exams
- Assignments/homework
- Projects
- Reports
- Presentations
- Essays
- Papers
- Case studies

- Exhibitions
- Portfolios
- Self-assessment
- Capstone course or graduation project
- Performance through observing and judging

Roles and Responsibilities

The task of achieving excellence in assessment requires collaboration among four parties: the Manager of the Center for Faculty Development, College Deans, Department Chairs/Program Directors, Faculty and Students.

1. The role of the Director of the Center for Faculty Development is to plan faculty development activities on student assessment, such as workshops and seminars.

2. The role of the College Dean is:

- to ensure that colleges have their own discipline-specific assessment guidelines and procedures that are consistent with ADU Student Assessment guidelines;
- to ensure that these guidelines and procedures are periodically reviewed; and
- to ensure that departments use assessment results for program improvement.

3. The role of the department chair/program director/coordinator is:

- to collaborate with faculty members in developing assessment guidelines and procedures that are appropriate to their major fields;
- to ensure that faculty members implement these guidelines and procedures;
- to ensure that faculty members inform students of assessment criteria;
- to review assessment methods and criteria; and
- to ensure that assessment results are used for continuous improvement of learning and instruction

4. The role of faculty members is:

- to inform students at the beginning of the semester of the assessment methods and criteria that will be used in assessing their performance and achievement;
- to provide students with feedback on their performance and how it can be improved. Effective feedback should be provided in a timely and constructive manner and includes both comments and grades.

Late Submission Coursework

The due date for each class assignment or project should be clearly indicated to the students in the course outline.

Assignments received more than two weeks after the due date should not be accepted.

1. Submission dates may be extended in exceptional circumstances. The College or Instructor may use their discretion in approving such requests. Submission of the coursework should not normally exceed the last day of classes.
2. Assignments or projects can be turned in any time up to two weeks after the due date will be graded, but a penalty may be applied.
   a. Assignments submitted at any time up to one week after the due date should have the grade awarded reduced by 2% for each calendar day the assignment is late.
   b. Assignments submitted more than one week but not more than two weeks after the due date should have the grade reduced by 5% for each calendar day the assignment is late.

Student Archives

The final course result at the end of the semester will remain in Abu Dhabi University's records in perpetuity. The Office of the Registrar will be responsible for maintaining appropriate storage. Deans, Chairs of Departments and faculty will have read-only access to these records.

Back up files will be updated regularly, with another set of files stored in an external and secure location in fire proof cabinets.

Academic Standing

If the student's CGPA drops below 2.0 after completing at least 30 credit hours, he/she will be placed on academic probation in the following semesters until the student's CGPA improves to 2.0 or higher. As long as the student remains on probation, he or she will be limited to 12 credit hours in course credits per semester. Any student who is under academic probation is allowed to change major only once.

If at the end of the Spring semester in the following academic year the student's CGPA remains below 2.0, the student will be dismissed from the university and will become eligible to apply for re-admission to the university as specified in the re-admission policy.

Student Attendance Policy

When the student's absence in a given course reaches or exceeds 30%, he/she will be withdrawn from the course. Absences will not be waived under any circumstances.

Students will be considered absent if they do not arrive on time for a lesson. Taking attendance will start on the first day of classes and will continue until the last day of classes in the semester.

Warnings will be posted on the Abu Dhabi University Student Portal when a student's absence reaches 10% and 20%. At the 30% absence limit, a withdrawal due to absence (WA) will be posted on the Abu Dhabi University Student Portal.

All attendance rules and requirements apply equally to courses delivered in both face-to-face mode and e-learning/ hybrid delivery modes. Students should connect at the start of the session and should remain connected, with adequate engagement and participation for a minimum of 75% of the session duration. If technical difficulties or exceptional circumstances prevent the student from complying with the attendance rule, the student should send an email to the faculty member no later than 24 hours after the session, including any relevant proofs or explanation. Further details regarding application of attendance policy to e-learning courses is provided in the Distance Learning Procedural Guidelines.

The Registrar's Office will accept excuses only from students missing an exam/major assignment due to absence. Students will be permitted to take a make-up exam, if its weight is at least 10% of the course total mark, upon approval of a legitimate excuse.

Evidence for any of the following legitimate excuses will be submitted to the Office of the Registrar on the first day of return to class:

1. Hospitalization,
2. Contagious Disease,
3. Death of an immediate family member (parent, grandparent, sibling, spouse, child),
4. Car Accident,
5. Special assignments (for working students) with prior written approval from the Office of the Registrar,
6. Al haj, Al Umra is not a valid excuse for students to be absent.

In the case of excused absence for a final exam, the student has to apply for an Incomplete (I) grade at the Office of the Registrar within 48 hours of the exam.

Undergraduate Completion Policy

This is to specify the university-wide requirements of each undergraduate academic degree program that is offered at Abu Dhabi University.

1. Total Credit Hours

Except in instances where professional accreditation requirements dictate otherwise, all undergraduate degree programs will require 120 total credit hours.

2. Grade Point Average

All undergraduate students must successfully complete all course requirements, as well as the other activities assigned to their specialized study plan. The CGPA of each undergraduate graduating student must be at least 2.0 out of 4.0 at the time of graduation.

3. Credit Transfer

The maximum approved transfer credits must not exceed 50% of the total credits towards an undergraduate program at Abu Dhabi University.

4. Study Plan

Each undergraduate degree program will have study plans for students entering in Abu Dhabi University. These study plans will specify the appropriate sequences of courses that students must take in order to graduate usually within a four-year period. Study plans should include university requirements, major and elective courses.

Exceptions

The Chancellor reserves the right to decide on any situation/ circumstances outside the conditions stated in this policy.

Distance Learning Procedure

The purpose of the procedural guidelines is to set out general institutional rules and standards for distance teaching and learning at ADU. Distance teaching and learning complies with MoE/CAA regulations, as well as with related ADU policies and procedures.

1. FACULTY AND STUDENT ROLES AND RESPONSIBILITIES:

1.1 Faculty members are responsible for:

1.1.1 Attending all mandatory online teaching training sessions, as well as attending any optional training sessions deemed desirable and/or relevant to subject, college, or identified need.

1.1.2 Preparing course materials to be used during distance delivery. The material will be either ADU-approved course content and material or appropriate external material relevant to the course content.

1.1.3 Observing and abiding by ADU rules and regulations related to academic integrity and intellectual property rights.

1.1.4 Maintaining familiarity and currency with all technical tools, software and techniques adopted by ADU to support distance learning.

1.1.5 Conducting all course sessions as per the official ADU schedule.

1.1.6 Enforcing appropriate conduct and discipline rules and maintaining order throughout all course sessions, and reporting any student misconduct, in line with ADU rules and regulations.

1.1.7 Applying all ADU teaching rules as per traditional delivery mode, and observing the Code of Conduct as outlined in the Faculty Handbook.

1.1.8 Evaluating and monitoring student engagement/ active participation in the session, which is a compulsory component in considering attendance for distance learning.

1.1.9 Ensuring that any material required for teaching and learning is made available for the students in a timely manner, either during the session or prior to the session.

1.1.10 Implementing the course assessment strategy for existing courses to ensure students achieve the learning outcomes and ensure quality of student performance.

1.1.11 Developing a teaching, learning and assessment strategy when designing new courses which embeds best-practice instructional design principles for e-learning/ hybrid learning.

1.2 Students are responsible for:

1.2.1 Attending all mandatory online learning preparatory training sessions.

1.2.2 Attending course sessions in the same way as conventional face-to-face sessions. Students should connect at the start of the session and should remain connected, with adequate engagement and participation for a minimum of 75% of the session duration. If technical difficulties or exceptional circumstances prevent the student from complying with the attendance rule, the student should send an email to the faculty member no later than 24 hours after the session, including any relevant proofs or explanation.

1.2.3 Ensuring adequate internet bandwidth and a reliable connection. Students should be in a quiet environment conducive to allowing them to focus on the session, use of a headset or earphone is recommended when noise background is present. Students' digital devices must be able to perform the required tasks/activities during the session.

1.2.4 Ensuring their ADU student account is valid and password is updated. Student ADU account is the official credential use in ADU, personal email, or guest account is not permitted.

1.2.5 Awareness of, and adherence to, the ADU Code of Conduct as per the Student Handbook and adherence to all other class rules and regulations. Any student misconduct is to be reported by the faculty member and is subject to standard ADU policies and procedures regulating student behavior. In particular, in a distance learning environment students shall not: • Engage in any one-on-one or sub-group discussions or messages in any topic not related to the course topic. • Share any digital material without the approval of the faculty member.

2. GENERAL PROCEDURAL GUIDELINES FOR DISTANCE TEACHING AND LEARNING:

2.1 Guidelines for Course Preparation – Faculty and Students

Faculty members should be guided by the principle that the content of courses does not differ from the face-to-face norm. However, variation in choice and presentation of course materials as well as different pedagogic skills may be required.

2.1.1 Faculty should:

2.1.1.1 Reframe strategies used to attain identical course learning outcomes as the face-to-face course, using the digital tools available.

2.1.1.2 Determine the type(s) of interactivity needed in course sessions.

2.1.1.3 Select appropriate and relevant media and other course materials, including:

- Printed materials: Textbooks, guided study assignments, website links and other directed reading, library resources, computer programs, written exercises and questions, etc.

- Audio-visual materials: National or local radio or television broadcasts or podcasts, slides, filmstrips, tape recorders etc.

- Digital media: Digital media is digitized content that can be transmitted over the internet or computer networks. This may include text, audio, video, images, graphics, websites, social media, email marketing, video and photos.

ADU faculty are expected to adhere to policy and best practices at all times when utilizing digital media in connection with course delivery. This includes abiding by the following standards:

a. Personal Information

Faculty must at all times respect the confidentiality of media creators and personal information, such as phone numbers, addresses or other location information, should not be shared.

b. Confidential Information

Faculty must be aware and mindful of confidentiality obligations that may apply to certain information, such as financial or research information, and should not post any information subject to such an obligation of confidentiality.

c. Intellectual Property

Faculty must refrain from violating the copyright, trademark, or other intellectual property rights of others, including the University. For further detail, please reference ADU's Copyright Policy.

d. Terms of Service and Acceptable Use Policies

Faculty must follow the individual terms of service set forth by the various digital and multimedia platforms.

2.1.2 Students should:

2.1.2.1 Ensure Microsoft Teams software is downloaded on laptop or desktop computer. Prior to the start of the course, a trial online class meeting will be arranged, students will be advised of the details through email and Bb Announcement.

2.1.2.2 Before each class session, there may be recorded lectures and/or other asynchronous activities to complete. For these, log in to Blackboard, and go to course site page. Recorded lectures will typically be larger in size and in compressed format (.zip files). Save the PowerPoint slides to laptop and begin the slide show for the recording to play. Watch the pre-recorded lecture ahead of live session and note down any questions and queries.

2.1.2.3 Further, the instructor may have created a couple of questions to respond to before the live session, based on the recorded lectures. Students should respond to them on Blackboard ahead of the class or by the deadline set by the instructor.

2.1.2.4 Take some time to read through each of the previous discussion post responses before writing your own response. Submitting an answer or question that is obviously similar to a classmate's response indicates to the instructor that you haven't paid attention to the conversation thus far. Building upon a classmate's thought or attempting to add something new to the conversation will show your instructor you've been paying attention.

3. GUIDELINES FOR COURSE SESSIONS – FACULTY AND STUDENTS

Online distance learning courses are delivered via the Internet using an ADU- supported Learning Management System (LMS). The IMTS Backup Policy applies to backup for the e-learning environment, including digital contents, recorded lectures, recordings of presentations, etc. No on-campus meetings are required. Faculty-student interaction and delivery of course content is achieved fully-distanced. Through regular effective contact, instructor and students interact to complete assignments and assessments and to demonstrate achievement of Course Learning Outcomes.

3.1 Faculty should:

3.1.1 Define and implement strategies for keeping students engaged throughout the session.

3.1.2 Actively engage students using defined strategies, for example, synchronous chats, interactive in-class assignments, asynchronous discussions, quizzes, direct questions etc.

3.1.3 End and recap each class session by summarizing main points, and introducing next session highlights.

3.2 Students should:

3.2.1 For scheduled live, interactive sessions, log in to Microsoft Office 365 with ADU username and password. Meetings will be recorded by the instructor ONLY for educational and statistic purposes. Attendances will be documented as usual.

3.2.2 Ensure the space around is quiet so you are able to follow and participate in your online meeting, lecture, review or assignment without background noise or distraction.

3.2.3 Make sure to have full Wi-Fi signal to avoid any interruption or lagging during the online course. Avoid connecting to free and open WiFi. Don't use mobile data to avoid bad audio quality and delay in video streaming.

3.2.4 Check computer settings to ensure that audio and video work well.

3.2.5 Advise family and ask for their support to provide the right space and a quiet environment for distance learning.

3.2.6 Silence mobile during the online meeting.

3.2.7 Make sure you follow the online class through a desktop or laptop computer, not a smartphone.

3.2.8 Refer to the class schedules, the lecture will run as per usual course timeline. Be on time to avoid disruption and to affect the smooth of the meeting. Attendances will be registered as usual at the beginning and during the online lecture.

3.2.9 Don't take screenshots or photos or video of others during the online meeting while they are in private spaces and/or without their knowledge and consent. Remember this is illegal and against the University's Rules of Conduct.

3.2.10 Note that you will have the same opportunity to meet your instructor online during office hours as usual.

4. GUIDELINES FOR ASSESSMENTS AND EXAMINATIONS

4.1 Course assessment: Colleges have developed course assessment strategies and instruments which meet the course learning outcomes, suitable for distance learning. Recognizing differences between courses, different assessment methods may be used across different courses, such as individual and group projects, open-book examinations, online presentations and case studies etc.

4.2 Online proctored assessment: Online proctored assessment, in similar fashion to a typical examination with an invigilator, will be necessary for some courses. ADU has set a maximum of 45% online proctored exams and quizzes for any course, with the exception of mathematics and statistics courses which can be greater than 45%. In preparation for online assessments students must download the Respondus Lockdown Browser to a desktop or laptop computer with either a Windows or Mac operating system. Tablets or mobile device may not be used. Students will also need either a built-in camera, or a separate USB webcam.

4.3 Grading policy: Courses are subject to the usual Abu Dhabi University letter grading system and the GPA and CGPA calculations.

4.4 Oral assessments: All oral examinations, presentations, capstones and thesis defense will be required to be presented virtually by the students.

4.5 Other assessments: Any of the following additional assessment tools may be employed in distance learning courses:

4.5.1 Online time-controlled quizzes, with multiple choice and/or open-ended questions: conducted in a specific session and for a specific duration, students must complete within the assigned time.

4.5.2 On-line group work, discussions and assignments leading to the submission of a group report by the end of the session.

4.5.3 Individual or group projects, assignments and other tasks to be submitted at a specific date via appropriate platform.

4.5.4 Simulations, practical session, and/or recorded experimentation.

5. GUIDELINES FOR ACADEMIC INTEGRITY – OFFICE OF ACADEMIC INTEGRITY (OAI)

5.1 At the beginning of each semester, the Office of Academic Integrity (OAI) undertakes a comprehensive and detailed multi-layer awareness campaign at all campuses of ADU. The OAI is responsible for:

5.1.1 Providing all faculty and staff members with the relevant information and providing a discussion of the Academic Integrity (AI) Guidelines through the Distance Learning Process in their classes.

5.1.2 Providing all students with relevant information on the AI Guidelines through Distance Learning Process including highlights of steps to avoid AI violations.

5.1.3 Offering AI Information Sessions to all faculty members. The Information Sessions primarily concern AI violations, use of Respondus Lockdown Browser in exams to deter and control cheating, and use of Turnitin software to deter and control plagiarism.

5.1.4 Providing AI video orientation in both English and Arabic languages to all sections of courses taught by the CAESS, with the objective of informing the new students. The AI videos focus on educating new students about AI guidelines and providing information about different AI violations and how to avoid them.

5.2 In preparation for final examinations, the following initiatives are taken to prevent and deter AI violations: (*ADU uses the software Respondus Lockdown Browser through Blackboard to provide camera-proctored exams):

5.2.1 Sending emails in English and Arabic languages to all ADU faculty and staff regarding final examinations and related issues, including highlights of the most important topics relevant to the final exams and the ways to prevent/deter violations of AI guidelines during the distance learning process.

5.2.2 Sending emails in English and Arabic languages to all students explaining rules related to the final examinations guidelines and delineating their responsibilities.

5.3 Each reported case of AI violation undergoes a thorough adjudication process which involves seven stages as outlined below:

5.3.1 Receiving reports of the violation/s and requesting supporting documentation;

5.3.2 Collecting and analyzing the evidence by reviewing the Respondus Lockdown Video;

5.3.3 Holding a discovery phase meeting with the student;

5.3.4 Holding the first committee meeting to evaluate the evidence and reach a decision;

5.3.5 Holding appeal committee meeting, where applicable, to reevaluate the evidence and review the decision of the first committee;

5.3.6 Submitting certain cases to Senior Management for special considerations, when applicable; and

5.3.7 Conducting all the necessary communications to the concerned parties.

Exceptions

For any conditions/circumstances and/or exceptions outside the conditions stated in this procedure, a request shall be presented to either Vice Chancellor or Provost for treatment. Either one will advise on what level of approval is required based on the risk involved in approving the exception. The highest authority to address major exceptions is the Chancellor whom will be recommended by the Vice Chancellor or Provost depending on the nature of the procedure

Examination Rules and Regulations

1. Final Examinations for all students will be held as stipulated in the Academic Calendar;
2. Only students registered for a particular course will be admitted into the room for the respective final examination. Students who have exceeded the 30% absence rule, or who have not paid their tuition/ fees, or who have been suspended or dismissed from the university will not be allowed to sit for their final examinations;
3. Faculty may examine students using written, practical, or oral tests, by continuous assessment, or by any combination of these;
4. Students who wish to appeal against examination result(s) must follow the grade appeal procedure at the Office of the Registrar;
5. The week before the final exam shall be used for feedback for students to reflect on what they have learned during the semester;
6. If a student has missed an exam for any reason (other than medical reasons as already noted), she/ he may appeal to retake the test or exam if extreme justifying circumstances warrant it. A written appeal must describe the circumstances which caused the student to miss the examination, and supporting documentation should be provided where appropriate. Copies of the appeal must be sent to the Office of the Registrar for review and approval.

Rules Governing Final Examinations

1. No faculty may hold a final examination except during the period in which final examinations are scheduled. The final examination times will be posted by the Registrar and will take place immediately following the thirteenth week of the Fall and Spring semesters. The Summer and Winter semesters final examination schedule will be coordinated within the Summer and Winter semesters and students will be notified of the given date in advance.
2. No student may be required to take more than two final examinations on any calendar day during the period in which final examinations are scheduled. If more than two are scheduled, the Office of the Registrar will permit a postponement allowing students to sit for such an examination at a later date.
3. Examinations that are postponed because more than two examinations are scheduled on the same day, or because an examination conflicts with another examination, may be taken at another time during the final examination period once the faculty member and student both agree on a time.
4. Laboratory work and oral examinations which form part of a final exam are allowed to be taken in the week preceding the period set for the final examinations, but all of the university-required written final examinations must be given during the final exam period.
5. No faculty may change the time, date or location of a final exam without permission from the Registrar.
6. No faculty member may increase the time allowed for a final exam beyond the scheduled two hours without permission from the respective Dean and Registrar

Retention of Final Examinations

Faculty are encouraged to make graded final examinations or papers available to students at the end of the semester. The College will retain a copy of each student's graded final examination/paper and examples from across the range of student performance of graded responses to all assessment instruments of the last two presentations of the course to evaluate program effectiveness.

Academic Advising: Mission and Objective

The Academic Advising Office was established in 2011 as one of Abu Dhabi University's strategic initiatives to support students in achieving their potential and academic goals.

The mission of Abu Dhabi University's Academic Advising Office is to guide and support students during their academic journey to ensure they succeed in achieving their goals and career plans. This is done through regular and consistent communication with each student by forming a partnership with faculty mentors and academic advisors to create and maintain a solid foundation of engaged learning, proactive participation, and a strong sense of personal responsibility.

Main Objectives of the Academic Advising Office:

1. Develop academic programs that are consistent with students' goals and actual strengths to support them in the challenge of making plans and taking decisions that are relevant to their interests and appropriate to their level.
2. Advise and assist students with respect to ADU policies and procedures.
3. Provide accurate and timely information regarding university requirements, policies, and procedures.
4. Guide and motivate students in developing themselves and taking more responsibility for planning their own academic career.
5. Act as a focal point between the students and the University in order to ensure that the students fulfill all their academic requirements.

Responsibilities of Academic Advisors:

1. Advise and assist students with respect to ADU courses and programs.
2. Assist students with registration issues and offer guidance with course selection.
3. Identify options for students to satisfy specific degree requirements, evaluate and make recommendations on requests, and make adjustments to the student's study plan.
4. Evaluate the students' level of development and support their growth by assessing the key factors and generating the required reports when necessary.

The Role of the Faculty Mentor:

Here in Abu Dhabi University, we are deeply committed to helping you succeed in college.

The faculty mentoring initiative is one such endeavor. It is designed to make your transition to college a smooth one. In the beginning of your freshman year, a faculty mentor will be assigned to you from University College. In your sophomore year, you will be assigned to a faculty mentor from your major.

The Faculty Mentor will:

1. Provide information about degree programs to aid students in making informed decisions regarding their majors and minors.
2. Deliver general guidance related to the student's field of interest.
3. Assist students with their choices of majors and minors.
4. Mentor students throughout their academic journey in ADU.
5. Provide comprehensive feedback regarding students' performance.
6. Meet the students with academic support to monitor their progress and recommend the support needed for their academic development.

Responsibilities of Students:

Successful advising is subject to a number of factors; all of which contribute to the overall success of a student. It is dependent on the shared understanding of, and commitment to, the advising process by students, advisors, and the university. Students will be informed of their academic responsibilities in the advising process.

The responsibilities of students include:

1. Recognizing the importance of the relationship with their advisors.
2. Getting the necessary information needed to understand degree requirements in their respective degree program.
3. Seeking the assistance of advisors/faculty mentors or other university resources on a regular basis.
4. Keeping their assigned advisors/faculty mentors informed of any academic difficulty and challenges they may be facing.
5. Taking full responsibility of their decisions in accordance with the best advice and information given.

Advising student with Academic Support Notice:

Prior to the beginning of the registration period for each regular semester, an advising hold is placed on the record of each enrolled undergraduate student who has completed 16 credit hours and above with a cumulative GPA below 2.5. The advising hold prevents a student from registering for courses in the subsequent semester or term. The advising

hold for any student can only be removed by the student's academic advisor.

In order to be eligible for removal of an advising hold, each relevant student must make an appointment for an advising session with his or her academic advisor through the University's electronic advising system and must attend the advising session. The student should prepare a proposed set of courses for the relevant semester and/or term prior to the advising session.

The student's academic advisor must record the substance of the advising session in the University's electronic advising system, including the agreed upon set(s) of courses the student will take in the subsequent semester and/or term. The advisor will remove the advising hold in view of the student at the end of the advising session.

Advising Tools, Purpose and Design

A variety of advising tools are provided to promote efficient and effective communication between students and advisors.

1. Academic Advising Website

a. Advising webpage for each college.

b. Registration guidelines.

c. The study plan should be more detailed and specific.

d. Inclusion of the Advisor Handbook (soft copy);

e. Information about the Professional Advisors, and their office timings.

2. Student Online Account

a. Recommended Plan of Study - standard plan for every student of that particular major.

b. Plan of Study In-Progress- includes the courses that have been completed in a particular semester until date and GPA.

c. The assigned Professional Advisor details indicating instructor's name, qualifications, office extension, office room number/address, office hours, e-mail ID.

d. Link to access a pdf file of the student handbook.

e. A list of minors and electives being offered.

f. The system should be able to automatically generate the student's final exam schedule considering the courses taken in that particular semester rather than providing the complete list of all courses and all the exam dates.

g. The system should include a step-by-step tutorial for all students to make them familiar with the registration and advising processes.

3. Academic Advising Manuals

a. Introduction to Academic Advising;

b. Registration guidelines;

c. Placement tests;

d. Information of the respective college;

e. Courses offered;

f. A detailed Study Plan according to each discipline;

g. Information about the Professional Advisors, and their office timings;

h. Campus Academic Support services and Resources.

4. Online Academic Advising/Faculty Mentoring Forms

a. Academic Advising forms – The one to one advising meetings between the academic advisors and students are recorded through on line e-advising forms. A system generated report which summaries the outcomes of the meetings is emailed to the advisor and student advisee's ADU mail accounts.

b. Faculty Mentoring forms - The one to one mentoring meetings between the faculty and the students' mentees are recorded through the on line e-mentoring forms. A system generated report which summarizes the outcomes of the meetings is emailed to the faculty mentor and student mentee's ADU mail accounts.

5. Interactive CDs, DVDs or Minimal PDFs (for newly enrolled students)

a. Detailed Study Plan for each discipline;

b. General Education planner;

6. Power Point Slides (for orientation sessions)

a. General information about Abu Dhabi University;

b. Information about UC, CAESS, COBA, COE;

c. Courses offered in each college; and

d. Detailed Study Plan for each discipline.

Tuition and other Fees

Tuition is based upon the college and/or department classification as opposed to the course classification or level. Tuition rates for undergraduate students vary from the tuition rates for graduate students. Costs of books and supplies are not included in the tuition and fees. Students at Abu Dhabi University are also required to pay certain fees and other costs to attend the university.

Abu Dhabi University reserves the right to change tuition and fee rates at any time with one semester advanced notice to students. A tuition schedule is published prior to the start of each academic year.

University institutional policy requires all students to pay tuition fees in advance. Failure to pay tuition fees by designated deadlines may result in a student to be administratively dropped from one or more classes. Students who have been dropped can be re-enrolled again, but a late payment fee of AED 500/- applies.

Students who owe money to the institution will not be allowed to register for the subsequent semester until the balance owed is paid in full.

Payment

Tuition and fees are due upon registration. Students can pay cash directly at any branch of Abu Dhabi Islamic Bank or by bank transfer or online using Student self-service. Tuition and fees may also be paid by cash, checks, and valid master or visa credit cards in the Abu Dhabi University Finance office.

Cash Payment at the Bank

If you wish to pay in cash, please follow the steps to make the payment to Abu Dhabi University Account No. 13417198 at any of the Abu Dhabi Islamic Bank branches:

- Access the Abu Dhabi University Student Portal.
- Enter your user name and password.
- Click on registration and choose Register in courses.
- Make sure you have finalized your registration.
- Click on the link to display the schedule then make a print out.
- Submit the print out to any of the ADIB branches.
- Deposit the full amount into Account No. AE760500000000013417198.
- Keep the ADIB deposit slip.
- If within 48 hours, the amount paid does not appear in your statement of account, please check with the Abu Dhabi University Finance Department with your ADIB deposit slip.

Online Payment

Online payment is available through the Abu Dhabi University website www.adu.ac.ae

- Log in to your Peoplesoft account at E-Services
- Click self service then go to Student Centre to view the due amount and press make a payment
- Enter the amount desired to pay on each item, to calculate the total amount click calculate grand total. After checking the total amount, press next to continue.

Note: The system will not allow you to enter decimal while online Payment, you need to make sure to enter the amount without decimals.

- Read the agreement and tick the box if you agree, click pay online to proceed
- Select the type of card to use (Master card or Visa Card)
- Enter the card number, the expiry date and the security code then click pay to continue
- Transaction details will appear then click Finish to proceed
- Lastly, a payment confirmation message will show, click ok to complete the payment.

Plans for Tuition Payments

Each student who enrolls at Abu Dhabi University must choose one of the following plans and finalize the arrangements with the Finance Department:

• **Option 1:** Pay in Full

Full payment is due during the first week of registration.

• **Option 2:** Two Installments

The first payment is 50% of the total tuition fees due during the first week of registration and the second is a post-dated cheque two months after the first payment. A collection fee of 130 AED will be charged.

• **Option 3:** Four Installments

The first payment is 25% of the total tuition fees during the first week of registration with three monthly post-dated cheques. A collection fee of 390 AED will be charged.

Note: Once a student pays by Post-dated Cheques, he/she cannot exchange any of them with cash or another cheque; all received cheques will be deposited directly to the bank on the date stipulated on the cheques.

Refund

Refund Fees

1. A refund processing fee of AED 100/- is charged to students who drop courses during the refund period and decide to receive a cheque for the refunded amount. If the student decides to keep the amount in his/her account, no fee will be charged.
2. Any overpayment amount will remain in the student account and will be deducted from next semester's fees. If a student wants a refund of the account balance, three cases are possible:
   a) If the overpayment is less than AED 2,000/-, no refund will be made on a priority basis, but should occur in about 15 working days.
   b) If the overpayment is equal to or higher than AED 2,000/-, the refund will be made on a priority basis, within 5 business days.
   c) If a student is:
      - graduating the same semester, or
      - withdrawing from the University, or
      - receiving scholarship or sponsorship support, then his/her overpayment balance will be refunded at no extra charge and given priority service.
3. No refund processing fee will be charged if Abu Dhabi University decides to cancel the class.

Refund Period

1. The refund periods for students in the Fall and Spring semesters are as follows:
   a. 100% refund during the first academic calendar week;
   b. 75% refund during the second academic calendar week;
   c. 50% refund during the third academic calendar week; and
   d. 0% refund as of the fourth academic calendar week.
2. The refund periods for students in Winter/Summer courses are as follows:
   a. 100% refund during the first and second days of classes;
   b. 75% refund during the third and fourth days of classes;
   c. 50% refund during the fifth and sixth days of classes;
   d. 0% refund after the above period.

Fees Structure - AED

Undergraduate Tuition and Fees	Frequency	Fees	
		Abu Dhabi	Al Ain
Undergraduate Tuition			
Arts and Sciences	Per credit hour	1620	1300
Service Courses (COE / CHS)	Per credit hour	1745	1390
Arts and Sciences (Mass Communication Courses) - English	Per credit hour	1620	1300
Arts and Sciences (Mass Communication Courses) - Arabic	Per credit hour	1680	1340
Business Administration	Per credit hour	1800	1435
Engineering	Per credit hour	2000	1605
Law	Per credit hour	1620	1340
Health Sciences	Per credit hour	2085	2085
Other Health Sciences Programs (BSc in Environmental Health & Safety, and BSc in Public Health)	Per credit hour	1745	1390
BSc Renewable and Sustainable Energy	Per credit hour	2000	1605
BSc Artificial Intelligence Engineering	Per credit hour	2000	1605
BA International Relations	Per credit hour	1715	1555
BA Psychology	Per credit hour	1715	1435
BA Video Game Design	Per credit hour	1890	-
Bsc Clinical Psychology & Mental Health	Per credit hour	2085	2085
Specialized lab for (COB, CAESS & COE)	Per Semester	500	
Engineering Labs	Per Semester	850	
Studio Labs	Per Semester	850	
Admission Fee			
Admission Application - Undergraduate (Non-Refundable)	One Time	300	
Registration - Undergraduate (Non-Refundable, paid once upon admission)	One Time	2850	
Institutional TOEFL + Write Placer	One Time	585	
IELTS On Computer (IoC)	One Time	1325	
IELTS On Paper (IoP)	One Time	1225	
Late Registration/Payment Fee	Upon Occurrence	500	
Healthcare Service Fee	Per Semester	110	50
Healthcare Service Fee	Per Summer/Winter	55	25
Student Services	Per Semester	350	

Student Services	Per Summer/Winter	175	
Transportation			
Door to Door	Per Semester	3700	2850
Door to Door	Per Summer/Winter	1850	1450
Drop-Off Points	Per Semester	2400	2400
Drop-Off Points	Per Summer/Winter	1200	1200
Accommodation Fees – Only in Abu Dhabi			
Private Single Occupancy with Bath and Kitchen	Per Semester	12500	-
	Per Summer/Winter	3800	-
	Per Day	130	-
Semi-Private Single Occupancy with shared Bath and Kitchen	Per Semester	9200	-
	Per Summer/Winter	2800	-
	Per Day	100	-
Double Occupancy with Bath and Kitchen	Per Semester	6700	-
	Per Summer/Winter	2000	-
	Per Day	70	-
Double Occupancy with Shared Bath and Kitchen	Per Semester	5400	-
	Per Summer/Winter	1700	-
	Per Day	55	-
Dorm Clearance Penalty	Per Occurrence	200	-
Dorm Late Registration fee	Per Occurrence	200	-
Other Fees – Both campuses			
Degree Attestation Fees	Upon Graduation	180	
Graduation Fee	Upon Graduation	1,320	
Locker Deposit	One Time	200	
Locker Rent	Per Semester	65	
CoE Locker Rent	Per Semester	140	
CoE Locker Rent	Per Summer/Winter	35	
ID Replacement	Any time/upon request	65	
Official Transcript	Any time/upon request	55	
Official Letter (Estimated Tuition Fee)	Any time/upon request	50	
Enrollment Letter	Any time/upon request	30	
Locker Key Replacement	Any time/upon request	100	
Penalty Bounced cheques	Per cheque	500	

Post-Dated Cheques	Per cheque	130
Repatriation Deposit - Refundable	One Time	5560
Residence Visa (Applicants inside UAE)	One Time	1400
Residence Visa (Applicants outside UAE)	One Time	750
Visa Transfer	One Time	-
Visa Renewal	Per Occurrence	550
Visa Cancellation (Abu Dhabi University has the passport)	One Time	360
Visa Cancellation (Abu Dhabi University doesn't have the passport)	One Time	325
Student Health Insurance	Per Year	1021
Maintenance Deposit - Refundable	One Time	1000
Door Cylinder Replacement	Upon Losing Door Key	200
Lost Diploma Fees	Occurrence	300
Certified True copy of the Graduation Certificate	Upon Graduation	100
Parking Sticker	Per additional sticker	25
Parking Fines	Per Occurrence	200
Courier Fees (Local)	Local	70
Courier Fees (International)	International	200
Internship Penalty	Per Occurrence	500
Intensive Business English	One time	1000

Abu Dhabi University reserves the right to make changes affecting Tuition, Fees and other testing fees during the year. The maximum annual limit for any fee increase is 5%.

Reduction

Family Tuition Discount

When two or more members from the same family are enrolled at Abu Dhabi University as full-time undergraduate students in the same semester, the Family tuition reduction Policy will apply a value of 15, 20 or 25 percent reduction on tuition fees dependent upon the number of family members enrolled.

Eligibility Requirements:

This tuition reduction is applicable to students from the same family. This implies family members with direct relationships or kinship such as siblings, spouses, or parents with more than one student simultaneously enrolled at Abu Dhabi University.

The tuition reduction will be implemented as follows:

1. Each of every two students enrolled shall benefit from a 15 percent waiver in tuition (family member enrolled is 2)
2. Each of every two students enrolled shall benefit from a 20 percent waiver in tuition (family member enrolled is 3)
3. Each of every two students enrolled shall benefit from a 25 percent waiver in tuition (family member enrolled is 4)

Ongoing family tuition reduction maintenance requirement

A minimum CGPA of 2.5 is required.

Rules and Regulations

The following rules and regulations shall apply to Abu Dhabi University family tuition reduction:

a. In case a student qualifies for more than one tuition reduction, scholarship or financial aid benefit, the student shall be given the option to choose the benefit with the highest value.

b. The tuition reduction will not cover any repeated courses including courses which graded as F, WA, and W.

c. In any case where the minimum required cumulative CGPA is not met the student will lose the family tuition reduction for the following semester and the tuition reduction for other family members will be adjusted accordingly.

d. Any student who is found guilty of a student code of conduct violation or an academic integrity offense will forfeit the family tuition reduction for the semester following the offense and the tuition reduction for other family members will be adjusted accordingly.

e. Tuition reduction will cover the summer and winter terms.

f. Students with Faculty/Staff tuition reduction are not eligible for family tuition reduction.

g. Students need to apply for family discount every semester based on the mentioned dates in the academic calendar.

Scholarships

A variety of scholarships are offered to encourage students to develop academic strength, discipline and a sense of community. The maximum coverage period of any scholarship is four years, or upon graduation, whichever is sooner. It is not necessary to re-apply for a scholarship as long all maintenance criteria (outlined below) are met.

The scholarship application process begins after a student is formally admitted to ADU and assigned a unique student ID number. This number is used to securely login to a University account that has a section for Financial Aid and Scholarships.

As student information, including academic records, has already been processed by the University upon admission, any scholarships that the student is eligible for will appear on their account page. The student may choose to fill out the online application for any scholarship that appears here, as they qualify for these based on merit. The application is completed with the appropriate details filled in by the student, along with the uploading of any required documents, and then is submitted online.

H. H. Sheikh Hamdan Bin Zayed Scholarship

(20 scholarships annually)

Value: 100 percent waiver on tuition, application fee, registration fee, student services fee and health service fee.

Eligibility Requirements:

a. This scholarship is available to the top 20 secondary school graduates across the UAE who are newly admitted & join Abu Dhabi University in the fall semester only. The H.H. Sheikh Hamdan Bin Zayed Al Nahayan Scholarship will be applicable to the period of time the student is enrolled at Abu Dhabi University in full time status.

b. Receipt of the scholarship is contingent upon the selection and formal approval from the Office of H.H. Sheikh Hamdan Bin Zayed Al Nahyan.

c. Meeting the English Language Proficiency Requirements

defined by the Ministry of Higher Education and Scientific Research.

d. Academic IELTS 6.0 or equivalent TOFEL 550 (213 CPT, 79 IBT)

Ongoing Scholarship Maintenance Requirements:

A minimum Cumulative Grade Point Average (CGPA) of 3.70.

A minimum of 12 passed credit hours per semester.

University Scholarship

Value: from 15 percent up to 50 percent waiver on tuition fees for UAE residents & GCC national candidates (GCC national candidates must provide official attested documents).

a. Students who newly graduated from secondary school and join ADU within two years of their secondary school graduation may receive scholarship with a value from 15 up to 50% waiver of the tuition fee per campus based on their high school average and selected major.

b. University scholarship will be applicable to the period of time the student is enrolled at ADU in full time status (registered in 12 credit hours), the only exception to the 12 credit hours will be given in the first registered semester and the following term for students who are not meeting the English Language Requirements.

Ongoing Scholarship Maintenance:

a. Students with university scholarship maintained automatically at reduction rates as previously approved when a student maintains a minimum grade point average (CGPA) of 3.60

b. A minimum of 12 passed credit hours per semester except for winter and summer terms.

Academic Scholarship

Value: 20 percent waiver on tuition fees for all continuing Abu Dhabi University students.

Eligibility Requirements:

a. This scholarship is available to continuing students who obtain 3.60 CGPA for two consecutive semesters.

Ongoing Scholarship Maintenance:

A minimum CGPA of 3.60.

A minimum enrollment of 12 passed credit hours per semester.

Athletic Scholarship

Value: 25 percent waiver on tuition fees for the continuing students per academic year.

Description and Eligibility Requirements:

a. This scholarship is awarded to students that demonstrate active participation on ADU sports teams (either as coach, captain or player).

b. Successful completion of the English Language Institute courses.

Ongoing Scholarship Maintenance:

A minimum CGPA of 2.75.

A minimum of 12 passed credit hours per semester.

Rules and Regulations

The following rules and regulations shall apply to all Abu Dhabi University scholarship recipients:

a. Scholarships are given for the period of time the student is enrolled at ADU, benefits outlined herein shall be granted according to the time period indicated by the study plan.

b. The student can appeal the decision of the committee two weeks from the announcement of scholarship recipients.

c. A student may avail of only one scholarship.

d. Tuition reductions, scholarships and/or financial aid cannot be shared and/or transferred among family members.

e. Students who are sponsored by a third party may or may not receive any ADU scholarship depending on the third party agreement.

f. In case a student qualifies for more than one reduction, scholarship or financial aid benefit, the student will be given the chance to choose the benefit with the highest value.

g. Students who do not continuously enroll or register for medical reason or other justifiable emergency reasons approved by scholarship and student aid office may postpone for one semester.

h. Any student who is found guilty of a student code of conduct violation or an academic integrity offense will forfeit the applicable scholarship for the remaining study in ADU.

i Any withdrawal from classes during a given semester without prior approval from the Scholarship and

Student Aid Office may result in a scholarship cancelation.

j. Scholarships will cover Winter and Summer terms.

Only under special circumstances will a student be permitted to take a semester off without forfeiting his/her scholarship support after obtaining the approval of the Office of Scholarships and Financial Aid. This can be granted once only during his study plan with supported document submitted to the Office of Scholarships and Financial Aid.

k. Scholarship and Student Aid Office will not cover any repeated courses including courses graded such as F, WA, and W.

l. Students are not required to reapply after receiving the scholarship. Scholarship will be renewed automatically as long the eligibility requirements are maintained.

Financial Aid

The level of financial aid is determined after a comprehensive assessment of the candidate's eligibility based on need. Financial support may range from 10 percent to 30 percent waiver on tuition fees.

Initial Eligibility Requirements:

a. Students with a UAE permanent resident visa enrolled in an undergraduate program at ADU excluding international and GCC candidates.

b. Demonstrable evidence of financial need as supported in application documents, submissions and upon further investigation.

c. Evidence of a minimum grade of 70 percent on finishing examinations from secondary education for first year students and a Cumulative Grade Point Average (CGPA) 2.75 for the continuing students.

d. Meeting the English language proficiency requirements as defined by the Ministry of Higher Education and Scientific Research.

Ongoing Financial Aid Maintenance Requirements:

A minimum Cumulative Grade Point Average (CGPA) of 2.75.

A minimum of 6 passed credit hours per semester.

Completion of 20 hours community service per semester.

Rules and Regulations

The following rules and regulations shall apply to financial aid:

a. Students who appeal the committee's decision have two weeks after the results are announced to file an appeal.

b. In the case where a student qualifies for more than one tuition waiver, scholarship or financial aid benefit, the student shall be given the chance to choose the benefit with the highest value.

c. Financial aid will not cover any repeated courses including grades such as F, WA, and W).

d. Any student who is found guilty of a student code of conduct violation or an academic integrity offense will forfeit their eligibility for the financial aid support provided by ADU for the remaining study in ADU.

e. Any withdrawal from classes during a given semester without prior approval from the Office of Scholarships and Financial Aid may result in a financial aid cancelation.

f. Benefits outlined herein shall be granted according to the time period indicated by the study plan.

g. Financial aid will cover the Winter and Summer terms.

h. In the case where minimum required cumulative GPAs are not met and the student risks losing financial benefits, the student shall be entitled to a onesemester probationary period to be given only once during his study duration.

i. In case where a student does not enroll or register in the university he/she will not receive the financial aid. Students will need to reapply during the mentioned dates in the academic calendar.

j. Continuing students need to re-apply for financial aid on a yearly basis and are required to submit updated documents during the mentioned dates in the academic calendar.

k. Students must dedicate 20 hours per semester, including the summer and winter terms, as an approved form of community service on-campus.

l. Newly graduated High School graduate students who wish to apply for financial aid support who meet the eligibility requirements can apply during the mentioned dates in the academic calendar.



STUDENT AFFAIRS DEPARTMENT

Student Affairs Department is primarily student-focused with an emphasis on holistic, experiential, and developmental learning. The department is directly managing the following programs:

ADUCONNECT

ADUConnect is a student engagement platform that helps students and alumni explore campus life like never before. Effortlessly, students can register for upcoming events and join exciting clubs. Explore this fantastic platform through https://connect.adu.ac.ae/.

Co-curricular Transcript

Unlock your potential with ADUConnect's innovative Co-curricular transcript which integrates AI to showcase your graduate skills and boost your employability after graduation. Explore this fantastic platform through https://connect.adu.ac.ae/.

Sports & Wellness Office (SWO)

The Sports & Wellness office (SWO) provides various sports competitions and wellness programs to students who will have an opportunity to enhance their physical and mental well-being, while improving essential life skills.

Fitness & Wellness Program

The sports and wellness team leads various exercise and nutrition seminars that inform our community about the latest exercise and nutrition trends to help them meet their individual goals. Each year we organize various fitness, sports events and competitions.

Campus Gyms

Both AD and AA campus have two, top-notch gym facilities featuring state-of-the-art equipment from Technogym and Cybex. Each gym contains three main zones: Olympic weightlifting zone, cardio zone and a freestyle workout zone catered to all fitness levels and abilities. Learn more about GYM usage and access by access by visiting the Student Affairs office.

Stallions Sports Complex

2019 marked the unveiling of a new sports complex for AD campus. A 15,000 m2 sports complex with a full-size multipurpose court, fit for basketball & volleyball, one full size tennis court, one full size padel court, a 4-lane 400m running track & a "FIFA Quality" certified astro-turf football pitch. In addition to this, ADU Campus contains a full-size cricket field (Male side of the campus), a 5-aside football pitch and a second outdoor multipurpose court on the female side of the campus (including badminton court).

Varsity Program

All of these facilities host the varsity teams of the ADU Stallions, which consist of three male teams, four female teams, and two clubs (Male Tennis Club and Male Volleyball Club). All varsity teams compete at the highest level in the UAE University Games League and Abu Dhabi Sports Cup (ADSC) League, also known as the ADEK League, and host in-house sports tournaments and competitions. Additionally, the sports and wellness office conduct a yearly fitness testing and assessment of all ADU registered athletes.

Employability and Alumni Relations Office

The Employability & Alumni Relations Office provides an all-inclusive approach to career development beginning with career awareness and career decision making and aims at helping students and graduates in developing, evaluating and executing their career plans. The Employability & Alumni Relations Office focuses on experiential education opportunities throughout the academic year in tune with the requirements of the UAE labor market. The Employability & Alumni Relations Office offers a range of services:

Career Assessment

The office offers a career and education planning system for prospective students and current ADU students. Customized with ADU's majors, prospective students are guided through a reliable, intuitive career & education decision-making model to help them choose majors offered at your college, and current students can explore occupations & make informed career decisions. The Career and Education Planning System engages students in the career planning process helping them to plan for and achieve career success throughout their lifetime.

Career Planning Readiness

Assesses students' involvement in the career planning process and introduces activities that support career and education decision-making.

Self-Assessments

Reliable and valid research-based assessments. Prospective students' assessment results are matched to occupations and supporting majors at ADU.

Take Action Plan

Students create a road map of their academic and career development activities.

Career Portfolio

Summarizes students' assessment results with their preferred majors and occupations, and personal comments/rankings, goals and achievements.

Career Guidance

Career Guidance and Advising is offered to students and fresh graduates who have career inquiries and assists them in improving their strategies in achieving their career goals through a series of practical and effective action plans.

Students can book automated one-on-one sessions with the Employability & Alumni Relations Office's certified career advisors. Students are encouraged to increase their employability skills by attending the variety of career development workshops provided during each semester. Workshops include: Resume and Cover Letter Writing, Professional Emails, Creating LinkedIn Profiles, Job Search Strategies, Successful Job Interviewing, and more.

Internship

The Internship program provides students the opportunity in bridging their academic knowledge with practical application and actual work experience. Internship constitutes a valuable part of the student's graduation requirements. As such, it is considered an important and natural extension of Abu Dhabi University's role in helping students increase their employability. By undertaking supervised compulsory training courses, students will have the opportunity to put into practice what they have learned in theory.

The internship is a supervised, practical training program over a specific period and that which carries credit. The Employability & Alumni Relation's Office offers assistance to students requiring internship placements. Whenever possible, students are encouraged to seek and arrange their internship as part of their job search training. Undergraduate students,, who meet a pre-specified CGPA and number of credit hours completed, are eligible for an internship. Assessment is based on the evaluation of the college mentor and company supervisor evaluation, student commitment, and internship reports prepared by the intern.

Job Board

The Employability and Alumni Relations Office's job board is regularly updated with opportunities available with our industry partners. The jobs posted there are across a wide variety of industries. The job board is available to all students and alumni who are seeking employment.

The job board can be found at: https://sa.adu.ac.ae/jobboard.

Career Fairs

The Employability and Alumni Relations Office hold targeted career fairs for each university college i.e. College of Business Administration, College of Arts, Education, and Social Sciences, College of Law, College of Engineering, and college of Health Sciences. Targeted career fairs are designed for students and graduates to meet directly with top regional and international employers. This initiative benefits both the students and the employees as it targets potential candidates and employers for specific majors. The career fair is an opportunity for students to introduce themselves directly to prospective employers, apply for fulltime or internship opportunities, and find out more about their graduate programs.

Employer Campus Visit Program

The ADU Employer Campus Visit Program is a great way for students and alumni to interact with employers. Each employer has a dedicated day on the ADU Campus to give the employer a more exposure, focus, support and a better chance for students and graduates to meet employers and learn about available opportunities. Participating companies are required to have specific internships, full or part time employment or sponsorship opportunities available for ADU students and graduates.

The ADU Employer Campus Visit Program welcomes employers to:

- Allocate a stand on campus to meet ADU students and graduates.
- Offer job interviews / Tests for vacancies (Full time & Part time Jobs, Sponsorships, Internships and Voluntary work).
- Share information and hold Information sessions.
- Host Career Workshops.

On-Campus Student Employment Program

The Student Practical Training (SPT) Program provides short-term on-campus training to students who desire to acquire valuable work experience as part of their education

experience, which qualifies them for financial incentives to support their educational expenses. ADU is committed to providing fair opportunity to all students. Students can check the eligibility criteria and apply through this link: https://ss.adu.ac.ae/spt.

Alumni Engagement

Alumni engagement begins at inception. Once students join the University, their relationship with ADU grows, and the strength of this relationship will define and shape their future success. The Employability and Alumni Relations Office is committed to maintaining long-lasting relationships with our alumni, and we accomplish this by forging connections through various programs and resources.

Alumni Reunion: We hold campus and college reunions throughout the year to give our alumni the chance to reconnect and network with faculty, staff, and fellow alumni.

Alumni Academy: This initiative focuses on providing professional development oppurtunities for our graduates, around a range of topics related to their previous programs of study, career guidance for new graduates, and other topics, which contribute to their personal and professional growth.

Alumni Spotlight: We highlight our alumni success stories, to learn more about their careers and other achievements and updates that they would like to share with the community.

Alumni Card: Alumni have the privilege of carrying an ADU Alumni card, which provides a variety of discounts within the community and grants access to ADU campuses and facilities.

Alumni Talks: We are proud to invite our alumni as guest speakers and hosts for our events where they share their experiences and advice as entrepreneurs and industry leaders.

Alumni Network Groups: ADU graduates are encouraged to join our online communities, to network and connect with other alumni, while learning more about alumni events, job opportunities and more. ADU Groups and the LinkedIn ADU Alumni Network, are the main platforms that keep our alumni community connected.

Student Engagement Office (SEO)

The Student Engagement Office is a student-centered department that works in unison with various student bodies, clubs and groups to enrich ADU's community with an expansive variety of culture, social activities, arts, environmental awareness and leadership opportunities. SEO is always looking forward to create a vibrant campus life and to engage students with exciting new activities and events that occur on & off campus. Programs that represent the aim of the office are the following:

- **Student Council Program**

This elite body of elected individuals offers a strong bridge of communication between the student body and ADU's management. The SC ensures that they embrace the needs of their fellow students to assist in understanding and suggesting significant developments at Abu Dhabi University. The Student Council undertakes a variety of training programs to enhance leadership and management opportunities once they graduate from ADU.

- **Clubs Program**

There is an extensive and varied menu of clubs for students to become active and involved in on campus ranging from arts, culture, and humanitarianism to professional and social. The clubs are designed to motivate Abu Dhabi University students and provide them with opportunities to expand their leadership skills. There is also the opportunity to suggest and create new clubs and for students to illustrate their culture, interests, and passions.

- **Leadership & Volunteer Program**

Students are encouraged to volunteer in SEO, ADU and the surrounding community while also working with corporate organizations through cross-generational work and CSR initiatives. Several tiers of 'leaders' are supported and will be given rewards through training, development, university exchange and international volunteering opportunities.

Also included in SEO's signature programming are leadership and empowerment workshops. Students are given the opportunity to make informed and proactive decisions therefore, implementing positive change in their own lives, healthily spilling over into their ADU community.

SEO assist the faculty and administration by helping students create their best self and strives to become a leading model of innovative and creative approaches for student-centered initiatives as we deliberately grow to meet the expanding needs of our splendidly diverse student body and the greater community.

Student Support Office (SSO)

The Student Support Office is a prominent division within the Student Affairs Department, entrusted with the provision of comprehensive non-academic support services to students. Our team consists of highly dedicated, experienced, and specialized professionals who are committed to delivering an exceptional experience to students throughout their tenure at Abu-Dhabi University.

The Student Support Office is committed to provide students with a seamless university experience through an

easy access to all its services from a digitized portal where students can avail any of the available services anytime and anywhere. Use this link to explore our services: https://ss.adu.ac.ae/.

Code of Conduct

The Student Code of Conduct is established to foster and protect the core mission of the University, to foster the scholarly and civic development of the University's students in a safe and secure learning environment, and to protect the people, properties and processes that support the University and its mission. Filing a code of conduct case against a student can be done through: https://ss.adu.ac.ae/code_of_conduct .

Abu Dhabi University Expectations

Abu Dhabi University is committed to being an academic community. This includes care, cooperation and adherence to standards of behavior for all who are part of this community. For this community to flourish, the following expectations of behavior have been established:

1. Abu Dhabi University expects responsible conduct by students and student organizations, both on and off campus, as a necessary condition for continued membership at Abu Dhabi University.
2. Students and student organizations are expected to be responsible members of a diverse community, and honor and respect differences of culture, lifestyle, and religion.
3. Academic integrity and honesty are basic values of the University. Students and student organizations are expected to follow the student code of conduct standards of academic integrity, and honesty listed in ADU's Student Academic Integrity Policy.
4. The ADU campus, its grounds, facilities and equipment are provisions for students of ADU. Students and student organizations are expected to respect and use them responsibly. This includes the use of the library, residence halls, classroom buildings, laboratories, and the campus as a whole.

Student Rights

As members of the University Community, students can reasonably expect all of the guarantees and protections which include the right to:

1. A fair process, guaranteeing both substantive rights and equitable procedures in all matters pursuant to the Student Code of Conduct;
2. Remain free from discrimination on the basis of race, ethnicity, gender, age, religion, creed, national origin or disability;
3. Engage in inquiry and discussion, to exchange thought and opinion, and to speak or write on any subject in accordance with federal and local laws;
4. Readily access established university policies and procedures; and
5. Have protection from unreasonable search and seizure.

When a student/organization is charged with a violation of the Student Code of Conduct, that student/organization has the right to:

Receive advance notice of the alleged violation, be informed of who to contact for a meeting, and the date by which the contact must occur;

Present his/her version of the events in question;

Be accompanied by an advisor or parent. (The advisor or parent may not speak or participate directly in the conduct process. This includes questioning witnesses or making arguments on the student's behalf);

Have witnesses who present information on his/her behalf;

Question any statements or witnesses presented;

Challenge the objectivity of the hearing body in case of conflict of interest; and

- Appeal the outcome of hearing on the following grounds:

  a. the procedures under which the student/organization is charged are invalid or not followed;

  b. the student/organization did not have adequate opportunity to prepare and present a defense;

  c. the evidence presented at the hearing was not substantial to justify the decision; or

  d. the sanction imposed was not in keeping with the gravity of the violation.

Student Responsibilities

The following acts are prohibited and may result in disciplinary actions:

1. Acting or conducting oneself in a way that obstructs or hinders the application and enforcement of the Student Code of Conduct;
2. Trespassing, forcefully entering university-owned, leased or controlled premises without permission;
3. Destroying or vandalizing personal and/or public property;
4. Unauthorized use of computer system or access codes;
5. Stealing property, including intellectual property, of the university, its members, or visitors;

6. Knowingly giving false information to an Abu Dhabi University official;
7. Willfully failing to comply with reasonable directions of university officials (i.e. faculty, staff and other employees of Abu Dhabi University);
8. Committing an academic offense listed in the Student Academic Integrity Policy;
9. Disrupting classroom activity and other university functions;
10. Disrupting the operations of the university by an action or combination of actions that interfere or prevent others from freely participating in an activity or program given by the university; and
11. Violating safety regulations such as:

    a. falsely reporting a fire, bomb, or any other emergency;

    b. unauthorized possession, use, or alteration or tampering of any university-owned emergency or safety equipment;

    c. failing to evacuate a building or other structure in case of fire or emergency; and

    d. taking any action that creates a risk that potentially compromises the safety of others;

12. Possessing fireworks, firearms, weapons or other explosive devices;
13. Threatening or causing physical or mental harm to others;
14. Harassing or causing a hostile environment within the university community;
15. Abusing the Student Code of Conduct system. This includes but is not limited to:

    a. knowingly filing a false statement or accusation against another person;

    b. disrupting or interfering with the orderly business of a conduct proceeding;

    c. failing to attend a conduct meeting;

    d. discouraging an individual's participation in or accessing the student conduct process;

    e. intimidating witnesses or participants of the conduct process;

    f. failing to comply with the sanctions imposed under the Student Code of Conduct; and Student Code of Conduct; and

    g. violating the terms of a conduct sanction

16. Misusing or stealing university documents;
17. Violating the student notice posting policy;
18. Petitioning to change decisions made by Official University personnel
19. Assisting or inciting others to violate the Student Code of Conduct;
20. Littering and inappropriate disposal of refuse;
21. Demonstrating within or outside of the university;
22. Contacting media (includes but not limited to news, radio, newspaper or television) without prior approval from University Management;
23. Printing or releasing any information about the university without prior permission from the Office of Student Support Services;
24. Failure to provide security guards with personal identification and appropriate documentation when requested;
25. Insulting or disrespecting a university faculty or staff member;
26. Writing inappropriate emails or messages to ADU students, staff or faculty members with aggressive, unacceptable or harsh tone.
27. Raising voice, shouting or loudly talking using unacceptable tone with students, staff or faculty members.
28. Physically attacking university faculty, staff, visitors, or fellow students;
29. Inappropriate physical contact or any intentional touching of any body part, and indecent exhibition of intimate parts of the body;
30. Gambling on university premises;
31. Recording, storing and distribution of images without the person's consent;
32. Promotion of hostile behavior, communication of obscene language, intent to damage reputation by an individual or group through use of technology, but not limited to, websites, social networking sites, phones and emails;
33. Impersonation by pretending to be another person for any purpose or using another student ID for any purpose;
34. Failing to report lost or found items to the concerned department;
35. Violating any of ADU Policies or Procedures
36. Violating any UAE law.

Smoking

Smoking is not permitted in any University premises, public spaces and hallways of residences owned and managed by Abu Dhabi University at any time, by any person regardless of their status or business in the University:

- All building entrances will be non-smoking areas;
- Smoking will only be permitted in designated areas which are signposted;
- "No Smoking" signs will be posted at all entrances and appropriate locations by the Office of Safety & Security;
- This policy applies even in the absence of posted "No Smoking" signs.

Visitors

All visitors, contractors, and suppliers are required to abide by the No Smoking Policy. Security Officers are expected to inform students or visitors of the no smoking policy. However, they are not expected to enter into any confrontation which may put their safety at risk.

Vehicles

Smoking is not permitted in University vehicles or any other vehicles being used on University business.

Drugs

Abu Dhabi University prohibits the unlawful manufacture, distribution, dispensation, sale, possession or use of any drug by any of its students, employees in its workplace, on its premises or as part of any of its activities. This policy is intended to supplement and not limit the provisions of any other related policies.

For this policy, the term "drug" includes:

- Controlled substances, as defined in UAE laws, which cannot be legally obtained
- Legally obtainable controlled substances which were not legally obtained, including:

1. Prescribed drugs when the prescription is no longer valid;
2. Prescribed drugs used contrary to the prescription;
3. Prescribed drugs issued to another person.

Alcohol

Abu Dhabi University prohibits the dispensing, selling, supplying and consumption of drugs or alcoholic beverages on University property. Employees, students, faculty and campus visitors may not unlawfully manufacture, consume, possess, sell, distribute, transfer or be under the influence of alcohol, illicit drugs or controlled substances on University property, while driving a University vehicle or while otherwise engaged in University business.

University property, as defined in this policy, includes all buildings and land owned, leased, or used by the University, and motor vehicles operated by employees, including personal motor vehicles, when used in connection with work performed for or on behalf of the University. On exception to the prohibited consumption of alcohol is the personal residence of an employee that is leased or owned by the University and where the occupant has a liquor license.

Disciplinary Action

Violation of the above University policy will be subject to campus disciplinary review and action, as follows:

Students:

The University community has established expectations for academic and non-academic students who address the illicit use of alcohol and other drugs as follows:

The following behaviors contradict the values of the University community and are subject to action under this Statement:

- Illegally possessing or using alcohol.
- Illegally distributing, manufacturing, assumption or selling alcohol.
- Illegally possessing or using drugs.
- Illegally distributing, manufacturing, consumption or selling drugs.

The Statement is administered by the Safety & Security Office. The department along with the Vice Chancellors office is charged with facilitating the resolution process used to determine responsibility.

These measures cover a wide range of educational assignments and obligations, including but not limited to suspension and expulsion from the institution. Safety & Security office may delegate portions of the conduct process to other units of the University who have a vested interest in the conduct of smaller student communities (e.g., University Housing, Sports Department).

Academic units of the University also may have written or implied policies concerning the management of alcohol use and their response to the illicit use of alcohol and other drugs in the academic setting. Students are expected to know and understand these additional policies and abide by them.

Staff and Faculty:

Sanctions for violations by faculty and staff are governed by policies within individual departments and any applicable rules set by University regulations and other applicable policies or procedures. Appropriate sanctions may include verbal or written warnings, a mandated rehabilitation program, probation, suspension, and termination. In each case, there are likely to be different circumstances that are relevant for understanding the situation and determining the appropriate sanction.

Under the supervision of the Vice-Chancellor, action should be taken in the best interests of the University, student, and employee, keeping in view the government laws and regulations.

Disciplinary Committee

Depending on each case's severity, the Student Conduct Officer evaluates the findings of the code of conduct violation and recommends either dismissing the case, deciding a penalty (verbal or written warning) or raising the case to a disciplinary committee.

The University Disciplinary Committee consists of the Head of Student Affairs, concerned College Dean, Registrar and two students representing the men and women's Student Councils or their appropriate representatives.

Appeal Right

A student has the right to appeal the decision made by the Disciplinary Committee. The student should submit a request for an appeal within three (3) calendar days from his/her receipt of findings to the Head of Student Support Office.

An appeal panel is formed by the Head of Student Support Office and consists of five (5) members and shall include two (2) faculty (one from the concerned student's college and one from another college), one (1) staff, one (1) student and the Provost, serving as the chair of the committee. The Appeal Panel may request a personal appearance of the concerned student for the sole purpose of addressing issues raised by the appeal. Campus Directors will play the Provost's role in appeal panels for cases concerning their campuses.

The Appeal Panel will review the findings of fact and recommended sanctions reported by the disciplinary committee and may:

1. Hearings. Training for the hearing procedures shall be conducted before the implementation of the policy.
2. The appeal panel shall consist of five (5) members and shall include two (2) faculty (one from the student college and one from another college), one (1) staff, one (1) student and the Provost, serving as the chair of the committee.
    a. Members of the Appeal Panel shall be drawn from a pool of faculty, staff, and students who have completed the approved hearing training.
3. The Head of Student Support Office or designee shall direct the appeal to the Appeal Panel within seven (7) calendar days of receipt of the appeal.
4. The Appeal Panel may request a personal appearance of the student/organization charged for the sole purpose of
    a. dismiss the charges;
    b. affirm the recommended sanctions; and
    c. uphold or impose a lesser sanction than was recommended.

Sanctions

Students and student organizations are expected to abide by all Abu Dhabi University policies. If the policies and procedures of the University are not followed, students and organizations will be held accountable and subject to the following disciplinary actions:

1. A reprimand is official written notification of unacceptable behavior and violation of the Student Code of Conduct. Any student having a record of violating the Student Code of Conduct will automatically be removed from Honor's List. Any further misconduct may result in more serious disciplinary actions.
2. Disciplinary Probation is a conditional status imposed for a designated period. Further violation of the Student Code of Conduct while on probation will be subject to more serious disciplinary action. Disciplinary probation may place specific restrictions on the student or organization. These may vary with each case and may include but are not limited to restriction from participating in athletic activities and or campus activities.
3. Restitution: Replacement or payment for incurred damages
4. The suspension is the loss of privileges of enrollment at Abu Dhabi University for a designated period. A student's suspension shall not exceed one calendar year following the sanction. A student organization's suspension is a temporary revocation of University recognition. A student organization suspension will not exceed five years. A student serving suspension is restricted of the access to the university for the duration of the sanction unless approval has been secured from Student Support Services. While on suspension, students are unable to transfer credit hours for courses taken in other universities or educational institutions.
5. Expulsion is the permanent loss of privileges of enrollment at Abu Dhabi University.

Student Grievances Policies and Procedures

Abu Dhabi University aims to foster the values of respect, integrity, fairness, and transparency among staff, faculty, and students. There are occasions, however, when conflicts arise which require resolution. Such conflicts are normally resolved informally and in good faith between individuals and groups through conflict resolution processes.

To this end, Abu Dhabi University encourages informal meetings between a grievant(s) and the respondent(s). Abu Dhabi University also encourages the involvement of third parties; such as Student Council, Student Support Office personnel, and the appropriate Coordinator, Head of Department, or Dean, all of whom are expected to assist with communication and mediation.

In cases where the informal meetings prove unsuccessful or unsatisfactory, the grievant has the right to file a formal grievance that complies with the terms of this policy and its procedures.

Definitions

This policy uses the following definitions:

Grievance: A request by a student for a formal investigation of decisions or actions by a faculty or staff member of the University that are perceived to be wrong, mistaken, unjust, discriminatory and in violation of the rights of the student.

Grievant: The person(s) who submits the grievance.

Faculty: Members of the University faculty including part-time, full-time and non-regular faculty, such as visiting and adjunct faculty.

Employee: A person officially employed by Abu Dhabi University in any capacity.

Instructor: Any person employed by the University who teaches a class, including part- time, full- time and non-regular instructors such as visiting and adjunct instructors.

Respondent: The person or persons cited in the grievance.

Staff: Any non-teaching employee of the University, including students.

Student: Any person who is registered for classes at Abu Dhabi University.

Students' Complaints and Suggestions

Abu Dhabi University encourages feedback with regard to the services that are provided to its student and believes that everyone must share concerns, suggestions, and complaints freely to ensure the University continues to adopt the best possible standard of both academic and administrative services. Besides that, the University provides a fair investigation of a received complaint.

Student complaints and suggestions are shared with Department heads and College Deans to look into them and provide corrective actions within 5 working days. Students can access the service and share these concerns through: https://ss.adu.ac.ae/complain_student .

Confidentiality

Confidentiality will be upheld by all parties to the highest degree possible at all stages of the grievance. This means that no issue regarding the grievance will be discussed with any person who is not directly involved in the investigation.

A student may not submit a formal grievance in the following circumstances:

- A grievance is against another student(s) - such grievances should be processed by the Code of Conduct.
- A grievance is against personnel decisions.
- A grievance is against grades awarded in particular courses or academic decisions regarding academic work unless there is an element of harassment and discrimination involved in the claim.
- A grievance is based on the same or similar circumstances that are pending resolution or have been resolved or are under adjudication and involve the same student.
- A grievance is against a University policy or procedures, or a University employee is acting in compliance with those policies/procedures.

Implementation

The Head of Student Support Office or the designee will be responsible for the implementation of this policy. The implementation will comprise six phases:

1. The Head of Student Support Office forwards and discusses the grievance with the Provost before forming a Student Grievance Committee (SGC). If the Provost can reach a solution which satisfies the grievant, the grievance will be closed. Campus Directors play the role of the Provost in their campuses.
2. The SGC will comprise:

a. The Provost, or designee, who will serve as a Chair.

b. The Dean of a college other than the concerned college (to be named by the Provost), who will serve as a member.

c. One student, representing the Student Council will serve as a member. Decisions will be made on the basis of formal votes, in all cases.

3. Final decision/recommendations will be shared with the concerned Department Head/Dean by the Provost.
4. Final decision/recommendations will be shared with the grievant by the Head of the Student Support Office.
5. Any appeal concerning this report must be forwarded by the Head of Student Support Office to the Chancellor in writing within 5 working days of the grievant's receipt of the final decision/recommendations.
6. The Chancellor will make a final decision within five working days of receiving the appeal or, in cases where due process has been shown not to have been followed, direct that the SGC hear the case de novo.

Housing and Residence Life

Abu Dhabi University - Abu Dhabi Campus offers residence units of different classifications, all of which are apartment/ studio type which is housed in buildings with 24/7 security and security system. Student dormitories are separated regarding gender, in observance of the Gender Segregation Policy of the university. These residences are strategically located within the ADU Campus, creating an atmosphere most conducive to learning and comfort of students.

A Residence Life Coordinator and Security Personnel who are available 24/7 to cater to students' requests and other needs man each dormitory. Due to health and hygiene purposes, pets are not allowed in the dormitories. Curfew hours are applied to ensure student safety and promote a secure environment of campus living.

Types of Units:

Private Room:

Single unit with individual kitchen and bath (1 person/ unit).

Semi-Private:

Single Occupancy with Shared Bath and Kitchen (2 persons/unit).

Double-Occupancy:
One-bedroom unit with two beds with shared kitchen and bath (2 persons/unit).

Double-Shared Occupancy:
Two-bedroom unit with two beds in each room and shared kitchen and bath (4 persons/unit).
(Not Available During Covid-19 Pandemic)

All units are furnished with bed/s, complete beddings, bedside drawers, study desks, and cupboards, microwave ovens, and refrigerators.

Facilities and Services available:

Common kitchens

Laundry room

TV room

Study areas with desktop computers

Gym

Recreation facilities

Transportation to and from shopping areas

Wireless Internet connection

Cleaning services

Safety and Security services

Maintenance services

For further information about housing service and for submitting a housing application, students are advised to visit our housing page: https://ss.adu.ac.ae/housing .

ADU Residential Life Programming

The RLP is a comprehensive planning of programs which defines the on-campus living and learning experience which is primarily focused on LLB: Living, Learning, and Belonging. The RLP contributors are the Housing and Residence Life Unit members, the Resident Assistants and the Dormitory Council members.

Counseling Service

Counseling services aim to clarify the needs arising from the impact of college life on the student's educational, interpersonal, and social life. Supportive counseling services can help students adjust to their circumstances and relate to the environment more productively. It also offers an atmosphere in which students may discuss their issues with the assurance of all counseling information to remain private and confidential.

It also engages in activities that contribute to the well- being of Abu Dhabi University community through on-campus and off-campus service delivery projects. Both students and the community benefit from continued commitment in providing a model counseling program.

Supportive counseling services provided to students included but not limited to:

- Individual Counseling - to discuss information and difficulties with educational/academic matters, coping/ adjustment skills to academia, and interpersonal issues affecting academic performance.
- Group Counseling - provides an opportunity for a group of individuals (2 or more) to explore new techniques in several areas such as communication, stress/anger management, and interpersonal matters.
- Educational Activities & Personal Development - are workshops and referral services designed to respond to the variety of student's needs and development during their academia.
- Other Services: this includes Consultation with students, family members, guardians, faculty and staff, Emergency Response when the need arises.

Students of Determination

Students of determination are encouraged to consider a university education. By working to create an accessible learning environment, the administrators, faculty, and staff of Abu Dhabi University endeavor to provide support and services that:

- Enable students with special needs to approach their studies more effectively.
- Enhance understanding of special needs within the University community.
- Promote collaboration within the University community and within the community at large to assist students with special needs.
- Students of Determination include those students with:
- Physical disabilities: such as paralysis or amputation.
- Sensory disabilities: visual and hearing impairments.
- Neurological disabilities: such as stroke or epilepsy.
- Learning disabilities: attention-deficit/hyperactivity disorder or dyslexia, among others.
- Mental disorders: such as mood or psychotic disorders.
- Chronic illnesses: for example, asthma or heart problems.

Counseling Services for Students of Determination

The Counseling Services Office assists the students with impairments in fully participating in all aspects of University life, and in particular:

1. Provide support and advice for students with impairments.
2. Formally evaluate the student's impairment, and the following discussion with the course coordinator, determine what support or accommodations are appropriate. In making an assessment, the counselor may seek advice from appropriate professionals such as a doctor, neurologist or educational psychologist.
3. Coordinate the provision of specialized services, furniture, equipment, or other accommodations as required.
4. Liaise with the student and other relevant student service providers to ensure that where required, appropriate support is provided to any student with impairment.

Student Dress Code

Students are responsible for the reputation of Abu Dhabi University. All are expected to dress appropriately and respect cultural and religious traditions of the United Arab Emirates. The following are unacceptable at Abu Dhabi University.

Male students:

- Shorts are not allowed unless for sports activities.
- Tight or revealing shirts/tops.
- Shirts with inappropriate logos or sayings.
- Sleeveless shirts.
- Tight or transparent pants.

Female students:

- Shorts are not allowed unless for sports activities.
- Tight or revealing shirts/tops.
- Shirts with inappropriate logos or sayings.
- Tight or transparent pants.
- Midriff and halter tops.
- Sleeveless shirts.

- Tights or leggings.
- Face covers (that obstruct identity).
- Skirts above the knee.

Student Visa & Health Insurance

Abu Dhabi University students, who choose to be sponsored by the University regarding residence visa, should apply through the Student Affairs Department. The visa sponsorship process requires certain conditions that students should meet to obtain and maintain a student visa. Such conditions are covered by UAE government rules and regulations:

- Applicants should be enrolled in either an undergraduate or postgraduate program in ADU
- Applicants should maintain full-time student status by taking a minimum of 12 credit hours (undergraduates) and six credit hours (postgraduates) every Fall and Spring semesters
- Applicants must not engage in full-time employment while sponsored by ADU
- Applicants must promptly respond to any notice, telecommunication, e-mail & SMS involved with their visas and Health Insurance Cards renewal process
- Applicants must comply with the student visa policy
- Immediate updating from the student's side for Student Support Service office with any changes may occur to the student's communication channels (Tel Nos. & E-mails)

Students under Abu Dhabi University visa sponsorships, together with GCC students who wish to have UAE health insurance plans should also apply through the Student Affairs Department. For visa information and application, students are advised to visit the visa page: https://ss.adu.ac.ae/visa.

Student Locker

Lockers are available to any current and registered student of Abu Dhabi University. Due to a limited number of compartments, locker rental is subjected on a first-come, first-served basis. Locker applications are obtained, completed and submitted to Student Support Office.

Student Transportation

The Abu Dhabi University Student Transportation Service has been established to offer and maintain a safe and orderly environment for travelers to and from Abu Dhabi University campuses. Abu Dhabi University provides the service to transport students according to their needs in addition to allowing access to the university. Students are picked-up and dropped off at designated areas around the city of Abu Dhabi or the city of Al Ain in accordance to the student's preferred type of service. Students can avail the service through this page: https://ss.adu.ac.ae/transportation_service.

The Student Support Portal

The Student Support Portal at Abu Dhabi University is an online platform designed to provide comprehensive assistance and resources to students throughout their academic journey. It offers a range of online services aimed at facilitating students' success and enhancing their overall university experience. The portal streamlines administrative processes, facilitates access to support services, and fosters a collaborative and engaging learning environment for all students. Here are some of the services students can avail through the portal:

- Student Visa Services
- Student Transportation Services
- Student Housing Services
- Student Counseling Booking Service
- Recording Community Service/Volunteering Hours
- Submitting Complaints and Suggestions
- Code of Conduct Reporting

These services can be accessed through this link:

https://ss.adu.ac.ae/.

Orientation Program

The Student Affairs will offer an orientation program for new students who are admitted to the Abu Dhabi University for Fall and Spring Semesters. Students admitted to the Summer term will be encouraged to attend the Fall orientation. Students attending the orientation program will:

1. Gain important information about academic life at Abu Dhabi University and find out how to register for classes;
2. Become familiar with resources on campus;
3. Meet other new students and make friends;
4. Meet Abu Dhabi University faculty, staff, and administrators;
5. Preview important first-year college issues;

6. Get questions answered about campus life;
7. Tour the Abu Dhabi University campus and its facilities; and
8. Get help to adjust to the new environment.

Students are encouraged to attend the orientation program to avoid missing valuable information that could adversely affect their success at Abu Dhabi University.

Digital Advancement, Transformation and AI (Data)

The DATA Department (Digital Advancement, Transformation and AI) provides comprehensive Information Systems and Technology services across all ADU campuses. This document outlines the digital services, platforms, and support available to students.

Student User Account

• All ADU students are issued a user account based on their unique student ID. This account grants access to all ADU online services and computing facilities.

• Email Format: StudentNumber@students.adu.ac.ae

• Example: 0000000@students.adu.ac.ae

• Initial Access: Students receive an auto-generated password to log in to the https://my.adu.ac.ae. They must change this password upon first login.

• Password Policy: Passwords must be updated every 90 days.

• Security: Students are responsible for maintaining the confidentiality of their credentials.

Password Setup Instructions

To activate or reset your password:

1. Visit https://my.adu.ac.ae
2. Answer the security questions.
3. Set a permanent password.

Multi-Factor Authentication (MFA)

To enhance account security, students are encouraged to enable MFA using the Microsoft Authenticator app:

• Download the app from your device's app store.

• Contact the Help Desk to activate MFA.

• Follow the setup instructions provided.

Note: MFA is strongly recommended for all students to protect their accounts.

Online Learning Platforms

ADU has many digital learning tools.

Student Information System (SIS): For course registration, fee payments, schedules, and grades.

Blackboard Learn Ultra: A modern, user-friendly platform for accessing course materials, submitting assignments, viewing e-textbooks, and tracking grades in real time. Includes tools for messaging, discussion boards, and virtual classrooms.

Microsoft Office 365: Full academic license including Word, Excel, PowerPoint, Outlook, OneDrive and Teams.

Microsoft Teams: Primary tool for online classes and collaboration.

All services are accessible via the https://my.adu.ac.ae.

On-Campus Technology Facilities

• **Wi-Fi Access**: Secure wireless network via SSID "Student".

•**Computer Labs**: Equipped with licensed software tailored to academic programs.

• **Lecture Rooms**: Outfitted with interactive screens, audio-visual systems.

• **Printing Services:**

o Printers, copiers, and scanners available in library zones (male and female sections).

o Plotters and 3D printers available for Engineering students.

These services are all accessible on ADU student portal. https://my.adu.ac.ae.

Distance Learning Support

•**Blackboard Learn Ultra:** For coursework and assessments.

• **Respondus LockDown Browser & Monitor:** For secure online exams.

• **Microsoft Teams:** For live lectures and collaboration.

• **Workplace Site**: Access to specialized software for coursework.

Campus Access

• Students can use their **Student ID card** for campus entry.

Digital Responsibility and Cybersecurity Awareness

To ensure a secure and responsible digital environment, ADU emphasizes the following practices for students:

Unified Guidelines

• Use university systems responsibly and ethically to uphold academic integrity.

• Keep your login credentials private and avoid sharing them with others.

• Report any suspicious activities or security concerns directly to the IT Help Desk.

Cybersecurity Best Practices

ADU recommends students:

• Be cautious of phishing emails and suspicious links, which could compromise their accounts.

• Regularly update your passwords and enable Multi-Factor Authentication (MFA) for additional security.

Recommendation: To create a more secure and digitally responsible campus environment, ADU students should actively engage in cybersecurity awareness programs and make use of available resources, such as the Help Desk, for technical assistance. Additionally, implementing routine checks and reminders for password updates and MFA activation would further enhance personal and institutional security.

Policies & Procedure

All student related policies and procedures are made available on student portal. https://my.adu.ac.ae.

Help Desk and Technical Support

• **Email:** helpdesk@adu.ac.ae

• **Online Portal**: https://helpdesk.adu.ac.ae

• **Phone:** +971 2 501-5959

• **Walk-in Support**: Available at the DATA Department on campus.

Quick Links Summary

Service	URL
MyADU Portal	https://my.adu.ac.ae
Help Desk	https://helpdesk.adu.ac.ae
Email Support	helpdesk@adu.ac.ae
Microsoft Authenticator	https://apps.apple.com/app/microsoft-authenticator/id983156458 / https://play.google.com/store/apps/details?id=com.azure.authenticator

Bookshop

The Abu Dhabi University Bookstore is dedicated to provide students, faculty and staff quality textbooks on time, combining service with value pricing. The suitability of adopted textbooks for the course has been reviewed and evaluated thoroughly by the Colleges. In addition, ADU partnered with major international publishers to provide advantages in textbook prices and selection.

ADU considers e-book's potential to provide a more effective and efficient teaching strategy and deliver of content to students. Timely availability, cost efficient, vast available online resources, highly interactive and adaptable into new editions are some of the advantages of e-books.

Abu Dhabi University Bookstore is constantly striving to supply what the consumer is asking for and continually reviews what is available in the marketplace, improving on what is available and providing new products and services as needed.

Library

The Abu Dhabi University library includes facilities on the Abu Dhabi and Al Ain campuses. The library provides educational services to Abu Dhabi University communities that include orientation, training for new users, information literacy, research assistance, subject guides, borrowing and lending, reference services, database searching and internet access. The Abu Dhabi University library is committed to providing a well-balanced and up-to-date set of educational resources.

Membership

The Abu Dhabi University library is open for the purpose of study and research to the following groups:

a. members of all the Boards and Councils of Abu Dhabi University;

b. members of Academic and Non-academic staff of Abu Dhabi University;

c. registered students of Abu Dhabi University;

d. other students taking courses in Abu Dhabi University as agreed by the manager of the library or an authorized representative;

e. students of other UAE universities as authorized by the manager of the library;

f. alumni can access the online resources available to them by using their alumni email account;

g. access to the library print and online collection for the wider community is allowed on campus.

Abu Dhabi University library provides the following services to its users:

a. Circulation and Reserves

b. Reference Service

c. Full Text e-Journals Search

d. Group Study Rooms

e. Information Literacy Sessions

f. Interlibrary Loan

g. Online Library Catalog

h. Library guides

General Rules

All registered readers are presumed to know the library regulations which are included in the Student handbooks and available in the Library and on the Library's web pages.

Library Hours

The library is open Monday through Friday and closed on Sundays; public holidays and other days of obligation.

The opening hours of the main library are displayed on the notice boards and are as follows:

Monday – Friday: 8:00 am – 8:00 pm

Public holidays and special days: Closed

Saturdays, Ramadan and summer sessions have special hours.The opening hours of Abu Dhabi University are displayed at the library entrance and website. The library normally closes on days on which Abu Dhabi University is closed as published in the Abu Dhabi University Calendar. Use of the Abu Dhabi University library is normally permitted to the above mentioned groups. Admission to closed collections is at the discretion of the library manager subject to the separate regulations governing those collections; admission to them does not of itself imply permission to use other parts of the library's collections.

Contact Center

Abu Dhabi University Contact Center has a wider but vital responsibility to provide the highest level of customer service to our potential students and existing students who call the University 600 number (600550003) and guests/vendors who call the Operator (02-501-5555). The University Contact Center employs dedicated full-time staffs along with part-time support staffs and current Abu Dhabi University students to deliver professional and correct information and act as the information gateway for the Abu Dhabi University, its students, staff and the wider community.

The Contact Center is open from 9 a.m. to 6 p.m., Monday to Friday and has 10 lines hubbed to the 600 number to ensure easy and seamless accessibility by the existing as well as prospective students. Our Mission is to deliver a comprehensive and efficient information service, providing positive experiences and placing our clients at the center of what we do. The Contact Center supports a wide range of service initiatives aimed at helping different departments within the Abu Dhabi University like managing the Operator line – 02-501-5555, outbound calling projects, sending bulk sms, sending bulk email blasts, conducting phone-based surveys, serve as one of the multiple Point of Contact for Students Complaints, helping other departments with call overflows on request, sending e-publication to prospects on request etc.

For prospective student enquiries call 600550003 or email Admissions@adu.ac.ae

The Contact Center team do a follow-up call with the prospects after the first conversation or after the meeting via school visits, open days, exhibitions, information session and mall booth.

The Contact Center team should have a good sales skills over the phone to follow up with prospects to share new information, call the prospect and make sure that we assist prospects or parents and advise them about what Abu Dhabi University offers.

Our Commitment to Quality

The ADU Contact Service Center is committed to continuous learning and improvement and this is demonstrated in its rigorous quality monitoring program. Staffs are assessed on their customer service skills and product knowledge based on an internal daily call monitoring system. The Contact Center is also independently assessed through Mystery shopping each month by Nielsen, a global consumer research company who specializes in such fields. Abu Dhabi University Contact Center has been consistently performing highly with more than 97% average in the last 7-month.

Employment Opportunities for Students

The ADU Contact Service Center employs current Abu Dhabi University students in the role of Customer Service Representative. The role involves the provision of course information via phone, email and web contacts. Additional duties include outbound call campaigns, surveys and other administrative tasks as and when needed.

Recruitment usually occurs as per the vacancy and requirement of the Contact Center and the applicants most suitable for this position will be first or second year students who are motivated, hard working, proficient with computers and can demonstrate a pleasant phone manner. Prior call center and customer service experience is desirable, but most importantly, applicants must demonstrate proven ability to function effectively within a team environment.

Successful applicants will receive extensive training in customer service skills, systems use, and the relevant product knowledge required. A Buddy Program also provides new staff with the opportunity to gain confidence in their skills and knowledge before taking phone calls.

Available positions are advertised on Careers website.

Cafeterias and Restaurants

Abu Dhabi University Food Court offers menus that are innovative and affordably priced. It serves a broad selection of items that appeal to every taste and dietary restriction. Restaurants at Abu Dhabi University Food Court are designed for use by staff, students and visitors, and is generally the most visited component of the university. It is also a place where students and faculty can take their visitors for brief coffee break or a lunch hour visit.

Abu Dhabi University Food Court:

- Alpeco Café (AA)
- Blue Square Supermarket (AA)
- Arabian Hut (AA)
- O 2 Caffe (AA)
- 88 kitchen light meal (AA)
- Grandiose Supermarket (AD)
- Hardees (AD)
- Nabras Alsamawi Restaurant & Cafeteria (AD)
- Para Café (AD)
- Pizza Hut (AD)
- Rice Bowl Restaurant (AD)
- Starbucks Coffee (AD)
- Subway (AD)
- Tim Hortons (AD)
- Bake and Cake (AD)

Community Center

A range of facilities are available on campus for Abu Dhabi University community and to the public in the community center which is located near gate number 3 which includes

- Blossom Nursery
- Community Mosque
- Sky Blue Laundry
- Royal Gulf Supermarket
- Royal Café Cafeteria
- Vintage Male Barber Shop
- Al Wardat Al Baghdadia Beauty Shop
- Community Party Room
- Male & Female Gym
- Strike Fit (Mixed Martial Ars)
- Kids Playground

Environmental Health and Safety

ADU is committed to strong programs of accident and injury prevention and to complying with all environmental, health and safety laws and regulations. Good health and safety practices are the responsibility of each faculty member, staff member, student and visitors to the university.

Line responsibility for good health and safety practice begins with each person in the campus, the supervisor in the workplace, laboratory or classroom and all levels of management. In academic areas, supervisors include the lab instructors, class instructors and faculty, or others having direct supervisory authority. Academic levels of management are the department chairperson or Deans and the Provost. Administrative levels of management include mid-management, Directors, and Vice Chancellor. Final responsibility for Environment, health and safety policy and programs rests with the Chancellor of the University.

Scope

Abu Dhabi University makes all reasonable efforts to:

- Ensure that all used equipment, substances and work systems are suitable for their intended purposes and take all practical steps to meet safety requirements;
- Protect the health and safety of Abu Dhabi University faculty, staff, students, visitors and Contractors who are present in the university campuses;
- Comply with all applicable UAE, international and Abu Dhabi laws, legislations and associated codes of practice;
- Provide safe workplaces - academic, research, and administrative - for faculty, staff and students;
- Provide information to faculty, staff, students and visitors/contractors about health and safety hazards;
- Identify risks and health and safety hazards and provide the necessary corrective and preventive actions and encourage faculty, staff and students report hazards;
- Provide information and safeguards for those on campuses and in the surrounding community regarding environmental hazards arising from operations at Abu Dhabi University;
- Ensure efficient utilization of energy, water, and other natural resources;
- Ensure proper storage, segregation and disposal of the generated waste according to the UAE Environmental regulation.

The Environmental Health & Safety (EH&S) Committee was established in Abu Dhabi University with the responsibility of recommending University-wide health and safety policies; ensuring overall institutional compliance with policies, statutes, and regulations; monitoring the effectiveness of the EH&S programs; identifying the risk at the workplace and providing central health and safety services to all areas of the University.

For EH&S and security related matters, you may contact the following numbers: 02-5015860, 02-5015983 and 02-5015236.



THE OFFICE OF RESEARCH AND SPONSORED PROGRAMS

I. Research Objectives:

Abu Dhabi University (ADU) is a research-active university, playing a distinctive role in advancing knowledge, innovation, and societal progress in the Gulf region. ADU is committed to conducting innovative and impactful research that is globally recognized for its originality, significance, and real-world relevance.

ADU's ability to remain competitive in the global higher education landscape depends on its academic reputation, international rankings, and quality accreditations—all of which are intrinsically tied to research excellence. High-impact research is therefore central to achieving ADU's strategic goals and elevating its academic standing.

Research is a cornerstone of ADU's 2025-2030 Research, Innovation and Impact strategy. It reflects our dedication to contributing to the knowledge-based economy, fostering innovation, and using research as a vehicle for student development and real-world application. The core objectives of the strategy are to:

- Advance knowledge creation

- Drive positive societal and economic impact

- Enrich teaching and learning

II.Research Vision & Mission:

Vision

To be an exemplary University with a culture of creativity and enquiry that drives all that we do and benefits our faculty, students and broader society.

Mission

To provide opportunities for students and faculty to engage in research activities that enrich the teaching and learning experience, and invest in our academic community to support research excellence and the delivery of an enquiry-based curriculum.

III. Research Structure:

Research at ADU is governed by the Office of Research and Sponsored Programs (ORSP), under the leadership of the Associate Provost for Research, Innovation & Academic Development.

The Office of Research and Sponsored Programs

The Office of Research and Sponsored Programs (ORSP) oversees all research activities at ADU. It provides the overall infrastructure and administers faculty & student research funding programs.

ORSP Services

The ORSP provides many services that focus on increasing research productivity among faculty and students, including:

- Implementing the research, innovation and impact strategy.
- Managing and administering all aspects of university-funded initiatives to support research.
- Managing and facilitating student-centered research initiatives including the Undergraduate Research Fund.
- Promoting and managing Intellectual Property as well as facilitating filing and prosecution of patent applications by ADU researchers.
- Planning and organizing the annual Undergraduate Research Competition.
- Administering faculty consultancy agreements with external organizations including industrial partners.
- Delivering research capacity building initiatives.
- Monitoring, tracking and reporting the research performance at Abu Dhabi University to a range of internal and external stakeholders.
- Managing the life-cycle of external grants from application to approval, and provides post-award compliance analysis and reporting.
- Overseeing the Institutional Review Board (IRB) for Human Subjects activities.

IV. Research Support for Faculty:

Research initiatives provide faculty with funding to support research projects and a culture of research excellence at Abu Dhabi University. These funding programs are an enabler for faculty to produce outputs aligned with the Leadership and Research, Innovation and Impact promotion route in the faculty development framework. Research collaboration is also an important KPI for the Ministry of Education's Higher Education Excellence Framework:

Internal

1. Research, Innovation and Impact Grant

The purpose of this grant is to provide seed funding to support faculty to conduct research in their area of expertise which contributes to the University achieving its research and innovation strategic objectives outlined in our Research, Innovation and Impact Strategy.

2. Teaching Scholarship and Institutional Effectiveness

Teaching Scholarship and Institutional Effectiveness grants provide funding to support faculty to conduct pedagogy research focusing on student learning and success, and institutional effectiveness in terms of quality assurance and enhancement to ensure the continuous improvement of student learning.

External

Various opportunities prevail throughout the academic year which encompass external entities awarding ADU faculty members with an award amount to conduct research. The awardees are selected based on originality, outstanding quality, practicability, qualifications of the researchers, and the strength & relevance to the entity's research agenda. The two most notable funding initiative cycles are run annually by MUBADALA and United Al Saqar.

1. Mubadala-Abu Dhabi University Collaborative Projects Awards (MuACPA)

2. ADU-LC Global Collaborative Research Grant

V. Research Support for Students:

Research activities by students are supported through the following types of projects that are managed by the ORSP:

1. Undergraduate Research Scholarship

This scholarship aims to develop research skills among ADU's top students and to contribute to ADU's commitment toward Abu Dhabi's vision of a knowledge-based economy. The aim of the scholarship is to foster undergraduate research and encourage our undergraduate students to engage in research at early stages of their academic careers to enhance employability opportunities. This scholarship is granted to students who submit high-potential research proposals to the ORSP and demonstrate an excellent academic record.

2. Undergraduate Research & Innovation Competition

ADU's Office of Research annually organizes the GCC and MENA regionwide Undergraduate Research & Innovation Competition (URIC). This competition aims at encouraging universities to promote scientific research among undergraduate students and to make it an integral part of university education, given the significance of scientific research in advancing the country to the top ranks. Participating in this competition provides students with a great opportunity for competitive interaction with students from other universities. Additionally, the competition serves to strengthen critical and analytical thinking skills among undergraduate students and to enhance students' confidence in their research abilities, to explore new frontiers in their fields of study and to prepare them for graduate level studies. The competition is the first and the largest such event in the GCC and MENA region comprising all universities and all major disciplines.



VI. Research Institutes and Their Role in Advancing Research and Innovation

At the core of Abu Dhabi University's 2025–2030 Research, Innovation, and Impact Strategy lies a growing ecosystem of **Research Institutes**—strategically developed to catalyze high-impact, interdisciplinary research and to strengthen the university's contribution to the UAE's knowledge-based economy.

The primary roles of these institutes include:

- **Driving Strategic Research Focus Areas:** Each institute is aligned with national and global priorities, including sustainability, artificial intelligence, emerging technologies, and cancer research.
- **Fostering Collaborative Research:** They serve as platforms for cross-disciplinary collaboration among faculty, students, and external stakeholders, including industry, government, and NGOs.
- **Enhancing Research Capacity**: By providing dedicated support structures, research labs, and access to specialized expertise and facilities, the institutes elevate the research output and visibility of ADU.
- **Translating Research into Impact:** Institutes bridge academic knowledge and societal needs by promoting translational research that can lead to commercialization, patents, and practical solutions to real-world challenges.

The flagship research institutes at ADU include:

1. **Research Institute for Sustainable Futures**

   Focuses on innovative research in energy, water, food security, climate change, and circular economy to address the pressing sustainability challenges of the region and beyond.

2. **Research Institute for Artificial Intelligence and Emerging Technologies**

   Advances state-of-the-art research in AI, data science, robotics, and quantum computing to foster innovation across various sectors, including health, education, and security.

3. **Cancer Research Institute**

   Dedicated to groundbreaking work in cancer prevention, diagnosis, and treatment, leveraging genomics, bioinformatics, and personalized medicine in collaboration with medical and clinical partners.

Through these research institutes, ADU empowers its researchers and students to be at the forefront of scientific discovery, thereby -- the university's reputation as a hub of innovation and academic excellence in the region.

VII. Innovation and Industrial Research Centers

Abu Dhabi University drives innovation and real-world impact through its Innovation Center and advanced research centers such as the Graphene Center and Quantum Computing Center. These centers serve as platforms for applied research, industry collaboration, and technology development—bridging the gap between academia and enterprise while supporting the UAE's vision for a knowledge-based economy.



COLLEGE OF Arts, Education, and Social Sciences

Introduction

The College of Arts, Education, and Social Sciences, one of the five colleges of Abu Dhabi University, offers courses in general education as well as courses leading to the award of Bachelor of Arts degrees. Through its diverse range of programs, the college offers academic research and practical courses that inspire and enhance the research and creative ability of the students. These courses provide students with both the oral and written communication skills, methods of scientific analysis and inquiry, and professional skills and ethics required for their future careers and undertakings. These components form the ethical and moral foundation for understanding, analyzing and resolving issues. These courses also prepar e students for lifelong learning as well as for graduate studies in their areas of specialization.

Also, In addition to career designed programs in Mass Communication, CAESS offers you exciting new cutting-edge programs designed to prepare you for the demands of today's dynamic job market and the evolving needs of a rapidly changing world: a BA in Video Game Design to bring your creative visions to life, a BA in International Relations to engage with global issues, a BA in Psychology to understand and enhance human interactions.

Vision

To be a leading multidisciplinary college in the region, empowering students to become innovative thinkers, ethical leaders, and socially responsible citizens through transformative education in the arts, humanities, and social sciences.

Mission

The College of Arts, Education and Social Sciences (CAESS) is committed to delivering high-quality, student-centered academic programs that blend creativity, critical thinking, and research with real-world application. Through its diverse offerings in communication, psychology, international relations, education, and digital technology, CAESS prepares graduates to meet the evolving demands of contemporary society and to contribute meaningfully to local and global communities.

College Objectives

The main objectives of the College of Arts, Education, and Social Sciences are:

a. To achieve academic and intellectual leadership by graduating students capable of original research and academic inquiry;
b. To prepare individuals capability of identifying and analyzing the interrelationships between programs in Creative Arts, and Social Sciences in the new age of interdiscipilinary studies;
c. To develop an awareness of the needs of the learners and the society at large vis-à-vis ethical, professional, and socially responsible practices so as to meet the future needs of the region;
d. To equip students with the learning and research needs required for developing innovative endeavors and practices; and
e. To develop hands-on skills and competence in coping with the issues of individual and collective life-long decision-making.

General Education

General Education (GE) provides a unique general education platform to ensure the successful transition of all new undergraduate students from high school to university life. This is achieved through the delivery of a comprehensive first year educational experience designed to equip the students with the skills essential to their future. The network of support available to the students through the GE courses helps them settle into the University community with ease and to quickly progress in their academic career. The general education curricula provide the students with the comprehensive academic support, tools and techniques required for developing their competencies in written and oral communication, digital literacy, qualitative reasoning, innovative and critical thinking, team building, leadership, ethical reasoning, design thinking, sense making and use of social and emotional intelligence.

Mission

The mission of General Education is to help students successfully transition from high school to university life, by providing them with a comprehensive first year educational experience driven by retention and designed to equip them with essential skills for future success.

Learning Outcomes

The General Education at Abu Dhabi University, aims to prepare the students with fundamental knowledge, skills and competencies that prepare them for their success in their majors, personal and professional lives after graduation.

As the students' progress through the various General Education courses, they will be able to:

1. Communicate effectively and efficiently orally and in writing.
2. Gather, critically evaluate and analyze information.
3. Generate and apply innovative ideas and approaches in problem solving and decision making.
4. Use quantitative reasoning skills.
5. Demonstrate ethical reasoning and social conscience in personal, social and professional contexts.
6. Demonstrate teamwork skills in diverse settings.
7. Demonstrate digital literacy skills.

General Education Requirements

Abu Dhabi University through the set of General Education courses delivered by Colleges (CAESS, COB, and COE) aims to prepare the students with fundamental knowledge, skill and competency that prepare students for their success in the majors and personal and professional life after graduation.

General Education Courses

This General Education curriculum is comprised of the following courses:

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)*	Communication Skills in Arabic Language	No Prerequisite	3
ARL 101 E	Communication Skills in Arabic Language (E)	Arabic as second language in high school or Non-Native Arabic Speaker	3
ENG 100 (AA)**	English I for Arabic Language Program	No Prerequisite	3
ENG102 (R)	English I (Remedial)	IELTS score of below 6 or EMSAT score of below 1400	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100/ USS001 as co-requisite if placed in ENG200)	3
ENG 200 (AA)**	English II for Arabic Language Program	"C" grade in ENG 100 (AA)	3
FWS 100 (E)	Academic Skills for Success	No Prerequisite	3
FWS 100 (AA)**	Academic Skills for Success	No Prerequisite	3
FWS 201	Fundamentals of Life Skills	ENG 102 (R)	3
FWS 201 (AA)**	Fundamentals of Life Skills	FWS 100 (AA)	3
FWS 205	UAE and GCC Society	ENG102 (R) & FWS100 as pre-requisite FWS100/ USS001 as co-requisite if students enter to ENG200 course directly	3
FWS 205 (AA)**	UAE and GCC Society	No Prerequisite	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 211 (AA)**	Fundamentals of Emotional Intelligence	FWS 100 (AA)	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of minimum 45 credit hours	3
ISL 100 (A)*	Islamic Culture	No Prerequisite	3
ISL 100 (E)	Islamic Culture (English)	No Prerequisite	3
USS 001	University Skills for Success	No Prerequisite	0

* (A) code for courses offered in Arabic for all majors

** (AA) codes represent courses for Arabic programs

BACHELOR OF ARTS IN
INTERNATIONAL RELATIONS



Program Mission

The mission of the Bachelor of Arts in International Relations (BAIR) program at Abu Dhabi University is to provide students with a comprehensive understanding of the complex dynamics that govern interactions among nations, alliances, and international institutions. The program aims to cultivate critical thinking, analytical, and decision-making skills by immersing students in theoretical frameworks, case studies, and research methodologies relevant to global and regional political, economic, and socio-cultural developments. Through a multidisciplinary curriculum that draws from politics, economics, history, anthropology, mass communication, and law, the program aspires to prepare graduates who are equipped to address contemporary global challenges and contribute as responsible global citizens committed to peace, security, and sustainable development

Program Goals

To reach the mentioned mission, the program has the following objectives:

I. Acquire familiarity with the political, social, and economic fields and systems that govern and/or influence national priorities and international relations.

II Assess broad knowledge of integral aspects of international and GCC affairs.

III Identity, conduct and articulate multidisciplinary and/or interdisciplinary research pertaining to International or GCC affairs.

IV Develop skills of quick analysis and critical evaluation of complex and unpredictable international proceedings;

V Ethically resolve critical issues based on internationally agreed upon principles between and among nation-states.

Program Learning Outcomes

On successful completion of this program the graduate will be able to:

PLO 1 Examine the disciplinary and interdisciplinary corpus of theoretical frameworks, including innovative approaches, associated with International Relations.

PLO 2 Construct measured arguments to support positions on ethical and sustainability issues faced by institutions of global impact.

PLO 3 Evaluate data from various interdisciplinary sources to arrive at responsibly informed analyses in research projects related to International Relations.

PLO 4 Critique contemporary international events using diverse knowledge and skills bases to evaluate differences in a responsible manner.

PLO 5 Evaluate one's responsibility as an actor and contributor to international and multinational practices.

Curriculum

Total Credit Hours: 120

General Education Requirements	36 credit hours
College Requirements	18 credit hours
Major Core	48 credit hours
Major Electives	9 credit hours
Open Electives	9 credit hours

General Education Requirement — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	Prerequisite: IELTS6 or equivalent English Lan-guage Proficiency score or Passing grades in ENG102 + FWS100 co-requisite FWS100(E) if placed in ENG200	3
FWS 100 (E)	Academic Skills for Success	No Prerequisite	3
FWS 201	Fundamentals of Life Skills	FWS100(E)	3
FWS 205	UAE and GCC Society	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 301	Developing Future Leaders	FWS100(E) + ENG 200 and Completion of minimum 45 credit hours	3
FWS 305	Technical Communications for Workplace	ENG 200 + (Completion of minimum 45CH)	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + (Completion of minimum 60CH)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 18 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ASC 301	Research Report Writing	ENG 200	3
MAC317	Public Speaking	ENG 200	3
MMC201	Introduction to Mass Communication	(Co) ENG 102 / ENG 200	3
MAC201	Intercultural Communication	MMC201	3
MAC403	International Communication	MAC201	3
MAC316	Communication and Diplomacy	MMC201	3

Major Core Courses — 48 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
INR 200	Introduction to International Relations	(Co) ENG 102/ENG 200	3
INR 210	Perspectives in Political Science	INR 200	3
INR 220	History of International Relations	INR 200	3
INR 230	Contemporary Perspectives in International Relations	INR 220	3
INR 280	Comparative Political Systems	INR 210	3
INR 290	International Political Economy I	INR 210	3
INR 299	International Law	INR 280	3
INR 300	International Crime and Justice	INR 299	3
INR 310	Diplomacy and International Relations	INR 290	3
INR 320	Sectors of Global Diplomacy	INR 310	3
INR 350	International Political Economy II	INR 290	3
INR 400	Theories of International Relations I	INR 280	3
INR 410	Theories of International Relations II	INR 400	3
INR 420	Human Rights and Global Justice	INR 300	3
INR 430	Political Economy III	INR 350	3
INR 499	Internship	Completion of minimum 80CHs	3

Major Electives Courses (Need to choose any 3 courses from list of 5 courses) 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MGT255	Management & Organization Behavior	ENG200 & FWS211	3
INR 301	Cross-Cultural Psychology	ENG200 & FWS211	3
INR 311	Technological Innovation and Diplomacy	INR 310	3
INR 321	Public Diplomacy	INR 310	3
INR 402	Comparative Criminal Justice Systems	INR 400	3

Open Electives 9 credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3
OE3	Open Elective III	-	3

BACHELOR OF ARTS IN INTERNATIONAL RELATIONS

Study Plan

First Year				
	Code	Title	Credit	Prerequisite(s)
(Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100 (E)	Academic Skills for Success	3	No Prerequisite
	ISL100(A)	Islamic Culture	3	No Prerequisite
	ENG 200	English II	3	IELTS6 or equivalent English Lan-guage Proficiency score or Passing grades in ENG102 + FWS100 co-requisite FWS100(E) if placed in ENG200
	MMC 201	Introduction to Mass Communication	3	(Co) ENG 102 / ENG 200
Total Credit Hours			**15**	
(Semester 2)	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	FWS 201	Fundamentals of Life Skills	3	FWS100(E)
	STT 100	General Statistics	3	No Prerequisite
	FWS 205	UAE and GCC Society	3	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	INR 200	Introduction to International Relations	3	(Co) ENG 102/ENG 200
Total Credit Hours			**15**	

Second Year				
	Code	Title	Credit	Prerequisite(s)
(Semester 3)	ASC 301	Research Report Writing	3	ENG 200
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	INR 210	Perspectives in Political Science	3	INR200
	INR 220	History of International Relations	3	INR200
	OE1	Open Elective 1	3	-
Total Credit Hours			**15**	

(Semester 4)	FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of 45 credit hours
	FWS301	Developing Future Leaders	3	FWS100 + ENG200 and Completion of minimum 45 credit hours
	MAC 201	Intercultural Communication	3	MMC 201
	INR 230	Contemporary Perspectives in International Rela-tions	3	INR 220
	INR 280	Comparative Political Systems	3	INR 210
Total Credit Hours			**15**	

Third Year				
	Code	**Title**	**Credit**	**Prerequisite(s)**
(Semester 5)	MAC316	Communication and Diplomacy	3	MMC201
	MAC 317	Public Speaking	3	ENG 200
	INR 290	International Political Economy I	3	INR 210
	INR 299	International Law	3	INR 280
	ME 1	Major Elective 1	3	-
Total Credit Hours			**15**	
	Code	**Title**	**Credit**	**Prerequisite(s)**
(Semester 6)	FWS 310	Introduction to Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
	MAC403	International Communication	3	MAC201
	INR 310	Diplomacy and International Relations	3	INR 290
	INR 300	International Crime and Justice	3	INR 299
	OE 2	Open Elective II	3	-
Total Credit Hours			**15**	

Summer Semester	INR 499	Internship	3	Completion of 80 CHs
Total Credit Hours			**3**	

Fourth Year				
	Code	**Title**	**Credit**	**Prerequisite(s)**
(Semester 7)	INR 320	Sectors of Global Diplomacy	3	INR 310
	INR 350	International Political Economy II	3	INR 290
	INR 400	Theories of International Relations I	3	INR 280
	OE 3	Open Elective III	3	-
	ME 2	Major Elective 2	3	-
Total Credit Hours			**15**	
(Semester 8)	INR 410	Theories of International Relations II	3	INR 400
	INR 420	Human Rights and Global Justice	3	INR 300
	INR 430	Political Economy III	3	INR 350
	ME 3	Major Elective 3	3	-
Total Credit Hours			**12**	

BACHELOR OF ARTS IN
MASS COMMUNICATION



Program Mission

The Mass Communication programs mission is to advance undergraduate students' academic, professional, and personal development through select programs of teaching, research, and public service that combine intense theoretical courses with professional preparation for the media workplaces. We aim to produce graduates who meet high-performance standards in Media Production, and Strategic Communication. The department also strives to achieve recognition among professionals, media organizations/agencies, and scholars in mass communications regionally and internationally.

Program Goals

To reach the mentioned mission, the program has the following objectives:

I. demonstrate a deep comprehension of concepts inherent in the field of media and communication in the digital age.

II. exhibit professional competencies in the field of media and communication as required by specializations within the field, such as oral and written communication proficiencies, critical thinking, decision-making and problem-solving.

III. demonstrate a strong understanding and application of general social ethics, as well as moral responsibilities pertaining to the field of media and communication, such as the various codes of professional ethics and accepted standards of media integrity.

Program Learning Outcomes

a. Program Learning Outcomes

Core Program Learning Outcomes (CPLOs)

The core program learning outcomes are designed to achieve the program objectives.

CPLO 1: Apply contemporary theories and concepts of communication for mass media such that students understand the pivotal role and responsibility that mass media has in contemporary society.

CPLO 2: Write high-quality content for print, broadcast, and digital media, reflecting a thorough understanding of the writing styles required for each kind of communication mode.

CPLO 3: Critique media content in relation to the concepts of accuracy, fairness, brevity, and clarity.

CPLO 4: Evaluate media content based on principles of ethical reasoning for media, such as balance, impartiality, and credibility.

CPLO 5: Produce high-quality media work independently or collaboratively with peers, using negotiation and conflict resolution skills.

Program Concentration Learning Outcomes for Strategic Communication (PCLOs)

PCLO 1: Apply a variety of strategic communication techniques relevant to public relations and advertising in order to effectively communicate key messages pertaining to diverse organizations while meeting media ethical standards.

PCLO 2: Evaluate the use and effectiveness of new media technologies in current public relations and advertising practices.

Program Concentration Learning Outcomes for Media Production (PCLOs)

PCLO 1: Produce high-quality creative work both for fiction and non-fiction content for various media platforms, such as film and digital media, reflecting contemporary concerns; and

PCLO 2: Utilize a variety of conceptual and technical practices in media production for different platforms in an expert fashion.

Curriculum

Total Credit Hours: 120

General Education Requirements	36 credit hours
Program Core Requirements	42 credit hours
Degree Concentration	21 credit hours
Major Electives	9 credit hours
Open Electives	12 credit hours

General Education Requirement — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100(E)/ USS001 as co-requisite if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (R) & FWS100(E) as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 course directly	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of minimum 45 credit hours	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of minimum 60 credit hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
FWS 201	Fundamentals of Life Skills	FWS100(E)	3
FWS 301	Developing Future Leaders	FWS100(E) + ENG 200 and Completion of minimum 45 credit hours	3
STT 100	General Statistics	No Prerequisite	3
FWS 100 (E)	Academic Skills for Success	No Prerequisite	3

Core Requirements — 42 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ASC 301	Research Report Writing	ENG 200	3
MKT 200	Principles of Marketing	ENG 200	3
MMC 201	Introduction to Mass Communication	(Co) ENG 102 (R) / ENG 200	3
MMC 203	Writing for Mass Media	MMC 201	3
MAC 201	Intercultural Communication	No Prerequisite	3
MAC 205	Theories of Mass Communication	MMC 201	3
MAC 207	Introduction to Graphic Design	ITD 100	3
MAC 308	Photojournalism	MMC 203	3
MAC 310	Mass Media Ethics and Responsibilities	MMC 201	3
MAC 317	Public Speaking	ENG 200	3
MAC 402	Media Appreciation and Critique	MMC 201	3
MAC 404	Social Media Management	Completion of minimum 90 credit hours	3
MAC 490	Senior Design Project (Capstone Course)	100 Credit Hours	3
MAC 499	Internship	80 Credit Hours	3

Major Electives (Student may take any 3 of the below courses) — 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MAC 204	Interpersonal Communication	ENG 200	3
MAC 206	Introduction to Journalism	ENG 200	3
MAC 328	Event Management	FWS 310	3
MAC 403	International Communication	MAC 201	3
MAC 412	Media Management	ENG 200	3
MAC 316	Communication and Diplomacy	MMC 201	3

Open Electives — 12 credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3
OE3	Open Elective III	-	3
OE4	Open Elective IV	-	3

Degree Concentrations — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
Strategic Communication Core Requirements			
MAC 303	Organizational Communication	MAC 201	3
MAC 313	Principles of Strategic Public Relations	MMC 203	3
MAC 314	Communication Strategies in Advertising	MMC 203 or MKT 200	3
MAC 315	Writing for PR	MMC 203	3
MAC 301	PR Protocol and Etiquette	MMC 201	3
MAC 407	Integrated Communication Campaign	MAC 314	3
MAC 413	Public Relations Campaigns	MAC 313	3
Media Production Core Requirements			
FMP 180	Principles of Production Technology	-	3
FMP 225	Introduction to VFX	FMP 180 or MAC 323	3
FMP 300	Short Film Production	FMP 180 or MAC 323	3
FMP 325	Screenwriting	FMS 100	3
FMP 350	Directing for Documentary	FMP 300	3
FMS 100	Introduction to Film	-	3
MAC 410	Web and Publications Design	ITD 100	3

BACHELOR OF ARTS IN
MASS COMMUNICATION

Study Plan

Strategic Communication Concentration

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100 (E)	Academic Skills for Success	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100(E) as co-requisite if placed in ENG200)
	MMC 201	Introduction to Mass Communication	3	(Co) ENG 102 (R) / ENG 200
Total Credit Hours			**15**	
Spring (Semester 2)	ISL100(A)	Islamic Culture	3	No Prerequisite
	FWS 201	Fundamentals of Life Skills	3	FWS100(E)
	MAC 207	Introduction to Graphic Design	3	ITD 100
	MAC 201	Intercultural Communication	3	No Prerequisite
	MMC 203	Writing for Mass Media	3	MMC 201
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	STT 100	General Statistics	3	No Prerequisite
	OE 1	Open Elective I	3	-
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102(R) + FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	MAC 313	Principles of Strategic Public Relations	3	MMC 203
	MAC 314	Communication Strategy in Advertising	3	MMC 203 or MKT 200
Total Credit Hours			**15**	

Spring (Semester 4)	FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of minimum 45 credit hours
	MAC 205	Theories of Mass Communication	3	MMC 201
	MAC 310	Mass Media Ethics and Responsibilities	3	MMC 201
	MAC 308	Photojournalism	3	MMC 203
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	ASC 301	Research Report Writing	3	ENG 200
	FWS 205	UAE and GCC Society	3	ENG102 (R) + FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200
	MAC 303	Organizational Communication	3	MAC 201
	ME 1	Major Elective I	3	-
	OE 2	Open Elective II	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
	MAC 315	Writing for PR	3	MMC 203
	MAC 301	PR protocol and Etiquette	3	MMC 201
	FWS 301	Developing Future Leaders	3	FWS100(E) + ENG 200 and Completion of minimum 45 credit hours
	MAC 317	Public Speaking	3	ENG 200
Total Credit Hours			**15**	
Summer Semester	MAC 499	Internship	1.5	80 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	OE3	Open Elective III	3	-
	MAC 404	Social Media Management	3	Completion of minimum 90 credit hour
	MAC407	Integrated Communication Campaign	3	MAC314
	MAC 413	Public Relations Campaigns	3	MAC 313
	OE4	Open Elective IV	3	-
Total Credit Hours			**15**	
Spring (Semester 8)	MAC402	Media Appreciation and Critique	3	MMC 201
	ME 2	Major Elective II	3	-
	ME 3	Major Elective III	3	-
	MAC 490	Senior Design Project	3	100 Credit Hours
Total Credit Hours			**12**	
Summer Semester	MAC499	Internship	1.5	80 Credits
Total Credit Hours			**1.5**	

BACHELOR OF ARTS IN
MASS COMMUNICATION

Study Plan
Media Production Concentration

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100 (E)	Academic Skills for Success	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100(E) as co-requisite if placed in ENG200)
	MMC 201	Introduction to Mass Communication	3	(Co) ENG 102 (R) / ENG 200
Total Credit Hours			**15**	
Spring (Semester 2)	ISL100(A)	Islamic Culture	3	No Prerequisite
	FWS 201	Fundamentals of Life Skills	3	FWS100(E)
	MAC 207	Introduction to Graphic Design	3	ITD 100
	MAC 201	Intercultural Communication	3	MMC 201
	MMC 203	Writing for Mass Media	3	MMC 201
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	STT 100	General Statistics	3	No Prerequisite
	FMS 100	Introduction to Film	3	-
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	FMP 180	Principles of Production Technology	3	-
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Spring (Semester 4)	FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of minimum 45 credit hours
	MAC 205	Theories of Mass Communication	3	MMC 201
	MAC 310	Mass Media Ethics and Responsibilities	3	MMC 201
	MAC 308	Photojournalism	3	MMC 203
	FMP 225	Introduction to VFX	3	FMP 180 or MAC 323
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	ASC 301	Research Report Writing	3	ENG 200
	FWS 205	UAE and GCC Society	3	ENG102 (R) + FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200
	FMP 325	Screenwriting	3	FMS 100
	OE 1	Open Elective I	3	-
	OE 2	Open Elective II	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
	FWS 301	Developing Future Leaders	3	FWS100(E) + ENG 200 and Completion of minimum 45 credit hours
	FMP 300	Short Film Production	3	FMP 180 or MAC 323
	ME 1	Major Elective I	3	-
	MAC 317	Public Speaking	3	ENG 200
Total Credit Hours			**15**	
Summer Semester	MAC 499	Internship	1.5	80 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	OE 3	Open Elective III	3	-
	MAC 404	Social Media Management	3	MMC 201
	FMP 350	Directing for Documentary	3	FMP 300
	MAC 410	Web Publications and Design	3	ITD 100
	OE 4	Open Elective IV	3	-
Total Credit Hours			**15**	
Spring (Semester 8)	MAC 402	Media Appreciation and Critique	3	MAC 310
	ME 2	Major Elective II	3	-
	ME 3	Major Elective III	3	-
	MAC 490	Senior Design Project	3	100 Credit Hours
Total Credit Hours			**12**	
Summer Semester	MAC 499	Internship	1.5	80 Credit Hours
Total Credit Hours			**1.5**	

BACHELOR IN MASS COMMUNICATION (ARABIC)

بكالوريوس في الإعلام باللغة العربية



مهمة البرنامج

تتمثل مهمة برنامج الإعلام في التنمية الأكاديمية والمهنية لطلبة البكالوريوس من خلال مناهج دراسية معدة اعداداً جيداً تجمع بين المساقات النظرية المتعمقة والمسارات التطبيقية إلى جانب التدريب العملي عال المستوى للعمل في مجال الإعلام.

يهدف البرنامج إلى اعداد الطلاب وتأهيلهم وفقاً للمعايير المهنية والدولية في العلاقات العامة والإعلان والإنتاج الإعلامي

أهداف البرنامج

1. إظهار فهم عميق للمفاهيم المتأصلة في مجال الإعلام والاتصال في العصر الرقمي.
2. إبراز الكفاءات المهنية في مجال الإعلام والاتصال على النحو الذي تتطلبه التخصصات داخل هذا المجال، مثل كفاءات الاتصال الشفوي والكتابي، والتفكير النقدي، واتخاذ القرار وحل المشكلات.
3. إبداء فهم قوي وعملي للأخلاقيات الاجتماعية العامة، فضلاً عن المسؤوليات الأخلاقية المتعلقة بمجال الإعلام والتواصل، مثل مختلف مدونات الأخلاق المهنية والمعايير المقبولة لنزاهة وسائل الإعلام.

مخرجات البرنامج

مخرجات التعلم للبرنامج الأساسي (CPLOs)

تم تصميم مخرجات التعلم الأساسية للبرنامج لتحقيق أهداف البرنامج. عند الانتهاء من 42 ساعة معتمدة أساسية، سيتمكن الطلاب من :

CPLO 1 تطبيق نظريات ومفاهيم الاتصال المعاصرة لوسائل الإعلام بحيث يفهم الطلبة الدور المحوري والمسؤولية التي تضطلع بها وسائل الإعلام في المجتمع المعاصر.

CPLO 2 كتابة محتوى عالي الجودة للصحافة والبث والوسائط الرقمية؛ مما يعكس فهماً شاملاً لأنماط الكتابة المطلوبة لكل نوع من أوضاع الاتصال.

CPLO 3 نقد المحتوى الإعلامي فيما يتعلق بمفاهيم الدقة والإنصاف والإيجاز والوضوح.

CPLO 4 تقييم المحتوى الإعلامي على أساس مبادئ التفكير الأخلاقي لوسائل الإعلام، مثل التوازن والحياد والمصداقية.

CPLO 5 إنتاج محتوى إعلامي عالي الجودة فرديا او جماعيا بالتعاون مع أقرانه، باستخدام مهارات التفاوض وحل النزاعات.

المخرجات التعلمية للتخصص الدقيق في العلاقات العامة والاعلان (PCLOs)

PCLO 1 تطبيق مجموعة متنوعة من تقنيات الاتصال الاستراتيجية ذات الصلة بالعلاقات العامة والإعلان من أجل توصيل الرسائل الرئيسية المتعلقة بالمنظمة بشكل فعال مع تلبية المعايير الأخلاقية لوسائل الإعلام.

PCLO 2 تقييم استخدام وفعالية وسائل الاتصال الحديثة في العلاقات العامة والممارسات الإعلانية الحالية.

المخرجات التعلمية للتخصص الدقيق في الانتاج الاعلامي (PCLOs)

PCLO 1 انتاج مواد إعلامية إبداعية عالية الجودة لعدد من المنابر الإعلامية كالإذاعة، والتلفزيون، والوسائط الرقمية، والأفلام، مستخدماً الوسائل الرقمية المعاصرة.

PCLO 2 تطبيق بفعالية عدداً مهماً من الإجراءات النظرية والفنية، مع الالتزام بالمعايير الأخلاقية المتصلة بقواعد البث على المنابر الإعلامية

CURRICULUM
Total Credit Hours: 120

المقرر الدراسي
إجمالي عدد الساعات المعتمدة: 120

General Education Requirements	36 credit hours	36 ساعة معتمدة	متطلبات التعليم العام
Core Requirements	42 credit hours	42 ساعة معتمدة	المتطلبات الإجبارية
Degree Concentration	21 credit hours	21 ساعة معتمدة	متطلبات التخصص
Major Electives	9 credit hours	9 ساعات معتمدة	المتطلبات الاختيارية
Open Electives	12 credit hours	12 ساعة معتمدة	المساقات الحرة

General Education Requirements
36 Credit Hours

متطلبات التعليم العام
36 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
ARL 101 (A)	مهارات الاتصال باللغة العربية (1)	لا يوجد	3
ENG 100 (AA)	English I (1)	Pass English Proficiency	3
ENG 200 (AA)	English II	درجة C في مادة ENG100 (AA)	3
FWS 310 (AA)	مدخل في ريادة الأعمال و الإبتكار	60 ساعة معتمدة	3
FWS100(AA)	Academic Skills For Success	لا يوجد	3
FWS 201 (AA)	Fundamentals of Life Skills	FWS100(AA)	3
FWS 205 (AA)	مجتمع الإمارات و الخليج العربي	لا يوجد	3
ISL 100 (A)	الثقافة الإسلامية	لا يوجد	3
FWS 301 (AA)	تطوير قادة المستقبل	FWS100(AA) + 45 ساعة معتمدة	3
FWS 211 (AA)	أساسيات الذكاء العاطفي	FWS100(AA)	3
STT100(AA)	General Statistics	لا يوجد	3
ITD 100 (AA)	مدخل الى الحاسب الآلي و التقنية الرقمية	لا يوجد	3

Core Requirements
42 Credit Hours

المتطلبات الاجبارية
42 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
MMC201 (MA)	مدخل إلى الإتصال الجماهيري	لا يوجد	3
ASC301 (MA)	كتابة تقرير البحث	ENG200 (AA)	3
MAC308 (MA)	التصوير الصحفي	MMC201 (MA)	3
MKT200 (MA)	مبادئ التسويق	ARL 101 (A)	3
MAC310 (MA)	أخلاقيات ومسؤوليات وسائل الإعلام	MMC201 (MA)	3
MMC203 (MA)	الكتابة لوسائل الإعلام الجماهيرية	MMC201 (MA)	3
MAC201 (MA)	التواصل بين الثقافات	MMC201 (MA)	3
MAC207 (MA)	مقدمة في التصميم الجرافيكي	ITD100 (AA)	3
MAC317 (MA)	الخطابة العامة	ARL101 (A)	3
MAC402 (MA)	التذوق والنقد في الإعلام	MMC201 (MA)	3
MAC404 (MA)	إدارة وسائل التواصل الإجتماعي	إكمال 90 ساعة معتمدة	3
MAC205 (MA)	نظريات الإعلام	MMC201 (MA)	3
MAC490 (MA)	تصميم مشروع التخرج (مساق التخرج)	إكمال 100 ساعة معتمدة	3
MAC499 (MA)	التدريب الميداني	إكمال 80 ساعة معتمدة	3

Major Electives
9 credit Hours

المتطلبات الاختيارية
9 ساعات معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
MAC412 (MA)	إدارة الوسائل الاعلامية	MMC201 (MA)	3
MAC403 (MA)	الاتصال الدولي	MMC201 (MA)	3
MAC206 (MA)	مقدمة في الصحافة	MMC201 (MA)	3
MAC204 (MA)	الاتصال الشخصي	ARL 101 (A)	3
MAC316 (MA)	الاتصال والدبلوماسية	MMC201 (MA)	3
MAC328 (MA)	إدارة الفعاليات	FWS310 (AA)	3

Degree Concentrations
21 Credit Hours

متطلبات التخصص
21 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
متطلبات مسار الإنتاج الإعلامي الإجبارية			
FMP 180 (MA)	مبادئ صناعة المحتوى الإعلامي	لا يوجد متطلب سابق	3
FMP 225 (MA)	مقدمة في المؤثرات البصرية الرقمية	FMP 180 (MA)	3
FMP 300 (MA)	صناعة الأفلام القصيرة	FMP 180 (MA)	3
FMP 325 (MA)	كتابة السيناريو	FMS 100 (MA)	3
FMP 350 (MA)	الإخراج الوثائقي	FMP 300 (MA)	3
FMS 100 (MA)	مقدمة في صناعة الفيلم السينمائي.	لا يوجد متطلب سابق	3
MAC410 (MA)	تصميم المواقع الإلكترونية و المنشورات	ITD100(AA)	3

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
متطلبات مسار العلاقات العامة والإعلان الإجبارية			
MAC 303 (MA)	الاتصال التنظيمي	MAC 201 (MA)	3
MAC 313 (MA)	مبادئ العلاقات العامة الاستراتيجية	MAC 205 (MA)	3
MAC 314 (MA)	استراتيجية الاتصال في الاعلان	MKT200(MA) أو MAC205(MA) (CO)	3
MAC 315 (MA)	الكتابة للعلاقات العامة	MMC203 (MA)	3
MAC 301 (MA)	البروتوكول والاتيكيت	MMC201(MA)	3
MAC407 (MA)	الاتصالات التسويقية المتكاملة	MAC314 (MA)	3
MAC 413 (MA)	الحملات الإعلامية في العلاقات العامة	MAC 313 (MA)	3

Open Electives
12 Credit Hours

المساقات الاختيارية
12 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
OE 1	اختياري 1	-	3
OE 2	اختياري 2	-	3
OE 3	اختياري 3	-	3
OE 4	اختياري 4	-	3

Bachelor of Mass Communication Study Plan
Public Relations and Advertising Concentration

الخطة الدراسية لبرنامج البكالوريوس في الإعلام
تخصص العلاقات العامة والإعلان

First Year (Freshman) السنة الاولى				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
Fall/الخريف (Semester 1)	ARL 101 (A)	مهارات الاتصال باللغة العربية (1)	3	لا يوجد
	ENG 100 (AA)	English I	3	Pass English proficiency
	ITD 100 (AA)	مقدمة في تقنيه المعلومات والتكنولوجيا الرقمية	3	لا يوجد
	MMC 201 (MA)	مدخل إلى الإتصال الجماهيري	3	لا يوجد
	FWS100(AA)	Academic Skills for Success	3	(Co) ENG100 (AA)
Total Credit Hours/اجمالي عدد الساعات			**15**	
Spring/الربيع (Semester 2)	ENG 200 (AA)	مهارات اللغة الإنجليزية (2)	3	درجة C في مادة ENG100 (AA)
	MAC207 (MA)	مقدمة في التصميم الجرافيكي	3	ITD100(AA)
	MAC201 (MA)	التواصل بين الثقافات	3	MMC 201 (MA)
	ISL 100 (A)	الثقافة الاسلامية	3	لا يوجد
	MMC 203	الكتابة لوسائل الاعلام الجماهيرية	3	MMC201(MA)
Total Credit Hours/اجمالي عدد الساعات			**15**	

Second Year (Sophomore) السنة الثانية				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
Fall/الخريف (Semester 3)	STT100(AA)	General Statistics	3	No prerequisite
	MAC205 (MA)	نظريات الإعلام	3	MMC 201 (MA)
	MAC 313 (MA)	مبادئ العلاقات العامة الاستراتيجية	3	MAC 205 (MA)
	FWS 211 (AA)	اساسيات الذكاء العاطفي	3	FWS100(AA)
	MAC 314 (MA)	استراتيجية الاتصال في الاعلان	3	MKT200(MA) أو MAC205(MA) (CO)
Total Credit Hours/اجمالي عدد الساعات			**15**	
Spring/الربيع (Semester 4)	FWS201(AA)	Fundamentals of Life Skills	3	FWS 100 (AA)
	OE 1	اختياري 1	3	-
	MAC 310 (MA)	أخلاقيات ومسؤوليات وسائل الإعلام	3	MMC 201 (MA)
	MAC 308 (MA)	التصوير الصحفي	3	MMC 201 (MA)
	MKT 200(MA)	مبادئ التسويق	3	ARL 101 (A)
Total Credit Hours/اجمالي عدد الساعات			**15**	

Third Year (Junior) السنة الثالثة				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
Fall/الخريف (Semester 5)	ASC301(MA)	كتابة تقرير البحث	3	ENG 200 (AA)
	FWS 205 (AA)	مجتمع الامارات و الخليج العربي	3	لا يوجد
	MAC 303 (MA)	الاتصال التنظيمي	3	MAC 201 (MA)
	ME1	مساق اختياري رئيسي 1	3	-
	OE 2	اختياري 2	3	-
Total Credit Hours/اجمالي عدد الساعات			**15**	

الخطة الدراسيه لبرنامج البكالوريوس في الإعلام
تخصص الانتاج الاعلامي

Bachelor of Mass Communication Study Plan

السنة الاولى First Year (Freshman)				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 1)	ARL 101 (A)	مهارات الاتصال باللغة العربية (1)	3	لا يوجد
	ENG 100 (AA)	English I	3	Pass English proficiency
	ITD 100 (AA)	مقدمة في تقنيه المعلومات والتكنولوجيا الرقمية	3	لا يوجد
	MMC 201 (MA)	مدخل إلى الإتصال الجماهيري	3	لا يوجد
	FWS100(AA)	Academic Skills for Success	3	(Co) ENG100 (AA)
اجمالي عدد الساعات/Total Credit Hours			15	
الربيع/Spring (Semester 2)	ENG 200 (AA)	English II	3	درجة C في مادة ENG100 (AA)
	MAC207 (MA)	مقدمة في التصميم الجرافيكي	3	ITD100(AA)
	MAC201 (MA)	التواصل بين الثقافات	3	MMC 201 (MA)
	ISL 100 (A)	الثقافة الاسلامية	3	لا يوجد
	MMC 203	الكتابة لوسائل الاعلام الجماهيرية	3	MMC201(MA)
اجمالي عدد الساعات/Total Credit Hours			15	

Spring/ الربيع (Semester 6)	FWS 310 (AA)	اساسيات الابتكار و ريادة الاعمال	3	إكمال 60 ساعة دراسية على الاقل
	MAC 315 (MA)	الكتابة للعلاقات العامة	3	MMC203(MA)
	MAC 301 (MA)	البروتوكول والاتيكيت	3	MMC 201 (MA)
	FWS 301 (AA)	تطوير قادة المستقبل	3	إكمال FWS100(AA) و 45 ساعة معتمدة كحد أدنى
	MAC 317 (MA)	الخطابة العامة	3	ARL 101(A)
اجمالي عدد الساعات/Total Credit Hours			15	
Summer Semester/ الصيف	MAC 499 (MA)	التدريب الميداني	1.5	إكمال 80 ساعة معتمدة
اجمالي عدد الساعات/Total Credit Hours			1.5	

السنة الرابعة Fourth Year (Senior)				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 7)	MAC 404 (MA)	إدارة وسائل التواصل الإجتماعي	3	إكمال 90 ساعة معتمدة
	MAC 407 (MA)	الاتصالات التسويقية المتكاملة	3	MAC 314 (MA)
	MAC 413 (MA)	الحملات الاعلامية في العلاقات العامة	3	MAC 313 (MA)
	OE3	اختياري 3	3	-
	OE 4	اختياري 4	3	-
اجمالي عدد الساعات/Total Credit Hours			15	
الربيع/Spring (Semester 8)	MAC 402 (MA)	التذوق و النقد في الاعلام	3	MMC 201 (MA)
	ME 2	مساق اختياري رئيسي 2	3	-
	ME 3	مساق اختياري رئيسي 3	3	-
	MAC 490 (MA)	تصميم مشروع التخرج (مساق التخرج)	3	إكمال 100 ساعة معتمدة
اجمالي عدد الساعات/Total Credit Hours			12	
Summer/ الصيف (Semester 9)	MAC 499 (MA)	التدريب الميداني	1.5	إكمال 80
اجمالي عدد الساعات/Total Credit Hours			1.5	

Second Year (Sophomore) السنة الثانية				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 3)	STT100(AA)	General Statistics	3	No prerequisite
	FMS 100 (MA)	مقدمة في صناعة الفيلم السينمائي	3	لا يوجد متطلب سابق
	FMP180(MA)	مبادىء صناعة المحتوى الإعلامي	3	لا يوجد متطلب سابق
	FWS 211 (AA)	اساسيات الذكاء العاطفي	3	FWS100(AA)
	MAC205(MA)	نظريات الإعلام	3	MMC 201 (MA)
اجمالي عدد الساعات/Total Credit Hours			15	
الربيع/Spring (Semester 4)	FWS201(AA)	Fundamentals of Life Skills	3	FWS100(AA)
	MKT200(MA)	مبادئ التسويق	3	ARL 101 (A)
	MAC 310 (MA)	أخلاقيات ومسؤوليات وسائل الإعلام	3	MMC 201 (MA)
	MAC 308 (MA)	التصوير الصحفي	3	MMC201 (MA)
	FMP 225 (MA)	مقدمة في المؤثرات البصرية الرقمية	3	FMP 180 (MA)
اجمالي عدد الساعات/Total Credit Hours			15	

Third Year (Junior) السنة الثالثة				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 5)	ASC301(MA)	كتابة تقرير البحث	3	ENG 200 (AA)
	FWS 205 (AA)	مجتمع الامارات و الخليج العربي	3	لا يوجد
	FMP 325 (MA)	كتابة السيناريو	3	FMS 100 (MA)
	OE 1	اختياري 1	3	-
	OE 2	اختياري 2	3	-
اجمالي عدد الساعات/Total Credit Hours			15	

Spring/ الربيع (Semester 6)	FWS 310 (AA)	أساسيات الابتكار وريادة الأعمال	3	إكمال 60 ساعة دراسية على الاقل
	FMP 300 (MA)	صناعة الأفلام القصيرة	3	FMP 180 (MA)
	ME 1	مساق إختياري رئيسي 1	3	-
	FWS 301 (AA)	تطوير قادة المستقبل	3	إكمال FWS100(AA) و 45 ساعة معتمدة كحد أدنى
	MAC 317 (MA)	الخطابة العامة	3	ARL 101 (A)
اجمالي عدد الساعات/Total Credit Hours			15	
Summer Semester/ الصيف	MAC 499 (MA)	التدريب الميداني	1.5	إكمال 80 ساعة معتمدة
اجمالي عدد الساعات/Total Credit Hours			1.5	

Fourth Year (Senior) السنة الرابعة				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 7)	OE 3	اختياري 3	3	-
	MAC 404 (MA)	إدارة وسائل التواصل الإجتماعي	3	إكمال 90 ساعة معتمدة
	FMP 350 (MA)	الاخراج الوثائقي	3	FMP 300 (MA)
	MAC 410 (MA)	تصميم المواقع الالكترونية والمنشورات	3	ITD 100 (AA)
	OE 4	اختياري 4	3	-
اجمالي عدد الساعات/Total Credit Hours			15	
الربيع/Spring (Semester 8)	MAC 402 (MA)	التذوق و النقد في الاعلام	3	MMC 201 (MA)
	ME 2	مساق اختياري رئيسي 2	3	-
	ME 3	مساق اختياري رئيسي 3	3	-
	MAC 490 (MA)	تصميم مشروع التخرج (مساق التخرج)	3	إكمال 100 ساعة معتمدة
اجمالي عدد الساعات/Total Credit Hours			12	
Summer/ الصيف (Semester 9)	MAC 499 (MA)	التدريب الميداني	1.5	إكمال 80 ساعة معتمدة
اجمالي عدد الساعات/Total Credit Hours			1.5	

BACHELOR OF ARTS IN **PSYCHOLOGY**



Program Mission

The Department of Psychology's mission is to foster the academic, professional, and personal growth of undergraduate students through a rigorous and diverse curriculum that integrates scientific research, critical thinking, and applied learning. Our program combines foundational psychological theory with experiential learning opportunities to prepare students for careers in mental health services, education, research, and human services. We aim to produce graduates who demonstrate strong ethical awareness, cultural competence, and psychological insight. The department also seeks regional and international recognition for its excellence in teaching, student development, and scholarly contribution to the evolving field of psychology..

Program Goals

Provided below are the specific Aim/Goals of the program:

PG1: To develop a knowledge base of human behavior across the broad areas of psychology PG2: To upscale a strong research background and understanding of the scientific foundation of psychology.

PG3: To familiarize the applications of psychology in the professions associated with psychology and the application of psychological understanding to real world questions.

PG4: To practice Ethical and Social Responsibility in a Diverse World

PG5: To promote Professional Development

The Program Learning Outcomes – PLO

On successful completion of this program the graduate will be able to:

PLO1: Demonstrate technical competence with regard to general psychological concepts and theories as well as the content and technologies of Psychology.

PLO2: Apply innovative, integrative thinking and problem-solving skills, applying psychological knowledge to address contemporary global challenges.

PLO3: Apply psychological knowledge and skills to the development of personal, professional, and societal goals, with sensitivity to cultural and environmental contexts;

PLO4: Utilize information technology and digital tools, including computational techniques, psychometrics, and digital tools, to analyze and understand human behavior in diverse settings.

PLO5: Evaluate psychological science, ensuring respect for individual rights and cultural diversity in psychological applications

PLO6: Demonstrate competencies necessary for entry-level roles across healthcare, education, industry, and counseling sectors, maintaining ethical and culturally sensitive practice

Curriculum

Total Credit Hours: 120

General Education Requirements	24 credit hours
College Requirements	12 credit hours
Major Core Courses	66 credit hours
Major Elective Courses	12 credit hours
Open Elective Courses	6 credit hours

General Education Requirement — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	Prerequisite: IELTS6 or equiv-alent English Language Profi-ciency score or Passing grades in ENG102 + FWS100 co-requisite FWS100(E) if placed in ENG200	3
FWS 100 (E)	Academic Skills for Success	No Prerequisite	3
FWS 205	UAE and GCC Society	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of 45 credit hours	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 credit hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3

College Requirements — 12 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
DTC 212	Fundamentals of Design Thinking	ENG200	3
ASC301	Research Report Writing	ENG200	3
MAC317	Public Speaking	ENG 200	3
PSY415	The Resilient Mind	FWS 211	3

Major Core Courses — 66 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
PSY100	Introduction to Psychology-1	Pre-Requisite ENG102 / or ENG200 as Co-requisite	3
PSY 110	Introduction to Psychology-2	Pre-Requisite ENG102 / or ENG200 as Co-requisite	3
PSY200	Brain and Behaviors	ENG200	3
PSY202	Introduction to Statistics for Psychology-1	PSY100	3
PSY210	Cognitive Psychology	PSY110	3
PSY211	Introduction to Statistics for Psychology-11	PSY201	3
PSY220	Experimental Psychology	PSY110	3
PSY221	Psychology of Sustainability and Environmental Behavior	ENG200, PSY100	3
PSY230	Psychological Transitions Across the Lifespan	PSY 210	3
PSY240	Research Methods in Psychol-ogy	PSY201	3
PSY300	Social Psychology	PSY230	3
PSY310	Abnormal Psychology	PSY200	3
PSY312(L) A	Introduction to Psychology Lab-A	Co-requisite or Pre-requisite PSY110	3
PSY312(L) B	Introduction to Psychology Lab-B	PSY312(L) A	3
PSY312(L) C	Introduction to Psychology Lab-C	PSY312(L) B	3
PSY320	Counseling Psychology	PSY210	3
PSY330	Fundamentals of Psychothera-py	PSY320	3
PSY340	Health Psychology -Wellbeing and Positive Mental Health	PSY320	3
PSY350	Psychology of Creativity	PSY230	3
PSY400	Industrial Psychology	PSY230	3
PSY410	Media Psychology	PSY350	3
PSY420	Psychometrics	PSY201	3
PSY430	Applied Psychology Research Design Project	PSY240 & PSY201	3
PSY 499-A	Internship I	Completion of minimum 80CHs	3
PSY499-B	Internship II	Completion of Internship I	3

Major Elective Courses (Need to choose any 4 courses from list of 6 courses) **12 credit Hours**

Course Code	Course Title	Prerequisite(s)	Credit Hours
PSY223	Behavior Modification	ENG200, PSY100	3
MGT255	Organizational Behavior	PSY200	3
INR 301	Cross-Cultural Psychology	ENG200 & FWS211	3
PSY311	Artificial Psychology	ENG200	3
PSY325	Psychology Careers and Appli-cations	PSY230	3
PSY305	Orientation to School Counsel-ing	PSY100	3

Open Elective Courses **6 credit Hours**

Course Code	Course Title	Prerequisite(s)	Credit Hours
Strategic Communication Core Requirements			
OE 1	Open Elective 1	-	3
OE 2	Open Elective 2	-	3

BACHELOR OF ARTS IN PSYCHOLOGY

Study Plan

First Year				
	Code	Title	Credit	Prerequisite(s)
(Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100 (E)	Academic Skills for Success	3	No Prerequisite
	ISL100 (A)	Islamic Culture	3	No Prerequisite
	ENG 200	English II	3	IELTS-6 or equivalent English Language Proficiency score or Passing grades in ENG102 + FWS100 co-requisite FWS100(E) if placed in ENG200
	PSY100	Introduction to Psychology - 1	3	Pre-Requisite ENG102 / or ENG200 as Co-req
Total Credit Hours			**15**	
(Semester 2)	PSY201	Introduction to Statistics for Psy-chology-1	3	PSY100
	FWS211	Fundamentals of Emotional Intelligence	3	ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	FWS 205	UAE and GCC Society	3	ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	PSY 110	Introduction to Psychology-2	3	Pre-Requisite ENG102 / or ENG200 as Co-requisite
	PSY221	Psychology of Sustainability and Environmental Behavior	3	Co-requisite or Pre-requisite PSY110
Total Credit Hours			**15**	

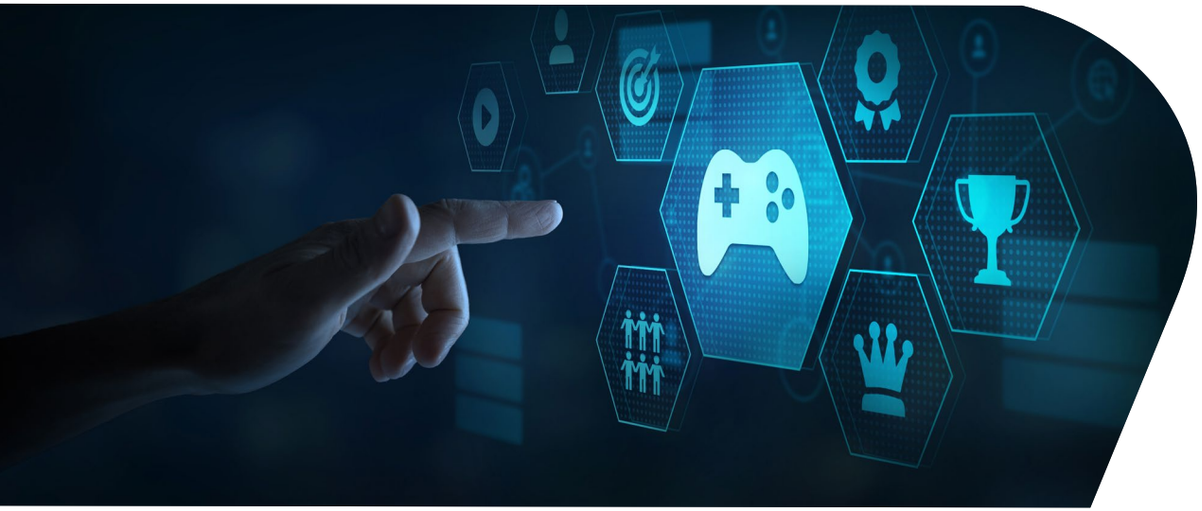
Second Year				
	Code	**Title**	**Credit**	**Prerequisite(s)**
(Semester 3)	PSY211	Introduction to Statistics for Psychology-11	3	ENG200, PSY201
	PSY200	Brain and Behaviors	3	ENG200, PSy110
	PSY210	Cognitive Psychology	3	PSY110
	DTC212	Design Thinking	3	ENG200
	PSY 312(L)	Introduction to Psychology (Lab)	3	ENG200, PSY110
Total Credit Hours			**15**	
(Semester 4)	FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of 45 credit hours
	OE 1	Open Elective I	3	-
	PSY220	Experimental Psychology	3	PSY110
	PSY230	Psychological Transitions Across the Lifespan	3	PSY 210
	PSY240	Research Methods in Psychology	3	PSY201
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
	PSY350	Psychology of Creativity	3	PSY230
(Semester 5)	MAC 317	Public Speaking	3	ENG 200
	PSY300	Social Psychology	3	PSY230
	PSY320	Counselling Psychology	3	PSY210
	ME 1	Major Elective 1	3	-
Total Credit Hours			**15**	

(Semester 6)	FWS 310	Introduction to Innovation and En-trepreneurship	3	ENG 200 + Completion of 60 CHs
	PSY310	Abnormal Psychology	3	PSY200
	PSY340	Health Psychology -Wellbeing and Positive Mental Health	3	PSY320
	ME 2	Major Elective 2	3	-
	ASC 301	Research Report Writing	3	ENG200
Total Credit Hours			**15**	
Summer Semester	PSY 499	Internship	3	Completion of 80 CHs
Total Credit Hours			**3**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
(Semester 7)	PSY330	Fundamentals of Psychotherapy	3	PSY320
	PSY420	Psychometrics	3	PSY201
	PSY415	The Resilient Mind	3	FWS211
	ME 3	Major Elective 3	3	-
	OE 2	Open Elective II	3	-
Total Credit Hours			**15**	
(Semester 8)	PSY400	Industrial Psychology	3	PSY230
	PSY410	Media Psychology	3	PSY350
	PSY430	Applied Psychology Research De-sign Project.	3	PSY240 & PSY201
	ME 4	Major Elective 4	3	-
Total Credit Hours			**12**	

BACHELOR OF ARTS IN
VIDEO GAME DESIGN



Program Mission

The Bachelor of Arts in Video Game Design at Abu Dhabi University, in collaboration with Rubika School (France), prepares students to become innovative game creators for the global industry. Combining art, design, programming, and serious applications, the program offers hands-on learning, industry collaborations, and international expertise. Students develop creative and technical skills to design immersive experiences while reflecting the UAE's cultural heritage and digital vision. Graduates are equipped to contribute to game studios, startups, and emerging fields such as VR, AR, and simulation, supporting the UAE's leadership in digital innovation.

Program Goals

To reach the mentioned mission, the program has the following objectives:

I. Develop a critical understanding of video games' historical, cultural, and societal evolution, analyzing key milestones, genre development, and industry trends that shape contemporary game design and production.

II. Develop expertise in designing creative and immersive video game experiences for diverse applications, including entertainment, education, simulation, and training, by integrating game mechanics, systems, and storytelling while effectively addressing artistic, technical, and economic constraints.

III. Master industry-standard tools, game engines, software and production pipelines to create interactive and visually compelling gameplay, ensuring technical proficiency in game development.

IV. Strengthen communication and collaboration skills by effectively presenting game concepts to diverse stakeholders, working in multidisciplinary teams, and managing production workflows in professional environments.

V. Foster ethical responsibility, leadership, and adaptability by understanding industry best practices, engaging in continuous learning, and contributing to the evolving global landscape of video game development

Program Learning Outcomes

On successful completion of this program the graduate will be able to:

PLO1: Analyze the historical and cultural evolution of video games, including genre development, key milestones, and contemporary trends, to understand their societal impact and influence on game design practices

PLO2: Design creative and innovative video game concepts, including mechanics, systems, and gameplay, while effectively addressing various constraints (artistic, technical, economic, etc.).

PLO3: Create comprehensive and detailed documentation of the concepts, systems, processes, and organization required for the production or presentation of a video game

PLO4: Develop the gameplay of a video game by integrating and adjusting visual, audio, and interactive components within a professional game engine, showcasing advanced skills and knowledge in game design

PLO5: Communicate video game concepts effectively to different stakeholders, tailoring communication style and content to meet the specific needs and interests of each group

PLO6: Manage and oversee video game production while being able to thoroughly analyze data from operations and testing phases, to ensure optimal game quality at launch and throughout the live-ops phase

PLO7: Cultivate responsible and ethical professional skills based on an up-to-date understanding of the video game industry and its associated cultural dimensions, emphasizing continuous learning and adaptation

Curriculum

Total Credit Hours: 121

General Education Requirements	**24 credit hours**
Program Core Requirements	**88 credit hours**
Open Electives	**12 credit hours**

General Education Requirement — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100(E) as co-requisite if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (R) & FWS100(E) as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 course directly	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102(R)+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 credit hours	3
ISL100 (A)	Islamic Culture	No Prerequisite	3
FWS 100 (E)	Academic Skills for Success	No Prerequisite	3

College Requirements — 88 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
GDS131	Escape Game Project	No Prerequisite	3
GDS100	Level Design	No Prerequisite	3
GDS101	Principles of Game Design	No Prerequisite	3
GDS132	Level Design Workshop	GDS100	3
GDS121	Introduction to Adobe Suite	No Prerequisite	3
GDS102	Prototyping Techniques	GDS101	3
GDS231	Board Game Project	No Prerequisite	5

GDS223	Introduction to Unity	No Prerequisite	2
GDS222	Office Tools and Applications	No Prerequisite	1
GDS201	Game Mechanics	GDS101	3
GDS211	History of Video Games	No Prerequisite	3
GDS232	2D Game Design Project	GDS121, GDS223, GDS100, GDS201	5
GDS212	Mobile Game Culture	No Prerequisite	3
GDS202	Gamer Profiles and Behaviors	No Prerequisite	3
GDS203	Game Documents	GDS101	3
GDS331	Platformer Game Project	GDS100, GDS223, GDS201	5
GDS301	Narrative Design for Video Games	GDS101	3
GDS311	Current Trends in Video Games	GDS211	3
GDS321	Introduction to 3D Modeling	No Prerequisite	3
GDS332	First-Person Shooter Game Project	GDS232, Co-Req GDS312	5
GDS302	Game Analytics and Philosophies	GDS101	3
GDS312	Game Genre Analysis (FPS)	No Prerequisite	3
GDS431	Mobile Game Project	GDS212, GDS201, GDS202	5
GDS421	Introduction to Unreal	No Prerequisite	3
GDS490	Capstone Project	GDS332, GDS232, GDS421	6
GDS499	Internship	Completion of 90 Credit hours	3

Open Electives — 12 credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3
OE 3	Open Elective III	-	3
OE 4	Open Elective IV	-	3

BACHELOR OF ARTS IN
VIDEO GAME DESIGN

Study Plan

First Year				
	Code	Title	Credit	Prerequisite(s)
(Semester 1)	GDS131	Escape Game Project	3	None
	GDS100	Level Design	3	None
	GDS101	Principles of Game Design	3	None
	ENG200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 + FWS100 (E)
	FWS100	Academic Skills for Success	3	None
Total Credit Hours			**15**	**None**
(Semester 2)	GDS132	Level Design Workshop	3	GDS100
	GDS121	Introduction to Adobe Suite	3	None
	GDS102	Prototyping Techniques	3	GDS101
	FWS205	UAE and GCC Society	3	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	ARL101 (A)	Communication Skills in Arabic I	3	None
Total Credit Hours			**15**	

Second Year				
	Code	Title	Credit	Prerequisite(s)
(Semester 3)	GDS231	Board Game Project	5	None
	GDS223	Introduction to Unity	2	None
	GDS222	Office Tools and Applications	1	None
	GDS201	Game Mechanics	3	GDS101
	GDS211	History of Video Games	3	None
Total Credit Hours			**14**	

(Semester 4)	GDS232	2D Game Design Project	5	GDS121, GDS223, GDS100, GDS201
	GDS212	Mobile Game Culture	3	None
	GDS202	Gamer Profiles and Behaviors	3	None
	GDS203	Game Documents	3	GDS101
	ISL100 (A)	Islamic Culture	3	None
Total Credit Hours			**17**	

Third Year (Junior)				
	Code	Title	Credit	Prerequisite(s)
	GDS331	Platformer Game Project	5	GDS100, GDS223, GDS201
(Semester 5)	GDS301	Narrative Design for Video Games	3	GDS101
	GDS311	Current Trends in Video Games	3	GDS211
	GDS321	Introduction to 3D Modelling	3	None
	OE 1	Open Elective 1	3	-
Total Credit Hours			**17**	
(Semester 6)	GDS332	First-Person Shooter Game Project	5	GDS232, Co-Req GDS312
	GDS302	Game Analytics and Philosophies	3	GDS101
	GDS312	Game Genre Analysis (FPS)	3	None
	FWS310	Fundamentals of Innovation and Entrepreneurship	3	ENG200+ (Completion of minimum 60CH)
	OE 2	Open Elective 2	3	-
Total Credit Hours			**17**	

Fourth Year (Senior)				
	Code	Title	Credit	Prerequisite(s)
(Semester 7)	GDS431	Mobile Game Project	5	GDS212, GDS201, GDS202
	GDS421	Introduction to Unreal	3	None
	FWS211	Fundamentals of Emotional Intelligence	3	ENG102+ FWS100(E) or FWS100(E) as co-requisite if students enter to ENG200 course directly
	OE 3	Open Elective 3	3	-
Total Credit Hours			**14**	

(Semester 8)	GDS490	Capstone Project	6	GDS332, GDS232, GDS421
	GDS499	Internship	3	Completion of 90 Credit hours
	OE 4	Open Elective 4	3	-
Total Credit Hours			**12**	





College Vision

To be recognized as a leading globally connected business school fostering sustainability for business and society.

College Mission

With a student-centric philosophy, the College of Business prepares graduates to drive organizational transformation through leadership in business sustainability.

To achieve its mission, the College is committed to continuous improvement processes to attain the following goals:

1. Review and Revise Program Portfolio for Relevance and Excel in Program Design and Delivery
   a. Review and revise current programs
   b. Establish a pipeline of new programs based on market analyses
   c. Maintain a comprehensive assurance of learning process
   d. Ensure rigor and relevance in program design and delivery
2. Enhance Student Enrollment, Progression, and Success
   a. Maintain strong faculty-student relationship
   b. Monitor student retention and progression
   c. Implement a comprehensive student enrollment and retention plan
3. Conduct High Impact Applied Scholarly Research in Business Sustainability
   a. Conduct and disseminate high impact applied research
   b. Lead business sustainability research in the region
   c. Lead the development of significant collaborative research programs
4. Enhance Academic, Corporate, and Alumni Engagement Nationally and Internationally
   a. Deepen involvement with CoB Alumni to extend business network
   b. Expand relationships with institutional and community partners
   c. Maintain a diverse cohort of students with international partnerships

5. Foster Professional Development and Life-Long Learning
   a. Recruit and retain qualified and competent staff
   b. Enable lifelong accessible learning opportunities
   c. Develop a supportive, collaborative and communicative environment

Program Goals

1. Students will be effective communicators adept at using information technology.
2. Students will be principled graduates who are effective in a multicultural and professional environment.
3. Students will be skilled in the use of appropriate quantitative analysis techniques in problem-solving and decision-making.
4. Students will be able to apply concepts and methods from a common body of business knowledge to develop business solutions.

Program Learning Outcomes

BBA graduates should be able to:

1. Communicate organizational topics effectively in written and verbal form.
2. Elaborate key aspects of organizational sustainability in business environments.
3. Apply analytical and critical thinking to specialized business problems.
4. Employ information technology in solving business problems.
5. Explore how organizations are influenced by the international environment.
6. Apply the principles of teamwork and collaboration.
7. Articulate theoretical knowledge of the functional and/or cross-functional areas of business.

All program learning outcomes (PLOs) are designed to ensure that they meet the appropriate level of rigor for the specific degree as per international criteria, and the PLOs are aligned with, and mapped to, the UAE Qualifications Framework (level 7 for a Bachelor degree).

ADU has established procedures by which all its courses must comply with a standard syllabus. The syllabus describes the course learning outcomes, links the course learning outcomes to the program learning outcomes, and demonstrates that the outcomes are consistent with the requirements of the UAE Qualifications Framework for the level of the degree. In addition to this, the syllabus outlines all the important procedures and materials that are used to achieve these learning outcomes. It serves as a base for coordinating the teaching process, especially in multi-section and multi-instructor courses.

BACHELOR OF
BUSINESS ADMINISTRATION



The BBA program in General Business is designed to provide its students with unique opportunities for personal and professional growth by improving their skills of learning, analysis, and critical thinking skills. The program provides a breadth of essential business knowledge to help students to understand the business world around them. It is devoted to achieving excellence in the development, dissemination, and application of general business knowledge for the effective management of local and international private, public, and non-profit organizations. The program is infused with career aligned learning and employability skills including AI for Business, Technical Communication, Innovation and Entrepreneurship and Emotional Intelligence.

Curriculum

Total Credit Hours: 120

General Education Requirements	33 credit hours
College Requirements	45 credit hours
Major Requirements	18 credit hours
Business Electives	18 credit hours
Open Electives	6 credit hours

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (coreq if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 212	Artificial Intelligence for Business	STT100 + ITD 100	
FWS 305	Technical Communication for Workplace	ENG 200 + (45 CH)	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + (60 CH)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTB 101	Mathematics for Business	MTG100 with a min C grade or Placement in MTB101 as per the MPT	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 45 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 200	Principles of Financial Accounting	ENG 200 + ITD 100 + (MTB 101 or MTT 101 or MTT 102)	3
ACC 201	Principles of Managerial Accounting	ACC 200 + BUS 102	3
BUS 102	Introduction to Business	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102	3

BUS 301	Business Law	FWS 305	3
BUS 204	Business Research Methods	STT 100 + BUS 102	3
BUS 306	Applied Management Science	MGT 255 + STT 100 + ECO 201	3
ECO 201	Principles of Microeconomics	ENG 200 + (MTB 101 or MTT 101 or MTT 102)	3
ECO 202	Principles of Macroeconomics	ENG 200 + (MTB 101 or MTT 101 or MTT 102) + BUS 102	3
FIN 200	Principles of Finance	ACC 200	3
MGT 255	Management and Organizational Behavior	ENG 200	3
MGT 308	Operations Management	BUS 204	3
MGT 402	International Business Management	MGT 255 + ECO 202	3
MGT 406	Strategic Management	Last semester only	3
MIS 200	Introduction to Management Information Systems	ITD 100 + IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102	3
MKT 200	Principles of Marketing	ENG 200	3

Major Requirements — 18 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
FIN 301	Managerial Finance	FIN 200 + ECO 201	3
HRM 313	Human Resources Management	MGT 255	3
MKT 301	Consumer Behavior	MKT 200 + FWS 305 Co-req	3
MGT 411	Project Management	BUS 306 Co-requisite	3
INE 344	Innovation within Entrepreneurial Ventures	FWS 310 co-req	3
MGT 399 I	Internship in Management	Consent of Dept.	3

Business Electives — 18 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
BUS ELECT 1 A-B	Choose two 300/400 level course from the following electives in Accounting (ACC) or Finance (FIN): FIN 303 Insurance and Risk Management FIN 302 Financial Statement Analysis FIN 499 Special Topics in Fintech ACC302 Intermediate Accounting	-	6

BUS ELECT 2 A-B	Choose two 300/400 level course from the following electives in Human Resources Management (HRM): MGT422 Management and Leadership Development MGT 321 Change Management HRM 462 Managing Safety, Health and Well-being	-	6
BUS ELECT 3 A-B	Choose two 300/400 level course from the following electives in Digital Marketing Communications (MKT): MKT 307 Services Marketing MKT 308 Social Media Marketing MKT305 Marketing Research	-	6

Open Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3

BACHELOR OF
BUSINESS ADMINISTRATION
Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (co-req if placed in ENG200)
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	No Prerequisite
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101/MTT101/MTT102)
	MGT 255	Management and Organizational Behavior	3	ENG 200
	MIS 200	Introduction to Management Information Systems	3	ITD100+ IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	
Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101/MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Technical Communication for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	HRM 313	Human Resources Management	3	MGT 255
	FIN 301	Managerial Finance	3	FIN 200 + ECO 201
	MKT 301	Consumer Behavior	3	MKT 200 + FWS 305 Co-req
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	BUS ELECT 3A	MKT Electives	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	BUS 301	Business Law	3	FWS 305
	MGT 308	Operations Management	3	BUS 204
	INE 344	Innovation within Entrepreneurial Ventures	3	FWS 310 co-req
	BUS ELECT 1A	ACC/FIN Electives	3	-
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	MGT 399-I	Internship in Management	3	Consent of Department
	MGT 402	International Business Management	3	MGT 255 + ECO 202
	MGT 411	Project Management	3	Co-requisite of BUS 306
	BUS ELECT 1B	ACC / FIN Electives	3	-
	BUS ELECT 2A	HRM Electives	3	-
Total Credit Hours			**15**	
Spring (Semester 8)	MGT 406	Strategic Management	3	Last Semester only
	BUS ELECT 3B	MKT Electives	3	-
	BUS ELECT 2B	HRM Electives	3	-
	O. ELECT-1	Open Electives	3	-
	O. ELECT-2	Open Electives	3	-
Total Credit Hours			**15**	

***** College Requirement courses are offered in both Fall and Spring semesters.

BACHELOR OF
BUSINESS ADMINISTRATION
Study Plan - Al Ain

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (coreq if placed in ENG200)
	MTB101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	No prerequisite
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT 100 + ITD 100
	ISL 100	Islamic Culture	3	No prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG 102+USS001 or co-req USS001 if in ENG 200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101/MTT101/MTT102)
	MGT 255	Management and Organizational Behavior	3	ENG 200
	MIS 200	Introduction to Management Information Systems	3	ITD100+ IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	

Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101/MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Tech. Communications for Workplace	3	ENG200 + 45CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	HRM 313	Human Resources Management	3	MGT 255
	FIN 301	Managerial Finance	3	FIN 200 + ECO 201
	MKT 301	Consumer Behavior	3	MKT 200 + FWS 305 Co-req
	FWS310	Fundamentals of Innovation & Entrepreneurship	3	ENG 200 + 60 CH
	BUS ELECT 3A	MKT Electives	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	BUS 301	Business Law	3	FWS 305
	MGT 308	Operations Management	3	BUS 204
	INE 344	Innovation within Entrepreneurial Ventures	3	FWS310 co-req
	BUS ELECT 1A	ACC / FIN Electives	3	-
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	MGT 399-I	Internship in Management	3	Consent of Department
	MGT 402	International Business Management	3	MGT 255+ ECO 202
	MGT 411	Project Management	3	Co-requisite of BUS306
	BUS ELECT 1B	ACC / FIN Electives	3	-
	BUS ELECT 2A	HRM Electives	3	-
Total Credit Hours			**15**	

Spring (Semester 8)	MGT 406	Strategic Management	3	Last Semester only
	BUS ELECT 3B	MKT Electives	3	-
	BUS ELECT 2B	HRM Electives	3	-
	O. ELECT-1	Open Electives	3	-
	O. ELECT-2	Open Electives	3	-
Total Credit Hours			**15**	

BACHELOR OF
BUSINESS ADMINISTRATION
IN FINANCE & FINTECH



Introduction

The BBA in Finance & Fintech provides students with the knowledge and skills necessary to be effective members of any organization. The major educates students in the areas of finance, risk management and insurance thus preparing them for careers in profit and non-profit sectors. Students will also be exposed to the inter-linkages between finance and other business functions that influence the success of any organization. The program is also infused with career aligned learning and employability skills including AI for Business, Technical Communication, Innovation and Entrepreneurship and Emotional Intelligence.

Learning Outcomes

BBA in Finance & Fintech graduates should be able to:

1. Understand financial statements and apply various problem-solving techniques to analyze the financial data.
2. Interpret the main risks faced by individuals or companies and apply the main problem-solving techniques to measure and manage risks.
3. Identify the functions and operations of financial markets (such us: stock market, bond market, foreign exchange market.

Curriculum

Total Credit Hours: 120

General Education Requirements	33 credit hours
College Requirements	45 credit hours
Major Requirements	30 credit hours
Major Electives	6 credit hours
Open Electives	6 credit hours

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (coreq if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 212	Artificial Intelligence for Business	STT100 + ITD 100	3
FWS 305	Technical Communication for Workplace	ENG 200 + (45 CH)	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + (60 CH)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTB 101	Mathematics for Business	MTG100 with a min C grade or Placement in MTB101 as per the MPT	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 45 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 200	Principles of Financial Accounting	ENG 200 + ITD 100 + (MTB 101 or MTT 101 or MTT 102)	3
ACC 201	Principles of Managerial Accounting	ACC 200 + BUS 102	3
BUS 102	Introduction to Business	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102	3
BUS 301	Business Law	FWS 305	3

BUS 204	Business Research Methods	STT 100 + BUS 102	3
BUS 306	Applied Management Science	MGT 255 + STT 100 + ECO 201	3
ECO 201	Principles of Microeconomics	ENG 200 + (MTB 101 or MTT 101 or MTT 102)	3
ECO 202	Principles of Macroeconomics	ENG 200 + (MTB 101 or MTT 101 or MTT 102) + BUS 102	3
FIN 200	Principles of Finance	ACC 200	3
MGT 255	Management and Organizational Behavior	ENG 200	3
MGT 308	Operations Management	BUS 204	3
MGT 402	International Business Management	MGT 255 + ECO 202	3
MGT 406	Strategic Management	Last semester only	3
MIS 200	Introduction to Management Information Systems	ITD100+ IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3
MKT 200	Principles of Marketing	ENG 200	3

Major Requirements 30 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
FIN 301	Managerial Finance	FIN 200 + ECO 201	3
FIN 302	Financial Statement Analysis	FIN 200	3
FIN 304	Management of Financial Institutions	FIN 200	3
FIN320	Introductory Econometrics for Finance	BUS 204 + ECO 201 +ECO 202	3
FIN 399	Internship/Project in Finance	Consent of Department	3
FIN 401	Investment and Finance Policy	FIN 301	3
FIN 407	International Financial Management	FIN 301 + ECO 202	3
FIN 423	Introduction to Fintech and Big Data	FIN 301	3
FIN 424	Innovation, Entrepreneurial Finance, and Fintech	FIN 301 + FIN 302	3
FIN 425	Introduction to Blockchain and Digital Currencies	FIN 423	3

Major Electives: Select any two courses 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
FIN 300	Insurance and Risk Management	FIN 200	3
FIN 400	Computer Application In Finance	FIN 301	3
FIN 409	Islamic Finance	FIN301 + FIN304 + FIN303 (Co-requisites)	3

FIN 499	Special Topics in Fintech	Consent of Dept.	3
ITE 390	Computer Ethics	Junior Level	3
ITE 414	Introduction to E-Commerce	Junior Level	3

Open Electives 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3

BACHELOR OF
BUSINESS ADMINISTRATION
IN FINANCE & FINTECH - Study Plan - Abu Dhabi

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200)
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT 100 + ITD 100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101 /MTT101/MTT102)
	MGT 255	Management and Organizational Behavior	3	ENG 200
	MIS 200	Intro. to Management Information Systems	3	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	
Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Technical Communication for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	FIN 301	Managerial Finance	3	FIN 200 + ECO 201
	FIN3 20	Introductory Econometrics for Finance	3	BUS 204 + ECO 201 + ECO 202
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	MGT 308	Operations Management	3	BUS204
	M.ELECT-1	Major Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 301	Business Law	3	FWS 305
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	FIN 302	Financial Statement Analysis	3	FIN 200
	FIN 304	Management of Financial Institutions	3	FIN 200
	FIN 423	Introduction to Fintech and Big Data	3	FIN 301
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	FIN 399-I*	Internship in Fintech	3	Consent of Department
	FIN 401	Investment and Financial Policy	3	FIN 301
	FIN 424	Innovation, Entrepreneurship Finance, and Fintech	3	FIN301 + FIN302
	MGT402	International Business Management	3	MGT 255 + ECO 202
	F.ELECT-1	Free Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 8)	FIN 407	International Financial Management	3	FIN 301 + ECO 202
	FIN425	Introduction to Blockchain and Digital Currencies	3	FIN423
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F.ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

BACHELOR OF
BUSINESS ADMINISTRATION
IN FINANCE & FINTECH - Study Plan - Al Ain

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200)
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**18**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD100
	ISL 100	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101 /MTT101/MTT102)
	MGT 255	Management and Org. Behavior	3	ENG 200
	MIS 200	Intro. to Management Information Systems	3	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	

Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS305	Tech. Communications for Workplace	3	ENG200 + 45CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	FIN 301	Managerial Finance	3	FIN 200 + ECO 201
	FIN 320	Introductory Econometrics for Finance		BUS 204 + ECO 201 + ECO 202
	FWS 310	Fundamentals of Innovation & Entrepreneurship		ENG 200 + 60 CH
	MGT 308	Operations Management	3	BUS 204
	M.ELECT-1	Major Elective		-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 301	Business Law	3	FWS 305
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	FIN 302	Financial Statement Analysis	3	FIN 200
	FIN 304	Management of Financial Institutions	3	FIN 200
	FIN 423	Introduction to Fintech and Big Data	3	FIN 301
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	FIN399-I*	Internship in Fintech	3	Consent of Department
	FIN 401	Investment and Financial Policy	3	FIN 301
	FIN 424	Innovation, Entrepreneurship Finance, and Fintech	3	FIN 301 + FIN 302
	MGT 402	International Business Management	3	MGT 255 + ECO 202
	F.ELECT-1	Free Elective	3	-
Total Credit Hours			**15**	

Spring (Semester 8)	FIN 407	International Financial Management	3	FIN 301 + ECO 202
	FIN 425	Introduction to Blockchain and Digital Currencies	3	FIN 423
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F.ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

BACHELOR OF
BUSINESS ADMINISTRATION
IN ACCOUNTING



Introduction

The BBA in Accounting program produces outstanding graduates by offering comprehensive, state-of-the art professional courses. The program seeks to provide its students with unique opportunities for personal and professional growth based on increasing their knowledge and understanding of the world around them and by improving their skills for learning, analyzing, and critical thinking. While technology is having a significant impact on the accounting profession through the restructuring of traditional accounting services and the development and impact from the knowledge revolution, the Accounting major is committed to achieving excellence in the development, dissemination, and application of accounting knowledge about the functioning of private, public, and non-profit organizations. The program is also infused with career aligned learning and employability skills including AI for Business, Technical Communication, Innovation and Entrepreneurship and Emotional Intelligence.

Learning Outcomes

BBA in Accounting graduates should be able to:

1. Apply accounting concepts, principles, standards, and processes to different types of organizations.
2. Use appropriate accounting techniques for planning, decision making, and control within organizations.
3. Evaluate the financial and managerial performance of organizations by analyzing its accounting information.
4. Critically analyze accounting issues within ethical value framework; and be capable of effectively communicating the conclusions reached.

Curriculum

Total Credit Hours: 120

University Requirements	33 credit hours
College Requirements	45 credit hours
Major Requirements	30 credit hours
Major Electives	6 credit hours
Open Electives	6 credit hours

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (coreq if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 212	Artificial Intelligence for Business	STT100 + ITD 100	3
FWS 305	Technical Communication for Workplace	ENG 200 + (45 CH)	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + (60 CH)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTB 101	Mathematics for Business	MTG100 with a min C grade or Placement in MTB101 as per the MPT	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 45 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 200	Principles of Financial Accounting	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)	3
ACC 201	Principles of Managerial Accounting	ACC 200 + BUS 102	3
BUS 102	Introduction to Business	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3

BUS 301	Business Law	FWS 305	3
BUS 204	Business Research Methods	STT 100 + BUS 102	3
BUS 306	Applied Management Science	MGT 255 + STT 100 + ECO 201	3
ECO 201	Principles of Microeconomics	ENG 200+ (MTB101 or MTT101 or MTT102)	3
ECO 202	Principles of Macroeconomics	ENG 200+ (MTB101 or MTT 101 or MTT 102)+BUS 102	3
FIN 200	Principles of Finance	ACC 200	3
MGT 255	Management and Organizational Behavior	ENG 200	3
MGT 308	Operations Management	BUS 204	3
MGT 402	International Business Management	MGT 255 + ECO 202	3
MGT 406	Strategic Management	Last semester only	3
MIS 200	Introduction to Management Information Systems	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3
MKT 200	Principles of Marketing	ENG 200	3

Major Requirements — 30 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 302	Intermediate Accounting	ACC 200 (C grade)	3
ACC 304	Intermediate Accounting II	ACC 302	3
ACC 306	Cost Accounting	ACC 201	3
ACC 308	Accounting Information Systems	ACC 201+MIS 200	3
ACC 311	Data Analytics in Accounting	ACC 201	3
ACC 399	Internship/Project in Accounting	Consent of Department	3
ACC 401	Advanced Accounting	ACC 304	3
ACC 404	Auditing	ACC 304	3
ACC 407	International Accounting	ACC 304	3
ACC 409	Taxation	ACC 304	3

Major Electives (select two courses) — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 499	Special Topics in Accounting	Consent of Department	3
FIN 302	Financial Statement Analysis	FIN 200	3
ACC 400	Government and Not for Profit Accounting	ACC 304	3

ACC 312	Accounting for Oil and Gas	ACC 304 + ACC 306	3
ACC 310	Introduction to CIMA Professional Diplomas	ACC201+FIN200+MIS200+ MGT255+MKT200+coreq ACC302/ FIN302	3
ACC 408	Internal Audit	ACC 404	3

Open Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3

BACHELOR OF
BUSINESS ADMINISTRATION
IN ACCOUNTING - Study Plan - Abu Dhabi

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (coreq if placed in ENG200)
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS212	Artificial Intelligence for Business	3	STT100 + ITD100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101/MTT101/MTT102)
	MGT 255	Management and Organizational Behavior	3	ENG 200
	MIS 200	Introduction to Management Information Systems	3	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	
Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Tech. Communications for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	ACC 302	Intermediate Accounting	3	ACC 200 (C grade)
	ACC 311	Data Analytics in Accounting		AcC 201
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	MGT 308	Operations Management	3	BUS 204
	M.ELECT-1	Major Elective		-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 301	Business Law		FWS 305
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	ACC 304	Intermediate Accounting II	3	ACC 302
	ACC 306	Cost Accounting	3	ACC 201
	ACC 308	Accounting Information System	3	ACC 302 + MIS 200
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ACC 399-I	Internship in Accounting	3	Consent of the Department
	ACC 401	Advanced Accounting	3	ACC 304
	ACC 404	Auditing	3	ACC 304
	F. ELECT-1	Free Elective	3	-
	MGT 402	International Business Management	3	MGT 255 + ECO 202
Total Credit Hours			**15**	
Spring (Semester 8)	ACC 409	Taxation	3	ACC 304
	ACC 407	International Accounting	3	ACC 304
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F. ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

***** College requirements are offered in both Fall and Spring semesters.

BACHELOR OF
BUSINESS ADMINISTRATION
IN ACCOUNTING - Study Plan - Al Ain

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EmSAT average score of 1400 or passing grade in ENG102 +USS001 (coreq if placed in ENG200)
	MTB101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**18**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101/MTT101/MTT102)
	MGT255	Management and Org. Behavior	3	ENG200
	MIS 200	Introduction to Management Information Systems	3	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	

Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Tech. Communications for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	ACC 302	Intermediate Accounting	3	ACC 200 (C grade)
	ACC 311	Data Analytics in Accounting	3	ACC 201
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	MGT 308	Operations Management	3	BUS 204
	M.ELECT-1	Major Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 301	Business Law	3	FWS 305
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	ACC 304	Intermediate Accounting II	3	ACC 302
	ACC 306	Cost Accounting	3	ACC 201
	ACC 308	Accounting Information System	3	ACC 201 + MIS 200
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ACC 399-I	Internship in Accounting	3	Consent of the Department
	ACC 401	Advanced Accounting	3	ACC 304
	ACC 404	Auditing	3	ACC 304
	F. ELECT-1	Free Elective	3	-
	MGT 402	International Business Management	3	MGT 255 + ECO 202
Total Credit Hours			**12**	
Spring (Semester 8)	ACC 409	Taxation	3	ACC 304
	ACC 407	International Accounting	3	ACC 304
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective		-
	F. ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

***** College requirements are offered in both Fall and Spring semesters.

BACHELOR OF
BUSINESS ADMINISTRATION
IN HUMAN RESOURCES MANAGEMENT



Introduction

The BBA in HRM will provide students with unique opportunities for personal and professional growth by improving their skills of learning, analyzing, and critical thinking. The program is based on providing a breadth of essential business knowledge to help students understand the needs for Human Capital Development and Management in particular, and the business world around them in general. It is devoted to achieving excellence in the development, dissemination, and application of general business knowledge for the effective management of private, public and non-profit organizations in the manufacturing and service sectors of the industry, both locally and internationally. The program is also infused with career aligned learning and employability skills including AI for Business, Technical Communication, Innovation and Entrepreneurship and Emotional Intelligence.

BBA in Human Resources Management graduates should be able to:

1. Apply HR functions and practices in local and international organizations.
2. Provide innovative solutions to HRM related problems
3. Analyze data and apply current information technologies to support HRM

Curriculum

Total Credit Hours: 120

General Education Requirements	33 credit hours
College Requirements	45 credit hours
Major Requirements	30 credit hours
Major Electives	6 credit hours
Open Electives	6 credit hours

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 212	Artificial Intelligence for Business	STT100 + ITD 100	3
FWS 305	Technical Communication for Workplace	ENG 200 + (45 CH)	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + (60 CH)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTB 101	Mathematics for Business	MTG100 with a min C grade or Placement in MTB101 as per the MPT	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 45 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 200	Principles of Financial Accounting	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)	3
ACC 201	Principles of Managerial Accounting	ACC 200 + BUS 102	3
BUS 102	Introduction to Business	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3
BUS 301	Business Law	FWS 305	3
BUS 204	Business Research Methods	STT 100 + BUS 102	3
BUS 306	Applied Management Science	MGT 255 + STT 100 + ECO 201	3
ECO 201	Principles of Microeconomics	ENG 200+(MTB101 MTT101 or MTT102)	3
ECO 202	Principles of Macroeconomics	ENG200+(MTB101 or MTT101 or MTT102) +BUS102	3
FIN 200	Principles of Finance	ACC 200	3
MGT 255	Management and Organizational Behavior	ENG 200	3
MGT 308	Operations Management	BUS 204	3
MGT 402	International Business Management	MGT 255 + ECO 202	3
MGT 406	Strategic Management	Last semester only	3
MIS 200	Introduction to Management Information Systems	ITD100+ IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3
MKT 200	Principles of Marketing	ENG 200	3

Major Requirements — 30 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
HRM 313	Human Resources Management	MGT 255	3
HRM 315	Staffing and Talent Management	HRM 313	3
HRM 404	Employee Relations and Law	HRM 313	3
HRM 419	Training and Development	HRM 313	3
HRM 399	Internship in HRM	Consent of Department	3
HRM 318	Human Resource Analytics	BUS 204 + HRM 313	3
HRM 316	Compensation and Benefits	HRM 313	3
HRM 317	Employee Performance Management	HRM 313	3
HRM 428	International Human Resource Management	HRM 313	3
HRM 429	Strategic Human Resource Management	HRM 313	3

Major Electives: Select any two courses — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MGT 422	Management and Leadership Development	MGT 255	3
MGT 321	Change Management	MGT 255	3
MGT 411	Project Management	Co-requisite of BUS 306	3
HRM 462	Managing Safety, Health and Well-being	HRM 313	3
HRM 461	Negotiation and Managing Conflict	MGT 255	3

Open Elective — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3

BACHELOR OF
BUSINESS ADMINISTRATION
IN HUMAN RESOURCES MANAGEMENT - Study Plan - Abu Dhabi

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200))
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+ USS001 or co-req USS001) if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MT MTB101 B101/MTT101/MTT102)
	MGT 255	Management and Organizational Behavior	3	ENG 200
	MIS 200	Introduction to Management Information Systems	3	ITD100+ IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	
Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Technical Communications for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	BUS 301	Business Law	3	FWS 305
	HRM 313	Human Resources Management	3	MGT 255
	HRM 315	Staffing and Talent Management	3	HRM 313
	MGT 308	Operations Management	3	BUS 204
	F.ELECT-1	Free Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	HRM 318	Human Resource Analytics	3	BUS204 + HRM313
	HRM 316	Compensation and Benefits	3	HRM 313
	HRM 317	Employee Performance Management	3	HRM 313
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 7)	HRM 399-I	Internship in HRM	3	Consent of Department
	HRM 404	Employee Relations & Employment Law	3	HRM 313
	HRM 419	Training and Development	3	HRM 313
	MGT 402	International Business Management	3	MGT 255 + ECO 202
	M.ELECT-1	Major Electives	3	-
Total Credit Hours			**15**	
Spring (Semester 8)	HRM 428	International HRM	3	HRM313
	HRM 429	Strategic HRM	3	HRM313
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F.ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

* College requirements are offered in both Fall and Spring semesters.

BACHELOR OF BUSINESS ADMINISTRATION

IN HUMAN RESOURCES MANAGEMENT - Study Plan - Al Ain

First Year (Freshman)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200))
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+ USS001 or co-req USS001) if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MT MTB101 B101/MTT101/MTT102)
	MGT 255	Management and Org. Behavior	3	ENG200
	MIS 200	Introduction to Management Information Systems	3	ITD100+ IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	

Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Tech. Communications for Workplace	3	ENG200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	BUS 301	Business Law	3	FWS 305
	HRM 313	Human Resources Management	3	MGT 255
	HRM 315	Staffing and Talent Management	3	HRM 313
	MGT 308	Operations Management	3	BUS 204
	F.ELECT-1	Free Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	HRM 318	Human Resource Analytics	3	BUS204 + HRM313
	HRM 316	Compensation and Benefits	3	HRM 313
	HRM 317	Employee Performance Management	3	HRM 313
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	HRM 399-I	Internship in HRM	3	Consent of Department
	HRM 404	Employee Relations & Employment Law	3	HRM 313
	HRM 419	Training and Development	3	HRM 313
	MGT 402	International Business Management	3	MGT 255 + ECO 202
	M.ELECT-1	Major Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 8)	HRM 428	International HRM	3	HRM313
	HRM 429	Strategic HRM	3	HRM313
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F. ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

BACHELOR OF
BUSINESS ADMINISTRATION
IN DIGITAL MARKETING COMMUNICATIONS



Introduction

Digital Marketing Communications is an interdisciplinary program that combines technology, social media, marketing, advertising, and communication to prepare graduates to work in all sectors and industries. The Digital Marketing Communication major prepares graduates to start their own business in social media marketing and also provides them with the skills to work as part of a team in large organizations. Digital media and the online environment have fundamentally altered the operations of businesses around the globe over the last decade. Digital marketing is now integral to all aspects of the marketing and business growth. The traditional advertising and promotion models are being rapidly replaced by online communications modes through, mobile, website, social media channels and other evolving on line channels. Such changes increase the need for highly qualified graduates with relevant knowledge and skills in the field of digital marketing communication. The program is also infused with career aligned learning and employability skills including AI for Business, Technical Communication, Innovation and Entrepreneurship and Emotional Intelligence.

Learning Outcomes

BBA in Digital Marketing graduates should be able to:

1. Analyze consumer markets and buyer behavior to create customer satisfaction for building market oriented strategy.
2. Conduct marketing research, analyze research results and recommend marketing strategies on the basis of the research results.
3. Design and implement the digital marketing and communication strategies.
4. Develop sustainable marketing activities that are socially and environmentally responsible to meet both the immediate and future needs of customers and the company.

Curriculum

Total Credit Hours: 120

General Education Requirements	33 credit hours
College Requirements	45 credit hours
Major Requirements	30 credit hours
Major Electives	6 credit hours
Open Electives	6 credit hours

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102+USS001 or co-req USS001 if in ENG200	3
FWS 211	Fundamentals of Emotional Intelligence	ENG102+ USS001 or co-req USS001) if in ENG200	3
FWS 212	Artificial Intelligence for Business	STT100 + ITD 100	3
FWS 305	Technical Communication for Workplace	ENG 200 + 45 CH	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + 60 CH	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTB 101	Mathematics for Business	MTG100 with a min C grade or Placement in MTB101 as per the MPT	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 45 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ACC 200	Principles of Financial Accounting	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)	3
ACC 201	Principles of Managerial Accounting	ACC 200 + BUS 102	3
BUS 102	Introduction to Business	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3

BUS 301	Business Law	FWS 305	3
BUS 204	Business Research Methods	STT 100 + BUS 102	3
BUS 306	Applied Management Science	MGT 255 + STT 100 + ECO 201	3
ECO 201	Principles of Microeconomics	ENG 200+(MTB101 or MTT101 or MTT102)	3
ECO 202	Principles of Macroeconomics	ENG200+(MTB101 or MTT101 or MTT102)+BUS102	3
FIN 200	Principles of Finance	ACC 200	3
MGT 255	Management and Organizational Behavior	ENG 200	3
MGT 308	Operations Management	BUS 204	3
MGT 402	International Business Management	MGT 255 + ECO 202	3
MGT 406	Strategic Management	Last semester only	3
MIS 200	Introduction to Management Information Systems	ITD100+ IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3
MKT 200	Principles of Marketing	ENG 200	3

Major Requirements — 30 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MKT 301	Consumer Behavior	MKT 200 + FWS 305 Co-requisite	3
MKT 304	Marketing Communication	MKT 301	3
MKT 305	Marketing Research	MKT 200 + BUS 204	3
MKT 307	Services Marketing	MKT 200	3
MKT 308	Social Media Marketing	MKT 200 + MIS 200	3
MKT 399	Internship in Marketing	Consent of Department	3
MKT 408	Applied Digital Marketing	MKT 308	3
MKT 409	Digital Marketing Analytics	MKT 308	3
ITE 414	Introduction to E-Commerce	Junior Level	3
ITE 415	Advanced E-Commerce Concepts and Technologies	ITE 414	3

Major Electives: Select two courses — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MAC 314	Communication Strategy in Advertising	MKT 301	3
MKT 303	Retail Marketing	MKT 200	3

MKT 401	International Marketing	MKT 200 + ECO 202	3
MKT 499	Special Topics in Marketing	Consent of Dept	3

Open Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3

BACHELOR OF
BUSINESS ADMINISTRATION
IN DIGITAL MARKETING COMMUNICATIONS -
Study Plan - Abu Dhabi

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200)
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD 100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101 /MTT101/MTT102)
	MGT 255	Management and Organizational Behavior	3	ENG 200
	MIS 200	Introduction to Management Information Systems	3	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	
Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 / /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Technical Communications for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	MKT 301	Consumer Behavior	3	MKT 200 + FWS 305 (Co-req)
	MKT 307	Services Marketing	3	MKT 200
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 CH
	MGT 308	Operations Management	3	BUS 204
	M.ELECT-1	Major Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 301	Business Law	3	FWS 305
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	MKT 304	Marketing Communication	3	MKT 301
	MKT 305	Marketing Research	3	MKT 200 + BUS 204
	MKT 308	Social Media Marketing	3	MKT 200 + MIS 200
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 7)	MKT 399-I	Internship in Marketing	3	Consent of Department
	ITE 414	Introduction to E-Commerce	3	Junior Level
	MKT 408	Applied Digital Marketing	3	MKT 308
	F.ELECT-1	Free Elective	3	-
	MGT 402	International Business Management	3	MGT 255 + ECO 202
Total Credit Hours			**15**	
Spring (Semester 8)	MKT 409	Digital Marketing Analytics	3	MKT 308
	ITE 415	Advanced E-Commerce Application Design	3	ITE 414
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F.ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	

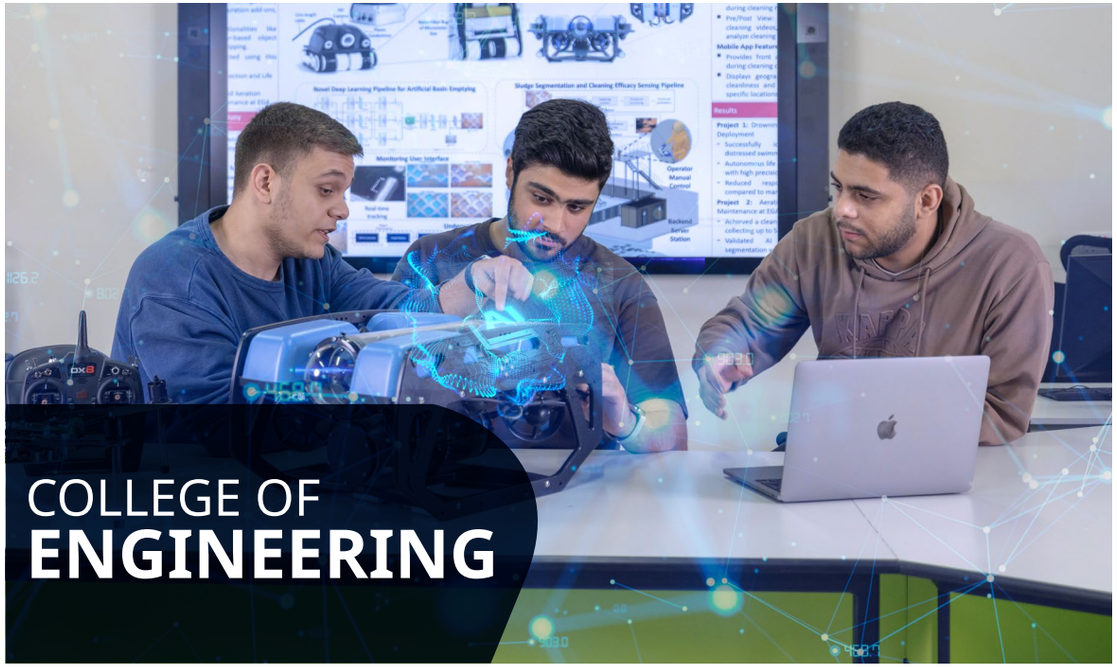
BACHELOR OF
BUSINESS ADMINISTRATION
IN DIGITAL MARKETING COMMUNICATIONS -
Study Plan - Al Ain

First Year (Freshman)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 +USS001(Co-req if placed in ENG200)
	MTB 101	Mathematics for Business	3	MTG100 with minimum C grade or Placement in MTB101 as per the MPT
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	BUS 102	Introduction to Business	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
	FWS 205	UAE and GCC Society	3	ENG102+USS001 or co-req USS001 if in ENG200
	FWS 212	Artificial Intelligence for Business	3	STT100 + ITD 100
	ISL 100	Islamic Culture	3	No Prerequisite
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG102+USS001 or co-req USS001 if in ENG200
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ACC 200	Principles of Financial Accounting	3	ENG200 + ITD100 + (MTB101 or MTT101 or MTT102)
	BUS 204	Business Research Methods	3	STT 100 + BUS 102
	ECO 201	Principles of Microeconomics	3	ENG 200 + (MTB101 /MTT101/MTT102)
	MGT 255	Management and Org. Behavior	3	ENG200
	MIS 200	Introduction to Management Information Systems	3	ITD100 + IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102
Total Credit Hours			**15**	
Spring (Semester 4)	ACC 201	Principles of Managerial Accounting	3	ACC 200 + BUS 102
	ECO 202	Principles of Macroeconomics	3	ENG200 + (MTB101 / /MTT101/MTT102) + BUS102
	FIN 200	Principles of Finance	3	ACC 200
	FWS 305	Tech. Communications for Workplace	3	ENG 200 + 45 CH
	MKT 200	Principles of Marketing	3	ENG 200
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	MKT 301	Consumer Behavior	3	MKT 200 + FWS 305 (Co-req)
	MKT 307	Services Marketing	3	MKT 200
	FWS 310	Fundamentals of Innovation & Entrepreneurship	3	ENG 200 + 60 CH
	MGT 308	Operations Management	3	BUS 204
	M.ELECT-1	Major Elective	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	BUS 301	Business Law	3	FWS 305
	BUS 306	Applied Management Science	3	STT 100 + ECO 201 + MGT 255
	MKT 304	Marketing Communication	3	MKT 301
	MKT 305	Marketing Research	3	MKT 200 + BUS 204
	MKT 308	Social Media Marketing	3	MKT 200 + MIS 200
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	MKT 399-I	Internship in Marketing	3	Consent of Dept.
	ITE 414	Introduction to E-Commerce	3	Junior Level
	MKT 408	Applied Digital Marketing	3	MKT 308
	F.ELECT-1	Free Elective	3	-
	MGT 402	International Business Management	3	MGT 255 + ECO 202
Total Credit Hours			**12**	
Spring (Semester 8)	MKT 409	Digital Marketing Analytics	3	MKT 308
	ITE 415	Advanced E-Commerce Concepts and Technologies	3	ITE 414
	MGT 406	Strategic Management	3	Last Semester only
	M.ELECT-2	Major Elective	3	-
	F.ELECT-2	Free Elective	3	-
Total Credit Hours			**15**	



COLLEGE OF ENGINEERING

Introduction

Dean - Dr. Hamdi Sheibani

The College of Engineering (COE) at Abu Dhabi University offers fifteen bachelor's degree programs, seven master's degree programs, two PhD programs, four minors, and nine concentrations making it one of the most comprehensive suites of engineering program offerings in the UAE. All our degrees are designed following American and UAE standards to produce rounded graduates who are well-trained complex- problem solvers, talented designers, effective team players and communicators, life-long learners, and holistic citizens always upholding their professional responsibilities in service of their society and community.

At Abu Dhabi University's College of Engineering, our forward-thinking and industry-relevant programs are designed to empower graduates with the knowledge and skills required to thrive in both public and private sectors. Our alumni are well-prepared to contribute across a wide range of industries, including high-tech, energy, healthcare, computing, telecommunications, manufacturing, oil and gas, construction, and design, within the UAE, the region, and the world. Whether joining government agencies, multinational corporations, consultancies, or entrepreneurial ventures, our graduates are equipped to lead with innovation and integrity. Furthermore, our programs provide a strong foundation for those pursuing advanced studies at top institutions worldwide, reflecting our commitment to academic excellence, global engagement, and impactful societal contribution

Concentrations in the College of Engineering

In response to the strong market demand for talent in emerging engineering areas, the College of Engineering offers students the opportunity to acquire advanced knowledge and skills by pursuing a concentration as part of their Bachelor of Science programs. The following concentrations are accredited and will appear on student academic records:

- Bachelor of Science in Computer Engineering - Artificial Intelligence Concentration
- Bachelor of Science in Electrical Engineering - Robotics and Automation Concentration
- Bachelor of Science in Mechanical Engineering - Industrial Mechatronics Concentration
- Bachelor of Science in Mechanical Engineering - Metallurgy Concentration
- Bachelor of Science in Information Technology with Concentration in Cybersecurity

- Bachelor of Science in Information Technology with Concentration in Game Development
- Bachelor of Science in Software Engineering with Concentration in Big Data Analytics
- Bachelor of Science in Software Engineering with Concentration in Web and Mobile Applications Development.
- Bachelor of Science in Chemical Engineering- Water Technology Concentration.

Accreditation

Accreditation is a testament of program and graduate quality. It gives employers, parents, students, and graduate schools a piece of mind that they have made the right choice in selecting employees or graduate school applicants. All COE programs are accredited by the Commission for Academic Accreditation of the Ministry of Education in the UAE. Additionally, COE programs are reviewed and approved by the Western Association of Schools and Colleges in the USA as part of ADU's institutional accreditation. COE students additionally enjoy program-specific world-class accreditation by some of the best accrediting bodies of engineering, computing, and architecture programs in the world.

ABET, an accrediting agency for programs in applied and natural science, computing, engineering, and engineering technology is recognized as an accreditor by the prestigious Council for Higher Education Accreditation based in the USA. It is widely considered the golden standard of engineering accreditation around the world. All COE engineering programs are designed to meet and exceed ABET criteria and requirements. Most of our engineering programs are already ABET-accredited or are new and awaiting the graduation of the first cohort before applying to ABET. The college employs several ABET Program Evaluators.

Our degree programs in Chemical Engineering, Civil Engineering, Electrical Engineering, Computer Engineering, and Mechanical Engineering have been accredited by the Engineering Accreditation Commission of ABET, and its Bachelor's degree program in Information Technology by the Computing Accreditation Commission of ABET, the global accreditor of college and university programs in applied and natural science, computing, engineering, and engineering technology.

ABET accreditation assures that programs meet standards to produce graduates ready to enter critical technical fields that are leading the way in innovation and emerging technologies, and anticipating the welfare and safety needs of the public.

ABET accreditation facts:

- Accrediting institutions for over 80 years
- ABET has ISO 9001:2015 Certification committed to total quality management
- Currently accredits 4,307 programs at 846 colleges in 41 countries
- Approximately 85,000 students graduate from ABET-accredited programs each year
- Assurance that programs meet the quality standards of the related profession
- Ensures programs are leading the way in innovation and emerging technologies
- Assessment criteria developed by technical professionals
- Guarantees high quality learning in technical education
- Accreditation by a network of more than 2,200 experts from academia, government, and industry
- International quality standards, respected worldwide

The Royal Institute of British Architects (RIBA) is a global professional membership body driving excellence in architecture, founded for the advancement of architecture under its charter granted in 1837 and Supplemental Charter granted in 1971.

RIBA Validation is a peer review process that monitors compliance with internationally recognized minimum standards in architectural education and encourages excellence and diversity in student achievement. The COE Bachelor of Architecture program is RIBA-accredited.

International Air Transport Association (IATA, Canada); Authorized Training Center (ATC) Accreditation

ADU has received the accreditation as an Authorized Training Center (ATC) on the 29th August 2019 from the International Air Transport Association (IATA). This refers in particular to the Department of Aviation.

IATA was founded in 1945 and currently has 354 airlines as members (as of May 2025). IATA is the prime facilitator for inter-airline co-operation in promoting safe, reliable, secure and economical air services for the benefit of the world's consumers. IATA diplomas and certificates guarantee high standards of training and have gained worldwide recognition and acceptance as a quality product by the world's airlines and industry associations.

College Vision and Mission

The vision of the COE is to be internationally recognized for high quality engineering education, applied research, innovation and contributions to advancing regional development.

The mission of the COE at Abu Dhabi University is to educate highly qualified engineering graduates and conduct innovative applied research, meeting the industrial and economic development needs of the UAE, the region, and the international community.

Objectives

The objectives of the COE are to:

1. Be recognized as the center of academic excellence in engineering education in UAE and one of the best in the Arab world;
2. Develop and maintain comprehensive engineering programs with world class curricula;
3. Develop and maintain world-class facilities for engineering education;
4. Hire, motivate, and reward superior faculty members;
5. Produce graduates with the ability to analyze, design, test and implement high quality engineering solutions for real-life problems;
6. Inculcate in students a sense of professional engineering and computer science ethics and full accountability for their work;
7. Develop graduate programs and increase research and scholarly activity with focus on applied research;
8. Communicate and collaborate effectively with the UAE society; and
9. Diversify financial resources

Curricular Structure

Undergraduate programs curricula in the COE have a general education provision designed to provide students with a holistic education that allows them to understand the impact of engineering solutions on their society, the environment, and the economy. They also have a mathematics and sciences provision to form the foundation for higher-level engineering courses. The programs offer both a breadth of technical topics to produce well-rounded graduates and a depth through specialized courses. Students customize their degrees to their aspirations through technical and non-technical elective courses. All students are placed by the university with employers based on their area of study to experience a practical internship in a professional setting. Students also complete a major design project as a culminating experience before graduation. Almost all COE undergraduate programs are completed in four years, except for the Bachelor of Architecture which is completed in five.

Co-Curricular Activities

Students in the college are offered learning and professional development opportunities beyond the classroom and the laboratory through numerous co-curricular activities including field trips, competitions, exhibitions, invited talks, seminars, training, conferences, and forums. They have a track record of securing top places in major national and international competitions throughout the academic year. The College empowers students by supporting the following professional student clubs, most of which are student branches of international professional societies:

- Institute of Electrical and Electronics Engineers (IEEE) Student Branch
- American Society of Mechanical Engineers (ASME) Student Section
- American Society of Civil Engineers (ASCE) Student Chapter
- American Institute of Chemical Engineers (AIChE) Student Chapter
- Architecture and Design Club
- Aviation Club
- Association for Computing Machinery (ACM) Student Chapter

Undergraduate Programs

The College offers the following thirteen undergraduate programs:

- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Biomedical Engineering
- Bachelor of Science in Cybersecurity Engineering
- Bachelor of Science in Software Engineering
- Bachelor of Science in Information Technology
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Chemical Engineering
- Bachelor of Architecture

- Bachelor of Science in Interior Design
- Bachelor of Science in Aviation
- Bachelor of Science in Artificial Intelligence Engineering
- Bachelor of Science in Renewable and Sustainable Energy Engineering

Minors Programs

The College offers the following minors:

- Interior Design Minor
- Electrical Engineering Minor
- Computer Engineering Minor
- Aerospace Engineering Minor

Programs with Concentrations

- Bachelor of Science in Computer Engineering with Concentration in Artificial Intelligence
- Bachelor of Science in Electrical Engineering with Concentration in Robotics and Automation
- Bachelor of Science in Mechanical Engineering with Concentration in Industrial Mechatronics
- Bachelor of Science in Information Technology with Concentration in Cybersecurity
- Bachelor of Science in Information Technology with Concentration in Game Development
- Bachelor of Science in Mechanical Engineering with Concentration in Metallurgy
- Bachelor of Science in Software Engineering with Concentration in Big Data Analytics
- Bachelor of Science in Software Engineering with Concentration in Web and Mobile Applications Development
- Bachelor of Science in Chemical Engineering- Water Technology Concentration.
-

Faculty and Laboratories

To support the delivery of its programs, the College hires highly qualified faculty members have international academic and industrial experiences in their fields and have obtained their Ph.D.'s from prominent universities in North America, Europe and Australia.

The College houses modern facilities and specialized engineering in the new Umm Al Emarat Building in ADU's Abu Dhabi Campus. These labs are furnished with the state-of-the-art equipment and benches to help our students acquire the hands-on experience needed to pursue a successful professional engineering career. COE labs include:

- Environmental Engineering Lab
- Construction Materials & Structures Lab
- Hydraulics & Fluid Mechanics Lab
- Soil Mechanics Lab
- Manufacturing CAD/CAM Lab
- Thermofluids Lab
- Control and Mechatronics Lab
- Machine Shop
- Communications Lab
- Microelectronics Lab
- Circuits & Internet of Things Lab
- Power & Renewable Energy Lab
- Bio-Imaging and Machine Learning Lab
- Chemical Reaction Engineering &Process Control Lab
- Process Technology & Instrumentation Lab
- Unit Operations Lab
- Model Making Lab
- General Purpose Computer Labs
- Computer-Aided Design Labs
- Networking & Cloud Computing Lab (Cisco Academy)
- Mobile & Security Lab
- scientific Air Traffic Management Lab (sATM)
- Classic Aviation Simulation Lab
- Drone Lab
- Artificial Intelligence Lab (Huawei Academy)

College of Engineering in Al-Ain

ADU has a state of the art campus in the vibrant and booming city of Al-Ain. The COE is now fully equipped to deliver our quality programs in Al-Ain supported by a full suite of well-equipped engineering laboratories to better serve Al-Ain community and create the engineering talent highly needed by the growth in the local and global markets.

College of Engineering Program Offering in Al-Ain Campus

The College of Engineering is offering a full set of state of the art engineering laboratories housed in Abu Dhabi University in the booming city of Al-Ain. Like their Abu Dhabi counterparts, Al-Ain students can enroll in one of our nationally- and internationally-accredited programs including:

- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Biomedical Engineering
- Bachelor of Science in Cybersecurity Engineering
- Bachelor of Science in Software Engineering
- Bachelor of Science in Information Technology
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Chemical Engineering
- BSc in Artificial Intelligence Engineering
- Bachelor of Architecture

Assessment and Curricular Review

Programs in the COE are constantly up-to-date thanks to robust and rich assessment practices at the program and course levels providing the feedback necessary for continuous improvement. The College is responsive to market and stakeholder needs. Elective and core courses in hot areas are constantly added to ensure the competitiveness and the high employability of the College graduates.

BACHELOR OF
ARCHITECTURE



Introduction

Architecture is the art and science concerned with accommodating human activity within interior and exterior environments. It is concerned with the implementation of activities that shape the well-being of human settlements functionally as well as aesthetically. Architecture includes all types of buildings such as residential buildings, commercial, administrative, hospitality, entertainment, shopping malls, restaurants, theaters, airports and others. Working closely with engineers, construction managers, urban planners, interior designers and landscape architects, architects must identify all physical, physiological, psychological, and economical needs of different user groups using the building, prepare a program for the project to meet these needs, develop conceptual designs, conduct design development, prepare working drawings and contractual documents, and supervise the erection of buildings. This program offers courses in these topics which are an integral part of an undergraduate curriculum for an architect.

Both private companies and public agencies seek architects for a variety of professional positions. Many work for engineering and architecture consulting firms or construction companies as designers and project managers. Graduates are equally prepared to pursue M.Sc. and Ph.D. degrees in allied fields of architecture and design.

Program Mission

The mission of the Architecture Program is to graduate architects equipped with knowledge and skills to be competitive in the job market. The degree was designed to be recognized as a professional degree in most regions of the world including North America, Europe and all Arab countries. This will help put graduates on the track to become registered licensed architects if they move to other countries. The English title 'Architect' translates to 'Architectural Engineer' in Arabic in many locations in the Arab world.

The Architecture Program aims to produce graduates that are well-rounded academically, equipped with sufficient knowledge and skills to be competitive on the job market,

and to become professionals who will contribute to the socio-economic, cultural and urban development of the community on local, regional and global levels.

Program Objectives

The following program objectives are broad statements that describe the career and professional accomplishments, which should be achieved during the first several years following our students' graduation. Overall, our graduates are expected to:

1. Demonstrate knowledge of the historical context, the state-of-the-art, and emerging issues in the field of architecture and its role in contemporary society;
2. Display a systems viewpoint, critical thinking, effective communication and interpersonal skills, a spirit of curiosity, and conduct reflection in a professional and ethical manner;
3. Demonstrate critical reasoning, creative-thinking, and essential skills to identify, formulate, and resolve architecture problems, and to create designs that reflect aesthetic, functional, structural, economic, environmental, and social sensitivities;
4. Display broad intellectual training for success in multidisciplinary professional practice as a team member and also toward achieving leadership roles in industry, government, and academia; and
5. Demonstrate commitment to life-long learning and professional development, involvement in professional activity and public service, and achievement of professional licensure.

Program Learning Outcomes

The following program outcomes describe competencies and skills that our students acquire by the time of graduation. Our graduates are expected to be able to:

1. Communicate effectively, orally, in writing as well as graphically using manual techniques as well as computers tools to generate, evaluate, develop and communicate ideas;
2. Gather, assess, record, and apply relevant information and raise clear precise questions, interpret information, consider diverse points of view, reach well-reasoned conclusions, and test them against relevant criteria;
3. Resolve the needs of the client, owner, and user, taking into consideration the relationship between human behavior and the physical environment and the diverse needs, values, norms, abilities, and socioeconomic patterns that characterize different locations, cultures, and individuals;
4. Prepare a comprehensive program for an architectural project, including assessment of client and user needs, critical review of appropriate precedents, an inventory of space requirements, an analysis of site conditions, a review of relevant laws and standards, and a definition of site selection and design assessment criteria;
5. Produce a comprehensive architectural project based on a building program and site that includes the development of programmed spacing while integrating structural and environmental systems, building envelope systems, life-safety provisions, and the principles of sustainability;
6. Select and apply construction materials, products, components, and building assemblies to prepare technically precise drawings, outline specifications and estimates of building costs, life-cycle cost, and construction costs for a proposed design;
7. Assess, select, and conceptually integrate different building environmental, electro-mechanical and structural systems into building design; and
8. Demonstrate an understanding of the legal aspects and ethical issues of practice organization and management as well as the role of professional development, and the need to provide leadership in the building design and construction process.

All program learning outcomes (PLOs) are designed to ensure that they meet the appropriate level of rigor for the specific degree as per international criteria, and the PLOs are aligned with, and mapped to, the UAE Qualifications Framework (level 7 for a Bachelor's degree).

ADU has established procedures by which all its courses must comply with a standard master syllabus. The master syllabus describes the course learning outcomes, links the course learning outcomes to the program learning outcomes, and demonstrates that the outcomes are consistent with the requirements of the UAE Qualifications Framework for the level of the degree. In addition to this, the syllabus outlines all the important procedures and materials that are used to achieve these learning outcomes. It serves as a base for coordinating the teaching process, especially in multi-section and multi-instructor courses.

Curriculum

Total Credit Hours: 162

General Education Requirements	27 credit hours
College Requirements	10 credit hours
Major Requirements	110 credit hours
Professional Electives	9 credit hours
Open Electives	6 credit hours

General Education Requirements — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-requisite if placed in ENG200)	3
FWS 305	Technical Communication for Workplace	ENG 200 + Completion of 45 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 101	Pre-Calculus	None	3
MTT 102	Calculus I	MTT 101	3
FWS 205	UAE and GCC Society	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 course directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3

College Requirements — 10 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 as Co-req.	1
GEN 101	Introductory Artificial Intelligence	STT 100	3
GEN 102	Intoduction to Big Data Analytics	STT 100	3

Major Requirements — 110 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
DES 110	Design Communication I	No Prerequisite	3
DES 120	Design Communication II	DES 110	3
DES 130	Design Foundations	No Prerequisite	3
ARC 210	Architectural Design I	DES 120 + DES 130	4
ARC 220	Architectural History I	ENG 200	3
ARC 230	Building Technology I	DES 110	3
ARC 240	Architecture and the Environment	No Prerequisite	3
ARC 250	Architectural Design II	ARC 210	4
ARC 260	Architectural and Interior Design History II	ARC 220	3
ARC 270	Building Technology II	ARC 230	3
ARC 280	Computer Aided Design	DES 110	3
ARC 310	Architectural Design III	ARC 250	6
ARC 320	Env. Design I: Lighting and Acoustics	ARC 210	3
ARC 330	Structures for Architects I	ARC 270	3
ARC 340	Building Technology III	ARC 270	3
ARC 350	Architectural Design IV	ARC 310	6
ARC 360	Urban Planning	ARC 210	3
ARC 370	Professional Practice and Ethics	ENG 200	3
ARC 399	Internship	90 Credit Hours	3
ARC 410	Architectural Design V	ARC 350	6
ARC 420	Env. Design II: Energy and Systems	ARC 240 + ARC 270	3
ARC 430	Working Drawings I	ARC 340	3
ARC 450	Architectural Design VI	ARC 410	6
ARC 460	Structures for Architects II	ARC 330	3
ARC 470	Urban Design	ARC 360	3
ARC 510	Graduation Project I	ARC 450	6
ARC 520	Research Methods and Programming	ARC 410 (co-req)	3
ARC 530	Working Drawings II	ARC 430	3
ARC 540	Sustainable Design	ARC 410	3
ARC 550	Graduation Project II	ARC 510	6

Professional Electives and Open Electives — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
PRE1	Professional Elective I	-	3
PRE2	Professional Elective II	-	3
PRE3	Professional Elective III	-	3
OE1	Open Elective I	-	3
OE2	Open Elective I	-	3

Professional Elective Themes				9 Credt Hours
Themes options	**Course Code**	**Course Title**	**Prerequisite(s)**	**Credit Hours**
Special Design Focus	ARC 581	Landscape Architecture	ARC 210	3
	ARC 584	Housing	ARC 360	3
	ARC 585	Islamic Architecture	ARC 220	3
	ARC 586	Architectural Conservation	ARC 260	3
	ARC 588	Interior Architecture	ARC 210	3
	ARC 589	Architecture in Extreme Environments	60 Crs	3
	DES 580	Architectural Photography	DES 220 or LAR 230	3
Computer Applications	ARC 582	3D Modeling	ARC 280	3
	ARC 583	Building Information Modeling	ARC 280	3
	ARC 591	Geographical Information Systems	ARC 280	3
Management	ARC 587	Project Management	ARC 340	3
	ARC 590	Building Economics	ARC 340	3

BACHELOR OF ARCHITECTURE - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-requisite if placed in ENG200)
	ISL 100	Islamic Culture	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	DES 110	Design Communication I	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 course directly
	MTT 101	Pre-Calculus	3	None
	GEN 101	Introductory Artificial Intelligence	3	STT 100
	DES 130	Design Foundations	3	No Prerequisite
	DES 120	Design Communication II	3	DES 110
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ARC 210	Architectural Design I	4	DES 120 + DES 130
	ARC 220	Architectural History I	3	ENG 200
	ARC 230	Building Technology I	3	DES 110
	ARC 240	Architecture and the Environment	3	No Prerequisite
	MTT 102	Calculus I	3	MTT 101
Total Credit Hours			**16**	

Spring (Semester 4)	ARC 250	Architectural Design II	4	ARC 210
	ARC 260	Architectural and Interior Design History II	3	ARC 220
	ARC 270	Building Technology II	3	ARC 230
	ARC 280	Computer Aided Design	3	DES 110
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 Co-requisite
Total Credit Hours			**17**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	ARC 310	Architectural Design III	6	ARC 250
	ARC 320	Env. Design I: Lighting and Acoustics	3	ARC 210
	ARC 330	Structures for Architects I	3	ARC 270
	ARC 340	Building Technology III	3	ARC 270
Total Credit Hours			**15**	
Spring (Semester 6)	ARC 350	Architectural Design IV	6	ARC 310
	ARC 420	Env. Design II: Energy and Systems	3	ARC 240 + ARC 270
	ARC 370	Professional Practice and Ethics	3	ENG 200
	FWS 305	Technical Communication for Work Place	3	ENG 200 + Completion of 45 CHs.
	GEN 102	Introductory to Big Data Analytics	3	STT 100
Total Credit Hours			**18**	
Summer Semester	ARC 399A	Internship	1.5	90 Credit Hours

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ARC 410	Architectural Design V	6	ARC 350
	ARC 360	Urban Planning	3	ARC 210
	ARC 430	Working Drawings I	3	ARC 340
	OE1	Open Elective I	3	-
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs.
Total Credit Hours			**18**	

Winter Semester	ARC399B	Internship	1.5	ARC399A
Spring (Semester 8)	ARC 450	Architectural Design VI	6	ARC 410
	ARC 460	Structures for Architects II	3	ARC 330
	ARC 470	Urban Design	3	ARC 360
	ARC 520	Research Methods and Programming	3	ARC 410
Total Credit Hours			**15**	

Fifth Year				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 9)	ARC 510	Graduation Project I	6	ARC 450
	PRE1	Professional Elective I	3	-
	ARC 530	Working Drawings II	3	ARC 430
	ARC 540	Sustainable Design	3	ARC 410
Total Credit Hours			**15**	
Spring (Semester 10)	ARC 550	Graduation Project II	6	ARC 510
	PRE2	Professional Elective II	3	-
	PRE3	Professional Elective III	3	-
	OE2	Open Elective II	3	-
Total Credit Hours			**15**	

BACHELOR OF SCIENCE IN **AVIATION**



Introduction

The Bachelor of Science in Aviation program is offered by the College of Engineering at Abu Dhabi University. The mission of the Aviation Program is to equip graduates with the knowledge and skills to work in various sectors in the aviation industry. Aviation courses are delivered by faculty with international expertise and professional experience in aviation. The program includes practical exposure using own facilities such as flight training devices and various simulation platforms complemented by field visits to the industry.

To graduate with B.Sc. in Aviation, a student needs to successfully complete 121 credit hours of coursework in addition to an Internship (3 credit hours) and a Capstone Project (3 credit hours) for a total of 127 credit hours. The Program also suits students who want later on to pursue a career as airline pilot and joining a Flight School.

Program Objectives

The Bachelor of Aviation Science program is designed to provide students with the opportunity to learn relevant aspects of aviation to pursue their professional careers within operational sectors of the aviation industry. These could be:

- Airline Flight Operations.
- Airport Operations - including safety and security management.
- Ground support services.
- Air Navigation Services.
- Operation of Unmanned Aircraft Systems (Drones).
- Operation of Space vehicle.

The growth in the Aviation Industry, both in the region and internationally, drives the demand for skilled personnel and it is our aim to position our graduates as sought after from employers in the Aviation Industry.

The educational mission of the Aviation Science undergraduate program is to provide students with a multidisciplinary curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates equipped with the knowledge and skills to become Aviation Professionals being able to pursue careers in different sectors of the aviation industry and affine industries.

Program Learning Outcomes

The following intended program learning outcomes describe competencies and skills that Aviation students will acquire by the time of graduation. Aviation graduates are expected to be able to:

a. Comprehend the aviation system as an integrated and multidisciplinary environment and the role of professionals working in this sector

b. Function in multidisciplinary teams and develop leadership capabilities

c. Identify, formulate, and solve problems encountered in the practice of performing the role of an aviation practitioner

d. Demonstrate an understanding of the professional and ethical responsibility of licensed and non-licensed aviation personnel with regard to safety

e. Communicate effectively by written, oral and visual means;

f. Demonstrate an understanding of the impact of the aviation industry in a global, economic, environmental, and societal context

g. Develop research capabilities and independent information retrieval strategies

h. Demonstrate knowledge of contemporary issues in aviation

Curriculum

Total Credit Hours: 127

General Education Requirements	**33 credit hours**
College Requirements	**6 credit hours**
Major Requirements	**76 credit hours**
Open Electives	**12 credit hours**

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 100	Academic Skills for Success	No Prerequisite	3
FWS 205	UAE and GCC Society	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
FWS 305	Technical Communication for Work Place	ENG 200 + Completion of 45 C. Hrs.	3
FWS 310	Fundamentals of Innovation & Entrepreneurship	ENG 200 + Completion of 60 C. Hrs.	3
GES 201	General Sciences	ENG 102 (P)	3

ISL 100	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTT 101	Pre-Calculus	None	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 101	Introduction to Artificial Intelligence	STT 100	3
COE 102	Introductory Big Data Analytics	STT 100	3

Major Requirements — 76 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
AVS 101	Introduction to Aviation	No Prerequisite	3
AVS 120	Introduction to Aeronautics	AVS 120L as co-requisite	3
AVS 120L	Introduction to Aeronautics Lab	AVS 120 as co-requisite	1
AVS 209	Aerodynamics	GES 201 + MTT 101	3
AVS 211	Aircraft Jet Engines	GES 201 + AVS 120	3
AVS 254	Aviation Law	AVS 101	3
AVS 287	Crew Resource Management	No Prerequisite	3
AVS 289	Airline Management	AVS 101 + Comp. of 40 Credit Hours	3
AVS 303	Aviation Security	Completion of 80 Credit Hours	3
AVS 310	Aircraft Performance	AVS 211	3
AVS 350	Flight Navigation	MTT 101 + AVS 120 + AVS 350L as co-req.	3
AVS 350L	Flight Navigation Lab	AVS 350 as co-req.	1
AVS 356	Aircraft Systems I	GES 201 + AVS 120	3
AVS 357	Flight Physiology	GES 201	3
AVS 399A	Internship	Completion of 90 Credit Hours	1.5
AVS 399B	Internship	Completion of 90 Credit Hours	1.5
AVS 402	Aviation Meteorology	GES 201	3
AVS 403	Introduction to Space	AVS 211	3
AVS 408	Aviation Safety	Completion of 80 Credit Hours	3
AVS 410	Air Traffic Management	AVS 101 + Comp. of 50 CHrs	3
AVS 411	Aircraft Systems II	AVS 356	3

AVS 412	Unmanned Aircraft Systems Operation	Completion of 80 Credit Hours	3
AVS 415	Airport Operations	AVS 120	3
AVS 422	Instrument and Commercial Pilot Operations	AVS 120, AVS 209, AVS 310 and AVS 402	3
AVS 422L	Instrument and Commercial Pilot Operations Lab	AVS 422 as co-req.	1
AVS 435	Advanced Flight Guidance and Control Systems	AVS 209, AVS 350 and AVS 411	3
AVS 435L	Advanced Flight Guidance and Control Systems Lab	AVS 435 as co-req.	1
AVS 472	Aviation Human Factors	AVS 287	3
AVS 499	Aviation Capstone Project	Comp of 100 Credit Hours or Senior Level	3

Open Electives — 12 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3
OE 3	Open Elective III	-	3
OE 4	Open Elective IV	-	3

BACHELOR OF SCIENCE IN AVIATION - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall Semester	AVS 101	Introduction to Aviation	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	FWS 100	Academic Skills for Success	3	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**18**	
Spring Semester	ARL 101	Communication Skills in Arabic Lang.	3	No Prerequisite
	AVS 120	Introduction to Aeronautics	3	AVS 120L as co-requisite
	AVS 120L	Introduction to Aeronautics Lab	1	AVS 120 as co-requisite
	FWS 205	UAE and GCC Society	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	GES 201	General Science	3	ENG 102(P)
	MTT 101	Pre-Calculus	3	None
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall Semester	AVS 211	Aircraft Jet Engines	3	GES 201 + AVS 120
	AVS 209	Aerodynamics	3	GES 201 + MTT 101
	AVS 254	Aviation Law	3	AVS 101
	AVS 287	Crew Resource Management	3	No Prerequisite
	OE 1	Open Elective I	3	-
Total Credit Hours			**15**	

Spring Semester	COE 101	Introduction to Artificial Intelligence	3	STT 100
	COE 102	Introductory Big Data Analytics	3	STT 100
	AVS 289	Airline Management	3	AVS 101 + Comp. of 40 Credit Hours
	AVS 356	Aircraft Systems I	3	GES 201 + AVS 120
	AVS 357	Flight Physiology	3	GES 201
	OE 2	Open Elective II	3	-
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall Semester	AVS 310	Aircraft Performance	3	AVS 211
	AVS 350	Flight Navigation	3	MTT101+AVS120+AVS350L as co-req.
	AVS 350L	Flight Navigation Lab	1	AVS 350 as Co-req.
	AVS 402	Aviation Meteorology	3	GES 201
	FWS 305	Technical Communications for Work Place	3	ENG 200 + Completion of 45 Cr. Hrs.
	FWS 310	Fundamentals of Innovation & Entrepr.	3	ENG 200 + Completion of 60 Cr. Hrs.
Total Credit Hours			**16**	
Spring Semester	AVS 303	Aviation Security	3	Completion of 80 Credit Hours
	AVS 410	Air Traffic Management	3	AVS 101 + Comp. of 50 Credit Hours
	AVS 411	Aircraft Systems II	3	AVS 356
	AVS 415	Airport Operations	3	AVS 120
	AVS 472	Aviation Human Factors	3	AVS 287
Total Credit Hours			**15**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall Semester	AVS 408	Aviation Safety	3	Completion of 80 Credit Hours
	AVS 422	Instrument and Commercial Pilot Operations	3	AVS 120, AVS 209, AVS 310, AVS 402
	AVS 422L	Instr./Commercial Pilot Operations Lab	1	AVS 422 as co-req.
	OE 3	Open Elective III	3	-
	OE 4	Open Elective IV	3	-
Total Credit Hours			**13**	

Winter Semester	AVS 399A	Internship	1.5	Completion of 90 Credit Hours
Total Credit Hours			**1.5**	
Spring Semester	AVS 403	Introduction to Space	3	AVS 211
	AVS 412	Unmanned Aircraft Sys. Operation	3	Completion of 80 Credit Hours
	AVS 435	Adv. Fl. Guidance and Control Sys.	3	AVS 209, AVS 350 and AVS 411
	AVS 435L	Adv. Fl. Guidance and Control Sys. Lab	1	AVS 435 as co-req.
	AVS 499	Aviation Capstone Project	3	Comp. of 100 C. Hrs. or Senior Level
Total Credit Hours			**13**	
Summer Semester	AVS 399B	Internship	1.5	Completion of 90 Credit Hours
Total Credit Hours			**1.5**	

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING



Introduction

Chemical Engineering (ChE) is a branch of engineering that deals with the conversion of raw materials to useful products by applying the principles of science and engineering. It involves the design, operation, and maintenance of facilities ranging from refineries, petrochemical, pharmaceutical plants, and nuclear-waste processing plants, to food and materials processing facilities.

Chemical engineers develop, design, and operate different kinds of manufacturing processes, applying the principles of chemistry, physics, biology, mathematics, and engineering to solve issues in a wide variety of industrial fields efficiently, cost effectively, and in an environmentally friendly way.

The challenging four-year program integrates courses in mathematics, chemistry, physics, and chemical engineering, and provides a balanced education between theory and practice. During the program you will be given the opportunity to design and conduct laboratory experiments, use industry-specific software for process simulation and design, and integrate all theoretical and practical knowledge gained through the design of a chemical processing plant in your final year. In addition, you will round up your ChE education through a carefully selected 6-week internship in one of the many relevant industries in the UAE or abroad.

This program is accredited by the Ministry of Education in the UAE and ABET.

Program Mission

The educational mission of the chemical engineering undergraduate program is to provide students with a premium education through a well-developed curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who are prepared for the successful practice of chemical engineering with sufficient depth to continue their education beyond the bachelor's degree; who have the ability to analyze, evaluate, and design chemical engineering systems; who have the ability to communicate effectively; who have gained sufficient awareness of the current and emerging industrial practices through participation in industrial internships; and who have acquired an understanding of

and appreciation for global and societal issues and are thus prepared for a career path towards leadership in industry, government, and academia.

Program Objectives

The main objectives of the Chemical Engineering program are to:

1. Prepare graduates who can efficiently operate, design, develop and/or evaluate a chemical engineering system/component in a safe, economically feasible, and environmentally responsible way.
2. Prepare graduates who can demonstrate success as chemical and process engineers with a good set of technical, problem solving, and leadership accomplishments.
3. Prepare graduates who contribute to the development and growth of the economy locally and abroad and uphold their ethical, social, and professional responsibilities.
4. Prepare graduates who can develop themselves professionally by engaging to life-long learning activities such as training and continuing education or follow graduate studies.

Program Learning Outcomes

The following program outcomes describe competencies and skills that our students acquire by the time of graduation. Our graduates are expected to be able to:

1. Identify, formulate, and solve complex chemical engineering problems by applying principles of engineering, science, and mathematics
2. Apply chemical engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. Communicate effectively with a range of audiences
4. Recognize ethical and professional responsibilities in chemical engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. Function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. Develop and conduct appropriate chemical engineering experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. Acquire and apply new knowledge as needed, using appropriate learning strategies

Curriculum

Total Credit Hours: 136

General Education Requirements	**24 credit hours**
Degree Requirements	**39 credit hours**
Major Requirements	**58 credit hours**
Major Electives	**9 credit hours**
Open Electives	**6 credit hours**

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100/ USS001 as co-requisite if placed in ENG200)	3
FWS 305	Technical Communications for Work Place	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
FWS 205	UAE and GCC Society	ENG102 (R) & FWS100 / USS001 as pre-requisite FWS100/ USS001 as co-requisite if students enter to ENG200 course directly	3
STT 100	General Statistics	No Prerequisite	3
USS 001	University Study Skills	No Prerequisite	0

Degree Requirements — 39 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MTT 200	Calculus II	MTT 102	3
MTT 201	Calculus III	MTT 200	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
MTT 205	Differential Equations	MTT 200 + MTT 204 (Co-req)	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 Co-req)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (Co-req)	1
CHE 205	General Chemistry I	ENG 102	3
CHE 201L	Chemistry Lab	CHE 205 (Co-req)	1
CME 200	Introduction to Chemical Engineering	No Prerequisite	3
CSC 201	Structured Programming	MTT 102	3
COE 101	Introductory Artificial Intelligence	STT 100	3
COE 102	Itroductory Big Data Analytics	STT 100	3
COE 202	Engineering Economy, Ethics and Law	ENG 200 + MTT 102	3

Major Requirements — 58 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CHE 206	General Chemistry II	CHE 205	3
CHE 206L	General Chemistry II Lab	CHE 205 + CHE 206 (Co-req)	1
CHE 305	Organic Chemistry	CHE 206	4
CHE 330	Physical Chemistry	CME 220 + CHE 206	3
MEC 300	Materials Science	CHE 205	3
CME 210	Principles of Chemical Engineering	CHE 205 (Co-req) + CME 200	4
CME 212	Fluid Mechanics for Chemical Engineers	CME 210	3
CME 220	Chemical Engineering Thermodynamics I	CME 210	3
CME 300	Chemical Engineering Thermodynamics II	CME 220 + MTT 205	3
CME 301	Mass Transfer	CME 300 + CME 341	3
CME 305	Modeling and Simulation in Chemical Engineering (with Embedded Lab)	CME 210 + CME 212 + CME 331 (Co-req)	3
CME 320	Chemical Engineering Laboratory I	CME 212 + CME 341 + CME 301(Co-req)	1
CME 321	Process Dynamics and Control	CME 331 (Co-req)	3
CME 331	Chemical Reaction Engineering	CHE 330 + MTT 205	3
CME 341	Heat Transfer	CME 212	3
CME 398	Internship I	60 Credit Hours	1.5
CME 399	Internship II	CME 398	1.5
CME 400	Separation Process	CME 301 + CME 305	3
CME 430	Chemical Engineering Laboratory II	CME 321 + CME 331 + CME 400 (Co-req)	1
CME 450	Process Design	CME 331 + CME 400 (Co-req)	3
CME 455	Industrial Software for Chemical Engineers (ChMEs)	CME 300 + CME 331 + CME 400 (Co-req)	2
CME 498	Capstone Design Project I	90 CHs + CME 301 + CME 321 + CME 331 + CME 305	1
CME 499	Capstone Design Project II	CME 498	2

Major and Open Electives — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME 1	Major Elective I	-	3
ME 2	Major Elective II	-	3
ME 3	Major Elective III	-	3

OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3

List of Major Elective Themes *

Themes options	Course Code	Course Title	Prerequisite(s)	Credit Hours
Gas Processing and Petrochemicals	CME 460	Natural Gas Processing	CME 301	3
	CME 461	Petroleum Refining Processes	CHE 305 + CME 341 + CME 331	3
	CME 462	Chemical Process Industries	CHE 305 + CME 331	3
	CME 463	Corrosion Engineering	CHE 330	3
	CME 464	Chemical Process Safety	CME 301	3
	CME 465	Process Heat Transfer	CME 341 + MEC 300	3
Polymer and Materials	CME 470	Introduction to Polymer Science and Engineering	CHE 305 + CHE 330	3
	CME 471	Polymer Chemistry and Reaction Engineering	CHE 305 + CHE 330	3
	CME 472	Polymer Properties, Testing and Characterization	CME 470	3
	CME 473	Polymer Processing and Material Design	CME 471	3
Water Treatment and Desalination	CME 480	Physical and Chemical Processes for Water and Wastewater Treatment	CHE 305 + CHE 330	3
	CME 481	Desalination Technologies	CME 341 + CME 330	3
	CME 482	Sludge Treatment	CME 480	3
	CME 483	Industrial Wastewater Treatment	CME 301	3
	CME 484	Industrial Water Pollution & Control	CME 301	3
Biotechnology	CME 490	Chemical Engineering Biology	CHE 330	3
	CME 491	Biochemical Engineering	CME 490	3
	CME 492	Biochemical Treatment	CME 490	3
	CME 493	Biofuels Technology	CME 490 + CME 331	3

*To satisfy the major elective courses, at least three (3) courses must be taken from the same theme or multiple themes.

A student can choose one of the following combinations to satisfy the 15 credit hours of Electives:

- 3 courses (9 credit hours) from the Major Elective courses and 2 Free Elective courses (6 credit hours).
- 5 courses (15 credit hours) from the Major Elective courses.

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	STT 100	General Statistics	3	No Prerequisite
	CME 200	Introduction to Chemical Engineering	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	USS 001	University Study Skills Seminar	0	None
Total Credit Hours			**15**	
Spring (Semester 2)	COE 102	Introductory Big Data Analytics	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-req)
	MTT 200	Calculus II	3	MTT 102
	CHE 205	General Chemistry I	3	ENG 102
	CHE 201L	Chemistry Lab	1	CHE 205 (Co-req)
	CME 210	Principles of Chemical Engineering	4	CHE 205 (Co-req) + CME 200
Total Credit Hours			**18**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ISL 100	Islamic Culture	3	No Prerequisite
	MTT 201	Calculus III	3	MTT 200
	CSC 201	Structured Programming	3	MTT 102
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (Co-req)
	COE 101	Introductory Artificial Intelligence	3	STT 100
	CME 212	Fluid Mechanics for Chemical Engineers	3	CME 210
Total Credit Hours			**19**	

Spring (Semester 4)	MEC 300	Materials Science	3	CHE 205
	CME 220	Chemical Engineering Thermodynamics I	3	CME 210
	CHE 206	General Chemistry II	3	CHE 205
	CHE 206L	General Chemistry II Lab	1	CHE 205 + CHE 206 (Co-req)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co-req)
Total Credit Hours			**16**	
Summer Semester	CME 398	Internship I	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CHE 305	Organic Chemistry	4	CHE 206
	CME 300	Chemical Engineering Thermodynamics II	3	CME 220 + MTT 205
	CHE 330	Physical Chemistry	3	CME 220 + CHE 206
	FWS 305	Technical Communications for Work Place	3	ENG 200 + Completion of 45 CHs.
	CME 341	Heat Transfer	3	CME 310 (Co-req)
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
Total Credit Hours			**19**	
Spring (Semester 6)	CME 301	Mass Transfer	3	CME 300 + CME 341
	CME 331	Chemical Reaction Engineering	3	CHE 330 + MTT 205 + CME 341
	CME 305	Modeling and Simulation in Chemical Engineering (Embedded Lab)	3	CME 210 + CME 212 + CME 331 (Co-req)
	CME 320	Chemical Engineering Laboratory I	1	CME 212 + CME 341 + CME 301(Co-req)
	CME 321	Process Dynamics and Control	3	CME 331 (Co-req)
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs.
Total Credit Hours			**16**	
Summer Semester	CME 399	Internship II	1.5	CME 398
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	CME 400	Separation Processes	3	CME 301 + CME 305
	CME 430	Chemical Engineering Laboratory II	1	CME 321 + CME 331 + CME 400 (Co-req)
	CME 450	Process Design	3	CME 331 + CME 400 (Co-req)
	ME 1	Major Elective I	3	-
	FWS 205	UAE and GCC Society	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	CME 498	Capstone Design Project I	1	Senior Level + CME 301 + CME 321 + CME 331 + CME 305
	CME 455	Industrial Software for Chemical Engineers (ChMEs)	2	CME 300 + CME 331 + CME 400 (Co-req)
Total Credit Hours			**16**	
Spring (Semester 8)	CME 499	Capstone Design Project II	2	CME 498
	ME 2	Major Elective II	3	-
	ME 3	Major Elective III	3	-
	ME4 or OE1	Major Elective IV or Open Elective I	3	-
	ME5 or OE2	Major Elective V or Open Elective II	3	-
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN
CHEMICAL ENGINEERING
(Water Technology Concentration)

Curriculum

Total Credit Hours: 136

General Education Requirements	**24 credit hours**
Degree Requirements	**39 credit hours**
Major Requirements	**58 credit hours**
Water Technology Concentration Courses	**15 credit hours**

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100/ USS001 as co-requisite if placed in ENG200)	3
FWS 305	Technical Communications for Work Place	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
FWS 205	UAE and GCC Society	ENG102 (R) & FWS100 / USS001 as pre-requisite FWS100/ USS001 as co-requisite if students enter to ENG200 course directly	3
STT 100	General Statistics	No Prerequisite	3
USS 001	University Study Skills	No Prerequisite	0

Degree Requirements — 39 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MTT 200	Calculus II	MTT 102	3
MTT 201	Calculus III	MTT 200	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
MTT 205	Differential Equations	MTT 200 + MTT 204 (Co-req)	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 Co-req)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (Co-req)	1
CHE 205	General Chemistry I	ENG 102	3
CHE 201L	Chemistry Lab	CHE 205 (Co-req)	1
CME 200	Introduction to Chemical Engineering	No Prerequisite	3
CSC 201	Structured Programming	MTT 102	3
COE 101	Introductory Artificial Intelligence	STT 100	3
COE 102	Itroductory Big Data Analytics	STT 100	3
COE 202	Engineering Economy, Ethics and Law	ENG 200 + MTT 102	3

Major Requirements — 58 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CHE 206	General Chemistry II	CHE 205	3
CHE 206L	General Chemistry II Lab	CHE 205 + CHE 206 (Co-req)	1
CHE 305	Organic Chemistry	CHE 206	4
CHE 330	Physical Chemistry	CME 220 + CHE 206	3
MEC 300	Materials Science	CHE 205	3
CME 210	Principles of Chemical Engineering	CHE 205 (Co-req) + CME 200	4
CME 212	Fluid Mechanics for Chemical Engineers	CME 210	3
CME 220	Chemical Engineering Thermodynamics I	CME 210	3
CME 300	Chemical Engineering Thermodynamics II	CME 220 + MTT 205	3
CME 301	Mass Transfer	CME 300 + CME 341	3
CME 305	Modeling and Simulation in Chemical Engineering (with Embedded Lab)	CME 210 + CME 212 + CME 331 (Co-req)	3

CME 320	Chemical Engineering Laboratory I	CME 212 + CME 341 + CME 301(Co-req)	1
CME 321	Process Dynamics and Control	CME 331 (Co-req)	3
CME 331	Chemical Reaction Engineering	CHE 330 + MTT 205	3
CME 341	Heat Transfer	CME 212	3
CME 398	Internship I	60 Credit Hours	1.5
CME 399	Internship II	CME 398	1.5
CME 400	Separation Process	CME 301 + CME 305	3
CME 430	Chemical Engineering Laboratory II	CME 321 + CME 331 + CME 400 (Co-req)	1
CME 450	Process Design	CME 331 + CME 400 (Co-req)	3
CME 455	Industrial Software for Chemical Engineers (ChMEs)	CME 300 + CME 331 + CME 400 (Co-req)	2
CME 498	Capstone Design Project I	90 CHs + CME 301 + CME 321 + CME 331 + CME 305	1
CME 499	Capstone Design Project II	CME 498	2

Water Technology Concentration Courses — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CME 480	Physical and Chemical Processes for Water and Wastewater Treatment	CHE 305 + CHE 330	3
CME 481	Desalination Technologies	CME 341 + CME 300	3
CME 482	Sludge Treatment	CME 480	3
CME 483	Industrial Wastewater Treatment	CME 301	3
CME 484	Industrial Water Pollution & Control	CME 301	3

BACHELOR OF SCIENCE IN
CHEMICAL ENGINEERING
(Water Technology Concentration) - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	STT 100	General Statistics	3	No Prerequisite
	CME 200	Introduction to Chemical Engineering	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	USS 001	University Study Skills Seminar	0	None
Total Credit Hours			**15**	
Spring (Semester 2)	COE 102	Introductory Big Data Analytics	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-req)
	MTT 200	Calculus II	3	MTT 102
	CHE 205	General Chemistry I	3	ENG 102
	CHE 201L	Chemistry Lab	1	CHE 205 (Co-req)
	CME 210	Principles of Chemical Engineering	4	CHE 205 (Co-req) + CME 200
Total Credit Hours			**18**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ISL 100	Islamic Culture	3	No Prerequisite
	MTT 201	Calculus III	3	MTT 200
	CSC 201	Structured Programming	3	MTT 102
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (Co-req)
	COE 101	Introductory Artificial Intelligence	3	STT 100
	CME 212	Fluid Mechanics for Chemical Engineers	3	CME 210
Total Credit Hours			**19**	
Spring (Semester 4)	MEC 300	Materials Science	3	CHE 205
	CME 220	Chemical Engineering Thermodynamics I	3	CME 210
	CHE 206	General Chemistry II	3	CHE 205
	CHE 206L	General Chemistry II Lab	1	CHE 205 + CHE 206 (Co-req)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co-req)
Total Credit Hours			**16**	
Summer Semester	CME 398	Internship I	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CHE 305	Organic Chemistry	4	CHE 206
	CME 300	Chemical Engineering Thermodynamics II	3	CME 220 + MTT 205
	CHE 330	Physical Chemistry	3	CME 220 + CHE 206
	FWS 305	Technical Communications for Work Place	3	ENG 200 + Completion of 45 CHs.
	CME 341	Heat Transfer	3	CME 310 (Co-req)
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
Total Credit Hours			**19**	

Spring (Semester 6)	CME 301	Mass Transfer	3	CME 300 + CME 341
	CME 331	Chemical Reaction Engineering	3	CHE 330 + MTT 205 + CME 341
	CME 305	Modeling and Simulation in Chemical Engineering (Embedded Lab)	3	CME 210 + CME 212 + CME 331 (Co-req)
	CME 320	Chemical Engineering Laboratory I	1	CME 212 + CME 341 + CME 301(Co-req)
	CME 321	Process Dynamics and Control	3	CME 331 (Co-req)
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs.
Total Credit Hours			**16**	
Summer Semester	CME 399	Internship II	1.5	CME398
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	CME 400	Separation Processes	3	CME 301 + CME 305
	CME 430	Chemical Engineering Laboratory II	1	CME 321 + CME 331 + CME 400 (Co-req)
	CME 450	Process Design	3	CME 331 + CME 400 (Co-req)
	CME480	Physical and Chemical Processes for Water and Wastewater Treatment	3	CHE 305 + CHE 330
	FWS 205	UAE and GCC Society	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	CME 498	Capstone Design Project I	1	Senior Level + CME 301 + CME 321 + CME 331 + CME 305
	CME 455	Industrial Software for Chemical Engineers (ChMEs)	2	CME 300 + CME 331 + CME 400 (Co-req)
Total Credit Hours			**16**	
Spring (Semester 8)	CME 499	Capstone Design Project II	2	CME 498
	CME 481	Desalination Technologies	3	CME 341 + CME 300
	CME 482	Sludge Treatment	3	CME 480
	CME 483	Industrial Wastewater Treatment	3	CME 301
	CME 484	Industrial Water Pollution & Control	3	CME 301
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN CIVIL ENGINEERING



Introduction

Civil Engineering is about the planning, design, construction and operation of facilities essential to modern life, ranging from bridges to transit systems. Civil engineers are problem solvers, meeting the challenges of community planning, water supply, structures, traffic congestion, energy needs, pollution, and infrastructure improvements. Societal needs, economic conditions and public safety are paramount in the work accomplished by civil engineers. Technologies related to computer aided design (CAD), geographical information systems (GIS) and 3-D computer modeling are a necessity in all areas of civil engineering.

Both private companies and public agencies seek civil engineers for a variety of professional positions. Many work for engineering consulting firms or construction companies as design engineers, field engineers and project managers. They also join government agencies to oversee transportation, water supply, environmental protection, and resource management. Graduates are equally prepared to pursue Master's and Ph.D. degrees in allied fields, as well as business, management and law degrees.

The program is accredited by the UAE Commission for Academic Accreditation (CAA) as well as the Engineering Accreditation Commission of ABET, www.abet.org. This ensures that the graduates of the program will be uniquely qualified to design, analyze, and test wide-ranging solutions using state-of-the-art tools and technologies.

Program Mission

The mission of Civil Engineering Department is to offer highly rewarding career oriented undergraduate and graduate degree programs aligned with the needs of the United Arab Emirates and the region through excellence in teaching, student learning, faculty scholarship and engagement in community development. Programs offered by the department produce graduates who are well-rounded in mathematical, engineering, and scientific knowledge; who have the ability to analyze, evaluate, and design civil engineering systems; who have the ability to communicate effectively; and who have acquired and understanding and appreciation for global and societal issues.

Program Objectives

The following program objectives are broad statements that describe the career and professional accomplishments, which should be achieved few years following our students' graduation. In general, our graduates are expected to:

1. Identify practical solutions to real life civil engineering problems that are based on a sound science and engineering knowledge, and reflect high level of awareness to relevant social, economical and environmental issues.
2. Efficiently design, build and/or evaluate a civil engineering system/component to satisfy certain client needs per relevant standard specifications and environmental requirements in the Gulf region
3. Be capable of using modern engineering tools efficiently in all aspects of civil engineering practices.
4. Develop and update their knowledge and skills through continuing education and graduate studies to keep up with the rapidly evolving technologies in the field of civil engineering.
5. Demonstrate effective verbal and written communication and interpersonal skills in a professional setting
6. Understand and maintain professional ethics and the need to safeguard the public, the environment, and the natural resources of the country.
7. Be capable of advancing their civil engineering careers through involvement in professional activity and public service, to achieve leadership positions in the industry, government, or academia.

Program Learning Outcomes

The following program outcomes describe competencies and skills that our students acquire by the time of graduation. Our graduates are expected to have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 142

General Education Requirements	24 credit hours
College Requirements	42 credit hours
Major Requirements	67 credit hours
Major Electives	6 credit hours
Open Electives	3 credit hours

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 Uni. Study Skills Seminar as co-requisite if placed in ENG 200)	3
FWS 305	Technical Communication for Workplace	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
FWS 205	UAE and GCC Society	ENG 102 (P) & USS001 as pre-requsite USS001 as co-requisite if students enter to ENG 200 course directly	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 42 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MTT 200	Calculus 2	MTT 102	3
MTT 201	Calculus 3	MTT 200	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
MTT 205	Differential Equations	MTT 200 + MTT 204 (Co-req)	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (Co-req)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (Co-req)	1
CHE 205	Chemistry	(Co-requisite) ENG 102/ENG 200	3
CHE 201L	Chemistry Lab	(Co-requisite) CHE 205	1
GOL 205	Physical Geology	No prerequisite + ENG 200 (Co-req)	3
CSC 201	Computer Programming I	MTT 101 or Higher	3
COE 102	Introductory Big Data Analysis	STT 100	3
COE 101	Introduction to Artificial Intelligence	STT 100	3
COE 202	Engineering Ethics, Economy and Law	ENG 200 + MTT 102	3
GEN 300	Numerical Methods	MTT 205 + CSC 201	3

Major Requirements — 67 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CIV 102	Computer Aided Drawing	No Prerequisite	3
CIV 104	Introduction to Civil Engineering	No Prerequisite	3
CIV 205	Introduction to Geomatics	MTT 102	3
CIV 201	Statics	PHY 102	3
CIV 242	Fluid Mechanics	CIV 201+ MTT 200	3
CIV 242L	Fluid Mechanics Lab	CIV 242 (Co-req)	1
CIV 206	Mechanics of Materials	CIV 201	3
CIV 314	Structural Analysis	CIV 206	3
CIV 313	Construction Materials	CIV 206 + CHE 205	3
CIV 313L	Construction Materials Lab	CIV 313 (Co-req)	1
CIV 343	Hydraulics	CIV 242	3
CIV 331	Highway Engineering	CIV 205	3
CIV 332	Fundamentals of Transportation Engineering	CIV 205	3
CIV 324	Geotechnical Engineering	CIV 206 + GOL 205 (Co-req)	3
CIV 324L	Geotechnical Engineering Lab	CIV 324 (Co-req)	1
CIV 316	Structural Systems	CIV 314	3
CIV 352	Fundamentals of Environmental Engineering	CHE 205 + CIV 104	3
CIV 362	Construction Management	ENG 200	3
CIV 413	Structural Steel Design	CIV 314	3
CIV 318	Reinforced Concrete Design I	CIV 314 + CIV 313	3
CIV 421	Foundation Engineering	CIV 324	3
CIV 442	Hydrology and Urban Systems	CIV 343	3
CIV 398i	Internship in Civil Engineering 1	Completion of 60 Credit Hours	1.5
CIV 399i	Internship in Civil Engineering 2	Completion of 105 Credit Hours	1.5
CIV 497	Capstone Design Project I	103 credits + CIV 316, CIV 318, CIV 324, CIV 332, CIV 352 and CIV 343	1
CIV 498	Capstone Design Project II	CIV 497	3

Major Electives — 6 Credit Hours

List of Major Elective Courses			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
CIV 405	Sustainability in the Built Environment	Junior Status	3
CIV 403	Fundamentals of Geographic Information Systems	CIV 205	3
CIV 430	Traffic Engineering	CIV 332	3
CIV 416	Matrix Methods of Structural Analysis	CIV 316	3
CIV 490	Special Topics in Civil Engineering	Senior Status	3
CIV419	Computer-Aided Structural Engineering	Senior Status	3
CIV428	Slope Stability and Earth Structures	CIV324	3

[1]Civil Engineering students may choose any two courses for the Major Electives list.

Open Electives[2] — 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE	Open Elective	-	3

[2]Civil engineering students are required to take any 3-credit-hour course from a major other than Civil Engineering.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 co-requisite if placed in ENG 200)
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	CIV 104	Introduction to Civil Engineering	3	No Prerequisite
Total Credit Hours			**18**	
Spring (Semester 2)	COE 101	Introduction to Artificial Intelligence	3	STT 100
	CIV 102	Computer Aided Drawing	3	No Prerequisite
	FWS 205	UAE and GCC Society	3	ENG 102 (P) & USS001 as pre-requsite USS001 as co-requisite if students enter to ENG 200 course directly
	MTT 200	Calculus II	3	MTT 102
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-req)
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**19**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	CSC 201	Computer Programming I	3	MTT 101 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (Co-req)
	CIV 201	Statics	3	PHY 102
	MTT 201	Calculus 3	3	MTT 200
	CHE 205	General Chemistry I	3	(Co-req) ENG 102 / ENG 200
	CHE 201L	Chemistry Lab	1	CHE 205 (Co-req)
Total Credit Hours			**17**	
Spring (Semester 4)	GOL 205	Physical Geology	3	ENG 200 (Co-req)
	FWS 305	Technical Comm. for Workplace	3	ENG 200 + Comp. of min. 45 Chr.
	CIV 206	Mechanics of Materials	3	CIV 201
	CIV 205	Introduction to Geomatics	3	MTT 102
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co-req)
Total Credit Hours			**18**	
Summer Semester	CIV 398i	Internship in Civil Engineering 1	1.5	Completion of 60 Credit Hours

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CIV 314	Structural Analysis	3	CIV 206
	CIV 242	Fluid Mechanics	3	CIV 201 + MTT 200
	CIV 242L	Fluid Mechanics Lab	1	CIV 242 (Co-req)
	CIV 313	Construction Materials	3	CIV 206 +CHE 205
	CIV 313L	Construction Materials Lab	1	CIV 313 (Co-req)
	CIV 362	Construction Management	3	ENG 200
	GEN 300	Numerical Methods	3	CSC 201 + MTT 205
Total Credit Hours			**17**	

Spring (Semester 6)	CIV 332	Fundamentals of Transportation Engineering	3	CIV 205
	CIV 343	Hydraulics	3	CIV 242
	CIV 352	Fundamentals of Environmental Engineering	3	CHE 205, CIV 104
	CIV 324	Geotechnical Engineering	3	CIV 206 + GOL 205 (Co-req)
	CIV 324L	Geotechnical Engineering Lab	1	CIV324 (Co-req)
	CIV 316	Structural Systems	3	CIV 314
	CIV 318	Reinforced Concrete Design I	3	CIV 314 + CIV 313
Total Credit Hours			**19**	
Summer Semester	CIV 399i	Internship in Civil Engineering	1.5	Completion of 105 Credit Hours

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	CIV 413	Structural Steel Design	3	CIV 314
	CIV 497	Capstone Design Project I	1	103 credits + CIV 316, CIV 318, CIV 324, CIV 332, CIV 352 and CIV 343
	CIV 421	Foundation Engineering	3	CIV 324
	CIV 331	Highway Engineering	3	CIV 205
	CIV 442	Hydrology and Urban Water Systems	3	CIV 343
	ME 1	Major Elective 1	3	-
Total Credit Hours			**16**	
Spring (Semester 8)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of min. 60 CHs.
	CIV 498	Capstone Design Project II	3	CIV 497
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
	ME 2	Major Elective 2	3	-
	OE	Open Elective	3	-
Total Credit Hours			**15**	

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING



Introduction

Computer Engineering involves the design and analysis of computer hardware, software, and networks. Thus, computer engineers work on the hardware, software, and networking aspects of systems design, development, and maintenance in all areas served by technology today including government, education, health, industry, commerce, tourism, and infrastructure. Some of these computerized systems are as small as ones found in thermostats or mobile phones and others are as large as ones found in industrial robots, cars, or data centers. As computer engineers' work emphasizes innovation and hands-on experience, they are also involved in building prototypes to solve problems wherever they arise in society.

Computer engineers support the information technology infrastructure of institutions and companies, which is a key resource for success today. Computer hardware engineers usually design, develop, test, and supervise the manufacturing of computer hardware such as chips or device controllers. Software engineers, on the other hand, can be involved in the design and development of software systems for control and automation of manufacturing, business, management processes, or mobile devices. They also analyze clients' needs and design or customize existing mobile, web, or standalone applications software to serve these needs. Computer network engineers design, implement, maintain, secure, and support wired and wireless digital communication for institutions and companies without which the core business is disrupted.

The Bachelor of Science in Computer Engineering program at Abu Dhabi University is accredited by the Engineering Accreditation Commission of ABET, www.abet.org. It has been developed according to the standards of international professional bodies such as the Institute of Electrical and Electronic Engineering (IEEE), the Computer Society (IEEE-CS), and the Association for Information Technology Professionals (AITP). This ensures that the graduates of the program will be uniquely qualified to design, analyze, and test wide-ranging solutions using state-of-the-art technologies.

Program Mission

The educational mission of the Computer Engineering undergraduate program is to provide students with a multidisciplinary curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who have the ability to analyze, evaluate, and design computer engineering systems; who have the ability to communicate effectively; who have had meaningful opportunities for undergraduate research; and who have acquired an understanding and appreciation for global and societal issues and are thus prepared for a career path toward leadership in industry, government, and academia.

Program Educational Objectives

The objectives of the Bachelor of Science in Computer Engineering program are to produce graduates who will:

1. Demonstrate their success as computer engineers with a good set of technical problem solving, and leadership accomplishments.
2. Participate in life-long learning activities such as training, continuing education, or graduate studies.
3. Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

The following program outcomes describe competencies and skills that our students acquire by the time of graduation. Our graduates are expected to be able to have:

1. An ability to identify, formulate, and solve complex computer engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply computer engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, economic factors, and sustainability.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, innovate ideas, create a collaborative and inclusive environment, establish goals, plan tasks, meet objectives, and think entrepreneurially.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 138

General Education Requirements	**21 credit hours**
Degree Requirements	**35 credit hours**
Major Requirements	**67 credit hours**
Electives	**15 credit hours**
Major Electives	**9 credit hours**

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL101(A)	Communication Skills in Arabic Language	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-req if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 directly	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + completion of 60 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

Degree Requirements — 35 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ECS100	Introduction to Engineering and Computing	No Prerequisite	3
MTT200	Calculus II	MTT102	3
MTT202	Discrete Structures and Applications	STT100	3
MTT204	Introduction to Linear Algebra	MTT200	3
MTT205	Differential Equations	MTT200, MTT204(co)	3
PHY102	Physics & Engineering Applications I	MTT102	3
PHY102L	Physics & Engineering Applications I Lab	MTT102, PHY102(co)	1
PHY201	Physics & Engineering Applications II	PHY102	3
PHY201L	Physics & Engineering Applications II Lab	PHY102, PHY201(co)	1
CSC201	Computer Programming I	MTT101 or Higher	3
GEN300	Numerical Methods	MTT205, CSC201	3
COE101	Introductory Artificial Intelligence	STT100	3
COE202	Engineering Ethics, Economy, and Law	ENG200, MTT102	3

Major Requirements 67 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
EEN210	Digital Circuits	ECS100	3
EEN210L	Digital Circuits Lab	EEN210(co)	1
CSC305	Data Communications and Networks	Junior Level	3
CSC202	Computer Programming II	CSC201	3
CSC202L	Programming Lab	CSC201, CSC202(co)	1
CSC301	Data Structures and Algorithms	CSC202, MTT202	3
CEN330	Probability and Stochastic Processes	CEN320, STT100	3
CEN201	Electric Circuits I	ECS100 or PHY201, EEN210L	3
CEN320	Signals and Systems	MTT205, CEN201	3
CEN304	Electronic Devices and Circuits	CEN201	3
CEN333	Cross-platform Mobile Application Develop.	CSC201	3
CEN324	Digital and Analog Electronics	CEN304	3
CEN325	Internet of Things: Foundations and Design	CSC201, EEN210	3
CSC308	Operating Systems	CSC301	3
CEN464	Digital Signal Processing	CEN320	3
CEN464L	Signal Processing Lab	CEN464(co)	1
CEN425	Internet of Things: Applications & Edge AI	CEN325	3
CEN401L	Embedded and IoT Lab	CEN425(co), EEN210L	1
EEN365	Control Systems	CEN320, MTT204	3
CEN466	Advanced Digital System Design	EEN210	3
CEN455	Fund. of Sec. for Computer & Embedded Systems	CSC308, CSC305, CEN325	3
CEN368	Computer Architecture and Organization	EEN210, CEN325	3
CEN454	Computer Vision and Image Processing	CEN464, CEN464L	3
CEN399i	Internship in Computer Engineering I	90 Credits	2
CEN399ii	Internship in Computer Engineering II	CEN399i	1
CEN451	Computer Engineering Design Project I	Senior level	1
CEN452	Computer Engineering Design Project II	CEN451	2

Electives 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME1	Major Elective I	-	3
ME2	Major Elective II	-	3
ME3	Major Elective III	-	3
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3

Major Electives 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
AIRE310	Machine Learning	CSC201, COE101, MTT200	3
AIRE410	Deep Learning	AIRE310	3
AIRE325	Edge AI	CEN325, AIRE310	3
AIRE430	Generative AI	AIRE310	3
AIRE475	Self-Driving Cars	AIRE310, CEN325	3
CSC302	Database Management Systems	MTT202, CSC201	3
CSC307	Web Design	CSC201	3
SWE401	Software Engineering	CSC202	3
ITE402	Computer Networks: Design & Implementation	CSC305	3
ITE408	Information Security	CSC305	3
CEN435	Low Power Operation of Embedded Systems	CEN425	3
CEN445	Securing the Internet of Things	CEN425	3
EEN220	Electric Circuits II	CEN201	3
EEN337	Analog and Digital Communication	CEN320	3

To satisfy the major elective requirements, students need to take 3 courses from the basket of electives for a total of 9 credits. Students can also take CEN490 Special Topics in Computer Engineering, EEN490 Special Topics in Electrical Engineering, or ITE490 Special Topics in Information Technology or AIRE concentration courses upon the recommendation and approval of the Department chair.

BACHELOR OF SCIENCE IN
COMPUTER ENGINEERING - Study Plan
(General)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	ECS100	Intro. to Engr. & Computing	3	No Prerequisite
	MTT 102	Calculus I	3	MTT 101 (C grade) or MPT
	STT 100	General Statistics	3	No Prerequisite
	ISL 100(A)	Islamic Culture	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 directly
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-req if placed in ENG200)
	COE 101	Introductory Artificial Intelligence	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Laboratory	1	MTT 102 + PHY 102 (Co)
	MTT 200	Calculus II	3	MTT 102
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	CSC 201	Computer Programming I	3	MTT 101 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics & Engr. Applications II Lab	1	PHY 102 + PHY 201 (Co)
	EEN210L	Digital Circuits Lab	1	EEN210(co)
	EEN210	Digital Circuits	3	ECS100
	COE202	Engineering Ethics, Economy, and Law	3	ENG200, MTT102
	MTT202	Discrete Structures and Applications	3	STT100
Total Credit Hours			**17**	
Spring (Semester 4)	CSC 202	Computer Programming II	3	CSC 201
	CEN 333	Cross-platform Mobile App. Develop.	3	CSC 201
	CEN 201	Electric Circuits I	3	ECS100 or PHY201, EEN210L
	OE1	Open Elective I	3	-
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CEN 320	Signals and Systems	3	MTT 205 + CEN 201
	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	CEN 304	Electronic Devices and Circuits	3	CEN 201
	CEN 325	IoT: Foundations and Design	3	CSC201, EEN210
	CEN368	Computer Architecture and Organization	3	EEN210, CEN325
Total Credit Hours			**18**	

Spring (Semester 6)	CEN 330	Probability and Stochastic Processes	3	CEN320 + STT 100
	CSC 308	Operating Systems	3	CSC 301
	CEN401L	Embedded and IoT Lab	1	CEN425(co), EEN210L
	CEN 324	Digital and Analog Electronics	3	CEN 304
	CEN 425	IoT: Applications & Edge AI	3	CEN 325
	CSC202L	Programming Lab	1	CSC201, CSC202(co)
	AIRE410	Deep Learning	3	AIRE310
Total Credit Hours			**17**	
Summer Semester	CEN 399i	Internship in Computer Engineering I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	GEN300	Numerical Methods	3	MTT205, CSC201
	FWS310	Fund. of Innovation & Entrepreneurship	3	ENG200 +min 60 credits
	ME1	Major Elective 1	3	-
	CEN455	Fund. of Sec. for Computer & Embedded Systems	3	CSC308, CSC305, CEN325
	CEN464L	Signal Processing Lab	1	CEN464(co)
	CEN464	Digital Signal Processing	3	CEN320
	CEN451	Computer Engineering Design Project I	1	Senior Level
Total Credit Hours			**17**	
Winter Semester	CEN 399ii	Internship in Computer Engineering II	1	CEN 399i
Total Credit Hours			**1**	
Spring (Semester 8)	EEN365	Control Systems	3	CEN320, MTT204
	ME2	Major Elective II	3	-
	CEN466	Advanced Digital System Design	3	EEN210
	CEN452	Computer Engineering Design Project II	2	CEN451
	CEN454	Computer Vision and Image Processing	3	CEN464, CEN464L
	ME3	Major Elective III	3	-
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

(Artificial Intelligence Concentration)

Curriculum

Total Credit Hours: 138

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Language	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-req if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 directly	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

Degree Requirements — 35 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ECS100	Introduction to Engineering and Computing	No Prerequisite	3
MTT200	Calculus II	MTT102	3
MTT202	Discrete Structures and Applications	STT100	3
MTT204	Introduction to Linear Algebra	MTT200	3
MTT205	Differential Equations	MTT200, MTT204(co)	3
PHY102	Physics & Engineering Applications I	MTT102	3
PHY102L	Physics & Engineering Applications I Lab	MTT102, PHY102(co)	1

PHY201	Physics & Engineering Applications II	PHY102	3
PHY201L	Physics & Engineering Applications II Lab	PHY102, PHY201(co)	1
CSC201	Computer Programming I	MTT101 or Higher	3
GEN300	Numerical Methods	MTT205, CSC201	3
COE101	Introductory Artificial Intelligence	STT100	3
COE202	Engineering Ethics, Economy, and Law	ENG200, MTT102	3

Major Requirements — 67 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
EEN210	Digital Circuits	ECS100	3
EEN210L	Digital Circuits Lab	EEN210(co)	1
CSC305	Data Communications and Networks	Junior Level	3
CSC202	Computer Programming II	CSC201	3
CSC202L	Programming Lab	CSC201, CSC202(co)	1
CSC301	Data Structures and Algorithms	CSC202, MTT202	3
CEN330	Probability and Stochastic Processes	CEN320, STT100	3
CEN201	Electric Circuits I	ECS100 or PHY201, EEN210L	3
CEN320	Signals and Systems	MTT205, CEN201	3
CEN304	Electronic Devices and Circuits	CEN201	3
CEN333	Cross-platform Mobile Application Develop.	CSC201	3
CEN324	Digital and Analog Electronics	CEN304	3
CEN325	Internet of Things: Foundations and Design	CSC201, EEN210	3
CSC308	Operating Systems	CSC301	3
CEN464	Digital Signal Processing	CEN320	3
CEN464L	Signal Processing Lab	CEN464(co)	1
CEN425	Internet of Things: Applications & Edge AI	CEN325	3
CEN401L	Embedded and IoT Lab	CEN425(co), EEN210L	1
EEN365	Control Systems	CEN320, MTT204	3
CEN466	Advanced Digital System Design	EEN210	3
CEN455	Fund. of Sec. for Computer & Embedded Systems	CSC308, CSC305, CEN325	3
CEN368	Computer Architecture and Organization	EEN210, CEN325	3
CEN454	Computer Vision and Image Processing	CEN464, CEN464L	3
CEN399i	Internship in Computer Engineering I	90 Credits	2

CEN399ii	Internship in Computer Engineering II	CEN399i	1
CEN451	Computer Engineering Design Project I	Senior level	1
CEN452	Computer Engineering Design Project II	CEN451	2

Concentration Courses (15 Credit Hours)			
Course Code	**Course Title**	**Prerequisite(s)**	**Credits**
AIRE310	Machine Learning	CSC201, COE101, MTT200	3
AIRE410	Deep Learning	AIRE310	3
AIRE325	Edge AI	CEN325, AIRE310	3
AIRE430	Generative AI	AIRE310	3
AIRE475	Self-Driving Cars	AIRE310, CEN325	3

BACHELOR OF SCIENCE IN
COMPUTER ENGINEERING - Study Plan
(Artificial Intelligence Concentration)

First Year (Freshman)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 1)	ARL 101 (A)	Comm. Skills in Arabic Lang.	3	No Prerequisite
	ECS100	Intro. to Engr. & Computing	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT101 (C grade)
	STT 100	General Statistics	3	No Prerequisite
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 directly
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-req if placed in ENG200)
	COE 101	Introductory Artificial Intelligence	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Laboratory	1	MTT 102 + PHY 102 (Co)
	MTT 200	Calculus II	3	MTT 102
Total Credit Hours			**16**	

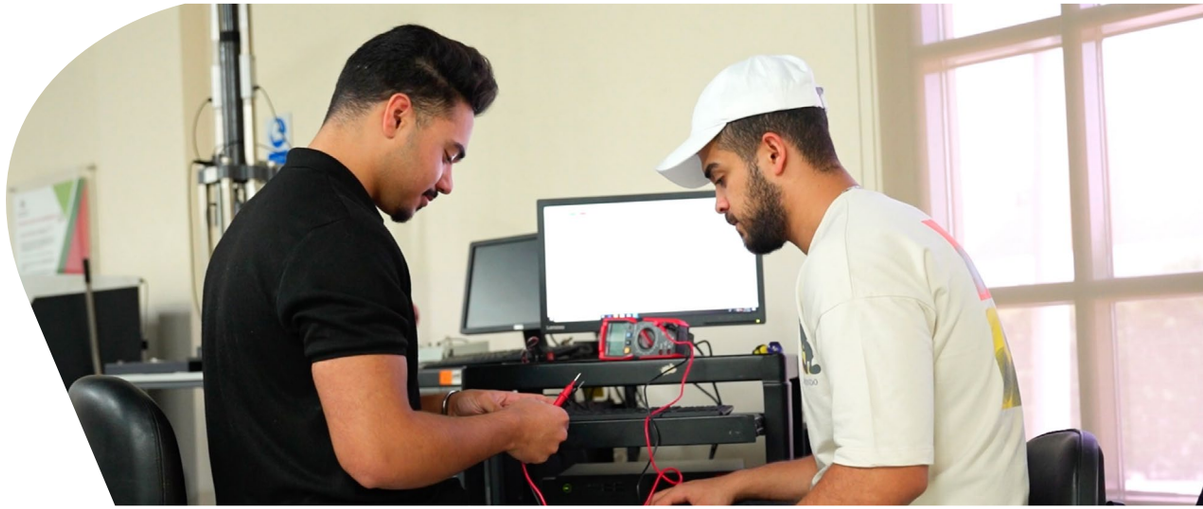
Second Year (Sophomore)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 3)	CSC201	Computer Programming I	3	MTT101 or higher
	PHY201	Physics & Engr. Applications II	3	PHY 102
	PHY201L	Physics & Engr. Applications II Lab	1	PHY102, PHY201(co)
	EEN210L	Digital Circuits Lab	1	EEN210(co)
	EEN210	Digital Circuits	3	ECS100
	COE202	Engineering Ethics, Economy, and Law	3	ENG200, MTT102
	MTT202	Discrete Structures and Applications	3	STT100
Total Credit Hours			**17**	
Spring (Semester 4)	CSC 202	Computer Programming II	3	CSC 201
	CEN 333	Cross-platform Mobile App. Develop.	3	CSC 201
	CEN 201	Electric Circuits I	3	ECS100 or PHY201, EEN210L
	AIRE310	Machine Learning	3	CSC201, COE101, MTT200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 5)	CEN 320	Signals and Systems	3	MTT 205 + CEN 201
	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	CEN 304	Electronic Devices and Circuits	3	CEN 201
	CEN 325	IoT: Foundations and Design	3	CSC201, EEN210
	CEN368	Computer Architecture and Organization	3	EEN210, CEN325
Total Credit Hours			**18**	

Spring (Semester 6)	CEN 330	Probability and Stochastic Processes	3	CEN320, STT100
	CSC 308	Operating Systems	3	CSC 301
	CEN401L	Embedded and IoT Lab	1	CEN425(co), EEN210L
	CEN 324	Digital and Analog Electronics	3	CEN 304
	CEN 425	IoT: Applications & Edge AI	3	CEN 325
	CSC202L	Programming Lab	1	CSC201, CSC202(co)
	AIRE410	Deep Learning	3	AIRE310
Total Credit Hours			**17**	
Summer Semester	CEN 399i	Internship in Computer Engineering I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	GEN 300	Numerical Methods	3	MTT 205 + CSC 201
	FWS310	Fund. of Innovation & Entrepreneurship	3	ENG200 +min 60 credits
	AIRE475	Self-Driving Cars	3	AIRE310, CEN325
	CEN455	Fund. of Sec. for Computer & Embedded Systems	3	CSC308, CSC305, CEN325
	CEN464L	Signal Processing Lab	1	CEN464(co)
	CEN464	Digital Signal Processing	3	CEN320
	CEN451	Computer Engineering Design Project I	1	Senior Level
Total Credit Hours			**17**	
Winter Semester	CEN 399ii	Internship in Computer Engineering II	1	CEN 399i
Total Credit Hours			**1**	
Spring (Semester 8)	EEN 365	Control Systems	3	CEN320, MTT204
	AIRE325	Edge AI	3	CEN325, AIRE310
	CEN 466	Advanced Digital System Design	3	EEN210
	CEN452	Computer Engineering Design Project II	2	CEN 451
	CEN 454	Computer Vision and Image Processing	3	CEN464, CEN464L
	AIRE430	Generative AI	3	AIRE310
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING



Introduction

Electrical Engineering is concerned with electrical and electronic devices and systems essential to contemporary life. It is a rapidly advancing field that has a significant impact on shaping modern societies.

Electrical Engineering includes electronic and computer systems, control and electrical power and renewable energy systems, telecommunications, and microelectronics. It is concerned with the way electrical energy is produced and used at homes, communities and the industry.

Electrical engineers design and build the systems and machines that generate, transmit, measure, control and use electrical energy. They work with various types of equipment ranging from heavy power generators to tiny computer chips, and their work contributes to almost every sector of the society. For example, they may work on the design of telecommunication systems, the operation of electric power stations, the lighting and wiring of buildings, the design of household appliances or the electrical control of industrial machinery or in designing and fabricating integrated circuits.

The Bachelor of Science in Electrical Engineering program at Abu Dhabi University is accredited by the Engineering Accreditation Commission of ABET, www.abet.org. The Electrical Engineering program at Abu Dhabi University has been developed according to the standards of international professional bodies such as the Institute of Electrical and Electronic Engineering (IEEE). This ensures that graduates of the program will be uniquely qualified to design, analyze, and test wide-ranging solutions for state-of-the-art electrical and electronic systems.

Electrical Engineering students may also choose to specialize in the exciting and high demand area of robotics and automation, which will increasingly shape our future.

Program Mission

The educational mission of the Electrical Engineering undergraduate program is to provide students with a high-quality education through well-developed curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who are prepared for

the practice of electrical engineering with sufficient depth to continue their education beyond the baccalaureate degree; who have the ability to analyze, evaluate, and design electrical engineering systems; who have the ability to communicate effectively; who have gained sufficient awareness of the current and emerging industrial practices through participation in industrial internship experiences; and who have acquired an understanding of and appreciation for global and societal issues and are thus prepared for a career path towards leadership in industry, government, and academia.

Program Educational Objectives

The objectives of the Bachelor of Science in Electrical Engineering program are to produce graduates who will:

1. Demonstrate their success as electrical engineers with a good set of technical, problem solving, and leadership accomplishments.
2. Participate in life-long learning activities such as training, continuing education, or graduate studies.
3. Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

1. An ability to identify, formulate, and solve complex electrical engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply electrical engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, economic factors, and sustainability.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, innovate ideas, create a collaborative and inclusive environment, establish goals, plan tasks, meet objectives, and think entrepreneurially.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 138

General Education Requirements	**21 credit hours**
Degree Requirements	**36 credit hours**
Major Requirements	**69 credit hours**
Concentration Courses	**12 credit hours**
Major Electives	**6 credit hours**

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Language	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-requisite if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 course directly	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

Degree Requirements — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ECS100	Introduction to Engineering and Computing	No Prerequisite	3
MTT200	Calculus II	MTT102	3
MTT201	Calculus III	MTT200	3
MTT204	Introduction to Linear Algebra	MTT200	3
MTT205	Differential Equations	MTT200, MTT204(co)	3
PHY102	Physics & Engineering Applications I	MTT102	3
PHY102L	Physics & Engineering Applications I Lab	MTT102, PHY102(co)	1
PHY201	Physics & Engineering Applications II	PHY102	3
PHY201L	Physics & Engineering Applications II Lab	PHY102, PHY201(co)	1
CSC201	Computer Programming I	MTT101 or Higher	3
CHE205	General Chemistry I	ENG200/ENG102(co)	3
CHE201L	Chemistry Lab	CHE205(co)	1
COE101	Introductory Artificial Intelligence	STT100	3
COE202	Engineering Ethics, Economy, and Law	ENG200, MTT102	3

Major Requirements — 69 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CEN333	Cross-platform Mobile Application Development	CSC201	3
EEN210	Digital Circuits	ECS100	3
EEN210L	Digital Circuits Lab	EEN210	1
CSC305	Data Communications and Networks	Junior Level	3
CEN330	Probability and Stochastic Processes	CEN320, STT100	3
CEN201	Electric Circuits I	ECS100 or PHY201, EEN210L	3
EEN220	Electric Circuits II	CEN201	3
CEN304	Electronic Devices and Circuits	CEN201	3
CEN324	Digital and Analog Electronics	CEN304	3
CEN325	Internet of Things: Foundations and Design	CSC201, EEN210	3
CEN425	Internet of Things: Applications and Edge AI	CEN325	3
CEN401L	Embedded and IoT Lab	CEN425(co), EEN210L	1
EEN337	Analog and Digital Communications	CEN320	3
EEN339	Communication Systems	CEN330, EEN337	3
EEN399i	Internship in Electrical Engineering I	90 Credits	2
EEN399ii	Internship in Electrical Engineering II	EEN399i	1
CEN320	Signals and Systems	MTT205, CEN201	3
CEN464	Digital Signal Processing	CEN320	3
CEN464L	Signal Processing Lab	CEN464(co)	1
EEN338	Electromagnetic Fields and Waves	MTT201(co), MTT205	3
EEN448	Electrical Installation and Design	EEN345	3
EEN451	Electrical Engineering Design Project I	Senior level	1
EEN452	Electrical Engineering Design Project II	EEN451	2
EEN340	Energy Conversion	EEN220, EEN338	3
EEN345	Power Systems	EEN220	3
EEN449	Renewable Energy	EEN345	3

Concentration Courses — 12 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME1	Major Elective I	-	3
ME2	Major Elective II	-	3
ME3	Major Elective III	-	3
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3

Major Electives — 6 Credit Hours				
Themes	**Course Code**	**Course Title**	**Prerequisite(s)**	**Credit Hours**
Communications	EEN430	Radiowave Propagation	EEN337, EEN338	3
	EEN444	Optical Communication and Laser Technologies	EEN337, EEN338	3
	EEN435	Wireless Communication	EEN337	3
	EEN455	Satellite and Space Communication Systems	EEN337, EEN338	3
Power Systems and Renewable Energy	EEN447	Batteries & Fuel Cells Fundamentals	EEN345, EEN340	3
	EEN441	Photovoltaics	EEN345	3
	EEN443	Power Distribution	EEN345	3
	EEN445	Power System Protection	EEN345	3
	CEN435	Low Power Operation of Embedded Systems	CEN425	3
Robotics and Instrumentation	EEN310	Instrumentation and Measurement	CEN304	3
	EEN413	Sensors and Transducers	EEN310	3
	CEN454	Computer Vision and Image Processing	CEN464, CEN464L	3
	EEN366	Introduction to Robotics	EEN365	3
	EEN365	Control Systems	CEN320, MTT204	3

* Students may take their major elective courses from one option or multiple options.

* Students may also take EEN 490 Special Topics in Electrical Engineering or CEN 490 Special Topics in Computer Engineering, or AIRE concentration courses based on the recommendation and approval of the Department Chair.

BACHELOR OF SCIENCE IN
ELECTRICAL ENGINEERING
Study Plan

First Year (Freshman)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 1)	ARL 101 (A)	Comm. Skills in Arabic Lang.	3	No Prerequisite
	ECS100	Introduction to Engineering and Computing	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT101 (C grade)
	STT 100	General Statistics	3	No Prerequisite
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 directly
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-req if placed in ENG200)
	COE 101	Introductory Artificial Intelligence	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics & Engr. Applications I Lab	1	MTT 102 + PHY 102 (Co)
	MTT 200	Calculus II	3	MTT 102
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 3)	CSC201	Computer Programming I	3	MTT101 or higher
	PHY201	Physics & Engr. Applications II	3	PHY102
	PHY201L	Physics & Engr. Applications II Lab	1	PHY102, PHY201(co)
	EEN210L	Digital Circuits Lab	1	EEN210(co)
	EEN210	Digital Circuits	3	ECS100
	CHE205	General Chemistry I	3	ENG200/ENG102(co)
	CHE201L	Chemistry lab	1	CHE205(co)
	MTT201	Calculus III	3	MTT200
Total Credit Hours			**18**	
Spring (Semester 4)	CEN325	IoT: Foundation & Design	3	CSC201, EEN210
	CEN333	Cross-platform Mobile App. Develop.	3	CSC201
	CEN201	Electric Circuits I	3	ECS100 or PHY201, EEN210L
	COE202	Engineering Ethics, Economy, and Law	3	ENG200, MTT102
	MTT205	Differential Equations	3	MTT200, MTT204(co)
	MTT204	Introduction to Linear Algebra	3	MTT200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 5)	CEN320	Signals and Systems	3	MTT 205, CEN201
	EEN220	Electric Circuits II	3	CEN201
	CEN425	IoT: Applications and Edge AI	3	CEN325
	FWS310	Fund. of Innovation & Entrepreneurship	3	ENG200 +min 60 credits
	EEN338	Electromagnetic Fields and Waves	3	MTT201(co),MTT205
	CEN304	Electronic Devices and Circuits	3	CEN201
Total Credit Hours			**18**	

Spring (Semester 6)	EEN345	Power Systems	3	EEN220
	CEN401L	Embedded and IoT Lab	1	CEN425(co), EEN210L
	EEN337	Analog and Digital Communication	3	CEN320
	CEN324	Digital and Analog Electronics	3	CEN304
	ME1	Major Elective I	3	-
	CEN330	Probability and Stochastic Processes	3	CEN320, STT100
Total Credit Hours			**16**	
Summer Semester	EEN 399i	Internship in Electrical Engineering I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	EEN448	Electrical Installation and Design	3	EEN345
	CSC305	Data Communications and Networks	3	Junior Level
	ME2	Major Elective II	3	-
	CEN464L	Signal Processing Lab	1	CEN464(co)
	OE1	Open Elective I	3	-
	CEN464	Digital Signal Processing	3	CEN320
	EEN451	Electrical Engineering Design Project I	1	Senior Level
Total Credit Hours			**17**	
Winter Semester	EEN 399ii	Internship in Electrical Engineering II	1	EEN 399i
Total Credit Hours			**1**	
Spring (Semester 8)	EEN340	Energy Conversion	3	EEN220, EEN338
	ME3	Major Elective III	3	-
	EEN449	Renewable Energy	3	EEN345
	EEN452	Electrical Engineering Design Project II	2	EEN451
	EEN339	Communication Systems	3	CEN330, EEN337
	OE2	Open Elective II	3	-
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

(Robotics and Automation Concentration)

Curriculum

Total Credit Hours: 138

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Language	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-requisite if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 course directly	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	MTT 101 (C grade) or MPT	3
STT 100	General Statistics	No Prerequisite	3

Degree Requirements — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ECS100	Introduction to Engineering and Computing	No Prerequisite	3
MTT200	Calculus II	MTT102	3
MTT201	Calculus III	MTT200	3
MTT204	Introduction to Linear Algebra	MTT200	3
MTT205	Differential Equations	MTT200, MTT204(co)	3
PHY102	Physics & Engineering Applications I	MTT102	3
PHY102L	Physics & Engineering Applications I Lab	MTT102, PHY102(co)	1
PHY201	Physics & Engineering Applications II	PHY102	3
PHY201L	Physics & Engineering Applications II Lab	PHY102, PHY201(co)	1

CSC201	Computer Programming I	MTT101 or Higher	3
CHE205	General Chemistry I	ENG200/ENG102(co)	3
CHE201L	Chemistry Lab	CHE205(co)	1
COE101	Introductory Artificial Intelligence	STT100	3
COE202	Engineering Ethics, Economy, and Law	ENG200, MTT102	3

Major Requirements

66 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CEN333	Cross-platform Mobile Application Development	CSC201	3
EEN210	Digital Circuits	ECS100	3
EEN210L	Digital Circuits Lab	EEN210	1
CSC305	Data Communications and Networks	Junior Level	3
CEN330	Probability and Stochastic Processes	CEN320, STT100	3
CEN201	Electric Circuits I	ECS100 or PHY201, EEN210L	3
EEN220	Electric Circuits II	CEN201	3
CEN304	Electronic Devices and Circuits	CEN201	3
CEN324	Digital and Analog Electronics	CEN304	3
CEN325	Internet of Things: Foundations and Design	CSC201, EEN210	3
CEN425	Internet of Things: Applications and Edge AI	CEN325	3
CEN401L	Embedded and IoT Lab	CEN425(co), EEN210L	1
EEN337	Analog and Digital Communications	CEN320	3
EEN339	Communication Systems	CEN330, EEN337	3
EEN399i	Internship in Electrical Engineering I	90 Credits	2
EEN399ii	Internship in Electrical Engineering II	EEN399i	1
CEN320	Signals and Systems	MTT205, CEN201	3
CEN464	Digital Signal Processing	CEN320	3
CEN464L	Signal Processing Lab	CEN464(co)	1
EEN338	Electromagnetic Fields and Waves	MTT201(co), MTT205	3
EEN448	Electrical Installation and Design	EEN345	3
EEN451	Electrical Engineering Design Project I	Senior level	1
EEN452	Electrical Engineering Design Project II	EEN451	2
EEN340	Energy Conversion	EEN220, EEN338	3
EEN345	Power Systems	EEN220	3
EEN449	Renewable Energy	EEN345	3

Concentration Courses

15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
EEN413	Sensors and Transducers	EEN310	3
EEN310	Instrumentation and Measurement	CEN304	3
EEN366	Introduction to Robotics	EEN365	3
CEN454	Computer Vision and Image Processing	CEN464, CEN464L	3
EEN365	Control Systems	CEN320, MTT204	3

BACHELOR OF SCIENCE IN
ELECTRICAL ENGINEERING

Study Plan (Robotics and Automation Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL101(A)	Comm. Skills in Arabic Lang.	3	-
	ECS100	Intro. to Engr. & Computing	3	-
	MTT102	Calculus I	3	Math Placement Test or MTT101 (C grade)
	STT100	General Statistics	3	-
	ISL100(A)	Islamic Culture	3	-
Total Credit Hours			**15**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG 102 + FWS 100/USS 001 as pre-requisite FWS 100/USS 001 as co-requisite if placed in ENG 200 directly
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS 001 as co-requisite if placed in ENG 200
	COE 101	Introductory Artificial Intelligence	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Laboratory	1	MTT 102 + PHY 102 (Co)
	MTT 200	Calculus II	3	MTT 102
Total Credit Hours			**16**	

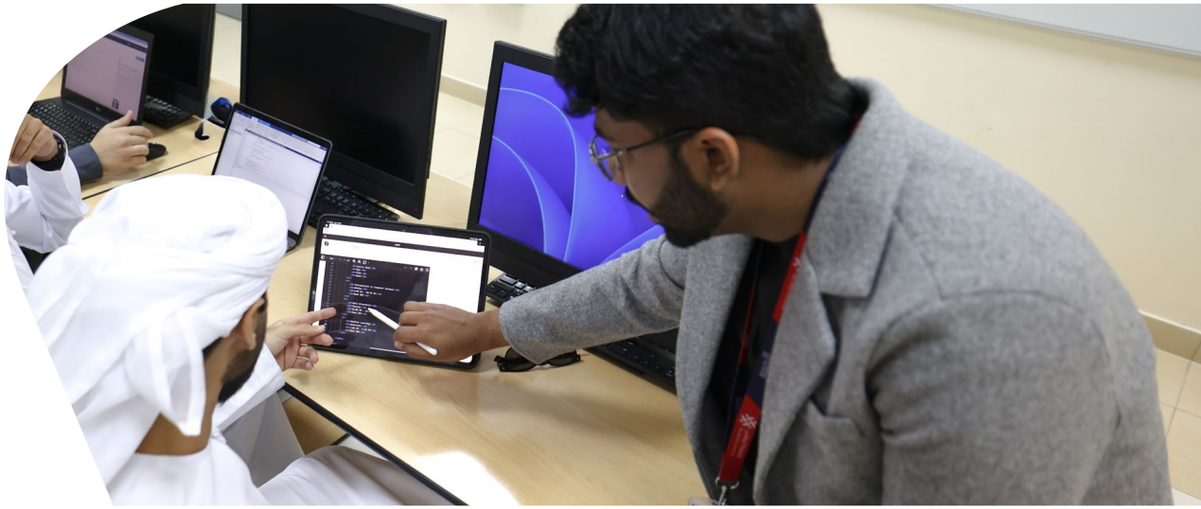
Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	CSC201	Computer Programming I	3	MTT101 or higher
	PHY201	Physics & Engr. Applications II	3	PHY102
	PHY201L	Physics & Engr. Applications II Lab	1	PHY102, PHY201(co)
	EEN210L	Digital Circuits Lab	1	EEN210(co)
	EEN210	Digital Circuits	3	ECS100
	CHE205	General Chemistry I	3	ENG200/ENG102(co)
	CHE201L	Chemistry lab	1	CHE205(co)
	MTT201	Calculus III	3	MTT200
Total Credit Hours			**18**	
Spring (Semester 4)	CEN325	IoT: Foundation & Design	3	CSC201, EEN210
	CEN333	Cross-platform Mobile App. Develop.	3	CSC201
	CEN201	Electric Circuits I	3	ECS100 or PHY201, EEN210L
	COE202	Engineering Ethics, Economy, and Law	3	ENG200, MTT102
	MTT205	Differential Equations	3	MTT200, MTT204(co)
	MTT204	Introduction to Linear Algebra	3	MTT200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CEN320	Signals and Systems	3	MTT 205, CEN201
	EEN220	Electric Circuits II	3	CEN201
	CEN425	IoT: Applications and Edge AI	3	CEN325
	FWS310	Fund. of Innovation & Entrepreneurship	3	ENG200 +min 60 credits
	EEN338	Electromagnetic Fields and Waves	3	MTT201(co),MTT205
	CEN304	Electronic Devices and Circuits	3	CEN201
Total Credit Hours			**18**	

Spring (Semester 6)	EEN345	Power Systems	3	EEN220
	CEN401L	Embedded and IoT Lab	1	CEN425(co), EEN210L
	EEN337	Analog and Digital Communication	3	CEN320
	CEN324	Digital and Analog Electronics	3	CEN304
	EEN365	Control Systems	3	CEN320, MTT204
	CEN330	Probability and Stochastics Processes	3	CEN320, STT100
Total Credit Hours			**16**	
Summer Semester	EEN 399i	Internship in Electrical Engineering I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	EEN448	Electrical Installation and Design	3	EEN345
	CSC305	Data Communications and Networks	3	Junior Level
	EEN366	Introduction to Robotics	3	EEN365
	CEN464L	Signal Processing Lab	1	CEN464(co)
	EEN310	Instrumentation and Measurement	3	CEN304
	CEN464	Digital Signal Processing	3	CEN320
	EEN451	Electrical Engineering Design Project I	1	Senior Level
Total Credit Hours			**17**	
Winter Semester	EEN 399ii	Internship in Electrical Engineering II	1	EEN 399i
Total Credit Hours			**1**	
Spring (Semester 8)	EEN340	Energy Conversion	3	EEN220, EEN338
	CEN454	Computer Vision and Image Processing	3	CEN464, CEN464L
	EEN449	Renewable Energy	3	EEN345
	EEN452	Electrical Engineering Design Project II	2	EEN451
	EEN339	Communication Systems	3	CEN330, EEN337
	EEN413	Sensors and Transducers	3	EEN310
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY



Introduction

Information Technology (IT) is concerned with studying various areas that are related to meeting user's needs in various activities of computing technology. The Information Technology (IT) program is designed to educate students about the current trends of IT that offer a better potential for employability. Students will acquire the core knowledge needed for IT professionals and, at the same time, have specific knowledge in specialized areas. The program is structured as a set of core courses and three concentrations. Through these concentrations, students will learn up-to-date knowledge in this fast-growing field and increase their chances to find jobs.

These concentrations will focus on web technology and internet applications, networking, mobile applications, security, and interactive media, game programming and simulation. Moreover, students will be offered the opportunity to do a practical project. This project-oriented approach will improve their learning curve and help them to have a hands-on experience. Moreover, the IT program at Abu Dhabi University is designed with conformance to international standards and guidelines. This ensures that graduates of the program will be uniquely qualified to design, analyze, integrate, and administer computing technology.

Program Mission

The mission of the Information Technology Department is to offer student-centric degree programs that prepare students for highly rewarding careers in the technology sector and empower their contribution to the UAE and regional growth through excellence in teaching, and to meet the development needs of the country and the region through faculty scholarship and community service.

Program Objectives

The B.Sc. IT Program provides undergraduates with the broad technical education necessary for productive employment in the public or private sector, and it develops in them an understanding of fundamentals and current issues important for future years of learning. Our program educational objectives are:

- Demonstrate their success as IT professionals with a good set of technical, problem solving, and leadership accomplishments.
- Participate in life-long learning activities such as training, continuing education, or graduate studies.
- Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

The IT program is specifically designed to provide the IT graduates with the knowledge and skills needed to succeed in workplace and in advanced studies.

The following program outcomes describe competencies and skills that B.Sc. IT students will acquire by the time of graduation. B.Sc. IT graduates are expected to be able to:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems.

Curriculum

Total Credit Hours: 126

General Education Requirements	**27 credit hours**
College Requirements	**39 credit hours**
Major Requirements	**45 credit hours**
Major Electives	**9 credit hours**
Open Electives	**6 credit hours**

General Education Requirements — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (R) (FWS100/ USS001 as co-requisite if placed in ENG200)	3
FWS 305	Technical Communication for Workplace	ENG 200	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 101	Pre-Calculus	None	3

GES 201	General Science	ENG 102 + FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
FWS 211	Fundamentals of Emotional Intelligence	ENG 102 + FWS 100 (Co-req if placed in ENG 200)	3
FWS 205	UAE and GCC Society	ENG102 (R) & FWS100 / USS001 as pre-requisite FWS100/ USS001 as co-requisite if students enter to ENG200 course directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3

Degree Requirements — 39 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 102	Introductory Big Data Analytics	STT 100	3
SWE 201	Structured Programming	MTT 101 or Higher	3
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 305	Data Communications and Networks	Junior Level	3
CSE 210	Introduction to Cybersecurity Engineering	ECT 200	3
ECT 200	Introduction to Computing	No Prerequisite	3
ITE 399A	Internship in IT-Part A	60 Credit Hours	1.5
ITE 399B	Internship in IT-Part B	90 Credit Hours	1.5
ITE 390	Computer Ethics	CSC 202	3
ITE 499A	Capstone Design Project I	Senior Level + SWE 401 + ITE 421	1
ITE 499B	Capstone Design Project II	ITE 499A	2
MTT 202	Discrete Mathematics	STT 100	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3

Major Requirements — 45 Credit Hours

Compulsory Courses (39 Credit Hours)			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
CSE 420	Ethical Hacking	CSC 305	3
CIS 404	Data Warehousing and Data Mining	(SWE 201 or CSC 201) + STT 201	3

CSC 307	Web Design	SWE 201 or CSC 201	3
CSC 308	Operating systems	CSC 301	3
CSC 406	Artificial Intelligence	STT 201 + CSC 301	3
SWE 401	Software Engineering	CSC 202	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 401	IT Project Management	CSC 401	3
ITE 402	Computer Networks Design and Implementation	CSC 305	3
ITE 408	Information Security	CSC 305	3
ITE 409	Human Computer Interactions	CSC 401 or SWE 401	3
ITE 414	Introduction to E-commerce	Junior Level	3
ITE 421	Native Mobile Application Development	CSC 202	3
ITE 422	System and Network Administration	CSC 305	3
ITE 442	Data Science and Big Data Analytics	(SWE 201 or CSC 201) + STT 201	3

Major Electives — 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME1	Major Elective I	-	3
ME2	Major Elective 2	-	3
ME3	Major Elective 3	-	3

Open Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3
OE2	Open Elective II	-	3

Information Technology Major Electives Basket			
Course Code	**Course Title**	**Prerequisite(s)**	**Credits**
CSC 404	Computer Graphics and Animation	CSC 301	3
CSE 410	Mobile Device Security	CSC 305	3
CSE 400	Network Security and Forensics	CSC 305	3
ITE 410	Web Programming	CSC 307	3

ITE 415	Advanced E-commerce Applications Design	ITE 414	3
ITE 430	Mobile Game Development	ITE 421	3
ITE 490	Selected Topics in IT	Determined Based on Topics	3
CSC 303	Digital Logic Design	ECT 200	3
CEN 325	Internet of Things: Foundation and Design	CSC 201 + CSC 303	3
CSE 300	Introduction to Digital Forensics	CSC 201	3
CSE 310	Introduction to Cryptography	STT 201 + MTT 202	3
SWE 370	Object Oriented Design Patterns	CSC 202	3
SWE 371	Software Requirements and Specification	CSC 202	3
SWE 471	Software Design and Architecture	SWE 401	3
SWE 472	Software Testing and Quality Assurance	SWE 471	3
SWE 473	Software Maintenance and Evolution	SWE 401	3

BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY
Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ECT 200	Introduction to Computing	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	MTT 101	Pre-Calculus	3	None
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	CSE 210	Introduction to Cybersecurity Engineering	3	ECT 200
	FWS 205	UAE and GCC Society	3	ENG102 + FWS100 (E) (co-req if placed in ENG 200)
	GES 201	General Sciences	3	ENG 102
	ISL 100	Islamic Culture	3	No Prerequisite
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	MTT 202	Discrete Structures and Applications	3	STT 100
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
	OE 1	Open Elective I	3	-
Total Credit Hours			**12**	

Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	CSC 307	Web Design	3	SWE 201 or CSC 201
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Comp of 45 Credit Hours
	OE 2	Open Elective 2	3	-
Total Credit Hours			**15**	
Summer Semester	ITE 399A	Internship in IT-Part A	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite (s)**
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	SWE 401	Software Engineering	3	CSC 202
	ITE 390	Computer Ethics	3	CSC 202
	ITE 414	Introduction to E-Commerce	3	Junior Level
Total Credit Hours			**15**	
Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
	ITE 402	Computer Networks Design and Implementation	3	CSC 305
	ITE 421	Native Mobile Application 3Development	3	CSC 202
	ITE 422	System and Network Administration	3	CSC 305
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + (Comp. of 60 Credit Hours)
Total Credit Hours			**18**	
Summer Semester	ITE 399B	Internship in IT-Part B	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ITE 401	IT Project Management	3	CSC 401
	ITE 408	Information Security	3	CSC 305
	ITE 409	Human Computer Interaction	3	CSC 401 or SWE 401
	ITE 442	Data Science and Big Data Analytics	3	(SWE 201 or CSC 201) + STT 201
	ITE 499A	Capstone Design Project I	1	Senior Level + SWE 401 + ITE 421
	ME 1	Major Elective II	3	-
Total Credit Hours			**16**	
Spring (Semester 8)	CSC 408	Distributed Information Systems	3	CSC 202 + CSC305
	CSE 420	Ethical Hacking	3	CSC 305
	CIS 404	Data Warehousing and Data Mining	3	(SWE 201 or CSC 201) + STT 201
	ITE 499B	Capstone Design Project II	2	ITE499A
	ME 2	Major Elective II	3	-
	ME 3	Major Elective III	3	-
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

(Cybersecurity Concentration)

Curriculum

Total Credit Hours: 126

General Education Requirements — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 205	UAE and GCC Society	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of 45 Chr.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Chr.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 101	Pre-Calculus	None	3
GES 201	General Science	ENG 102 + FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 39 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 102	Introductory Big Data Analytics	STT 100	3
SWE 201	Structured Programming	MTT 101 or Higher	3
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 305	Data Communications and Networks	Junior Level	3

CSE 210	Introduction to Cybersecurity Engineering	ECT 200	3
ECT 200	Introduction to Computing	No Prerequisite	3
ITE 390	Computer Ethics	CSC 202	3
ITE 399A	Internship in IT-Part A	60 Credit Hours	1.5
ITE 399B	Internship in IT-Part B	90 Credit Hours	1.5
ITE 499A	Capstone Design Project I	Senior Level + SWE 401 + ITE 421	1
ITE 499B	Capstone Design Project II	ITE 499A	2
MTT 202	Discrete Structures and Applications	STT 100	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3

Major Requirements 42 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSE 420	Ethical Hacking	CSC 305	3
CIS 404	Data Warehousing and Data Mining	CSC 302	3
CSC 307	Web Design	SWE 201 or CSC 201	3
CSC 308	Operating Systems	CSC 301	3
SWE 401	Software Engineering	CSC 202	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 401	IT Project Management	SWE 401	3
ITE 402	Computer Networks Design and Implementation	CSC 305	3
ITE 408	Information Security	CSC 305	3
ITE 409	Human Computer Interactions	CSC 401 or SWE 401	3
ITE 414	Introduction to E-commerce	Junior Level	3
ITE 421	Native Mobile Application Development	CSC 202	3
ITE 422	System and Network Administration	CSC 305	3
ITE 442	Data Science and Big Data Analytics	(SWE 201 or CSC 201) + STT 201	3

Elective Requirements 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3

Concentration Requirements 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSE 300	Introduction to Digital Forensics	SWE 201 or CSC 201	3
CSE 310	Introduction to Cryptography	STT 201 + MTT 202	3
CSE 400	Network Security and Forensics	CSC 305	3
CSE 410	Mobile Device Security	CSC 305	3
CSC 406	Artificial Intelligence	STT 201 + CSC 301	3

BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY
Study Plan (Cybersecurity Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ECT 200	Introduction to Computing	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	MTT 101	Pre-Calculus	3	None
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	CSE 210	Introduction to Cybersecurity Engineering	3	ECT 200
	FWS 205	UAE and GCC Society	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	GES 201	General Sciences	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	ISL 100	Islamic Culture	3	No Prerequisite
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	MTT 202	Discrete Structures and Applications	3	STT 100
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
	OE 1	Open Elective I	3	-
Total Credit Hours			**12**	

Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	CSC 307	Web design	3	SWE 201 or CSC 201
	CSE 300	Introduction to Digital Forensics	3	SWE 201 or CSC 201
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Comp of 45 CH
Total Credit Hours			**15**	
Summer Semester	ITE399A	Internship in IT-Part A	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite (s)**
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	CSE 310	Introduction to Cryptography	3	STT 201 + MTT 202
	SWE 401	Software Engineering	3	CSC 202
	ITE 390	Computer Ethics	3	CSC 202
	ITE 414	Introduction to E-Commerce	3	Junior Level
Total Credit Hours			**18**	
Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSE 400	Network Security and Forensics	3	CSC 305
	ITE 402	Computer Networks Design and Implementation	3	CSC 305
	ITE 421	Native Mobile Application Development	3	CSC202
	ITE 422	System and Network Administration	3	CSC 305
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + (Comp. of 60 CH)
Total Credit Hours			**18**	
Summer Semester	ITE 399B	Internship in IT-Part B	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	CSE 410	Mobile Device Security	3	CSC 305
	ITE 401	IT Project Management	3	SWE 401
	ITE 408	Information Security	3	CSC 305
	ITE 409	Human Computer Interaction	3	CSC 401 or SWE 401
	ITE 442	Data Science and Big Data Analytics	3	(SWE 201 or CSC 201) + STT 201
	ITE 499A	Capstone Design Project I	1	Senior Level + SWE 401 + ITE 421
Total Credit Hours			**16**	
Spring (Semester 8)	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
	CSC 408	Distributed Information Systems	3	CSC 202 + CSC305
	CSE 420	Ethical Hacking	3	CSC 305
	CIS 404	Data Warehousing and Data Mining	3	CSC 302
	ITE 499B	Capstone Design Project II	2	ITE499A
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

(Game Development Concentration)

Curriculum

Total Credit Hours: 126

General Education Requirements — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 205	UAE and GCC Society	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of 45 Chr.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Chr.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 101	Pre-Calculus	None	3
GES 201	General Science	ENG 102 + FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 39 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 102	Introductory Big Data Analytics	STT 100	3
SWE 201	Structured Programming	MTT 101 or Higher	3
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 305	Data Communications and Networks	Junior Level	3
CSE 210	Introduction to Cybersecurity Engineering	ECT 200	3

ECT 200	Introduction to Computing	No Prerequisite	3
ITE 390	Computer Ethics	CSC 202	3
ITE 399A	Internship in IT-Part A	60 Credit Hours	1.5
ITE 399B	Internship in IT-Part B	90 Credit Hours	1.5
ITE 499A	Capstone Design Project I	Senior Level + SWE 401 + ITE 421	1
ITE 499B	Capstone Design Project II	ITE 499A	2
MTT 202	Discrete Structures and Applications	STT 100	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3

Major Requirements 42 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSE 420	Ethical Hacking	CSC 305	3
CIS 404	Data Warehousing and Data Mining	CSC 302	3
CSC 307	Web Design	SWE 201 or CSC 201	3
CSC 308	Operating Systems	CSC 301	3
SWE 401	Software Engineering	CSC 202	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 401	IT Project Management	SWE 401	3
ITE 402	Computer Networks Design and Implementation	CSC 305	3
ITE 408	Information Security	CSC 305	3
ITE 409	Human Computer Interactions	CSC 401 or SWE 401	3
ITE 414	Introduction to E-commerce	Junior Level	3
ITE 421	Native Mobile Application Development	CSC 202	3
ITE 422	System and Network Administration	CSC 305	3
ITE 442	Data Science and Big Data Analytics	(SWE 201 or CSC 201) + STT 201	3

Elective Requirements 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3

Concentration Requirements 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
	Compulsory Courses		**12 Credit Hours**
CSC 406	Artificial Intelligence	STT 201 + CSC 301	3
CSC 404	Computer Graphics and Animation	CSC 301	3
ITE 430	Mobile Game Development	ITE 421	3
ITE 432	Collaborative Game Design	ITE 430	3
	Concentration Electives		**3 Credit Hours**
CE 1	Concentration Elective I	-	3
Concentration Electives Basket			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
ITE 410	Web Programming	CSC 307	3
ITE 415	Advanced E-Commerce Applications Design	ITE 414	3
CSE 410	Mobile Device Security	CSC 305	3

BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY
Study Plan (Game Development Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ECT 200	Introduction to Computing	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	MTT 101	Pre-Calculus	3	None
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	CSE 210	Introduction to Cybersecurity Engineering	3	ECT 200
	FWS 205	UAE and GCC Society	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	GES 201	General Sciences	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	ISL 100	Islamic Culture	3	No Prerequisite
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	MTT 202	Discrete Structures and Applications	3	STT 100
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
	OE 1	Open Elective I	3	-
Total Credit Hours			**12**	

Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	CSC 307	Web design	3	SWE 201 or CSC 201
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Comp of 45 CH
Total Credit Hours			**12**	
Summer Semester	ITE399A	Internship in IT-Part A	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite (s)**
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + (Comp. of 60 CH)
	SWE 401	Software Engineering	3	CSC 202
	ITE 390	Computer Ethics	3	CSC 202
	ITE 414	Introduction to E-Commerce	3	Junior Level
Total Credit Hours			**18**	
Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSC 404	Computer Graphics and Animation	3	CSC 301
	CE 1	Concentration Elective I	3	-
	ITE 402	Computer Networks Design and Implementation	3	CSC 305
	ITE 421	Native Mobile Application Development	3	CSC202
	ITE 422	System and Network Administration	3	CSC 305
Total Credit Hours			**18**	
Summer Semester	ITE 399B	Internship in IT-Part B	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ITE 401	IT Project Management	3	SWE 401
	ITE 408	Information Security	3	CSC 305
	ITE 409	Human Computer Interaction	3	CSC 401 or SWE 401
	ITE 442	Data Science and Big Data Analytics	3	(SWE 201 or CSC 201) + STT 201
	ITE 430	Mobile Game Development	3	ITE 421
	ITE 499A	Capstone Design Project I	1	Senior Level + SWE 401 + ITE 421
Total Credit Hours			**16**	
Spring (Semester 8)	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
	CSC 408	Distributed Information Systems	3	CSC 202 + CSC 305
	CSE 420	Ethical Hacking	3	CSC 305
	CIS 404	Data Warehousing and Data Mining	3	CSC 302
	ITE 432	Collaborative Game Design	3	ITE 430
	ITE 499B	Capstone Design Project II	2	ITE 499A
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN INTERIOR DESIGN



Introduction

Interior Design is about the planning, design, construction and operation of indoor facilities essential to modern life, ranging from indoor space planning, enhancing the quality of our indoor environment, to accommodating human activities inside all types of buildings such as shopping malls, hospitals, hotels, professional offices, educational institutions, private homes, shops, and much more. These issues establish the fundamental framework of the instructional, research and service programs in interior design. Societal needs, economic conditions and public safety are paramount in the work accomplished by interior designers. High-tech tools such as computer aided design (CAD) and 3-D computer modeling are a necessity in all areas of interior design.

Both private companies and public agencies seek interior designers for a variety of professional positions. Many work for engineering and architecture consulting firms or construction companies as interior designers and interior project managers. Graduates are equally prepared to pursue M.Sc. and Ph.D. degrees in allied fields of architecture and design.

Program Mission

The educational mission of the Interior Design Program is to provide students with a multidisciplinary curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who have the ability to analyze, evaluate, and design interior systems; who have the ability to communicate effectively; who have had meaningful opportunities for undergraduate research; and who have acquired an understanding and appreciation for global and societal issues and are thus prepared for a career path toward leadership in industry, government, and academia.

Program Objectives

The following program objectives are broad statements that describe the career and professional accomplishments, which should be achieved during the first few years following our students' graduation. Overall, our graduates are expected to:

1. Be knowledgeable of the historical context, the state-of-the-art, and emerging issues in the field of interior design and its role in contemporary society;
2. Demonstrate critical reasoning and requisite quantitative skills to identify, formulate, and resolve interior design problems and create designs that reflect economic, environmental, and social sensitivities;
3. Display a systems viewpoint, critical thinking, effective communication and interpersonal skills, a spirit of curiosity, and reflection in a professional and ethical manner;
4. Exhibit a commitment to life-long learning and professional development, involvement in professional activity and public service, and achievement of professional licensure;
5. Reflect a broad intellectual training for success in multidisciplinary professional practice, interior design, diverse related careers, and achieving leadership roles in industry, government, and academia.

Program Learning Outcomes

The following program outcomes describe competencies and skills that our students acquire by the time of graduation. Our graduates are expected to be able to:

1. Communicate effectively, orally, in writing as well as graphically using manual techniques as well as digital tools to generate, evaluate, develop and communicate ideas;
2. Gather, assess and record and apply relevant information and raise clear precise questions, interpret information, consider diverse points of view, reach well-reasoned conclusions, and test them against relevant criteria;
3. Resolve the needs of the client, owner, and user taking into consideration the relationship between human behavior and the physical environment and the diverse needs, values, norms, abilities, and socioeconomic patterns that characterize different locations, cultures and individuals.
4. Prepare a comprehensive program for an interior design project, including evidence-based design problem solving, assessment of client and user needs. Critical review of appropriate precedents, an inventory of space requirements, an analysis of site conditions, a review of relevant codes, laws and standards, and a definition of design assessment criteria;
5. Produce a comprehensive interior design project solution that includes the development of programmed spacing while integrating lighting, color schemes, furniture, life-safety provisions, and the design of sustainable interiors;
6. Select and apply construction materials, products, components, furniture, and building assemblies to prepare technically precise drawings, outline specifications and estimates of construction costs and life-cycle costs for a proposed design;
7. Demonstrate teamwork skills and collaboration in interdisciplinary projects that integrate different building environmental, electro-mechanical, and structural systems in interior design;
8. Demonstrate an understanding of the legal aspects and ethical issues of practice organization and management as well as the role of professional development, and the need to provide leadership in the building design and construction process.

Curriculum

Total Credit Hours: 132

General Education Requirements	**30 credit hours**
Major Requirements	**96 credit hours**
Open Electives	**6 credit hours**

General Education Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 305	Technical Communication for Workplace	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation & Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
STT 100	General Statistics	No Prerequisite	3
MTT 101	Pre-Calculus	None	3
GES 201	General Science	ENG 102	3
FWS 205	UAE and GCC Society	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
COE 101	Introductory Artificial Intelligence	STT 100	3
COE 102	Introduction to Big Data Analytics	STT 100	3

Major Requirements — 93 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
IND 100	Introduction to Interior Design	No Prerequisite	3
DES 100	Graphic Thinking and Freehand Drawing	No Prerequisite	3
DES 110	Design Communication I	No Prerequisite	3
DES 120	Design Communication II	DES 110	3
DES 130	Design Foundations	DES 100	3
DES 210	Computer Aided Design	DES 120	3
IND 215	Interior Design Studio I	DES 110 + IND 100	3
DES 220	Architectural History I	ENG 200	3
IND 235	Building Technology I	DES 120 + DES 130	3
IND 255	Building Technology II	IND 235	3
IND 240	Color Theory in Design Applications	No Prerequisite	3
IND 280	History of Interior Design	DES 220	3
ARC 582	3D Modeling	ARC 280 + DES 210	3
IND 275	Interior Design Studio II	IND 215 + IND 240	3
IND 290	Furniture Design	IND 215 or DES 210	3

IND 315	Interior Design Studio III	IND 275 or ARC 250	3
ARC 320	Env. Design I: Lighting & Acoustics	IND 260 or ARC 210	3
IND 335	Textiles	IND 215	3
IND 340	Interior Design Studio IV	IND 315 + IND 335	3
IND 350	Materials and Specifications	IND 255	3
ARC 420	Env. Design II: Energy and Systems	ARC 320 or (ARC 240 + ARC 270)	3
DES 410	Research Methods & Programming	IND 315	3
IND 390	Professional Practice & Ethics	IND 315	3
IND 399 A	Internship A	90 Credit Hours + IND 390	1.5
IND 399 B	Internship B	IND 399 A	1.5
IND 415	Interior Design Studio V	IND 340 + Senior Status	3
IND 430	Graduation Project I	DES 410 + IND 280	3
IND 460	Working Drawings	IND 350 + ARC 420	3
IND 470	Graduation Project II	IND 430 + IND 415	6
PRE 001	Professional Elective 1	-	3
PRE 002	Professional Elective 2	-	3

Open Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OPE00 1	Open Elective I	-	3
OPE00 2	Open Elective II	-	3

Students choose PRE 001 and PRE 002 from the following list of proposed professional electives.

Professional Electives

Course Code	Course Title	Prerequisite(s)	Credit Hours
IND 581	Advanced Furniture Design and Detailing	IND 290	3
IND 582	Islamic Interiors	DES 220	3
DES 580	Architectural Photography	DES 220 or LAR 230	3
ARC 540	Sustainable Design	ARC 420 or ARC 410	3
ARC 583	Building Information Modeling	DES 210 or ARC 280	3
ARC 590	Building Economics	IND 460 or ARC 340	3
ARC 582	3D Modelling	ARC 280 or DES 210	3

BACHELOR OF SCIENCE IN INTERIOR DESIGN - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	IND 100	Introduction to Interior Design	3	No Prerequisite
	DES 100	Graphic Thinking and Freehand Drawing	3	No Prerequisite
	DES 110	Design Communication I	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	MTT 101	Pre-Calculus	3	None
	FWS 205	UAE and GCC Society	3	ENG 102 + FWS 100(E) or FWS 100 (E) as co-req if students enter to ENG 200 course directly
	GES 201	General Science	3	ENG 102
	DES 120	Design Communication II	3	DES 110
	DES 130	Design Foundations	3	DES 100
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	IND 215	Interior Design Studio I	3	DES 110 + IND 100
	IND 235	Building Technology I	3	DES 120 + DES 130
	DES 210	Computer Aided Design	3	DES 120
	DES 220	Architectural History I	3	ENG 200
	IND 240	Color Theory In Design Applications	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**18**	

Spring (Semester 4)	IND 275	Interior Design Studio II	3	IND 215 + IND 240
	IND 255	Building Technology II	3	IND 235
	IND 335	Textiles	3	IND 215
	IND 280	History of Interior Design	3	DES 220
	ARC 582	3D Modeling	3	ARC 280 + DES 210
	COE 101	Introductory Artificial Intelligence	3	STT 100
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	IND 315	Interior Design Studio III	3	IND 275 or ARC 250
	IND 350	Materials and Specifications	3	IND 255
	ARC 320	Env. Design I: Lighting & Acoustics	3	IND 260 or ARC 210
	IND 290	Furniture Design	3	IND 215 or DES 210
	FWS 305	Technical Communication for Workplace	3	ENG 200 + Completion of 45 CHs.
	OPE001	Open Elective I	3	-
Total Credit Hours			**18**	
Spring (Semester 6)	IND 340	Interior Design Studio IV	3	IND 315 + IND 335
	ARC 420	Env. Design II: Energy and Systems	3	ARC 320 or (ARC 240 + ARC 270)
	DES 410	Research Methods & Programming	3	IND 315
	IND 390	Professional Practice & Ethics	3	IND 315
	COE 102	Introduction to Big Data Analytics	3	STT 100
Total Credit Hours			**15**	
Summer Semester	IND 399	Internship	3	90 Credit Hours + IND 390
Total Credit Hours			**3**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	IND 415	Design Studio V	3	IND 340 + Senior Status
	IND 430	Graduation Project I	3	DES 410 + IND 280
	IND 460	Working Drawings	3	IND 350 + ARC 420
	PRE 001	Professional Elective I	3	-
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
Total Credit Hours			**15**	
Spring (Semester 8)	IND 470	Graduation Project II	6	IND 430 + IND 415
	ISL 100	Islamic Culture	3	No Prerequisite
	PRE 002	Professional Elective II	3	-
	OE 2	Open Elective II	3	-
Total Credit Hours			**15**	



ADU STUDENTS` GRADUATION PROJECTS

BACHELOR OF SCIENCE IN
MECHANICAL ENGINEERING



Introduction

Mechanical Engineering is the branch of engineering that deals with the design, construction and operation of machinery. It is an exciting field that encompasses all engineering aspects of almost everything that moves in the universe.

Mechanical engineers are trained to help address and solve some of the world's most pressing issues and problems such as energy, environment, robotics and advanced manufacturing, transportation on the ground, in the air, on and under water and in outer space – just to name a few from a long list of challenges facing our society. The cars and vehicles that we drive or ride on, the airplanes that we fly in, the ships, hovercrafts and submarines that we travel in and the spaceships that take us to outer space and other planets are all mostly designed by mechanical engineers. However, that is just a subset of everything that mechanical engineers create.

The Mechanical Engineering program at Abu Dhabi University has been designed to ensure that its graduates will be uniquely qualified to design, analyze, and test wide-ranging solutions for state-of-the-art mechanical systems. The program provides mechanical engineering students with the opportunity to learn through a combination of theory and lab work. This mix of theory and practical application allows students to think things through and then apply their ideas in a variety of real life situations. Students also learn to diagnose problems and develop a variety of solutions.

The program curriculum has been designed to provide a balanced education in the design, analysis and hands-on experience. It is a challenging four-year curriculum that integrates courses in mathematics, physics and mechanical engineering to produce a professional engineer capable of designing and analyzing all aspects of modern mechanical systems. The program emphasizes a number of areas of technology including aerospace, thermal power, materials and manufacturing and mechatronics. A Minor in Aerospace is also available to our graduates.

The Bachelor of Science in Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, as well as the UAE Commission for Academic Accreditation

Program Mission

The educational mission of the mechanical engineering undergraduate program is to provide students with a high-quality education through a well-developed curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who are prepared for the practice of mechanical engineering with sufficient depth to continue their education beyond the baccalaureate degree; who have the ability to analyze, evaluate, and design mechanical engineering systems; who have the ability to communicate effectively; who have gained sufficient awareness of the current and emerging industrial practices through participation in industrial internship experiences; and who have acquired an understanding of and appreciation for global and societal issues and are thus prepared for a career path towards leadership in industry, government, and academia.

Program Objectives

The main objectives of the Mechanical Engineering program are to:

1. Produce qualified mechanical engineering graduates with the knowledge and technical skills necessary to successfully serve the public and/or private sectors in both national and international industries;
2. Produce graduates that are capable of designing, analyzing, testing and implementing mechanical systems and processes;
3. Prepare graduates for success in multidisciplinary professional settings with awareness and commitment to their ethical and social responsibilities, both as individuals and in team environments; and
4. Prepare graduates who meet the industry expectations in terms of communication skills, ability to function well in teams, use of modern engineering tools and commitment to life-long learning and professional development.

Program Learning Outcomes

The following program outcomes describe competencies and skills that our students acquire by the time of graduation. Our graduates are expected to be able to:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Curriculum

Total Credit Hours: 141

General Education Requirements	**21 credit hours**
College Requirements	**38 credit hours**
Major Requirements	**67 credit hours**
Electives[1]	**15 credit hours**

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 Uni. Study Skills Seminar as co-requisite if placed in ENG200)	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
FWS 205	UAE and GCC Society	ENG102 (P) & USS001 as pre-requisite USS001 as co-requisite if students enter to ENG200 course directly	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 38 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MTT 200	Calculus II	MTT 102	3
MTT 201	Calculus III	MTT 200	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
MTT 205	Differential Equations	MTT 200 + MTT 204 co-req)	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (co-req)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3

PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (co-req)	1
CHE 205	General Chemistry I	(Co-req) ENG102 / ENG 200	3
CHE 201L	Chemistry Lab	(Co-req) CHE 205	1
MEC 130	Introduction to Mechanical and Industrial Engineering	No Prerequisite	2
CSC 201	Structured Programming	MTT 101 or Higher	3
COE 102	Introductory Big Data Analytics	STT 100	3
COE 101	Introductory Artificial Intelligence	STT 100	3
COE 202	Engineering Ethics, Economy and Law	ENG 200 + MTT 102	3

Major Requirements — 67 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CIV 201	Statics	MTT 102 + PHY 102	3
MEC 300	Materials Science	CHE 205	3
MEC 301	Manufacturing Processes	MEC 300	3
MEC 302	Mechanics of Materials	CIV 201 + MEC 300	3
MEC 310	Dynamics	CIV 201 + MTT 204	3
MEC 320	Thermodynamics I	PHY 102	3
MEC 321	Thermodynamics II	MEC 320	3
MEC 330	Computer Aided Drawing	MEC 130	2
MEC 340	Mechanical Engineering Design	MEC 330 + MEC 300	3
MEC 350	Fluid Mechanics	CIV 201 + MTT 205	3
MEC 351	Fluid Mechanics Lab	MEC 350 (co-req)	1
MEC 390	Electromechanical Devices	PHY 201	3
MEC 410	Control Systems	MEC 310 + MEC 390	3
MEC 411	Kinematics and Dynamics of Machinery	MEC 310	3
MEC 412	Dynamic and Control Systems Lab	MEC 410 (co-req)	1
MEC 420	Heat Transfer	MEC 320 + MEC 350	3
MEC 421	Thermal Engineering Lab	MEC 420 (co-req)	1
MEC 430	Machine Design	MEC 302 + MEC 340	3
MEC 332	Design and Manufacturing Lab	MEC 301 (co-req)	1
MEC 398	Internship 1	60 credit hours	1.5
MEC 399	Internship 2	90 credit hours	1.5
MEC 463	Turbomachinery	MEC 420	3
MEC 465	Numerical & Finite Element Simulation of Engineering Problems	MEC 430 + MEC 420 (co-req)	3

MEC 480	Mechanical Vibration	MEC 410	3
MEC 482	Introduction to Mechatronics	MEC 390, MEC 410 (co-req)	3
MEC 498	Capstone Design Project I	MEC 465 (co-req)	1
MEC 499	Capstone Design Project II	MEC 498 + Senior Level (120 cr)	3

Electives — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME 1	Major Elective I	-	3
ME 2	Major Elective II	-	3
ME 3	Major Elective III	-	3
OE 1	Open Elective 1	-	3
OE 2	Open Elective 2	-	3

Mechanical Engineering Electives/ Themes *				
Themes options	**Course Code**	**Course Title**	**Prerequisite(s)**	**Credit Hours**
Energy Systems	MEC 460	Air Conditioning Systems	MEC 420, MEC 321	3
	MEC 461	Internal Combustion Engines	MEC 321	3
	MEC 462	Energy Management	MEC 420	3
	MEC 464	Power Plants	MEC 321 + MEC 420	3
Materials and Manufacturing	MEC 431	Computer Aided Machine Design	MEC 430	3
	MEC 470	Manufacturing of Composite Materials	MEC 300 + MEC 302	3
	MEC 471	Introduction to Computer Aided Manufacturing	MEC 301	3
	MEC 472	Mechanics of Materials II	MEC 302	3
	MEC 473	Non-Conventional Machining	MEC 301	3
	MEC 474	Fracture & Fatigue Control in Design	MEC 430 + MEC 465 (co-req)	3
Mechatronics	MEC 481	Introduction to Robotics	CSC 201, MEC 411	3
	MEC 450	Hydraulic & Pneumatic systems	MEC 350	3
	MEC 451	PLC and Industrial Automation	MEC 450	3
	MEC 483	Mechatronics System Design	MEC 482	3
	MEC 484	Artificial Intelligence in Mechatronics	MEC 482, CSC 201, COE 101	3
	MEC 485	DCS and SCADA	MEC482, MEC 451(co-req)	3
	MEC 486	Smart Material Systems and MEMS	MEC 482	3

Aerospace	MEC 490	Compressible Fluid Mechanics	MEC 350	3
	MEC 491	Aerodynamics	MEC 350	3
	MEC 492	Aerospace Propulsion	MEC 350	3
	MEC 493	Aerospace Structures	MEC 302 + MEC 350	3
Metallurgy	MEC 475	Microstructure Engineering	MEC 300, MEC 301	3
	MEC 477	Corrosion & Degradation of Metals	MEC 301, MEC 320	3
	MEC 474	Fracture and Fatigue Control in Design	MEC 430, MEC 465 (Co-requisite)	3
	MEC 476	Heat Treatment & Surface Hardening	MEC 301, MEC 475	3
	MEC 478	Phase Transformations	MEC 300, MEC 320, MEC 475	3

For Minor in Aerospace Engineering Program, the student must also complete:

- **Minor Compulsory Courses** 12 credit hours
- **Minor Elective courses** 6 credit hours

Compulsory Ciourses

No	Course Code	Course Title	Prerequisite(s)	Credit Hours
1	MEC 350 (or equivalent)	Fluid Mechanics	CIV 201+MTT205	3
2	MEC 420 (or equivalent)	Heat Transfer	MEC 320 (or equivalent), MEC 350	3
3	MEC 491	Aerodynamics	MEC 350	3
4	MEC 493	Aerospace Struc-tures	MEC 430, MEC 350	3

In Addition to : Any TWO (2) of the following Elective Courses:

No	Course Code	Course Title	Prerequisite(s)	Credit Hours
1	MEC 490	Compressible Fluid Mechanics	MEC 350	3
2	MEC 492	Aerospace Propulsion	MEC 350	3
3	MEC 494	Computational Thermofluids	MEC 465	3
4	MEC 495	Aircraft Design	MEC 350, MEC 430	3

Industrial Mechatronics Concentration — 15 Credit Hours

Concentration Requirements			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
MEC 450	Hydraulic & Pneumatic systems	MEC 350	3
MEC 451	PLC and Industrial Automation	MEC 450	3
MEC 483	Mechatronics System Design	MEC 482	3
MEC 484	Artificial Intelligence in Mechatronics	MEC 482, CSC 201, COE 101	3
MEC 485	DCS and SCADA	MEC482, MEC 451(co-req)	3

Metallurgy Concentration — 15 Credit Hours

Concentration Requirements			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
MEC 475	Microstructure Engineering	MEC 300, MEC 301	3
MEC 477	Corrosion & Degradation of Metals	MEC 301, MEC 320	3
MEC 474	Fracture and Fatigue Control in Design	MEC 430, MEC 465	3
MEC476	Heat Treatment & Surface Hardening	MEC 301, MEC 475	3
MEC 478	Phase Transformation	MEC 300, MEC 320, MEC 475	3

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Study Plan

(No Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 as co-req if placed in ENG200)
	STT 100	General Statistics	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	MEC 130	Introduction to Mechanical & Industrial Engineering	2	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
Total Credit Hours			**17**	
Spring (Semester 2)	COE 101	Introductory Artificial Intelligence	3	STT 100
	FWS 205	UAE and GCC Society	3	ENG102 (P) USS001 as pre-requisite USS001 as co-requisite if students enter to ENG200 directly
	MEC 330	Computer Aided Drawing	2	MEC 130
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**18**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
	MTT 201	Calculus III	3	MTT 200
	CSC 201	Structured Programming	3	MTT 101 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (Co-req)
	CHE 205	General Chemistry I	3	(Co-req) ENG 102 / ENG 200
	CHE 201L	Chemistry Lab	1	(Co-req) CHE 205
Total Credit Hours			**17**	
Spring (Semester 4)	CIV 201	Statics	3	PHY 102
	MEC 300	Materials Science	3	CHE 205
	MEC 320	Thermodynamics I	3	PHY 102
	MEC 390	Electromechanical Devices	3	PHY 201
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co-req)
Total Credit Hours			**18**	
Summer Semester	MEC 398	Internship 1	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	MEC 302	Mechanics of Materials	3	CIV 201 + MEC 300
	MEC 350	Fluid Mechanics	3	CIV 201 + MTT 205
	MEC 351	Fluid Mechanics Lab	1	MEC 350 (Co-req)
	MEC 321	Thermodynamics II	3	MEC 320
	MEC 310	Dynamics	3	CIV 201 + MTT 204
	MEC 340	Mechanical Engineering Design	3	MEC 330 + MEC 300
	OE 1	Open Elective I	3	-
Total Credit Hours			**19**	

Spring (Semester 6)	MEC 430	Machine Design	3	MEC 302, MEC 340
	MEC 332	Design and Manufacturing Lab	1	MEC 301 (Co-req)
	MEC 411	Kinematic and Dynamics of Machinery	3	MEC 310
	MEC 410	Control Systems	3	MEC 310 + MEC 390
	MEC 412	Dynamics and Control Systems Lab	1	MEC 410 (Co-req)
	MEC 301	Manufacturing Processes	3	MEC 300
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
Total Credit Hours			**17**	
Summer Semester	MEC 399	Internship 2	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	MEC 480	Mechanical Vibration	3	MEC 410
	MEC 420	Heat Transfer	3	MEC 320 + MEC 350
	MEC 421	Thermal Engineering Lab	1	MEC 420 (Co-req)
	MEC 465	Numerical and Finite Element Simulation of Engineering Problem	3	MEC 430 + MEC 420 (Co-req)
	MEC 482	Introduction to Mechatronics	3	MEC 390, MEC 410 (Co-req)
	ME 1	Major Elective I	3	-
	MEC 498	Capstone Design Project I	1	MEC 465 (Co-req)
Total Credit Hours			**17**	
Spring (Semester 8)	MEC 499	Capstone Design Project II	3	MEC 498, Senior Level (120 CH)
	OE 2	Open Elective 2	3	-
	ME 2	Major Elective II	3	-
	ME 3	Major Elective III	3	-
	MEC 463	Turbomachinery	3	MEC 420
Total Credit Hours			**15**	

BACHELOR OF SCIENCE IN
MECHANICAL ENGINEERING
Study Plan
(Industrial Mechatronics Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 Uni. Study Skills Seminar as co-requisite if placed in ENG200)
	STT 100	General Statistics	3	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	MEC 130	Introduction to Mechanical & Industrial Engineering	2	No Prerequisite
Total Credit Hours			**17**	
Spring (Semester 2)	COE 101	Introductory Artificial Intelligence	3	STT 100
	FWS 205	UAE and GCC Society	3	ENG102 (P) USS001 as pre-requisite USS001 as co-requisite if students enter to ENG200 directly
	MEC 330	Computer Aided Drawing	2	MEC 130
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**18**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	COE 202	Engineering Ethics, Economy and Law	3	ENG200 + MTT102
	MTT 201	Calculus III	3	MTT 200
	CSC 201	Structured Programming	3	MTT 102 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (Co-req)
	CHE 205	General Chemistry I	3	(Co-req) ENG 102 / ENG 200
	CHE 201L	Chemistry Lab	1	(Co-req) CHE 205
Total Credit Hours			**17**	
Spring (Semester 4)	CIV 201	Statics	3	PHY 102
	MEC 300	Materials Science	3	CHE 205
	MEC 320	Thermodynamics I	3	PHY 102
	MEC 390	Electromechanical Devices	3	PHY 201
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (co-req)
Total Credit Hours			**18**	

Summer Semester	MEC 398	Internship 1	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	MEC 302	Mechanics of Materials	3	CIV 201, MEC 300
	MEC 350	Fluid Mechanics	3	CIV 201 + MTT 205
	MEC 351	Fluid Mechanics Lab	1	MEC 350 (Co-req)
	MEC 321	Thermodynamics II	3	MEC 320
	MEC 310	Dynamics	3	CIV 201 + MTT 204
	MEC 340	Mechanical Engineering Design	3	MEC 330 + MEC 300
Total Credit Hours			**16**	

Spring (Semester 6)	MEC 430	Machine Design	3	MEC 302, MEC 340
	MEC 332	Design and Manufacturing Lab	1	MEC 301 (Co-req)
	MEC 411	Kinematic and Dynamics of Machinery	3	MEC 310
	MEC 410	Control Systems	3	MEC 310 + MEC 390
	MEC 412	Dynamics and Control Systems Lab	1	MEC 410 (Co-req)
	MEC 301	Manufacturing Processes	3	MEC 300
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
Total Credit Hours			**17**	
Summer Semester	MEC 399	Internship 2	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	MEC 480	Mechanical Vibration	3	MEC 410
	MEC 420	Heat Transfer	3	MEC 320 + MEC 350
	MEC 421	Thermal Engineering Lab	1	MEC 420 (Co-req)
	MEC 465	Numerical and Finite Element Simulation of Engineering Problems	3	MEC 430 + MEC 420 (Co-req)
	MEC 482	Introduction to Mechatronics	3	MEC 390, MEC 410 (Co-req)
	MEC 450	Hydraulic & Pneumatic Systems	3	MEC 350
	MEC 498	Capstone Design Project I	1	MEC 465 (Co-req)
Total Credit Hours			**17**	
Spring (Semester 8)	MEC 499	Capstone Design Project II	3	MEC 498, Senior level (120 credits)
	MEC 451	PLC and Industrial Automation	3	MEC 450
	MEC 483	Mechatronics System Design	3	MEC 482
	MEC 485	DCS and SCADA	3	MEC 451(co-req), MEC482
	MEC 484	Artificial Intelligence in Mechatronics	3	MEC 482, CSC 201, COE 101
	MEC 463	Turbomachinery	3	MEC 420
Total Credit Hours			**18**	

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Study Plan

(Metallurgy Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 as co-req if placed in ENG200)
	STT 100	General Statistics	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	MEC 130	Introduction to Mechanical & Industrial Engineering	2	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
Total Credit Hours			**17**	
Spring (Semester 2)	COE 101	Introductory Artificial Intelligence	3	STT 100
	FWS 205	UAE and GCC Society	3	ENG102 (P) USS001 as pre-requisite USS001 as co-requisite if students enter to ENG200 directly
	MEC 330	Computer Aided Drawing	2	MEC 130
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**18**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
	MTT 201	Calculus III	3	MTT 200
	CSC 201	Structured Programming	3	MTT 102 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (Co-req)
	CHE 205	General Chemistry I	3	(Co) ENG 102 / ENG 200
	CHE 201L	Chemistry Lab	1	(Co-req) CHE 205
Total Credit Hours			**17**	
Spring (Semester 4)	CIV 201	Statics	3	PHY 102
	MEC 300	Materials Science	3	CHE 205
	MEC 320	Thermodynamics I	3	PHY 102
	MEC 390	Electromechanical Devices	3	PHY 201
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co-req)
Total Credit Hours			**18**	
Summer Semester	MEC 398	Internship 1	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	MEC 302	Mechanics of Materials	3	CIV 201, MEC 300
	MEC 350	Fluid Mechanics	3	CIV 201 + MTT 205
	MEC 351	Fluid Mechanics Lab	1	MEC 350 (Co-req)
	MEC 321	Thermodynamics II	3	MEC 320
	MEC 310	Dynamics	3	CIV 201 + MTT 204
	MEC 340	Mechanical Engineering Design	3	MEC 330 + MEC 300
Total Credit Hours			**16**	

Spring (Semester 6)	MEC 430	Machine Design	3	MEC 302 + MEC 340
	MEC 332	Design and Manufacturing Lab	1	MEC 301 (Co-req)
	MEC 411	Kinematic and Dynamics of Machinery	3	MEC 310
	MEC 410	Control Systems	3	MEC 310 + MEC 390
	MEC 412	Dynamics and Control Systems Lab	1	MEC 410 (Co-req)
	MEC 301	Manufacturing Processes	3	MEC 300
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 CHs
Total Credit Hours			**17**	
Summer Semester	MEC 399	Internship 2	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	MEC 480	Mechanical Vibration	3	MEC 410
	MEC 420	Heat Transfer	3	MEC 320 + MEC 350
	MEC 421	Thermal Engineering Lab	1	MEC 420 (Co-req)
	MEC 465	Numerical and Finite Element Simulation of Engineering Problem	3	MEC 430 + MEC 420 (Co-req)
	MEC 482	Introduction to Mechatronics	3	MEC 390 + MEC 410 (Co-req)
	MEC 475	Microstructure Engineering	3	MEC 300 + MEC 301
	MEC 498	Capstone Design Project I	1	MEC 465 (Co-req)
Total Credit Hours			**17**	
Spring (Semester 8)	MEC 499	Capstone Design Project II	3	MEC 498, Senior Level (120 CH)
	MEC 477	Corrosion & Degradation of Metals	3	MEC 301 + MEC 320
	MEC 474	Fracture and Fatigue	3	MEC 430 + MEC 465 (Co-req)
	MEC 476	Heat Treatment & Surface Hardening	3	MEC 301 + MEC 475
	MEC 478	Phase Transformation	3	MEC 300 + MEC 320 + MEC 475
	MEC 463	Turbomachinery	3	MEC 420
Total Credit Hours			**18**	

BACHELOR OF SCIENCE IN
BIOMEDICAL ENGINEERING



Introduction

Biomedical Engineering is the application of engineering principles and design concepts to medicine and biology for diagnostic or therapeutic purposes within the healthcare industry.

A recent study projects the UAE healthcare market to grow 12.7% to AED71.56 billion and the number of hospital beds to increase to 13,881 by 2020. Biomedical Engineers are needed to sustain such growth by maintaining and improving the quality of healthcare services in the country and reducing their cost through the use of smart technologies. The program supports five of the nine pillars that will form the architecture of Abu Dhabi's social, political, and economic future in the healthcare sector.

Through this program, designed to meet international ABET standards, you will study courses in biomedical instrumentation, biosensors and transducers, medical imaging, medical device design, AI in medicine, physiological modelling, mobile medical applications, and magnetic resonance imaging. You will learn how to apply biomedical engineering knowledge and skills to solve problems, design biomedical experiments, and use, maintain and create medical devices and equipment. You will design biosystems or processes taking social, economic, and environmental concerns into account and gain a thorough understanding of the ethical and professional responsibilities of this field. You will also have the opportunity to hone your research skills – the cornerstone of a knowledge-based economy.

Developed in collaboration with the Bioengineering Department of the University of Louisville in Kentucky, USA, the program benefits from an international research laboratory dedicated to applying machine learning and artificial intelligence to create computer-aided diagnosis systems to support medical doctors in fighting diseases, improving the quality of life, and shaping the future of smart healthcare. The program is the first in the UAE to focus on the roles of AI, wearables, mobile applications, and the Internet of Things in healthcare.

Program Mission

The educational mission of the biomedical Engineering undergraduate program is to provide students with a multidisciplinary curriculum that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who have the ability to analyze, evaluate, and design Biomedical engineering systems; who have the ability to communicate effectively; who have had meaningful opportunities for undergraduate research; and who have acquired an understanding and appreciation for global and societal issues and are thus prepared for a career path toward leadership in industry, government, and academia.

Curriculum

Total Credit Hours: 136

University Requirements	27 credit hours
College Requirements	36 credit hours
Major Requirements	64 credit hours
Electives Courses	9 credit hours

General Education Requirements — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS 001 as co-requisite if placed in ENG 200	3
FWS 305	Technical Communication for Work Place	ENG 200 + Completion of minimum 45 CH.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	MTT 101 (C grade) or MPT	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100/USS 001 as pre-requisite FWS 100/USS 001 as co-requisite if placed in ENG 200 directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 100	Academic Skills for Success	No Prerequisite	3

College Requirements — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MTT 200	Calculus II	MTT 102	3
MTT 205	Differential Equations	MTT 200 + MTT 204 (Co)	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Laboratory	MTT 102 + PHY 102 (Co)	1
BIO 205	General Biology I	FWS 100	3
BIO 205L	General Biology I Laboratory	BIO 205 (Co)	1
CHE 205	General Chemistry I	ENG 200 / ENG 102(co)	3
CHE 201L	Chemistry Laboratory	CHE 205 (Co)	1
ECS 200	Introduction to Engineering and Computing	No Prerequisite	3
CSC 201	Computer Programming I	MTT 101 or Higher	3
COE 202	Engineering Ethics, Economy and Law	ENG 200 + MTT 102	3
BME 301	Applied Molecular and Cellular Biology for Engineers	BIO 205	3
COE 101	Introductory Artificial Intelligence	STT100	3
MTT 204	Introduction to Linear Algebra	MTT 200	3

Major Requirements — 64 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CEN 201	Electric Circuits I	ECS 200 or PHY 201	3
EEN 210	Digital Circuits	ECS 200	3
CEN 304	Electronic Devices and Circuits	CEN 201	3
CEN 330	Probability and Stochastic Processes	MTT 200 + STT 100	3
CEN 324	Digital and Analog Electronics	CEN 304	3
BME 310	Biomedical Instrumentation	CEN 324 (Co) + BME 380	3
BME 320	Bio-systems and Signals	MTT 205 + CEN 201	3
BME 330	Physiological Modeling	BME 380 + BME 320	3
BME 325	IoT for Bioengineers: Foundations and Design	CSC 201 + EEN 210	3
BME 380	Human Biology I	CHE 205 + BIO 205	3
BME 381	Human Biology II	BME 380	3
EEN 365	Control Systems	BME 320 + MTT 204	3

BME 401	Introduction to Biotechnology	BME 301	3
BME 310L	Biomedical Instrumentation Laboratory	BME 310	1
BME 413	Biomedical Sensors and Transducers	BME 310	3
CEN 454	Computer Vision and Machine Learning	BME 320 or CEN 320	3
BME 425	IoT for Bioengineers: Applications and Security	BME 325	3
BME 464	Digital Bio-Signal Processing	BME 320	3
BME 441	Medical Imaging Systems	BME 320	3
BME 399i	Internship in Biomedical Engineering I	90 Credit Hours	2
BME 399ii	Internship in Biomedical Engineering II	BME 399i	1
BME 312	Medical Device Design	BME 380	3
BME 491	Biomedical Engineering Design Project I	Senior Level + BME 312 + BME 425	1
BME 492	Biomedical Engineering Design Project II	BME 491	2

Electives Courses — 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME1	Major Elective I	-	3
ME2	Major Elective II	-	3
OE1	Open Elective I	-	3

Major Electives (9 Credit Hours)			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
BME 445	Biomedical Ultrasound	BME 310	3
BME 420	Medical Image Processing	BME 320 + CEN 330	3
BME 431	Bioinformatics	CSC 201 + BME 301	3
BME 432	Healthcare Management Systems	CSC 201	3
BME 433	Medical Mobile Applications	CSC 201	3
BME 440	Magnetic Resonance Imaging	BME 310	3
BME 460	Therapeutic Devices	BME 310	3
BME 490	Special Topics in Biomedical Engineering	BME 325 + Department Approval	3

*Students may also take EEN 490 Special Topics in Electrical Engineering, CEN 490 Special Topics in Computer Engineering, or AIRE concentration courses based on the recommendation and approval of the Department Chair.

BACHELOR OF SCIENCE IN
BIOMEDICAL ENGINEERING
Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101(A)	Communication Skills in Arabic I.	3	No Prerequisite
	ECS 200	Introduction to Engineering and Computing	3	No Prerequisite
	MTT 102	Calculus I	3	MTT 101 (C grade) or MPT
	STT 100	General Statistics	3	No Prerequisite
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 100	Academic Skills for Success	3	No Prerequisite
Total Credit Hours			**18**	
Spring (Semester 2)	BIO 205	General Biology	3	FWS100
	BIO 205L	General Biology Laboratory	1	BIO 205 (Co)
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS 001 as co-requisite if placed in ENG 200
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Laboratory	1	MTT 102 + PHY 102 (Co)
	MTT 200	Calculus II	3	MTT 102
	COE 101	Introductory Artificial Intelligence	3	STT100
Total Credit Hours			**17**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	FWS 205	UAE and GCC Society	3	ENG 102 + FWS 100/USS 001 as pre-requisite FWS 100/USS 001 as co-requisite if placed in ENG 200 directly
	EEN 210	Digital Circuits	3	ECS 200
	CSC 201	Computer Programming I	3	MTT 101 or Higher
	CHE 205	General Chemistry I	3	ENG 200 / ENG 102(co)
	CHE 201L	Chemistry Laboratory	1	CHE 205 (Co)
	BME 380	Human Biology I	3	CHE 205 + BIO 205
Total Credit Hours			**16**	
Spring (Semester 4)	BME 301	Applied Molecular & Cellular Biology for Engineers	3	BIO 205
	BME 381	Human Biology II	3	BME 380
	CEN 201	Electric Circuits I	3	ECS 200 or PHY 201
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT102
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (Co)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	BME 320	Biosystems and Signals	3	MTT 205 + CEN 201
	BME 401	Introduction to Biotechnology	3	BME 301
	BME 325	IoT for Bioengineers: Foundation and Design	3	CSC 201 + EEN 210
	FWS 305	Technical Communications for Workplace	3	ENG 200 + min. 45 Credit Hours
	CEN 304	Electronic Circuits and Devices	3	CEN 201
Total Credit Hours			**15**	

Spring (Semester 6)	BME 330	Physiological Modeling	3	BME 380 + BME 320
	CEN 324	Digital and Analog Electronics	3	CEN 304
	BME 310	Biomedical Instrumentation	3	CEN 324 (Co) + BME 380
	CEN 330	Probability and Stochastic Processes	3	MTT 200 + STT 100
	BME 425	IoT for Bioengineers: Applications and Security	3	BME 325
	BME 312	Medical Device Design	3	BME 380
Total Credit Hours			**18**	
Summer Semester	BME 399i	Internship in Biomedical Engineering I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	BME 464	Digital Bio-Signal Processing	3	BME 320
	BME 413	Biomedical Sensors and Transducers	3	BME 310
	BME 441	Medical Imaging Systems	3	BME 320
	ME1	Major Elective I	3	-
	OE	Open Elective	3	-
	BME 491	Biomedical Engineering Design Project I	1	Senior Level + BME 312 + BME 425
	BME 310L	Biomedical Instrumentation Laboratory	1	BME 310
Total Credit Hours			**17**	
Winter Semester	BME 399ii	Internship in Biomedical Engineering II	1	BME 399i
Spring (Semester 8)	EEN 365	Control Systems	3	MTT 204 + BME 320
	CEN 454	Computer Vision and Machine Learning	3	BME 320 or CEN 320
	BME 492	Biomedical Engineering Design Project II	2	BME 491
	FWS 310	Fund. of Innovation & Entrepreneurship	3	ENG 200 + Completion of 60 Credit Hours
	ME2	Major Elective II	3	-
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN CYBERSECURITY ENGINEERING



Introduction

Cybersecurity Engineering is an emerging field concerned primarily with the protection of computer systems from the theft of or damage to their hardware, software, or electronic data, as well as from the disruption or misdirection of the services they provide. It is of fundamental importance to the safety of the UAE, with cybersecurity engineers playing a pivotal role in protecting our privacy, business interests, and infrastructure from cyber-attacks. As a cybersecurity engineer, you will be able to contribute to the development of a cyber-smart nation with secure and resilient online communication as laid out by the National Electronic Security Authority (NESA) and the Dubai Cybersecurity Strategy.

In addition to knowledge and training on cybersecurity, the program will provide you with a thorough grounding in engineering systems, including design, implementation, and testing. You will study courses on cryptography, network security, digital forensics, computer ethics, Internet of Things and mobile devices security, information security, and ethical hacking.

The program is the first undergraduate program in the region that is based on ABET engineering criteria and teaches cybersecurity within an engineering context.

Program Mission

The Cybersecurity Engineering program provides students with essential knowledge and skills to solve complex cybersecurity problems and mitigate cybersecurity threats. Students will gain advanced training on critical aspects of cybersecurity including hardware and software.

Program Educational Objectives (PEOs)

The objective of the program is to produce Cybersecurity Engineers who will:

1. Demonstrate their success as Cybersecurity professional with a good set of technical, problem solving, and leadership accomplishments.

2. Participate in life-long learning activities such as training, continuing education, or graduate studies.
3. Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

The following program outcomes describe competencies and skills that students will acquire by the time of graduation:

a. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

b. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

c. an ability to communicate effectively with a range of audiences.

d. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

e. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

f. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

g. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 135

General Education Requirements	**24 credit hours**
College Requirements	**60 credit hours**
Major Requirements	**42 credit hours**
Major Electives	**6 credit hours**
Open Electives	**3 credit hours**

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101(A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100 (E) (co-req if placed in ENG 200)	3
FWS 305	Technical Communication for Workplace	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3

MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 60 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ECT 200	Introduction to Computing	No Prerequisite	3
COE 102	Introductory Big Data Analytics	STT 100	3
CSE 210	Introduction to Cybersecurity Engineering	ECT 200	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3
MTT 200	Calculus II	MTT 102	3
MTT 202	Discrete Structures and Applications	STT 100	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (co-requisite)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (co-requisite)	1
CHE 205	General Chemistry I	(Co) ENG 102/ENG 200	3
CHE 201L	Chemistry Lab	CHE 205 (co-req)	1
SWE 201	Structured Programming	MTT 101 or Higher	3
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 305	Data Communications and Networks	Junior Level	3
CSC 308	Operating systems	CSC 301	3
CSE 399A	Internship in Cybersecurity- Part A	60 Credit Hours	1.5
CSE 399B	Internship in Cybersecurity- Part B	90 Credit Hours	1.5
ITE 390	Computer Ethics	CSC 202	3
ITE 421	Native Mobile Application Development	CSC 202	3
CSE 499A	Capstone Project in Cybersecurity Engineering-Part A	Senior Level + CSC406 + ITE408	1
CSE 499B	Capstone Project in Cybersecurity Engineering-Part B	CSE 499A	2

Major Requirements — 42 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 303	Digital Logic Design	ECT 200	3
CSC 307	Web Design	SWE 201 or CSC 201	3
CSC 406	Artificial Intelligence	STT 201 + CSC 301	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 408	Information Security	(CSC 305 as co-req)	3
CEN 325	Internet of Things: Foundation and Design	(SWE 201 or CSC 201) + CSC 303	3
CEN 425	Internet of Things: Applications and Networking	CEN 325 + (CEN 333 or ITE 421) + (CSC 305 as co-req)	3
SWE 401	Software Engineering	CSC 202	3
CSE 300	Introduction to Digital Forensics	SWE 201 or CSC 201	3
CSE 310	Introduction to Cryptography	STT 201 + MTT 202	3
CSE 400	Network Security and Forensics	CSC 305	3
CSE 410	Mobile Device Security	CSC 305	3
CSE 420	Ethical Hacking	CSC 305	3

Major Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME 1	Major Elective I	-	3
ME 2	Major Elective II	-	3

List of Major Elective Courses			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
ITE 442	Data Science and Big Data Analytics	(SWE 201 or CSC 201) + STT 201	3
ITE 422	System and Network Administration	CSC 305	3
CSE 490	Selected Topics in Cybersecurity	Determined based on topics	3
SWE 370	Object Oriented Design Patterns	CSC 202	3
SWE 371	Software Requirements and Specification	CSC 202	3
SWE 471	Software Design and Architecture	CSC 401	3
CIS 404	Data warehousing and Data Mining	CSC 302	3

ITE 401	IT Project Management	SWE 401	3
ITE 402	Computer Networks Design and Implementa-tion	CSC 305	3
ITE 409	Human Computer Interaction	CSC 401 or SWE 401	3
ITE 410	Web Programming	CSC 307	3
ITE 414	Introduction to E-commerce	Junior level (57 cr hr)	3

Open Electives — 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3

BACHELOR OF SCIENCE IN
CYBERSECURITY ENGINEERING
Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ECT 200	Introduction to Computing	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	STT 100	General Statistics	3	No Prerequisite
Total Credit Hours			**18**	
Spring (Semester 2)	CSE 210	Introduction to Cyber Security Engineering	3	ECT 200
	FWS 205	UAE and GCC Society	3	ENG102 + FWS100 (E) (co-req if placed in ENG 200)
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	MTT 202	Discrete Structures and Applications	3	STT 100
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (co-req)
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
	OE 1	Open Elective 1	3	-
Total Credit Hours			**16**	
Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	Chemistry Lab	1	CHE 205 (co-req)
	FWS 305	Technical Communications for Workplace	3	ENG 200 + (Comp. of 45 CH)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
Total Credit Hours			**16**	
Summer Semester	CSE 399A	Internship in Cybersecurity- Part A	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	CSC 303	Digital Logic Design	3	ECT 200
	CSE 310	Introduction to Cryptography	3	STT 201 + MTT 202
	ITE 408	Information Security	3	CSC305 (co-req)
	SWE401	Software Engineering	3	CSC 202
Total Credit Hours			**18**	

Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSE 300	Introduction to Digital Forensics	3	SWE 201 or CSC 201
	CSC 307	Web Design	3	SWE 201 or CSC 201
	CEN 325	Internet of Things: Foundation and Design	3	(SWE 201 or CSC 201) + CSC 303
	ITE 421	Native Mobile Application Development	3	CSC 202
	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
Total Credit Hours			**18**	
Summer Semester	CSE 399B	Internship in Cybersecurity- Part B	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ITE 390	Computer Ethics	3	CSC 202
	CEN 425	Internet of Things: Applications and Networking	3	CEN 325 + (CEN 333 / ITE 421) + CSC 305 (co-req)
	CSE 400	Network Security and Forensics	3	CSC 305
	CSE 410	Mobile Device Security	3	CSC 305
	CSE 499A	Capstone Project in Cybersecurity Engineering-Part A	1	Senior Level + CSC406 + ITE408
	ME 1	Major Elective I	3	-
Total Credit Hours			**16**	
Spring (Semester 8)	CSC 408	Distributed Information Systems	3	CSC 202 + CSC 305
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + (Comp. of 60CH)
	CSE 420	Ethical Hacking	3	CSC 305
	CSE 499B	Capstone Project in Cybersecurity Engineering-Part B	2	CSE 499A
	ME 2	Major Elective II	3	-
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING



Introduction

Industrial Engineering is concerned with the optimization of complex processes, systems, or organizations. This is done through the development, improvement, and implementation of integrated systems of people, money, materials, equipment, and energy. It is an engineering approach to the detailed analysis of the use and cost of these resources. Industrial Engineers play a pivotal role in increasing productivity and profit, improving quality, and streamlining operations. They work on methods for improving the operations and controlling production costs, improving the quality of products and services, ensuring worker health and safety, protecting the environment, and complying with government regulations.

The program combines natural sciences, mathematics, computing, social sciences, and management with mechanical engineering and design. You will study state-of-the-art courses in 3D Printing/Additive Manufacturing, Facilities Planning & Asset Management, Project & Supply Chain Management, Entrepreneurship, and Environmental & Safety Engineering. The first two years of the program are identical to the BSc in Mechanical Engineering, which means you can change between the two programs without losing credit.

With an emphasis on the role of Industrial engineering in the service industries prevalent in the Abu Dhabi economy, quality systems, and operations research and optimization, the program supports Abu Dhabi's journey towards a less oil-dependent economy.

In addition to specialized industrial engineering laboratories, the program benefits from state-of-the-art mechanical engineering facilities including a machine shop, manufacturing CAD/CAM laboratory, control & mechatronics laboratory, thermo-fluids laboratory, metal cooling facility laboratory, and condition-based monitoring laboratory.

Program Mission

The educational mission of the industrial engineering undergraduate program is to provide students with a high-quality education through a well-developed curriculum

that is fundamental, yet broad and flexible. The program seeks to produce graduates who are well-rounded in mathematical, scientific, and technical knowledge; who are prepared for the practice of industrial engineering with sufficient depth to continue their education beyond the baccalaureate degree; who have the ability to analyze, evaluate, and design engineering systems; who have the ability to communicate effectively; who have gained sufficient awareness of the current and emerging industrial practices through participation in industrial internship experiences; and who have acquired an understanding of and appreciation for global and societal issues and are thus prepared for a career path towards leadership in industry, government, and academia.

Program Objectives

The objectives of the program are to produce Industrial Engineers who will be able to:

1. Demonstrate success in the industrial engineering field with a good set of technical, problem solving, and leadership accomplishments.

2. Participate in life-long learning activities such as training, continuing education, or graduate studies.

3. Contribute to the development and growth of local and global communities and uphold ethical, social, and professional responsibilities.

Program Learning Outcomes

The following learning outcomes describe the competencies and skills that Abu Dhabi University Industrial Engineering students will acquire by graduation:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3. An ability to communicate effectively with a range of audiences

4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Curriculum

Total Credit Hours: 138

General Education Requirements	**27 credit hours**
College Requirements	**35 credit hours**
Major Requirements	**67 credit hours**
Major and Business Electives	**9 credit hours**

General Education Requirements — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 Uni. Study Skills Seminar as co-requisite if placed in ENG200)	3
FWS 305	Technical Communication for Workplace	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
FWS 205	UAE and GCC Society	ENG 102 (P) & USS001 as pre-requisite if students enter to ENG 200 course directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 100 (E)	Academic Skills for Success	No Prerequisite	3

College Requirements — 35 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
MTT 200	Calculus II	MTT 102	3
MTT 201	Calculus III	MTT 200	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
MTT 205	Differential Equations	MTT 200 + MTT 204 (co-requisite)	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (co-requisite)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (co-requisite)	1
CHE 205	Chemistry	(Co) ENG 102/ENG 200	3
CHE 201L	Chemistry Lab	CHE 205 (co-requisite)	1
MEC 130	Introduction to Mechanical & Industrial Engineering	No Prerequisite	2
CSC 201	Structured Programming	MTT 102	3
COE 202	Engineering Ethics, Economy and Law	ENG 200 + MTT 102	3
COE 101	Introductory Artificial Intelligence	STT 100	3

Major Requirements 67 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CIV 201	Statics	MTT 102 + PHY 102	3
MIS 200	Introduction to Management Information Systems	ENG 200 + ITD 100 or equivalent	3
IEN 220	Probability and statistics	STT 100	3
MEC 300	Materials Science	CHE 205	3
MEC 301	Manufacturing Processes	MEC 300	3
IEN 310	Ergonomics & Work Measurement	STT 100	3
MEC 310	Dynamics	CIV 201 + MTT 204	3
IEN 311	Ergonomics & Work Measurement lab	IEN 310 (co-requisite)	1
IEN 320	Engineering Data Analysis	STT 100	2
MEC 320	Thermodynamics I	PHY 102	3
IEN 330	Operations Research I	GEN 200	3
MEC 330	Computer Aided Drawing	MEC 130	2
IEN 340	Quality Engineering	IEN 320	3
MEC 340	Mechanical Engineering design	MEC 330, MEC 300	3
IEN 350	Facilities Planning and Asset Management	MEC 330	3
MEC 350	Fluid Mechanics	CIV 201 + MTT205	3
IEN 360	Production Planning & Inventory Control	IEN 330	3
IEN 400	Modeling & Simulation	IEN 330 + MIS 200	2
IEN 401	Modeling & Simulation lab	IEN 400 (co-requisite)	1
IEN 402	3D Printing and Additive Manufacturing	MEC 301	3
IEN 420	Environmental & Safety Engineering	IEN 310	3
MEC 432	Design and manufacturing lab	MEC 301 (co-requisite)	1
IEN 440	Operations Research II	IEN 330	3
IEN 398i	Internship 1	60 credit hours	1.5
IEN 399i	Internship 2	90 credit hours	1.5
IEN 498	Capstone Design Project I	Senior Level +IEN 420	1
IEN 499	Capstone Design Project II	IEN 498	3

Electives Courses 9 Credit Hours

(Major Elective and Business Elective)

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME1	Major Elective 1	-	3
BE 1	Business Elective I	-	3
BE 2	Business Elective II	-	3

Major Elective Basket*			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
IEN 450	Maintenance Management	IEN 350 + IEN 320	3
MGT 411	Project Management	IEN 330 or BUS 306	3
MEC 471	Introduction to Computer Aided Manufacturing	MEC 301	3
IEN 470	Supply Chain Management	IEN 330	3
IEN 480	Special Topic in Industrial Engineering	Senior Status	3

*Students need to choose one course from Major Electives.

Business Elective Basket*			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
ACC 200	Principles of Financial Accounting	ENG 200 + ITE 100 or equivalent	3
MKT 200	Principles of Marketing	ENG 200	3
MIS 304	Business System Analysis and Design	MIS 200	3
MGT 255	Management and Organizational Behaviour	ENG 200	3
MGT 314	Entrepreneurship Management	MGT 255	3
HRM 422	Management & Leadership Development	MGT 255 or MGT 301	3
BUS 102	Introduction to Business	-	3
BUS 204	Business Research Methods	STT 100 + BUS 102	3
ECO 201	Principles of Microeconomics	ENG 200 + (MTG 100/MTT 101/MTT 102)	3

*Students need to choose one course from Major Electives.

BACHELOR OF SCIENCE IN
INDUSTRIAL ENGINEERING
Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 (USS001 as co-req if placed in ENG200)
	STT 100	General Statistics	3	No Prerequisite
	FWS 100	Academic Skills for Success	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	MEC 130	Introduction to Mech & Industrial Engineering	2	No Prerequisite
Total Credit Hours			**17**	
Spring (Semester 2)	COE 101	Introductory Artificial Intelligence	3	STT100
	FWS 205	UAE and GCC Society	3	ENG102 (P) USS001 as pre-requisite USS001 as co-requisite if students enter to ENG200 directly
	MEC 330	Computer Aided Drawing	2	MEC 130
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102 L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
Total Credit Hours			**18**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	MTT 201	Calculus III	3	MTT 200
	CSC 201	Structured Programming	3	MTT 102
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY102 + PHY201(co-req)
	MIS 200	Intro. to Management Information System	3	ENG 200 + ITD 100 oe equivalent
	CHE 205	Chemistry	3	(Co) ENG 102/ENG 200
	CHE 201 L	Chemistry Lab	1	CHE 205 (co-req)
Total Credit Hours			**17**	
Spring (Semester 4)	CIV 201	Statics	3	MTT 102, PHY 102
	MEC 300	Materials Science	3	CHE 205
	MEC 320	Thermodynamics I	3	PHY 102
	IEN 220	Probability and Statics	3	STT 100
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	MTT 205	Differential Equations	3	MTT 200 + MTT 204 (co-req)
Total Credit Hours			**18**	
Summer Semester	IEN 398i	Internship 1	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	IEN 310	Ergonomics & Work Measurement	3	STT 100
	IEN 311	Ergonomics & Work Measurement Lab	1	IEN 310 (co-req)
	MEC 310	Dynamics	3	CIV 201, MTT 204
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of 45 c.hr.
	MEC 340	Mechanical Engineering design	3	MEC 330, MEC 300
	MEC 350	Fluid Mechanics	3	CIV 201, MTT 205
Total Credit Hours			**16**	

Spring (Semester 6)	IEN 320	Engineering Data Analysis	2	IEN 220 + MTT 204
	MEC 301	Manufacturing Processes	3	MEC 300
	IEN 330	Operations Research I	3	IEN 220 + MTT 204
	IEN 340	Quality Engineering	3	IEN 220
	MEC 432	Design and Manufacturing Lab	1	MEC 301 (co-req)
	IEN 350	Facilities Planning and Asset Management	3	MEC 330
	IEN 420	Environmental and Safety Engineering	3	IEN 310
Total Credit Hours			**18**	
Summer Semester	IEN 399i	Internship 2	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	IEN 402	3D Printing and Additive Manufacturing	3	MEC 301
	IEN 360	Production Planning and Inventory Control	3	IEN 330
	IEN 400	Modeling and Simulation	2	IEN 330 + MIS 200
	IEN 401	Modeling and Simulation Lab	1	IEN 400 (co-req)
	IEN 440	Operations Research II	3	IEN 330
	ME 1	Major Elective I	3	-
	IEN 498	Capstone Design Project 1	1	Senior Level + IEN 420
Total Credit Hours			**16**	
Spring (Semester 8)	IEN 499	Capstone Design Project II	3	IEN 498
	BE 1	Business Elective I	3	-
	BE 2	Business Elective II	3	-
	FWS 310	Fundamentals of Innovation & Entrepreneurship	3	ENG200 + Comp. of 60 chrs
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
Total Credit Hours			**15**	

BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING



Introduction

Software Engineering is the application of engineering to the systematic development of software. It is a relatively new area of study and is becoming increasingly critical due to the emerging challenges of building reliable quality software systems. Software Engineers apply theoretical knowledge to analyze, develop, analyze, and test high quality software systems.

The program will provide you with the skills to design systems, components, and processes to meet desired needs within economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability constraints. You will study courses in software maintenance and evolution, software requirements and specification, software design and architecture, software testing and quality assurance, web design, software engineering, object-orientated design patterns, operating systems, and system and networks administration.

Program Mission

The Software Engineering program provides students with essential knowledge and skills to define, design, and develop high quality software systems.

Program Educational Objectives (PEOs)

The objective of the program is to produce Software Engineers who will:

1. Demonstrate their success as Software Engineers with a good set of technical, problem solving, and leadership accomplishments.
2. Participate in life-long learning activities such as training, continuing education, or graduate studies.
3. Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

The following program outcomes describe competencies and skills that students will acquire by the time of graduation:

a. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

b. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

c. an ability to communicate effectively with a range of audiences.

d. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

e. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

f. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

g. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 135

General Education Requirements	**24 credit hours**
College Requirements	**63 credit hours**
Major Requirements	**36 credit hours**
Major Electives	**6 credit hours**
Open Electives	**6 credit hours**

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100(E) or FWS 100 (E) as co-req if students enter to ENG 200 course directly	3
FWS 305	Technical Communication for Workplace	ENG 200 + Completion of 45 CHs.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 63 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 102	Introductory Big Data Analytics	STT 100	3
COE 202	Engineering Ethics, Economy, and Law	ENG 200 + MTT 102	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3
MTT 200	Calculus II	MTT 102	3
MTT 202	Discrete Structures and Applications	STT 100	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (co-requisite)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	PHY 102 + PHY 201 (co-requisite)	1
CHE 205	General Chemistry I	(Co) ENG 102/ENG200	3
CHE 201L	Chemistry Lab	CHE 205 (co-req)	1
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 305	Data Communications and Networks	Junior Level	3
CSC 308	Operating systems	CSC 301	3
ITE 390	Computer Ethics	CSC 202	3
ITE 422	System and Network Administration	CSC 305	3
SWE 201	Structured Programming	MTT 101 or Higher	3
SWE 302	Formal Methods in Software Engineering	MTT 202 + SWE 401	3
SWE 399A	Internship in Software Engineering-Part A	60 Credit Hours	1.5
SWE 399B	Internship in Software Engineering-Part B	90 Credit Hours	1.5
SWE 401	Software Engineering	CSC 202	3
SWE 499A	Capstone Design Project in Software Engineering-Part A	90 Credit Hours + SWE 471 + ITE 421	1
SWE 499B	Capstone Design Project in Software Engineering-Part B	SWE 499A	2

Major Requirements — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 307	Web Design	SWE 201 or CSC 201	3

CSC 406	Artificial Intelligence	STT 201 + CSC 301	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 408	Information Security	CSC 305	3
ITE 409	Human Computer Interactions	SWE 401	3
ITE 421	Native Mobile Application Development	CSC 202	3
SWE 370	Object Oriented Design Patterns	CSC 202	3
SWE 371	Software Requirements and Specification	CSC 202	3
SWE 471	Software Design and Architecture	SWE 401	3
SWE 472	Software Testing and Quality Assurance	SWE 471	3
SWE 473	Software Maintenance and Evolution	SWE 401	3

Major Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME 1	Major Elective I	-	3
ME 2	Major Elective II	-	3

List of Major Elective Courses			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
CEN 325	Internet of Things: Foundation and Design	(SWE 201 or CSC 201) + CSC 303	3
ITE 442	Data Science and Big Data Analytics	(SWE 201 or CSC 201) + STT 201	3
ITE 410	Web programming	CSC 307	3
ITE 414	E-Commerce Applications Design	Junior Level	3
SWE 490	Selected Topics in Software Engineering	90 Credit Hours	3
CSC 303	Digital Logic Design	SWE 201 or CSC 201	3
CSE 300	Introduction to Digital Forensics	SWE 201 or CSC 201	3
CSE 310	Introduction to Cryptography	STT 201 + MTT 202	3
CSE 400	Network Security and Forensics	CSC 305	3
CSE 410	Mobile Device Security	CSC 305	3

Open Electives — 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3

BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101 (A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	STT 100	General Statistics	3	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
	OE1	Open Elective 1	3	-
Total Credit Hours			**18**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG 102 + FWS100 (E) (Co-req if placed in ENG 200)
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (co-req)
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	Chemistry Lab	1	CHE 205 (co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**17**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (co-req)
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
	MTT 202	Discrete Structures and Applications	3	STT 100
	OE 2	Open Elective II	3	-
Total Credit Hours			**16**	

Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 307	Web Design	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	FWS 305	Technical Communications for Workplace	3	ENG 200 + (Comp. of 45CH)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	COE 202	Engineering Ethics, Economy, and Law	3	ENG 200 + MTT 102
Total Credit Hours			**18**	
Summer Semester	SWE 399A	Internship in Software Engineering I	1.5	60 Credit Hours
Total Credit Hours			**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202+ MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	ITE 390	Computer Ethics	3	CSC 202
	SWE 371	Software Requirements and Specification	3	CSC 202
	SWE 401	Software Engineering	3	CSC 202
	SWE 370	Object Oriented Design Patterns	3	CSC 202
Total Credit Hours			**18**	
Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
	ITE 422	System and Network Administration	3	CSC 305
	ITE 421	Native Mobile Application Development	3	CSC 202
	SWE 302	Formal Methods in Software Engineering	3	MTT 202 + SWE 401
	SWE 471	Software Design and Architecture	3	SWE 401
Total Credit Hours			**18**	
Summer Semester	SWE 399B	Internship in Software Engineering II	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ITE 408	Information Security	3	CSC 305
	ITE 409	Human Computer Interactions	3	CSC 401 or SWE 401
	SWE 472	Software Testing and Quality Assurance	3	SWE 471
	ME 1	Major Elective I	3	-
	SWE 499A	Capstone Design Project in Software Engineering Part A	1	90 Credit Hours + SWE 471 + ITE 421
Total Credit Hours			**13**	
Spring (Semester 8)	CSC 408	Distributed Information Systems	3	CSC 202 + CSC 305
	SWE 473	Software Maintenance and Evolution	3	SWE 401
	ME 2	Major Elective II	3	-
	FWS 310	Fund. of Innovation and Entrepreneurship	3	ENG 200 + (Comp. of 60 CH)
	SWE 499B	Capstone Design Project in Software Engineering Part B	2	SWE 499A
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN
SOFTWARE ENGINEERING

(Big Data Analytics Concentration)

Curriculum

Total Credit Hours: 135

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 205	UAE and GCC Society	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
FWS 305	Technical Communications for Work Place	ENG 200 + Completion of 45 Chr.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Chr.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 60 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 202	Engineering Ethics, Economy and Law	ENG 200 + MTT 102	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3
MTT 200	Calculus II	MTT 102	3
MTT 202	Discrete Structures and Applications	STT 100	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
PHY 102	Physics and Engineering Applications I	MTT 102	3
PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (Co-requisite)	1

PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	MTT 102 + PHY 201 (co-requisite)	1
CHE 205	General Chemistry I	(Co) ENG 102/ENG 200	3
CHE201L	Chemistry Lab	CHE 205 (co-req)	1
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 305	Data Communications and Networks	Junior Level	3
CSC 308	Operating Systems	CSC 301	3
ITE 390	Computer Ethics	CSC 202	3
ITE 422	System and Network Administration	CSC 305	3
SWE 201	Structured Programming	MTT 101 or Higher	3
SWE 302	Formal Methods in Software Engineering	MTT 202 + SWE 401	3
SWE 399A	Internship in Software Engineering -Part A	60 Credit Hours	1.5
SWE 399B	Internship in Software Engineering -Part B	90 Credit Hours	1.5
SWE 401	Software Engineering	CSC 202	3
SWE 499A	Capstone Design Project in Software Engineering-Part A	90 Credit Hours + SWE 471 + ITE 421	1
SWE 499B	Capstone Design Project in Software Engineering-Part B	SWE 499A	2

Major Requirements — 33 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 307	Web Design	SWE 201 or CSC 201	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 408	Information Security	CSC 305	3
ITE 409	Human Computer Interactions	CSC 401 or SWE 401	3
ITE 421	Native Mobile Application Development	CSC 202	3
SWE 370	Object Oriented Design Patterns	CSC 202	3
SWE 371	Software Requirements and Specification	CSC 202	3
SWE 471	Software Design and Architecture	SWE 401	3
SWE 472	Software Testing and Quality Assurance	SWE 471	3
SWE 473	Software Maintenance and Evolution	SWE 401	3

Open Requirements — 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE1	Open Elective I	-	3

Concentration Requirements — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
	Compulsory Courses		**12 Credit Hours**
COE 102	Introductory Big Data Analytics	STT 100	3
CIS 404	Data Warehousing and Data Mining	CSC 302	3
CSC 406	Artificial Intelligence	STT 201 + CSC 301	3
ITE 442	Data Science and Big Data Analytics	(SWE 201 or CSC 201) + STT 201	3
	Concentration Electives		**3 Credit Hours**
CE 1	Concentration Elective I	-	3
Concentration Electives Basket			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
ITE 410	Web Programming	CSC 307	3
ITE 414	Introduction to E-Commerce	Junior Level	3
ITE 415	Advanced E-Commerce Application Design	ITE 414	3
ITE 423	Advanced Mobile Application Development	ITE 421	3
SWE 490	Selected Topics in Software Engineering	90 Credits Hours	3

BACHELOR OF SCIENCE IN
SOFTWARE ENGINEERING
Study Plan (Big Data Analytics Concentration)

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	STT 100	General Statistics	3	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-requisite)
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	Chemistry Lab	1	CHE 205 (co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**17**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (co-req)
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
	MTT 202	Discrete Structures and Applications	3	STT 100
	OE 1	Open Elective I	3	-
Total Credit Hours			**16**	
Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 307	Web design	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Comp of 45 CH
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
Total Credit Hours			**18**	
Summer Semester	SWE399A	Internship in Software Engineering-Part A	1.5	60 Credit Hours
		Total Credit Hours	**1.5**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite (s)**
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	ITE 390	Computer Ethics	3	CSC 202
	SWE 371	Software Requirements and Specification	3	CSC 202
	SWE 401	Software Engineering	3	CSC 202
	SWE 370	Object Oriented Design Patterns	3	CSC 202
Total Credit Hours			**18**	

Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
	ITE 422	System and Network Administration	3	CSC 305
	ITE 421	Native Mobile Application Development	3	CSC202
	SWE 302	Formal Methods in Software Engineering	3	MTT 202 + SWE 401
	SWE 471	Software Design and Architecture	3	SWE 401
Total Credit Hours			**18**	
Summer Semester	SWE 399B	Internship in Software Engineering-Part B	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ITE 408	Information Security	3	CSC 305
	ITE 409	Human Computer Interaction	3	CSC 401 or SWE 401
	SWE 472	Software Testing and Quality Assurance	3	SWE 471
	ITE 442	Data Science and Big Data Analytics	3	(SWE 201 or CSC 201) + STT 201
	SWE 499A	Capstone Design Project in SWE-Part A	1	90 Credit Hours + SWE 471 + ITE 421
	CE 1	Concentration Elective 1	3	-
Total Credit Hours			**16**	
Spring (Semester 8)	CSC 408	Distributed Information Systems	3	CSC 202 + CSC305
	SWE 473	Software Maintenance and Evolution	3	SWE 401
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Comp of 60 CH
	CIS 404	Data Warehousing and Data Mining	3	CSC 302
	SWE 499B	Capstone Design Project in SWE-Part B	2	SWE499A
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN
SOFTWARE ENGINEERING
(Web and Mobile Applications Development Concentration)

Curriculum
Total Credit Hours: 135

General Education Requirements — 24 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101**(A)**	Communication Skills in Arabic Lang.	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200	3
FWS 205	UAE and GCC Society	ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of 45 Chr.	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Chr.	3
ISL 100	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Math Placement Test or MTT 101 (C grade)	3
STT 100	General Statistics	No Prerequisite	3

College Requirements — 60 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 102	Introductory Big Data Analytics	STT 100	3
COE 202	Engineering Ethics, Economy and Law	ENG 200 + MTT 102	3
STT 201	Intermediate Statistics and Research Methods	STT 100	3
MTT 200	Calculus II	MTT 102	3
MTT 202	Discrete Structures and Applications	STT 100	3
MTT 204	Introduction to Linear Algebra	MTT 200	3
PHY 102	Physics and Engineering Applications I	MTT 102	3

PHY 102L	Physics and Engineering Applications I Lab	MTT 102 + PHY 102 (Co-requisite)	1
PHY 201	Physics and Engineering Applications II	PHY 102	3
PHY 201L	Physics and Engineering Applications II Lab	MTT 102 + PHY 201 (co-requisite)	1
CHE 205	General Chemistry I	(Co) ENG 102/ENG 200	3
CHE201L	Chemistry Lab	CHE 205 (co-req)	1
CSC 202	Programming II	SWE 201 or CSC 201	3
CSC 301	Data Structures and Algorithms	CSC 202 + MTT 202	3
CSC 305	Data Communications and Networks	Junior Level	3
CSC 308	Operating Systems	CSC 301	3
ITE 390	Computer Ethics	CSC 202	3
SWE 201	Structured Programming	MTT 101 or Higher	3
SWE 302	Formal Methods in Software Engineering	MTT 202 + SWE 401	3
SWE 399A	Internship in Software Engineering -Part A	60 Credit Hours	1.5
SWE 399B	Internship in Software Engineering -Part B	90 Credit Hours	1.5
SWE 401	Software Engineering	CSC 202	3
SWE 499A	Capstone Design Project in Software Engineering-Part A	90 Credit Hours + SWE 471 + ITE 421	1
SWE 499B	Capstone Design Project in Software Engineering-Part B	SWE 499A	2

Major Requirements — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSC 302	Database Management Systems	MTT 202 + (SWE 201 or CSC 201)	3
CSC 307	Web Design	SWE 201 or CSC 201	3
CSC 406	Artificial Intelligence	STT 201 + CSC 301	3
CSC 408	Distributed Information Systems	CSC 202 + CSC 305	3
ITE 408	Information Security	CSC 305	3
ITE 409	Human Computer Interactions	CSC 401 or SWE 401	3
ITE 421	Native Mobile Application Development	CSC 202	3
SWE 370	Object Oriented Design Patterns	CSC 202	3
SWE 371	Software Requirements and Specification	CSC 202	3
SWE 471	Software Design and Architecture	SWE 401	3
SWE 472	Software Testing and Quality Assurance	SWE 471	3
SWE 473	Software Maintenance and Evolution	SWE 401	3

Concentration Requirements — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ITE 410	Web Programming	CSC 307	3
ITE 423	Advanced Mobile Application Development	ITE 421	3
CSE 410	Mobile Device Security	CSC 305	3
ITE 414	Introduction to E-Commerce	Junior Level	3
ITE 415	Advanced E-Commerce Application Design	ITE 414	3

BACHELOR OF SCIENCE IN
SOFTWARE ENGINEERING

Study Plan (Web and Mobile Applications Development Concentration)

First Year (Freshman)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 1)	ENG 200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 FWS 100/USS001 as Co-req if placed in ENG 200
	ARL 101(A)	Communication Skills in Arabic Lang.	3	No Prerequisite
	MTT 102	Calculus I	3	Math Placement Test or MTT 101 (C grade)
	STT 100	General Statistics	3	No Prerequisite
	ISL 100	Islamic Culture	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102 + PHY 102 (Co-requisite)
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	General Chemistry Lab	1	CHE 205 (co-req)
	MTT 200	Calculus II	3	MTT 102
	COE 102	Introductory Big Data Analytics	3	STT 100
Total Credit Hours			**14**	

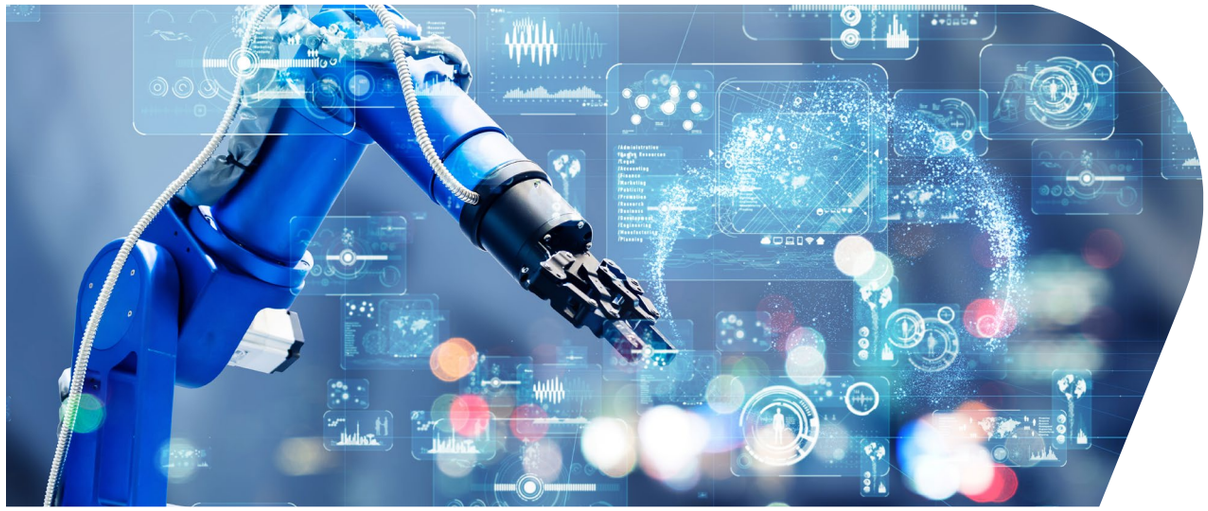
Second Year (Sophomore)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 3)	SWE 201	Structured Programming	3	MTT 101 or Higher
	FWS 205	UAE and GCC Society		ENG 102+ FWS 100 /USS001 FWS 100/USS001 (Co) if placed in ENG 200 directly
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102 + PHY 201 (co-req)
	MTT 202	Discrete Structures and Applications	3	STT 100
	STT 201	Intermediate Statistics and Research Methods	3	STT 100
Total Credit Hours			**16**	
Spring (Semester 4)	CSC 202	Programming II	3	SWE 201 or CSC 201
	CSC 307	Web design	3	SWE 201 or CSC 201
	CSC 302	Database Management Systems	3	MTT 202 + (SWE 201 or CSC 201)
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Comp of 45 CH
	MTT 204	Introduction to Linear Algebra	3	MTT 200
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
Total Credit Hours			**18**	
Summer Semester	SWE399A	Internship in Software Engineering-Part A	1.5	60 Credit Hours
		Total Credit Hours	**1.5**	

Third Year (Junior)				
	Code	Title	Credit	Prerequisite (s)
Fall (Semester 5)	CSC 301	Data Structures and Algorithms	3	CSC 202 + MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	ITE 390	Computer Ethics	3	CSC 202
	SWE 371	Software Requirements and Specification	3	CSC 202
	SWE 401	Software Engineering	3	CSC 202
	SWE 370	Object Oriented Design Patterns	3	CSC 202
Total Credit Hours			**18**	

Spring (Semester 6)	CSC 308	Operating Systems	3	CSC 301
	CSC 406	Artificial Intelligence	3	STT 201 + CSC 301
	ITE 410	Web Programming	3	CSC 307
	ITE 421	Native Mobile Application Development	3	CSC202
	SWE 302	Formal Methods in Software Engineering	3	MTT 202 + SWE 401
	SWE 471	Software Design and Architecture	3	SWE 401
Total Credit Hours			**18**	
Summer Semester	SWE 399B	Internship in Software Engineering-Part B	1.5	90 Credit Hours
Total Credit Hours			**1.5**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	ITE 408	Information Security	3	CSC 305
	ITE 409	Human Computer Interaction	3	CSC 401 or SWE 401
	SWE 472	Software Testing and Quality Assurance	3	SWE 471
	CSE 410	Mobile Device Security	3	CSC 305
	ITE 414	Introduction to E-Commerce	3	Junior Level
	SWE 499A	Capstone Design Project in SWE-Part A	1	90 Credit Hours + SWE 471 + ITE 421
Total Credit Hours			**16**	
Spring (Semester 8)	CSC 408	Distributed Information Systems	3	CSC 202 + CSC305
	SWE 473	Software Maintenance and Evolution	3	SWE 401
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Comp of 60 CH
	ITE 423	Advanced Mobile Application Development	3	ITE 421
	ITE 415	Advanced E-Commerce Application Design	3	ITE 414
	SWE 499B	Capstone Design Project II	2	SWE499A
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN ARTIFICIAL INTELLIGENCE ENGINEERING



Introduction

The BSc in AI Engineering program is a one-of-a-kind program that graduates AI Engineers with the full spectrum of knowledge and skills required to design, develop, and test novel intelligent systems and the future generation of their applications for the government and many industry domains, including manufacturing, business, transportation, robotics, healthcare, tourism, education, and many more. Our program perfectly balances theory and application and is designed around hands-on experiences and project-based learning, widely recognized as the best way to learn true AI and robotics. Another unique aspect of our program is how synched it is with the bleeding-edge AI tech and discoveries for years to come. Join us and learn how to future- proof your career and contribute to creating AI-powered IoT devices for cloud, mobile, desktop, and enterprise apps, be it generative or discriminative AI, right here in the UAE.

Program Mission

The Artificial Intelligence Engineering program equips students with essential knowledge and skills to design, develop, and implement AI-driven solutions to address complex challenges. Students will gain advanced training in key areas of artificial intelligence, including machine learning, data analytics, and intelligent systems, fostering innovation to meet the evolving needs of local and global communities.

Program Educational Objectives (PEOs)

The objective of the program is to produce Artificial Intelligence Engineers who will:

1. Demonstrate their success as artificial intelligence engineers with a good set of technical, problem solving, and leadership accomplishments.
2. Participate in life-long learning activities such as training, continuing education, or graduate studies.

3. Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

The following program outcomes describe competencies and skills that students will acquire by the time of graduation:

1. an ability to identify, formulate, and solve complex Artificial Intelligence engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply Artificial Intelligence engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, economic factors, and sustainability.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, innovate ideas, create a collaborative and inclusive environment, establish goals, plan tasks, meet objectives, and think entrepreneurially.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 140

General Education Requirements	21 credit hours
Degree Requirements	35 credit hours
Major Requirements	69 credit hours
Major Electives	9 credit hours
Open Electives	6 credit hours

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	IELTS average score of 6 or passing grade in ENG 102 (FWS100(E)/ USS001 as co-req if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG102 (P) & FWS100 (E)/ USS001 as pre-requisite FWS100(E)/ USS001 as co-requisite if students enter to ENG200 directly	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	MTT 101	3
STT 100	General Statistics	No Prerequisite	3

Degree Requirements — 35 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ECS 100	Introduction to Engineering and Computing	No Prerequisite	3
MTT 200	Calculus II	MTT102	3
MTT 202	Discrete Structures and Applications	STT100	3
MTT 204	Introduction to Linear Algebra	MTT200	3
MTT 205	Differential Equations	MTT 200, MTT 204 (co)	3
PHY 102	Physics & Engineering Applications I	MTT102	3
PHY 102L	Physics & Engineering Applications I Lab	MTT 102, PHY 102 (co)	1
PHY 201	Physics & Engineering Applications II	PHY 102	3
PHY 201L	Physics & Engineering Applications II Lab	PHY 102, PHY 201(co)	1
CSC 201	Computer Programming I	MTT 101 or Higher	3
COE 101	Introductory Artificial Intelligence	STT 100	3
COE 202	Engineering Ethics, Economy, and Law	ENG 200, MTT 102	3
GEN 300	Numerical Methods	MTT 205, CSC 201	3

Major Requirements — 69 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CSC 202	Computer Programming II	CSC 201	3
CSC 202L	Programming Lab	CSC 201, CSC 202 (co)	1
CSC 301	Data Structures and Algorithms	CSC 202, MTT 202	3
EEN 210	Digital Circuits	ECS 100	3
CSC 305	Data Communications and Networks	Junior Level	3
CEN 330	Probability and Stochastic Processes	CEN 320, STT 100	3
CEN 201	Electric Circuits I	ECS 100 or PHY 201, EEN 210L	3
CEN 320	Signals and Systems	MTT 205, CEN 201	3
CEN 304	Electronic Devices and Circuits	CEN 201	3
EEN 365	Control Systems for Robotics Engineers	MTT 204, CEN 320	3
CEN 333	AI-powered Cross-platform Mobile App. Develop.	CSC 201	3
CEN 464	Digital Signal Processing	CEN 320	3
CEN 464L	Signal Processing Lab	CEN 464 (co)	1
CEN 454	Computer Vision and Machine Learning	CEN 320, CEN 330	3
AIN 325	Edge AI	CEN 325, AIN 310	3

AIN 305	Artificial Intelligence for Engineers	CSC 201, MTT 204, COE 101	3
AIN 310	Machine Learning	CSC 201, COE 101, MTT 200	3
AIN 410	Deep Learning	AIN 310	3
AIN 482	Natural Language Processing	AIN 410	3
AIN 475	Self-Driving Cars	AIN 310, CEN 325	3
AIN 333	Mobile Computer Vision and Machine Learning	CEN 333, CEN 454 (co)	3
AIN 425	Internet of AI-powered Things	AIN 325	3
CEN 401L	Embedded and IoT Lab	AIN 425 (co), EEN 210L	1
AIN 399i	Internship in Artificial Intelligence Engineering I	90 Credits	2
AIN 399ii	Internship in Artificial Intelligence Engineering II	AIN 399i	1
AIN 451	Artificial Intelligence Engineering Design Project I	Senior Status	1
AIN 452	Artificial Intelligence Engineering Design Project II	AIN 451	2

Major Electives (At least 6 of which must be AIN courses) 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
AIN 483	Audio Processing for AI Applications	CEN 464, AIN 310	3
AIN 430	Machine Learning in Medicine	AIN 310	3
AIN 442	Time Series Analysis	AIN 310, CEN 320	3
AIN 443	Generative Deep Learning	AIN 310	3
EEN 366	Introduction to Robotics	EEN 365	3

Open Electives 6 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective I	-	3
OE 2	Open Elective II	-	3

BACHELOR OF SCIENCE IN ARTIFICIAL INTELLIGENCE ENGINEERING - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	ECS 100	Intro. to Engr. & Computing	3	No Prerequisite
	MTT 102	Calculus I	3	Nil / MTT101
	STT 100	General Statistics	3	No Prerequisite
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	ENG 200	English II	3	EPT/IELTS 6/ENG 102
Total Credit Hours			**18**	
Spring (Semester 2)	FWS 205	UAE and GCC Society	3	ENG 102
	OE 1	Open Elective 1	3	-
	COE 101	Introductory to Artificial Intelligence	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102, PHY 102 (co)
	MTT 200	Calculus II	3	MTT 102
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	CSC 201	Computer Programming I	3	MTT 101 or higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102, PHY 201 (co)
	EEN 210	Digital Circuits	3	ECS 100
	COE 202	Engineering Ethics, Economy, and Law	3	ENG 200, MTT 102
	MTT 202	Discrete Structures and Applications	3	STT 100
Total Credit Hours			**16**	

Spring (Semester 4)	CSC 202	Computer Programming II	3	CSC 201
	CEN 333	AI-powered Cross-platform Mobile App. Develop.	3	CSC 201
	CEN 201	Electric Circuits I	3	ECS 100 or PHY 201, EEN 210L
	AIN 305	Artificial Intelligence for Engineers	3	CSC 201, MTT 200, COE 101
	MTT 205	Differential Equations	3	MTT 200, MTT 204 (co)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CEN 320	Signals and Systems	3	MTT 205, CEN 201
	CSC 301	Data Structures and Algorithms	3	CSC 202, MTT 202
	CSC 305	Data Communications and Networks	3	Junior Level
	CEN 304	Electronic Devices and Circuits	3	CEN 201
	AIN 325	Edge AI	3	CEN 325, AIN 310
	OE 2	Open Elective 2	3	-
Total Credit Hours			**18**	
Spring (Semester 6)	CEN 330	Probability and Stochastic Processes	3	CEN 320, STT 100
	EEN 365	Control Systems for Robotics Engineers	3	MTT 204, CEN 320
	FWS 310	Fund. of Innovation & Entrepreneurship	3	ENG 200, 60 Credit Hours
	CEN 401L	Embedded and IoT Lab	1	CEN 425 (co), EEN 210L
	AIN 425	Internet of AI-powered Things	3	AIN 325
	AIN 310	Machine Learning and Pattern Recognition	3	CSC 201, COE 101, MTT 200
	CSC 202L	Programming Lab	1	CSC 201, CSC 202 (co)
Total Credit Hours			**17**	
Summer Semester	AIN 399i	Internship in Artificial Intelligence Engineering I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	GEN 300	Numerical Methods	3	MTT 205, CSC 201
	ME 1	Major Elective 1	3	-
	AIN 410	Deep Learning	3	AIN 310
	ME 2	Major Elective 2	3	-
	AIN 451	Artificial Intelligence Engineering Design Project I	1	Senior Status
	CEN 464	Digital Signal Processing	3	CEN 320
	CEN 464L	Signal Processing Lab	1	CEN 464 (co)
Total Credit Hours			**17**	
Winter Semester	AIN 399ii	Internship in Artificial Intelligence Engineering II	1	AIN 399i
Total Credit Hours			**1**	
Spring (Semester 8)	AIN 482	Natural Language Processing	3	AIN 410
	AIN 475	Self-Driving Cars	3	AIN 310, CEN 325
	AIN 333	Mobile Computer Vision and Machine Learning	3	CEN 333, CEN 454 (co)
	AIN 452	Artificial Intelligence Engineering Design Project II	2	AIN 451
	CEN 454	Computer Vision and Machine Learning	3	CEN 464, CEN 330
	ME 3	Major Elective 3	3	-
Total Credit Hours			**17**	

BACHELOR OF SCIENCE IN
RENEWABLE AND SUSTAINABLE ENERGY ENGINEERING



Introduction

The BSc in Renewable and Sustainable Energy Engineering (BScRSN) program is an innovative undergraduate program designed to prepare graduates to lead in the rapidly growing field of renewable and sustainable energy. Addressing the increasing demand for energy engineers, the program equips students with the technical expertise and problem-solving skills necessary to design, develop, and implement sustainable energy solutions. Graduates will be well-positioned to contribute to Abu Dhabi's vision for sustainable development and to drive progress in industries such as solar, wind, bioenergy, and energy storage. Through a balanced blend of theory, hands-on experience, and project-based learning, the program ensures students are ready to tackle the energy challenges of today and tomorrow.

Program Mission

The Renewable and Sustainable Energy Engineering program equips students with the knowledge and skills to design, develop, and implement innovative solutions for sustainable energy systems. Students will gain advanced training in key areas such as renewable energy technologies, energy efficiency, and sustainable practices, fostering innovation to address the global energy transition and the growing need for clean, reliable, and efficient energy solutions. The program prepares graduates to lead in shaping a sustainable future for local and global communities.

Program Educational Objectives (PEOs)

The objective of the program is to produce Renewable and Sustainable Energy Engineers who will:

1. Demonstrate their success as renewable and sustainable energy engineers with a good set of technical, problem solving, and leadership accomplishments.

2. Participate in life-long learning activities such as training, continuing education, or graduate studies.
3. Contribute to the development and the growth of local and global communities and uphold their ethical, social, and professional responsibilities.

Program Learning Outcomes

The following program outcomes describe competencies and skills that students will acquire by the time of graduation:

1. an ability to identify, formulate, and solve complex renewable and sustainable energy engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply renewable and sustainable energy engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, economic factors, and sustainability.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, innovate ideas, create a collaborative and inclusive environment, establish goals, plan tasks, meet objectives, and think entrepreneurially.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curriculum

Total Credit Hours: 142

General Education Requirements	**21 credit hours**
Degree Requirements	**36 credit hours**
Major Requirements	**76 credit hours**
Electives	**9 credit hours**

General Education Requirements — 21 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	EPT or IELTS average score of 6 or passing grade in ENG102 Co-requisite: (FWS100(E) as co-requisite if placed in ENG200)	3
FWS 205	UAE and GCC Society	ENG 102	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 CHs.	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTT 102	Calculus I	Nil / MTT101	3
STT 100	General Statistics	No Prerequisite	3

Degree Requirements — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
RSN 200	Intro. to Renewable and Sustainable Energy Engineering	No Prerequisite	3
MTT 200	Calculus II	MTT102	3
IEN 220	Probability and Statistics	STT100	3
MTT 204	Introduction to Linear Algebra	MTT200	3
MTT 205	Differential Equations	MTT 200, MTT 204 (co)	3
PHY 102	Physics & Engineering Applications I	MTT102	3
PHY 102L	Physics & Engineering Applications I Lab	MTT 102, PHY 102 (co)	1
PHY 201	Physics & Engineering Applications II	PHY 102	3
PHY 201L	Physics & Engineering Applications II Lab	PHY 102, PHY 201(co)	1
CSC 201	Computer Programming I	MTT 101 or Higher	3
CHE 205	General Chemistry I	ENG 200 / ENG 102 (co)	3
CHE 201L	Chemistry Lab	CHE 205 (co)	1
COE 101	Introductory Artificial Intelligence	STT 100	3
COE 202	Engineering Ethics, Economy, and Law	ENG 200, MTT 102	3

Major Requirements — 76 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
RSN 215	Engineering Mechanics	PHY 102	3
RSN 325	Internet of Energy Efficient Things	CSC 201	3
RSN 301	Energy Materials	CHE 205	3
MEC 320	Thermodynamics I	PHY 102	3
MEC 410	Control Systems	RSN 215 or (MEC 310 + MEC 390)	3
MEC 420	Heat Transfer	MEC 320, MEC 350	3
MEC 350	Fluid Mechanics	(RSN 215 or CIV 201) + MTT 205	3
CEN 201	Electric Circuits I	RSN 200 or PHY 201	3
EEN 220	Electric Circuits II	CEN 201	3
CEN 304	Electronic Devices and Circuits	CEN 201	3
CEN 320	Signals and Systems	MTT 205, CEN 201	3
EEN 441	Photovoltaics and Solar Energy	EEN 220	3

EEN 345	Power Systems	EEN 220	3
RSN 399i	Internship in Renewable & Sustainable Energy Engineering I	90 Credits	2
RSN 399ii	Internship in Renewable & Sustainable Energy Engineering II	RSN 300i	1
RSN 450A	Renewable & Sustainable Energy Eng'g Design Project I	Senior level	1
RSN 450B	Renewable & Sustainable Energy Eng'g Design Project II	RSN 450A	2
RSN 323	Modeling and Simulation of Energy Systems	EEN 220, MEC 350	3
RSN 404	UAE Energy Regulations and Standards	EEN 345	3
RSN 352	Thermal Energy	ME C320	3
RSN 460A	Hybrid Smart Vehicles Project –Materials and Energy	RSN 301	2
RSN 460B	Hybrid Smart Vehicles Project – MEC Design	RSN 460A	2
RSN 460C	Hybrid Smart Vehicles Project – AI Design	RSN 460B	2
RSN 480	Energy-Efficient Green Building Design	Senior level, RSN 301	4
RSN 455	Wind Energy	MEC 350	3
RSN 477	Nuclear Energy	MEC 420	3
RSN 411	Grid Integration of Renewable Energy	EEN 441	3
RSN 485	Energy Storage	EEN 441	3

Electives — 9 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ME 1	Major Elective I	-	3
ME 2	Major Elective II	-	3
OE 1	Open Elective I	-	3

Open Electives Basket

Course Code	Course Title	Prerequisite(s)	Credit Hours
COE 203	Project Quality Engineering	STT 100	3
COE 205	Engineering Project Management	STT 100	3
COE 210	Engineering Lean Start-Up in the UAE	Junior Status	3
COE 220	Sales & Marketing for Engineers and IT Professionals	STT 100	3
COE 230	Engineering Customer Relationship Management	STT 100	3
COE 240	Environmental and Safety Engineering	STT 100	3
COE 250	Engineering Systems Modeling and Simulation	CSC 201	3

COE 260	Engineering Measurement and Instrumentation	PHY 201	3
COE 270	Procurement Engineering and Supply Chain	STT 100	3

Major Electives Basket

Course Code	Course Title	Prerequisite(s)	Credit Hours
RSN 421	Tidal Energy Systems	MEC 350	3
EEN 340	Energy Conversion	EEN 220, CEN 320	3
RSN 423	Feasibility Analysis of Renewable Energy	RSN 323	3
RSN 424	Renewable Energy in Green Buildings	RSN 323, RSN 325	3
RSN 426	Future Sustainable Energy	RSN 323	3
RSN 490	Special Topics in Renewable Energy	Senior Level	3
RSN 385	Energy Sustainability	MEC 320	3
RSN 431	Innovations in Renewable Energy	EEN 441	3
RSN 440	Power Electronics	EEN 345	3
RSN 425	Energy Efficient Smart Homes	RSN 325	3
EEN 447	Batteries and Fuel Cells	EEN 345	3
RSN 445	Biomass and Biofuels Energy	RSN 301	3
RSN 443	Green Building Sustainability Regulations in the UAE	RSN 301	3

BACHELOR OF SCIENCE IN RENEWABLE AND SUSTAINABLE ENERGY ENGINEERING

Study Plan

First Year (Freshman)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	RSN 200	Intro. to Renewable and Sustainable Energy Engineering	3	No Prerequisite
	MTT 102	Calculus I	3	Nil / MTT101
	STT 100	General Statistics	3	No Prerequisite
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 205	UAE and GCC Society	3	ENG 102
Total Credit Hours			**18**	
Spring (Semester 2)	IEN 220	Probability and Statistics	3	STT 100
	ENG 200	English II	3	EPT/IELTS 6/ENG 102
	COE 101	Introductory Artificial Intelligence	3	STT 100
	PHY 102	Physics and Engineering Applications I	3	MTT 102
	PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102, PHY 102 (co)
	MTT 200	Calculus II	3	MTT 102
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 3)	CSC 201	Computer Programming I	3	MTT 101 or higher
	PHY 201	Physics and Engineering Applications II	3	PHY 102
	PHY 201L	Physics and Engineering Applications II Lab	1	PHY 102, PHY 201 (co)
	OE 1	Open Elective I	3	-
	CHE 205	General Chemistry I	3	ENG 200 / ENG 102(co)
	CHE 201L	Chemistry Lab	1	CHE 205(co)
	RSN 215	Engineering Mechanics	3	PHY 102
Total Credit Hours			**17**	
Spring (Semester 4)	MEC320	Thermodynamics I	3	PHY 102
	RSN301	Energy Materials	3	CHE 205
	CEN 201	Electric Circuits I	3	RSN 200 or PH Y201
	COE 202	Engineering Ethics, Economy and Law	3	ENG 200 + MTT 102
	MTT 205	Differential Equations	3	MTT 200, MTT 204 (co)
	MTT 204	Introduction to Linear Algebra	3	MTT 200
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 5)	CEN 320	Signals and Systems	3	MTT 205, CEN 201
	EEN 220	Electric Circuits II	3	CEN 201
	RSN 325	Internet of Energy Efficient Things	3	CSC 201
	MEC 350	Fluid Mechanics	3	(RSN 215 or CIV 201) + MTT 205
	RSN 323	Modeling and Simulation of Energy Systems	3	EEN 220
	CEN 304	Electronic Devices and Circuits	3	CEN 201
Total Credit Hours			**18**	
Spring (Semester 6)	FWS 310	Fund. of Innovation & Entrepreneurship	3	ENG 200, 60 Credit Hours
	EEN 345	Power Systems	3	EEN 220
	EEN 441	Photovoltaics and Solar Energy	3	EEN 220
	MEC 410	Control Systems	3	RSN 215 or (MEC 310 + MEC 390)
	RSN 352	Thermal Energy	3	MEC 320
	RSN 460A	Hybrid Smart Vehicles Project – Materials and Energy	2	RSN 301
Total Credit Hours			**17**	
Summer Semester	RSN 399i	Internship in Renewable & Sustainable Energy Eng I	2	90 Credit Hours
Total Credit Hours			**2**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	RSN 455	Wind Energy	3	MEC 350
	MEC 420	Heat Transfer	3	MEC 320, MEC 350
	ME 1	Major Elective 1	3	-
	ME 2	Major Elective 2	3	-
	RSN 450A	RSN Engineering Design Project I	1	Senior level
	RSN 460B	Hybrid Smart Vehicles Project – MEC Design	2	RSN 460A
	RSN 480A	Energy-Efficient Green Building Design I	2	Senior level
Total Credit Hours			**17**	
Winter Semester	RSN 399ii	Internship in in Renewable & Sustainable Energy Eng II	1	RSN 399i
Total Credit Hours			**1**	
Spring (Semester 8)	RSN 450B	RSN Engineering Design Project II	2	RSN 450A
	RSN 460C	Hybrid Smart Vehicles Project – AI Design	2	RSN 460B
	RSN 480B	Energy-Efficient Green Building Design II	2	RSN 480A
	RSN 477	Nuclear Energy	3	MEC 420
	RSN 411	Grid Integration of Renewable Energy	3	EEN 441
	RSN 485	Energy Storage	3	EEN 441
	RSN 404	UAE Energy Regulations and Standards	3	EEN 345
Total Credit Hours			**18**	





COLLEGE OF HEALTH SCIENCES

Introduction

Acting Dean - Dr. Sofyan Maghaydah

Here in the College of Health Sciences (CoHS), we focus on providing high-quality education in public health, environmental health and safety, nutrition, and biomedical sciences. We strive to provide advanced research opportunities for our students, and to proactively engage with, and contribute to, the communities in which we live and work.

Our aim is to prepare students to become future health professionals to fulfill the healthcare needs of Abu Dhabi, the UAE, GCC countries, and beyond. We take pride in combining competent but personalized teaching with cutting-edge healthcare research, community outreach, and collaborative endeavors. Our faculty are multi-faceted scholars with diverse backgrounds, with the right skills to provide a vibrant and interactive teaching experience. They are renowned for their research in epidemiology, health policy and disparities, health communications, cancer, obesity and nutrition, endocrinology and diabetes, precision medicine, environmental health and safety, etc.

The CoHS offers unique support and encouragement to students. We provide state-of-the-art teaching laboratories, and effective internship and practicum placements. We embrace active students' engagement and promote innovative self-directed learning and assessment in our programs. In addition to the current five bachelor programs offered, additional programs, including B.Sc. in Basic Medical Sciences (pre-med), B.Sc. in Health Communication and Informatics, B.Sc. in Radiology and Medical Imaging, and M.Sc. in Public Health will be introduced soon.

I invite you to take advantage of the academic, research, and social opportunities available in the CoHS as we grow and expand to meet the healthcare needs of the UAE and beyond.

Vision and Mission

The CoHS vision is to become the leading provider of healthcare professionals in the UAE and MENA region and serve as a hub for healthcare research leading to advances in the fields of biomedical sciences, clinical care, and health.

Our mission is to produce graduates who are equipped with both the theoretical and practical scientific and technical knowledge to analyze, evaluate, and communicate

directly with patients, their families, and fellow healthcare professionals, excel in a career in the field of healthcare, understand societal health issues, and are prepared to lead in the field of medicine and health sciences, supporting the ambition of the UAE to become a world-class healthcare provider and medical research hub.

Abu Dhabi University's CoHS is committed to creating, disseminating, and applying knowledge in the areas of Public and Environmental Health, Nutrition, and Biomedical Sciences through innovative teaching, research, and community engagement.

At ADU's CoHS, we offer nationally recognized programs in:

- Public Health
- Environmental Health and Safety
- Biomedical Sciences-Laboratory Medicine
- Molecular and Medical Genetics
- Human Nutrition and Dietetics

Our academic programs are in partnership with world-renowned academic institutions.

Why Choose College of Health Sciences?

- We are the only College having APHEA accreditation in the undergraduate Public Health program in UAE and the MENA region.
- Programs were developed in partnership with Trinity College Dublin and American University of Beirut.
- Our programs offer interdisciplinary training across key allied health professions.
- Programs have been developed specifically to meet the needs of the expanding healthcare needs in the UAE and MENA region.
- The B.Sc. in Molecular and Medical Genetics, B.Sc. in Public Health, and B.Sc. in Environmental Health and Safety are the only programs of their kind in the UAE.
- The B.Sc. in Human Nutrition and Dietetics is a unique undergraduate academic program in the UAE.
- Additional key healthcare programs will be added in the short-term including B.Sc. in Health Communication and Informatics, B.Sc. in Basic Medical Sciences, B.Sc. in Radiography and Medical Imaging, and M.Sc. in Public Health.
- Some of the key clinical and industry partners include VPS Group of Hospitals, Cleveland Clinic, Mediclinic, Cure Advanced Diagnostics, Atomena, BEEAH Group, Ittihad Paper Mill, Daman, and SEHA. This is in addition to academic collaboration with the University of Toronto, Canada, University of Dalhousie, Canada, and University of Arizona, USA.

What Makes ADU's CoHS Unique?

While we are not the only College/Faculty of Health of Sciences in UAE and the region, we are distinct and unique in our programs, approaches, and learning methods.

- We provide state-of-the-art integrated programs in health sciences that prepare graduates to succeed as tomorrow's healthcare professionals.
- Our engagement develops strong associations with students and colleagues in academia, industry, and community.
- Diversity of our faculty, staff, and students reflects our social environment and culture.

BACHELOR OF SCIENCE IN
BIOMEDICAL SCIENCES
(LABORATORY MEDICINE)



Program Overview

The cutting-edge four-year Biomedical Sciences-accredited Laboratory Medicine program in the UAE, the Bachelor Program in Biomedical Sciences – Laboratory Medicine (BMS), offered in Abu Dhabi and AlAin Campuses, is a multidisciplinary hub for powerhouse innovation that integrates the fields of research, medicine, and biology.

BMS was developed in collaboration with the American University of Beirut and Trinity College Dublin, Ireland.

Based on principles and practice of clinical laboratory diagnostics, with emphasis on clinical rotations, it covers a wide range of topics ranging from molecular biology to physiopathology. The students will have the opportunity to specialize in genetics, hematology, histopathology, clinical chemistry, and microbiology among other-related disciplines within the core of the BMS program.

It expands scientific knowledge and gains insight into the processes involved in human health and diseases.

BMS has a total of 131 credits, whereas 125 hours is for laboratory medicine and 6 hours for biomedical sciences placement.

Our faculty members help students gain hands-on experience to prepare them for jobs in this highly needed and demanded field.

We offer excellent internship opportunities through affiliations with medical centers and other regional hospitals, and diagnostic facilities.

Career prospects for BMS program graduates may include, but are not limited to:

- Certified Medical Laboratory Scientist
- Diagnostic Product Developer
- Healthcare Administrator
- Laboratory Technician
- Research Technologist

- Research Scientist
- Pharmaceuticals

Program Objectives and Learning Outcomes

1. Promote knowledge and competences related to the Biomedical Sciences Laboratory Medicine program;
2. Enhance the student's understanding of the area of study, stimulating them to become involved in scientific research approaches to properly tackle research problems;
3. Provide a team working environment and data management so the students can thrive;
4. Expose the students to laboratory-related technologies; and
5. Prepare and incentivize the students for deepening their expertise by continuing their studies into an appropriate Master and/or PhD program (s), if desired.

Curriculum

Total Credit Hours: 131

General Education Requirements	**27 credit hours**
Degree Requirements	**38 credit hours**
Major Requirements	**54 credit hours**
Research Study/Seminars and Professional Practice	**12 credit hours**

General Education Requirement — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	IELTS 6 or EmSAT average score of 1400 or Passing grade in ENG 102 R + FWS100(E)/ USS001 (P) as co-requisite if placed in ENG200)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTG 100	Math for Life	No Prerequisite	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100 or FWS100E or co-requisite FWS100E if placed in ENG200	3
STT 100	General Statistics	No Prerequisite	3
FWS 100	Academic Skills for Success	No Prerequisite	3
FWS 305	Technical Communications for the Workplace	ENG 200 + Completion of 45 Credit Hours	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3

Degree Requirements — 38 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
Compulsory Courses			
CHE 205	General Chemistry I	(Co) ENG 102/ ENG 200	3
CHE 201L	General Chemistry I Lab	(Co-req) CHE 205	1
BIO 205	General Biology I	(Co) ENG 102/ ENG 200	3
BIO 205L	General Biology I Lab	(Pre/Co-req) BIO 205	1
BME 380	Human Biology I	BIO 205	3
BME 381	Human Biology II	BME 380	3
BMS 23110A	Protein Structure and Function	CHE 205	3
BMS 23110B	Protein Activity and Regulation	BMS 23110A	3
BMS 23110C	Enzymology	BMS 23110A	3
PBH 405	Chronic and Infectious Diseases	BIO 205	3
PBH 101	Introduction to Public Health	(Co) ENG 102/ ENG 200 + (Co) FWS 100	3
BMS 302	Professional Practice Skills	BMS 34010A	3
BMS 23010B	Gene Expression	(Co) BMS 34010A	3
BMS 23010C	Molecular Genetic & Molecular Processes	BMS 23010B	3

Major Requirements — 54 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
Compulsory Courses			
BMS 34010B	Quantitative Analysis	BIO 205	3
BMS 34010C	Bioinformatics	BMS 23010C	3
BMS 34010A	Biotechniques	BIO 205 + CHE 205	3
BMS 3470A	Basic Medical Microbiology	(Co) PBH 405	3
BMS 3470B	Clinical Biochemistry I	BMS 23110B	3
BMS 400	Clinical Laboratory Management	BMS 302	3
BMS 34110B	Metabolic Disease I	BMS 23110C	3
BMS 44110B	Metabolic Disease II	BMS 34110B	3
BMS 34210A	Immunology I	BMS 23010C	3
BMS 44210A	Immunology II	BMS 34210A	3

BMS 4470A	Histopathology	BMS 301	3
BMS 4470B	Hematology I	BMS 23010C	3
BMS 34130A	Cancer Biology I	BMS 23010C	3
BMS 301	Systematic and Cellular Pathology	BME 381	3
BMS 44130A	Cancer Biology II	BMS 34130A	3
BMS 401	Clinical Biochemistry II	BMS 400	3
BMS 402	Hematology II	BMS 4470B	3
HSC 205	Biostatistics	STT 100	3

Major Research, Placements and Electives — 12 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
HSC 410	Healthcare Research Methodology	HSC 205 + completion of 80 Credit Hours	3
BMS 44911	Biomedical Science Research Report	BMS 44910	3
BMS 3401	Biomedical Science Placement 1	Completed 60 Credit Hours	3
BMS 4401	Biomedical Science Placement 2	Completed 90 Credit Hours	3

BACHELOR OF SCIENCE IN
BIOMEDICAL SCIENCES
(LABORATORY MEDICINE) - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100	Academic Skills for Success	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	General Chemistry I Lab	1	(Co-req) CHE 205
	ENG 200	English II	3	IELTS 6 or EmSAT average score of 1400 or Passing grade in ENG 102 + (FWS100(E)/ USS001 (P) as co-requisite if placed in ENG200)
Total Credit Hours			**16**	
Spring (Semester 2)	MTG 100	Math for Life	3	No Prerequisite
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	BMS 23110A	Protein Structure and Function	3	CHE 205
	BIO 205	General Biology I	3	(Co) ENG 102 / ENG 200
	BIO 205L	General Biology I Lab	1	(Pre/Co-req) BIO 205
	PBH 101	Introduction to Public Health	3	(Co) ENG 102/ENG 200 + (Co) FWS 100
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	BMS 23110B	Protein Activity & Regulation	3	BMS 23110A
	BME 380	Human Biology I	3	BIO 205
	BMS 34010A	Biotechniques	3	BIO 205 + CHE 205
	BMS 23010B	Gene Expression	3	(Co) BMS 34010A
	BMS 34010B	Quantitative Analysis	3	BIO 205
	BMS 23110C	Enzymology	3	BMS 23110A
Total Credit Hours			**18**	
Spring (Semester 4)	FWS 205	UAE and GCC Society	3	ENG102 +FWS100 or FWS100E or co-requisite FWS100E if placed in ENG200
	BMS 3470B	Clinical Biochemistry I	3	BMS 23110B
	BME 381	Human Biology II	3	BME 380
	BMS 3470A	Basic Medical Microbiology	3	Co-req PBH 405
	PBH 405	Chronic and Infectious Diseases	3	BIO 205
	BMS 34110B	Metabolic Disease I	3	BMS 23110C
Total Credit Hours			**18**	
Summer Semester	BMS 3401	Biomedical Science Placement 1	3	Completed 60 credit hours
Total Credit Hours			**3**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	BMS 301	Systematic and Cellular Pathology	3	BME 381
	BMS 44110B	Metabolic Disease II	3	BMS 34110B
	HSC 205	Biostatistics	3	STT 100
	BMS 23010C	Molecular Genetic & Molecular Processes	3	BMS 23010B
	BMS 302	Professional Practice Skills	3	BMS 34010A
	FWS305	Technical Communication for the Workplace	3	ENG 200 + 45 credit hours
Total Credit Hours			**18**	

Spring (Semester 6)	BMS 34210A	Immunology I	3	BMS 23010C
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 credit hours
	BMS 4470B	Hematology I	3	BMS 23010C
	BMS 34130A	Cancer Biology I	3	BMS 23010C
	BMS 4470A	Histopathology	3	BMS 301
	BMS 400	Clinical Laboratory Management	3	BMS 302
Total Credit Hours			**18**	
Summer Semester	BMS 4401	Biomedical Science Placement 2	3	Completed 90 credit hours
Total Credit Hours			**3**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	HSC 410	Healthcare Research Methodology	3	HSC 205 + completion of 80 credit hours
	BMS 44210A	Immunology II	3	BMS 34210A
	BMS 401	Clinical Biochemistry II	3	BMS 400
	BMS 44130A	Cancer Biology II	3	BMS 34130A
Total Credit Hours			**12**	
Spring (Semester 8)	BMS 44911	Biomedical Science Research Report	3	BMS 44910
	BMS 34010C	Bioinformatics	3	BMS 23010C
	BMS 402	Hematology II	3	BMS 4470B
Total Credit Hours			**9**	

BACHELOR OF SCIENCE IN ENVIRONMENTAL HEALTH AND SAFETY



Program Mission

The program's mission is to prepare Environmental Health and Safety professionals by providing them with knowledge and skills necessary to understand, analyze, and solve environmental health and safety issues and applying them in careers that benefit the health and safety of the people of the UAE and the world.

Program Overview

The Bachelor of Science in Environmental Health and Safety (B.Sc. in EHS) is a cutting-edge multidisciplinary program concerned with all environmental aspects affecting human health. It is designed to meet the growing needs of industry and workplace and provide students with skills to ensure occupational environmental protection, health, and safety. The program covers major environmental issues in the UAE and the world that focus on sustainability, renewable energy, water quality and management, waste management, food safety inspection, pollution monitoring and control, hazardous materials operations and awareness, risk assessments, and occupational health and safety.

Students will be provided with high-quality education in environmental health and safety and internship training that bridges students' academic knowledge with practical application and actual work experience. Students will learn how to identify and minimize the effects of different types of hazards which can affect the health and safety of employees, including those related to ergonomics, thermal, chemical, electrical, mechanical and radioactive, as well as hazardous materials and waste. They will study the fundamental scientific, legal and technological principles underlying environmental health issues, look at the circumstances giving rise to health inequalities, analyze the environmental impact and health risks, and identify appropriate interventions.

The B.Sc. in EHS is the only program in the UAE offered at Abu Dhabi University. Our growing industry collaborations with organizations such as Environment Agency-Abu Dhabi (EAD), Atomena, Beeah Group, Ittihad Paper Mill, Occupational Safety and Health Center-Abu Dhabi (OSHAD), Green Spoon, Camfil Clean Air Solutions, Abu Dhabi Food Control Authority (ADFCA), and Abu Dhabi Quality Conformity Council (QCC) enrich the research and learning opportunities of all EHS students.

The B.Sc. in EHS is designed for those who wish to go into careers as Environmental Health Practitioners, and who want to become highly qualified professionals that make a real difference to people's health and well-being.

Graduates of the EHS program will be able to work in a diverse range of public and private organizations across all sectors. These include but are not limited to ADNOC group of companies, OSHAD, EAD, ADFCA, National Drilling Company, Abu Dhabi Ports, Baraka Nuclear Power Plant, Abu Dhabi Waste Management Center-Tadweer, Environmental Protection and Safety Section (EPSS)-Abu Dhabi Municipality, Etihad Airways, Federal Authority for Nuclear Regulation, Abu Dhabi National Chemical Companies (ChemaWEyatt), Abu Dhabi Water and Electricity Authority (ADWEA), and Ministry of Energy and Industry. Their job designation can be but not limited to the following:

- Environment, Health & Safety Officer
- Environment, Health & Safety Manager
- Occupational Health & Safety Specialist
- Occupational Health & Safety Auditor
- Sanitation Director
- Workplace Safety Assessor
- Food Safety Inspector
- Hazardous Waste Specialist
- Risk Assessment Consultant
- Impact Assessment Expert

Program Objectives

Students who successfully completed the B.Sc. in EHS will be able to:

- Identify information required to describe and manage environmental health and safety issues at an institutional, regional, and global level;
- Assess the economic and social implications of environmental health and safety issues and their connection with both naturally occurring environmental conditions and conditions created through human actions;
- Assess the effects of environmental policy on environmental health and safety at the regional, national, and global levels;
- Formulate recommendations for environmental health and safety standards for a sustainable society;
- Develop action plans for implementation of policies and regulations to ensure institutional, regional, and global environmental health and safety;
- Write, speak, and use electronic communication tools to skillfully communicate with the public and professionals concerning environmental health and safety issues;
- Apply critical thinking methods, including logic, discrimination, and deliberate evaluation when making decisions and value judgments on environmental health and safety issues; and
- Exhibit teamwork, leadership, and conflict resolution skills when working with groups on environmental health and safety issues.

Curriculum

Total Credit Hours: 130

General Education Requirements	**36 credit hours**
College Requirements	**3 credit hours**
Major Requirements	**76 credit hours**
Elective Courses	**15 credit hours**

General Education Requirement — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	EPT or average score of IELTS 6 or EmSAT average score of 1400 or Passing grade in ENG 102 + FWS 100 FWS 100 as co-req if placed in ENG 200	3
FWS 305	Technical Communications for the Workplace	ENG 200 + Completion of minimum 45 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTT 101	Pre-calculus	Passing grade in MTH 100 or Math Placement Test	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 credit hours	3
FWS 301	Developing Future Leaders	FWS 100 + ENG 200 and Completion of minimum 45 Credit Hours	3
FWS 211	Fundamentals of Emotional Intelligence	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 100	Academic Skills for Success	No Prerequisite	3

College Requirements — 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ASC 301	Research Report Writing	ENG 200	3

Major Requirements — 76 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
Compulsory Course			
BIO 205	General Biology I	(Co) ENG 102 / ENG 200	3
BIO 205L	General Biology I Lab	(Pre / Co-req) BIO 205	1
CHE 205	General Chemistry I	(Co) ENG 102 / ENG 200	3
CHE201L	General Chemistry I Lab	(Pre / Co-req) CHE 205	1
EHS 205	Introduction to Environmental Health & Safety	(Co) ENG 102 / ENG 200 + (Co) FWS 100	3
EHS 300	Housing & Sustainable Communities	ENS 210	3

EHS 310	Food Safety & Management	HSC 210	3
EHS 399	Internship	90 Credit Hours	3
EHS 400	Toxicology	BIO 205	3
EHS 320	Waste Management	ENS 210	3
EHS 410	Impact Assessment	EHS 320	3
EHS 415	Environmental Health Regulation & Compliance	ENS 220 + HSC 315	3
EHS 420	Hazardous Materials	HSC 305	3
EHS 425	Pollution Monitoring & Control	EHS 320 + CHE 205	3
EHS 425L	Pollution Monitoring & Control Lab	CHE 201L + Pre or Co-requisite EHS 425	1
EHS 430	Health Risk Management	HSC 315	3
EHS 499	Undergraduate Research	90 Credit Hours	4
ENS 205	Introduction to Environmental Science	(Co) ENG 102 / ENG 200 + (Co) FWS 100	3
ENS 210	Natural Resources Conservation	ENS 205	3
ENS 220	Environmental Policy	ENS 205	3
HSC 200	Introduction to Health Management	EHS 205	3
HSC 201	Determinants of Public Health	ENS 205	3
HSC 205	Biostatistics	STT 100	3
HSC 210	Epidemiology & Population Health	HSC 205	3
HSC 305	Occupational Health & Safety	HSC 200	3
HSC 315	Global Issues in Environmental Health	EHS 205	3
HSC 410	Healthcare Research Methodology	HSC 205	3

Elective Courses — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective 1	-	3
OE 2	Open Elective 2	-	3
OE 3	Open Elective 3	-	3
OE 4	Open Elective 4	-	3
OE 5	Open Elective 5	-	3

BACHELOR OF SCIENCE IN ENVIRONMENTAL HEALTH AND SAFETY - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	ENG 200	English II	3	EPT or average score of IELTS 6 or EmSAT average score of 1400 + FWS 100 (E) FWS 100 (E) as co-req if placed in ENG 200 directly
	EHS 205	Intro. to Environmental Health Safety	3	(Co) ENG 102 / ENG 200 + (Co) FWS 100
	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	FWS 100	Academic Skills for Success	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	MTT 101	Pre-calculus	3	Passing grade in MTH 100 or Math Placement Test
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	ENS 205	Introduction to Environmental Science	3	(Co) ENG 102 / ENG 200 + (Co) FWS 100
	BIO 205	General Biology I	3	(Co) ENG 102 / ENG 200
	BIO 205L	General Biology I Lab	1	(Pre / Co-req) BIO 205
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 3)	FWS 205	UAE and GCC Society	3	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly
	HSC 205	Biostatistics	3	STT 100
	HSC 200	Into to Health Management	3	EHS 205
	CHE 205	General Chemistry I	3	(Co) ENG 102 / ENG 200
	CHE 201L	General Chemistry I Lab	1	(Pre / Co-req) CHE 205
	FWS 211	Fundamentals of Emotional Intelligence	3	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly
Total Credit Hours			**16**	
Spring (Semester 4)	FWS 305	Technical Communication for Workplace	3	ENG 200 + Completion of 45 credit hours
	HSC 210	Epidemiology & Population Health	3	HSC 205
	HSC 201	Determinants of Public Health	3	ENS 205
	ENS 220	Environmental Policy	3	ENS 205
	ENS 210	Natural Resources Conservation	3	ENS 205
	OE 1	Open Elective 1	3	-
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 5)	ASC 301	Research Report Writing	3	ENG 200
	HSC 305	Occupational Health & Safety	3	HSC 200
	EHS 310	Food Safety and Management	3	HSC 210
	OE 2	Open Elective 2	3	-
	EHS 400	Toxicology	3	BIO 205
Total Credit Hours			**15**	
Spring (Semester 6)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 credit hours
	EHS 300	Housing & Sustainable Communities	3	ENS 210
	EHS 320	Waste Management	3	ENS 210
	HSC 315	Global Issues in Environmental Health	3	EHS 205
	HSC 410	Healthcare Research Methodology	3	HSC 205
Total Credit Hours			**15**	

Summer Semester	EHS 399	Internship	3	90 credit hours
Total Credit Hours			**3**	

Fourth Year (Senior)				
	Code	Title	Credit	Prerequisite(s)
Fall (Semester 7)	EHS 420	Hazardous Materials	3	HSC 305
	ENS 499	Undergraduate Research	4	90 credit hours
	EHS 415	Environmental Health Regulation & Compliance	3	ENS 220 + HSC 315
	OE 3	Open Elective 3	3	-
	OE 4	Open Elective 4	3	-
Total Credit Hours			**16**	
Spring (Semester 8)	FWS 301	Developing Future Leaders	3	FWS 100 + ENG 200 and Completion of minimum 45 credit hours
	EHS 425	Pollution Monitoring & Control	3	EHS 320 + CHE 205
	EHS 425L	Pollution Monitoring & Control Lab	1	CHE 201L + Pre or Co-requisite EHS 425
	EHS 410	Impact Assessment	3	EHS 320
	EHS 430	Health Risk Management	3	HSC 315
	OE 5	Open Elective 5	3	-
Total Credit Hours			**16**	

BACHELOR OF SCIENCE IN HUMAN NUTRITION AND DIETETICS



Program Mission

The mission of the ADU Bachelor of Science in Human Nutrition and Dietetics is to prepare future leaders in the nutrition and dietetics profession by providing them with the breadth and depth of knowledge and skills in nutrition and strong experiential learning activities to encompass research and critical-thinking, communication, and professional practice.

Program Overview

Human Nutrition and Dietetics is the application of the science of food and nutrition to the prevention and treatment of disease and promotion of health. Integrating knowledge and research into course work, the combined nutrition and dietetics degree provides students with an understanding of the nutritional sciences for the application of treating nutrition-related disease in the health care industry. As nutrition plays a central role in health and disease, the program is people-oriented, science-focused, and evidence-based towards professional credential.

ADU's Bachelor of Science in Human Nutrition and Dietetics degree is a highly regarded degree option that combines the academic and supervised practice experience to qualify graduates to become licensed dietitians in the UAE. The program equips students with the knowledge and skills needed for entry-level practice as dietitians both at the national level and international level. The curriculum is multi-disciplinary and encompasses a wide range of courses including nutrition, food science, public health, physiology, management, research, dietetics, and other supporting courses.

The program is a four-year program of a total of 130 credits that has integrated supervised practice (Practicum) component of at least 640 hours at wide range of selective facilities with focus on accredited clinical dietitian training facilities for clinical rotations.

The program has also obtained the UAE Commission for Academic Accreditation (CAA) and allows eligibility to be licensed in the UAE to practice as a clinical dietitian. It prepares students for successful careers in allied health or continuing their education with advanced degrees.

Career Prospects

There is a global demand for dietitians and nutritionists to provide care for patients with various medical conditions and advise people on health. ADU's B.Sc. in Human Nutrition and Dietetics produces leading experts in the fields of health, food, and nutrition and graduates can work in clinical practice, foodservice management, community dietetics, business/consultation, education, and research.

Career prospects in the field of human nutrition and dietetics include:

- Clinical Dietitian
- Specialized Dietitian: Renal, Diabetic, Pediatric, Oncology
- Sports Dietitian/Nutritionist
- Medical/Nutritional Product Representative
- Food Safety Dietitian/ Quality Control
- Culinary Dietitian
- Health Educator
- Community/Public Health Nutritionist
- Nutrition Educator: Schools, Universities
- Research Coordinator

Curriculum

Total Credit Hours: 130

General Education Requirements	27 credit hours
Degree Requirements	29 credit hours
Major Requirements	43 credit hours
Research Study/Seminars and Professional Practice	31 credit hours

General Education Requirement — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 Credit Hours	3
ENG 200	English II	EPT or average score of IELTS 6 or EmSAT average score of 1400 or Passing grade in ENG 102 + FWS 100 FWS 100 as co-req if placed in ENG 200	3
FWS 305	Technical Communications for the Workplace	ENG 200 + Completion of minimum 45 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 100	Academic Skills for Success	No Prerequisite	3
FWS 211	Fundamentals of Emotional Intelligence	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly	3

Degree Requirements — 29 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
BIO 205	General Biology I	(Co) ENG 102/ENG 200	3
BIO 205L	General Biology I Lab	(Pre/Co-req) BIO 205	1
HMG 380	Human Anatomy and Physiology I	BIO 205	3
HMG 381	Human Anatomy and Physiology II	HMG 380	3
CHE 205	General Chemistry I	(Co) ENG 102/ENG 200	3
CHE 205L	General Chemistry I Lab	(Pre/Co-req) CHE 205	1
CHE 207	Organic Chemistry	CHE 205 + CHE 201L	3
BMS 247	Basic Biochemistry	(Co) HMG 380 + CHE 205	3
HSC 205	Biostatistics	STT 100	3
PBH 320	Community and Public Health Nutrition	HND 221 + HND 222	3
HND 228	Introduction to Counselling Theory and Skills	ENG200 + Completion of 45 Credit Hours	3

Major Requirements — 43 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
HND 220A	Foundations of Dietetic Practice A	Completed 30 Credit Hours	0
HND 220B	Foundations of Dietetic Practice B	Co-requisite HND 220A	0
HND 221	Principles of Human Nutrition	No Prerequisite	3
HND 222	Assessment of Nutritional Status	HND 221	3
HND 223	Menu Planning and Evaluation	Co-requisite HND 224	2
HND 224	Nutritional Metabolism	BMS 247	3
HND 225	Management of Foodservices	HND 221	3
HND 226	Food Chemistry	CHE 207	3
HND 226L	Food Chemistry and Analysis Lab	(Co) HND 226	2
HND 339	Nutrition through the Life Cycle	HND 224	3
HND 331	Food Microbiology and Sanitation	HND 226	3
HND 332	Medical Nutrition Therapy I	(Pre--req) HND 222, HND 224, (Co) HND 339	3
HND 332L	Medical Nutrition Therapy I Lab	(Co) HND 332	1
HND 333	Food Processing	HND 226	3
HND 333L	Food Processing Lab	(Co) HND 333	1

HND 334	Medical Nutrition Therapy II	HND 332	3
HND 334L	Medical Nutrition Therapy II Lab	(Co) HND 334	1
HND 335	Quantity Foods	HND 225	3
HND 436	Sports Nutrition	HND 224	3

Major Research, Placements and Electives — 31 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
HND 437	Seminar: Current Research in Nutrition	Completed 90 Credit Hours	1
HND 438	Human Nutrition Research Tutorial	Completed 90 Credit Hours	2
HND 340 I	Dietetic Practicum I	Completed 75 Credit Hours	4
HND 440 II	Dietetic Practicum II	HND 332	6
HND 440 III	Dietetic Practicum III	Co-requisite HND 440 II	8
HND 440 IV	Dietetic Practicum IV	PBH 320	8
HND 321	Seminar in Foodservice Systems	Co-requisite HND 340 I	1
HND 421	Seminar in Clinical Dietetics	Co-requisite HND 440 II	1

BACHELOR OF SCIENCE IN HUMAN NUTRITION AND DIETETICS - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 100	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100	Academic Skills for Success	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	ENG 200	English II	3	EPT or average score of IELTS 6 or EmSAT average score of 1400 + FWS 100 FWS 100 as co-req if placed in ENG 200 directly
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	General Chemistry I Lab	1	(Pre/Co-req) CHE 205
Total Credit Hours			**16**	
Spring (Semester 2)	FWS211	Fundamentals of Emotional Intelligence	3	ENG102 + FWS100 or (Co) FWS100 if placed in ENG200
	ISL 100	Islamic Culture	3	No Prerequisite
	FWS 205	UAE and GCC Society	3	ENG102 + FWS100 or (Co) FWS100 if placed in ENG200
	BIO 205	General Biology I	3	(Co) ENG 102 / ENG 200
	BIO 205L	General Biology I Lab	1	(Pre/Co-req) BIO 205
	HND 221	Principles of Human Nutrition	3	No Prerequisite
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	HMG 380	Human Anatomy and Physiology I	3	BIO 205
	BMS 247	Basic Biochemistry	3	Co-requisite HMG 380 + CHE 205
	CHE 207	Organic Chemistry	3	CHE 205 + (Co) CHE 201L
	HND 222	Assessment of Nutritional Status	3	HND 221
	HND 225	Management of Foodservices	3	HND 221
Total Credit Hours			**15**	

Winter Semester	HND 220A	Foundations of Dietetic Practice A	0	Completed 30 credit hours
	HND 220B	Foundations of Dietetic Practice B	0	Co requisite HND 220A
	HND 228	Introduction to Counselling Theory and Skills	3	ENG 200 + Completion of 45 credit hours
Total Credit Hours			**3**	
Spring (Semester 4)	HMG 381	Human Anatomy & Physiology II	3	HMG 380
	HND 226	Food Chemistry	3	CHE 207
	HND 226L	Food Chemistry and Analysis Lab	2	Co-requisite HND 226
	HND 224	Nutritional Metabolism	3	BMS 247
	HND 223	Menu Planning and Evaluation	2	Co-requisite HND 224
	FWS 305	Technical Communication for Workplace	3	ENG200 + 45 credit hours
Total Credit Hours			**16**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	HSC 205	Biostatistics	3	STT 100
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + 60 credit hours
	HND 332	Medical Nutrition Therapy I	3	(Pre--req) HND 222, HND 224, (Co) HND 339
	HND 339	Nutrition through the Life Cycle	3	HND 224
	HND 332L	Medical Nutrition Therapy I Lab	1	Co-requisite HND 332
	HND 333	Food Processing	3	HND 226
	HND 333L	Food Processing Lab	1	Co-requisite HND 333
Total Credit Hours			**17**	
Winter Semester	HND 321	Seminar in Food Service Systems	1	Co-requisite HND 340 I
	HND 340 I	Dietetic Practicum I	4	Completion of 75 credit hours
Total Credit Hours			**5**	

Spring (Semester 6)	PBH 320	Community and Public Health Nutrition	3	HND 221, HND 222
	HND 334	Medical Nutrition Therapy II	3	HND 332
	HND 334L	Medical Nutrition Therapy II Lab	1	Co-requisite HND 334
	HND 335	Quantity Foods	3	HND 225
	HND 331	Food Microbiology and Sanitation	3	HND 226
Total Credit Hours			**13**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	HND 421	Seminar in Clinical Dietetics	1	Co-requisite HND 440 II
	HND 440 II	Dietetic Practicum II	6	HND 332
	HND 440 III	Dietetic Practicum III	8	Co-requisite HND 440 II
Total Credit Hours			**15**	
Spring (Semester 8)	HND 436	Sports Nutrition	3	HND 224
	HND 437	Seminar Current Research in Nutrition	1	90 credit hours
	HND 438	Human Nutrition Research Tutorial	2	90 credit hours
	HND 440 IV	Dietetic Practicum IV	8	PBH 320
Total Credit Hours			**14**	

BACHELOR OF SCIENCE IN MOLECULAR AND MEDICAL GENETICS



Program Overview

Molecular and Medical Genetics is the field of biology that studies the genetic basis of disease, intending to develop improved diagnostics to prevent or to treat genetic disorders. ADU's Bachelor of Science in Molecular and Medical Genetics is a degree, accredited by the UAE Commission for Academic Accreditation (CAA), combines academic and practical experience to prepare graduates for their future roles as clinical geneticists or research technologists. The program will equip students with the knowledge and technical skills in molecular biology and human genetics, needed for their success in the medical genetics field. The 4-year program includes intensive laboratory practical training within the university and two integrated supervised placements with affiliated organizations in the UAE, including VPS Healthcare, Cleveland Clinic Abu Dhabi (CCAD), as well as regional medical centers.

Career Prospects

The B.Sc. in Molecular and Medical Genetics (B.Sc. in MMG) offers you the opportunity to receive training in a discipline with a growing demand in today's society. You will acquire the theoretical and practical skills needed to work in both the public and private sectors and develop yourself professionally in both applied and clinical research in any of the fields of genomics, biomedicine, biotechnology, and pharmaceuticals. The work settings where you as MMG graduated student can work include universities, hospitals, government departments, research institutes, and biotechnology and pharmaceutical industry.

The roles you may have include the following:

- Molecular Genetics Technologist
- Molecular Laboratory Technologist
- Clinical Laboratory Technician
- Scientific Laboratory Technician
- Cytogeneticist

- Academic Researcher
- Biotechnologist
- Embryologist
- Pharmacologist
- Immunogeneticist
- Medical Sales Representative
- Health Ministry Officer

Program Objectives and Learning Outcomes

Upon the completion of a B.Sc. degree in MMG, a graduate student will:

- Acquire an understanding of the major concepts in the molecular biology and an awareness of how these concepts are integrated from the molecular through the human organismal level;
- Demonstrate a critical understanding for the genetic basis to rare and common diseases; including appraisal of current genetics and genomics literature;
- Address issues relating to the application of experimental analysis to solving problems in genetics;
- Acquire a broad understanding of current molecular genetics and genomics including current areas of research and research methodologies;
- Use the adequate skills to effectively communicate, both orally and in writing, key scientific findings in molecular and human genetics to a professional audience; and
- Acquire scientific literacy necessary to become an informed citizen of a diverse, ever changing, global society, and to engage in a lifetime of scientific learning.

Graduates of the program will be prepared for advanced studies of Master's degree in Molecular and Precision Medicine (offered in the future at Abu Dhabi University), or careers involving genomics and clinical genetics.

Curriculum

Total Credit Hours: 131

General Education Requirements	**27 credit hours**
Degree Requirements	**44 credit hours**
Major Requirements	**48 credit hours**
Major Research, Placements and Electives	**12 credit hours**

General Education Requirement — 27 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	IELTS 6 or EmSAT average score of 1400 or Passing grade in ENG 102 + (FWS100(E)/ USS001 (P) as co-requisite if placed in ENG200)	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
MTG 100	Math for Life	No Prerequisite	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly	3

STT 100	General Statistics	No Prerequisite	3
FWS 100	Academic Skills for Success	No Prerequisite	3
FWS 305	Technical Communications for the Workplace	ENG 200 + Completion of 45 Credit Hours	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + 60 Credit Hours	3

Degree Requirements — 44 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
CHE 205	General Chemistry I	(Co) ENG 102/ENG 200	3
CHE 201L	General Chemistry I Lab	(Co-req) CHE 205	1
BIO 205	General Biology I	(Co) ENG 102/ENG 200	3
BIO 205L	General Biology I Lab	(Pre/Co-req) BIO 205	1
HMG 380	Human Anatomy and Physiology I	BIO 205	3
HMG 381	Human Anatomy and Physiology II	HMG 380	3
BMS 23110A	Protein Structure and Function	CHE 205	3
BMS 23110B	Protein Activity and Regulation	BMS 23110A	3
BMS 23110C	Enzymology	BMS 23110A	3
HSC 210	Epidemiology and Population Health	HSC 205	3
BMS 302	Professional Practice Skills	BMS 34010A	3
PBH 101	Introduction to Public Health	(Co) ENG 102/ENG 200 + (Co) FWS 100	3
BMS 23010A	Genome Biology	BMS 23010B	3
BMS 23010B	Gene Expression	Co-req of BMS 34010A	3
BMS 23010C	Molecular Genetic and Molecular Processes	BMS 23010B	3
BMS 34120	Human and Evolutionary Genetics	HMG 35110B	3

Major Requirements — 48 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
BMS 34010B	Quantitative Analysis	BIO 205	3
BMS 34010C	Bioinformatics	BMS 23010C	3
BMS 34010A	Biotechniques	BIO 205 + CHE 205	3
HMG 399	Epidemiology and Public Health Genetics	HSC 210	3
HSC 205	Biostatistics	STT 100	3
BMS 3470B	Clinical Biochemistry I	BMS 23110B	3

BMS 34110B	Metabolic Disease I	BMS 23110C	3
HMG 35110B	Principles of Medical Genetics	BMS 23010B	3
BMS 34210A	Immunology I	BMS 23010C	3
HMG 442	Inherited Immunodeficiencies	BMS 34210A	3
BMS 34110A	Neurobiology I	HMG 381	3
HMG 44110A	Inherited Neurological Disorders	BMS 34110A	3
BMS 34130A	Cancer Biology I	BMS 23010C	3
HMG 44130A	Inherited Cancer Genetics	BMS 34130A + HMG 442	3
HMG 2201	Introduction to Counselling Theory and Skills	ENG200 + Completion of 45 Credit Hours	3
HMG 2301	Medical Genetic Counselling	HMG 2201	3

Major Research, Placements and Electives — 12 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
HSC 410	Healthcare Research Methodology	HSC 205 + Completion of 80 Credit Hours	3
HMG 44911	Human Genetics Research Report	HMG 44910	3
MMG 3401	Molecular and Medical Genetics Placement 1	Completion of 70 Credit Hours	3
MMG 4401	Molecular and Medical Genetics Placement 2	Completion of 102 Credit Hours	3

BACHELOR OF SCIENCE IN MOLECULAR AND MEDICAL GENETICS - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	FWS 100	Academic Skills for Success	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	ENG 200	English II	3	IELTS 6 or EmSAT average score of 1400 or Passing grade in ENG 102 +(FWS100(E)/ USS001 (P) as co-requisite if placed in ENG200)
	CHE 205	General Chemistry I	3	(Co) ENG 102/ENG 200
	CHE 201L	General Chemistry I Lab	1	(Co-req) CHE 205
Total Credit Hours			**16**	
Spring (Semester 2)	MTG 100	Math for Life	3	No Prerequisite
	PBH 101	Introduction to Public Health	3	(Co) ENG 102/ENG 200 + (Co) FWS 100
	BMS 23110A	Protein Structure and Function	3	CHE 205
	BIO 205	General Biology I	3	(Co) ENG 102 / ENG 200
	BIO 205L	General Biology I Lab	1	(Pre/Co-req) BIO 205
	ISL 100	Islamic Culture	3	No Prerequisite
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	BMS 23110B	Protein Activity & Regulation	3	BMS 23110A
	BMS 23010B	Gene Expression	3	(Co) BMS 34010A
	HMG 380	Human Anatomy and Physiology I	3	BIO 205
	BMS 23110C	Enzymology	3	BMS 23110A
	HSC 205	Biostatistics	3	STT 100
	BMS 34010A	Biotechniques	3	BIO 205 + CHE 205
Total Credit Hours			**18**	
Spring (Semester 4)	HGC 35110B	Principles of Medical Genetics	3	BMS 23010B
	BMS 3470B	Clinical Biochemistry I	3	BMS 23010B
	HSC 210	Epidemiology and Population Health	3	HSC 205
	HMG 381	Human Anatomy & Physiology II	3	HMG 380
	BMS 23010A	Genome Biology	3	BMS 23010B
	BMS 34110B	Metabolic Disease I	3	BMS 23110C
Total Credit Hours			**18**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	BMS 34010B	Quantitative Analysis	3	BIO 205
	BMS 302	Professional Practice Skills	3	BMS 34010A
	HMG 399	Epidemiology and Public Health Genetics	3	HSC 210
	BMS 23010C	Molecular Genetic & Molecular Processes	3	BMS 23010B
	FWS 205	UAE and GCC Society	3	ENG102 + FWS100 or (Co) FWS100 if placed in ENG200
Total Credit Hours			**15**	
Winter Semester	MMG 3401	Molecular and Medical Genetics Placement 1	3	Completion of 70 credit hours
Total Credit Hours			**3**	

Spring (Semester 6)	BMS 34110A	Neurobiology I	3	HMG 381
	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 credit hours
	BMS 34210A	Immunology I	3	BMS 23010C
	FWS 305	Technical Communications for the Workplace	3	ENG 200 + Completion of 45 credit hours
	BMS 34130A	Cancer Biology I	3	BMS 23010C
	BMS 34120	Human and Evolutionary Genetics	3	HMG 35110B
Total Credit Hours			**18**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	HND 228	Introduction to Counselling Theory and Skills	3	ENG 200 + Completion of 45 credit hours
	HMG 44110A	Inherited Neurological Disorders	3	BMS 34110A
	HSC 410	Healthcare Research Methodology.	3	HSC 205 + Completion of 80 credit hours
	HMG 442	Inherited Immunodeficiencies	3	BMS 34210A
Total Credit Hours			**12**	
Winter Semester	MMG 4401	Molecular and Medical Genetics Placement 2	3	Completion of 102 credit hours
Total Credit Hours			**3**	
Spring (Semester 8)	HMG 44911	Human Genetics Research Report	3	HMG 44910
	HMG 2301	Medical Genetic Counselling	3	HMG 2201
	BMS 34010C	Bioinformatics	3	BMS 23010C
	HMG 44130A	Inherited Cancer Genetics	3	BMS 34130A + HMG 442
Total Credit Hours			**12**	

BACHELOR OF SCIENCE IN
PUBLIC HEALTH



Program Mission

The UAE has vast public health challenges. This degree will provide teaching and learning milieu that will build up student's knowledge of human public health issues and practices that are relevant to the UAE.

Program Overview

The B.Sc. in Public Health program has received international accreditation by the Agency for Public Health Education Accreditation (APHEA), which provides international and transparent quality recognition in public health education and training.

The program will provide a career focused training that fits the needs of the UAE and community development. Public health focuses on large-scale health issues, determinants, and solutions. Graduates will deal with complex health issues, such as controlling communicable diseases and improving health care policies. Students can specialize in a range of fields including health policy management, environmental health, and health promotion. The internship and undergraduate capstone project must be completed within the area of specialization. Public health job opportunities are offered by but not limited to the health authorities, hospitals, insurance companies, and public health research centers. The B.Sc. in Public Health is designed for students who thrive on making a positive impact on the lives of others. This program is ideal for students with an interest in the connection between the local community and general health issues. It is designed for students who want to promote and maintain a healthier community in the UAE.

The program benefits from external partnerships with renowned international universities such as the University of Toronto, Dalhousie University, and the University of Arizona. These collaborations extend through joint supervision of student undergraduate research projects, course certification, and faculty and student exchange programs.

Whether you are interested in research, statistics, health policy or working directly with people, there is a place for you in the field of Public Health.

Program Objectives

The B.Sc. in Public Health program learning outcomes describe competencies and skills that our students acquire by the time of graduation. Graduates are expected to be able to:

- Define the core areas of public health (Epidemiology, Environmental Health, Biostatistics, Health Service Administration/Health Policy Management, and Social & Behavioral Sciences);
- Analyze health-related issues that are common in the community of the UAE and global public health;
- Define public health problems and public health assets across the ecological model and understand ethical practice and research;
- Define and explain the public health functions of promotion, protection, and assurance and their role in protecting the health of the public;
- Explain recommended solutions for defined problems using knowledge of the broad and interconnecting causes of the UAE's health problems;
- Effectively communicate (orally and in writing) health-related issues and activities to professional and lay audience and explain the cultural sensitivity in public health practices;
- Compare strategies for implementing and evaluating health programs therefore improving the health status in communities in the UAE;
- Compare private and public health sectors that support public health within the UAE; and
- Demonstrate leadership skills while supporting public health problem solving.

Career Prospects

A Bachelor of Public Health degree opens a wide range of career prospects in the field of public health and healthcare. The field of public health offers diverse and rewarding career opportunities aimed at improving the health and well-being of communities and populations.

Here are some potential career opportunities for the Bachelor of Public Health graduates:

- Public Health Educator
- Health Promotion Specialist
- Epidemiologist
- Biostatistician
- Community Health Worker
- Health Policy Analyst
- Health Program Coordinator
- Global Health Specialist
- Health Data Analyst
- Academic Career
- Healthcare Research Career
- Others

Curriculum

Total Credit Hours: 120

General Education Requirements	**36 credit hours**
College Requirements	**3 credit hours**
Major Requirements	**66 credit hours**
Degree Concentration	**15 credit hours**

General Education Requirement — 36 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	No Prerequisite	3
ENG 200	English II	EPT or average score of IELTS 6 or EmSAT average score of 1400 + FWS 100 FWS 100 as co-req if placed in ENG 200	3
FWS 305	Technical Communications for Workplace	ENG 200 + Completion of minimum 45 Credit Hours	3
ISL 100 (A)	Islamic Culture	No Prerequisite	3
ITD 100	Introduction to Information and Digital Technology	No Prerequisite	3
MTG 100	Math for Life	No Prerequisite	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	ENG 200 + Completion of 60 credit hours	3
FWS 301	Developing Future Leaders	FWS100 + ENG200 and Completion of minimum 45 Credit Hours	3
FWS 211	Fundamentals of Emotional Intelligence	ENG 102 + FWS 100 or FWS 100 as co-requisite if students enter to ENG 200 course directly	3
FWS 205	UAE and GCC Society	ENG 102 + FWS 100 or FWS 100 as co-requisite if students enter to ENG 200 course directly	3
STT 100	General Statistics	No Prerequisite	3
FWS 100	Academic Skills for Success	No Prerequisite	3

College Requirements — 3 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
ASC 301	Research Report Writing	ENG 200	3

Major Requirements — 66 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
BIO 205	General Biology I	(Co)ENG 102 / ENG 200	3
BIO 205L	General Biology I Lab	(Pre/Co-req) BIO 205	1
CHE 205	General Chemistry I	(Co)ENG 102 / ENG 200	3
CHE 201L	General Chemistry I Lab	(Pre/Co-req) CHE 205	1
EHS 205	Introduction to Environmental Health and Safety	(Co)ENG 102 / ENG 200 + (Co)FWS 100	3
ENS 205	Introduction to Environmental Science	(Co)ENG 102 / ENG 200 + (Co)FWS 100	3
HSC 200	Introduction to Health Management	EHS 205	3

HSC 201	Determinants of Public Health	ENS 205	3
HSC 205	Biostatistics	STT 100	3
HSC 210	Epidemiology and Population Health	HSC 205	3
HSC 305	Occupational Health and Safety	HSC 200	3
HSC 315	Global Issues in Environmental Health	EHS 205	3
PBH 101	Introduction to Public Health	(Co)ENG 102 / ENG 200 + (Co) FWS 100	3
PBH 110	Introduction to Happiness and Positive Psychology	(Co)ENG 102 / ENG 200 + (Co) FWS 100	3
PBH 300	Health Sociology	HSC 201 + Co-req. PBH 310	3
PBH 310	Principles of Health Promotion	HSC 201	3
PBH 320	Community and Public Health Nutrition	PBH 300	3
PBH 399	Public Health Research Seminar	PBH 101 + ASC 301	1
PBH 400	Internship	90 Credit Hours	3
PBH 405	Chronic and Infectious Diseases	PBH 300	3
HSC 410	Healthcare Research Methodology	HSC 205	3
PBH 420	Practice of Health Promotion	PBH 310	3
PBH 425	Maternal and Child Health	PBH 420	3
PBH 499	Undergraduate Research	PBH 410 + Senior Year (90 Credit Hours)	3

Elective Courses — 15 Credit Hours

Course Code	Course Title	Prerequisite(s)	Credit Hours
OE 1	Open Elective 1	-	3
OE 2	Open Elective 2	-	3
OE 3	Open Elective 3	-	3
OE 4	Open Elective 4	-	3
OE 5	Open Elective 5	-	3

BACHELOR OF SCIENCE IN PUBLIC HEALTH - Study Plan

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	ARL 101 (A)	Communication Skills in Arabic I	3	No Prerequisite
	ENG 200	English II	3	EPT or average score of IELTS 6 or EmSAT average score of 1400 + FWS 100 FWS 100 as co-req if placed in ENG 200 directly
	EHS 205	Intro. to Environmental Health Safety	3	(Co) ENG 102 / ENG 200 + (Co) FWS 100
	PBH 101	Introduction to Public Health	3	(Co)ENG 102 / ENG 200 + (Co) FWS 100
	FWS 100	Academic Skills for Success	3	No Prerequisite
Total Credit Hours			**15**	
Spring (Semester 2)	PBH 110	Introduction to Happiness and Positive Psychology	3	(Co)ENG 102 / ENG 200 + (Co) FWS 100
	MTG 100	Math for Life	3	No Prerequisite
	STT 100	General Statistics	3	No Prerequisite
	ENS 205	Introduction to Environmental Science	3	(Co) ENG 102 / ENG 200 + (Co) FWS 100
	BIO 205	General Biology I	3	(Co) ENG 102 / ENG 200
	BIO 205L	General Biology I Lab	1	(Pre/Co-req) BIO 205
Total Credit Hours			**16**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	ISL 100 (A)	Islamic Culture	3	No Prerequisite
	ITD 100	Introduction to Information and Digital Technology	3	No Prerequisite
	HSC 200	Introduction to Health Management	3	EHS 205
	CHE 205	General Chemistry I	3	(Co) ENG 102 / ENG 200
	CHE 201L	General Chemistry I Lab	1	(Pre/Co-req) CHE 205
	HSC 205	Biostatistics	3	STT 100
Total Credit Hours			**16**	

Spring (Semester 4)	FWS 211	Fundamentals of Emotional Intelligence	3	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly
	FWS 205	UAE and GCC	3	ENG 102 + FWS 100 or FWS 100 as co-req if students enter to ENG 200 course directly
	FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of minimum 45 credit hours
	HSC 201	Determinants of Public Health	3	ENS 205
	HSC 210	Epidemiology & Population Health	3	HSC 205
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	PBH 300	Health Sociology	3	HSC 201 + Co-req. PBH 310
	ASC 301	Research Report Writing	3	ENG 200
	PBH 310	Principles of Health Promotion	3	HSC 201
	OE 1	Open Elective 1	3	-
	OE 2	Open Elective 2	3	-
Total Credit Hours			**15**	
Spring (Semester 6)	FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG 200 + Completion of 60 credit hours
	PBH 399	Public Health Research Seminar	1	PBH 101 + ASC 301
	HSC 410	Healthcare Research Methodology	3	HSC 205
	PBH 420	Practice of Health Promotion	3	PBH 310
	HSC 315	Global Issues in Environmental Health	3	EHS 205
Total Credit Hours			**13**	
Summer Semester	PBH 400	Internship	3	90 credit hours
Total Credit Hours			**3**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	HSC 305	Occupational Health and Safety	3	HSC 200
	PBH 425	Maternal and Child Health	3	PBH 420
	OE 3	Open Elective 3	3	-
	OE 4	Open Elective 4	3	-
Total Credit Hours			**12**	
Spring (Semester 8)	PBH 320	Community and Public Nutrition	3	PBH 300
	PBH 405	Chronic and Infectious Diseases	3	PBH 300
	PBH 499	Undergraduate Research	3	PBH 410 + Senior Year (90 credit hours)
	FWS 301	Developing Future Leaders	3	FWS 100 + ENG 200 and Completion of minimum 45 credit hours
	OE 5	Open Elective 5	3	-
Total Credit Hours			**15**	

BACHELOR OF SCIENCE IN
CLINICAL PSYCHOLOGY AND MENTAL HEALTH



Program Overview

The BSc in Clinical Psychology and Mental Health Program at ADU is exceptional in its outlook to state-of-the-art clinical training and learning to create a meaningful impact in the field of mental health and well-being. This program will empower students to understand the interplay of thoughts, emotions, behavior and biology, and then use this knowledge for practical clinical applications. The program provides outstanding training to solve real world issues, as the students will have valuable opportunity to work with practical approaches towards developing knowledge and skill in clinical psychology and mental health, on par with the best global standards practiced across the world. The program curriculum uniquely amalgamates rich theoretical concepts, research, and practical application of the skills in clinical psychology and mental health to apply in the real world. The BSc in Clinical Psychology and Mental Health program integrates globally benchmarked content to ensure relevance, comprehensiveness, and the highest academic and clinical standards.

Program Goals (PG):

The BSc in Clinical Psychology and Mental Health program goals are:

Program Goal 1: To produce graduates with a comprehensive understanding of the nervous system, brain, mind, emotions, thoughts, and behaviors and their interaction.

Program Goal 2: To provide students with cutting- edge theoretical knowledge and area skills in the fields of clinical psychology, mental health, and well-being.

Program Goal 3: To provide professional clinical training in clinical psychology and mental health via a curriculum geared to facilitate graduate registration with specific clinical psychology associations and bodies.

Program Goal 4: To hone student skills in psychodiagnostics and psychometric assessments.

Program Goal 5: To curate students' practical skills in clinical counselling, psychotherapy, and hone innovative approaches to real-world clinical issues.

Program Goal 6: To produce graduates able to formulate sophisticated research questions and conduct clinical research, culminating in a project.

Program Learning Outcomes (PLOs)

Upon successful completion of the BSc in Clinical Psychology and Mental Health program, students will be able to:

PLO1: Demonstrate theoretical understanding of concepts in the field of General Psychology including biological, cognitive, developmental, social, mental health, wellbeing and clinical aspects and the links between them.

PLO2: Demonstrate specialized domain-specific knowledge in the areas of Clinical Psychology, Mental Health, and Well-being.

PLO3: Develop innovative approaches and proposed solutions to real-world clinical issues using critical thinking.

PLO4: Diagnose mental health and psychological issues and apply diverse perspectives to their address.

PLO5: Conduct and interpret psychometric tests and evaluations.

PLO6: Conduct various forms of psychotherapy/counselling interventions.

PLO7: Utilize qualitative and quantitative psychological research methodologies.

PLO8: Formulate time-relevant research questions and conduct clinical research project.

Curriculum

Total Credit Hours: 120

General Education Requirements — 18 Credit Hours

Course Code	Course Title	Credit Hours
ARL 101 (A)	Communication Skills in Arabic I	3
ENG 200	English II	3
FWS 205	UAE and GCC Society	3
FWS 211	Fundamentals of Emotional Intelligence	3
FWS 305	Technical Communications for Workplace	3
FWS 310	Fundamentals of Innovation and Entrepreneurship	3

Major Requirements — 78 Credit Hours

Course Code	Course Title	Credit Hours
HSC101	Medical terminology	3
CLP101	Fundamentals of Clinical psychology	3
CLP102	Foundations of Biological Psychology and Physiological Psychology	3
HSC100	Essential of Counseling	3
CLP103	Positive Mental Health and Wellbeing	3
CLP104	Introduction to Cognitive Psychology	3
CLP105	Introduction to Developmental Psychology	3
CLP106	Introduction to Social Psychology	3
CLP206	Clinical Psychology and Mental Health	3
CLP207	Community Mental Health	3
CLP208	Inter-cultural Psychology	3
CLP209	Technology and AI in Psychology	3
CLP210	Abnormal Psychology and Mental Health Disorders	3
CLP211	Foundations of Health Psychology	3
HSC205	Biostatistics	3
CLP312	Clinical Counselling and Psychotherapy	3
HSC410	Health care research methodology	3

CLP313	Psychodiagnostics and Psychometric assessments	3
CLP110	Professionals skills for health care professionals	3
CLP314	Advance clinical research methods (Qualitative and Quan-titative)	3
CLP315	Clinical Cognitive Behavioral Interventions	3
CLP390	Designing and Submission of Clinical Research Project Proposal	3
CLP340	Winter semester: Internship 1 Internship 1: Application of Social-Clinical Psychology	3
CLP460	Internship 2: application of physical and mental health psychology	3
CLP480	Internship3: Field Internship Project	3
CLP499	Clinical Research Project	3

Major Elective Courses — 24 Credit Hours

Course Code	Course Title	Credit Hours
E1	Elective 1	3
E2	Elective 2	3
E3	Elective 3	3
E4	Elective4	3
E 5	Elective 5	3
E 6	Elective 6	3
E7	Elective 7	3
E8	Elective 8	3

BACHELOR OF SCIENCE IN
CLINICAL PSYCHOLOGY AND MENTAL HEALTH
Study Plan

Total Credit Hours: 120

First Year (Freshman)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 1)	HSC101	Medical terminology	3	None
	CLP101	Fundamentals of Clinical psychology	3	None
	ARL101 (A)	Communication in Arabic	3	None
	CLP102	Foundations of Biological Psychology and Physiological Psychology	3	None
	HSC100	Essential of Counseling	3	None
Total Credit Hours			**15**	
Spring (Semester 2)	CLP103	Positive Mental Health and Wellbeing	3	Nill (open elective to all majors)
	ENG200	English II	3	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG 102 R + (FWS100(E)/ USS001 (P) as co-requisite if placed in ENG200)
	CLP104	Introduction to Cognitive Psychology	3	CLP101, CLP102
	CLP105	Introduction to Developmental Psychology	3	CLP101, CLP102
	CLP106	Introduction to Social Psychology	3	CLP101, CLP102
Total Credit Hours			**15**	

Second Year (Sophomore)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 3)	CLP206	Clinical Psychology and Mental Health	3	CLP106
	CLP207	Community Mental Health	3	CLP106
	CLP208	Inter-cultural Psychology	3	CLP106
	FWS 205	UAE and GCC Society	3	ENG102 (R) & FWS100 (E)/ USS001 (P)as pre-requisite + FWS100(E)/ USS001 (P) as co-requisite if students enter to ENG200 course directly
	FWS211	Fundamentals of Emotional Intelligence,	3	ENG102 (R) & FWS100 (E)/ USS001 (P)as pre-requisite FWS100(E)/ USS001 (P) as co-requisite if students enter to ENG200 course directly,
Total Credit Hours			**15**	

Spring (Semester 4)	CLP209	Technology and AI in Psychology	3	CLP101
	CLP210	Abnormal Psychology and Mental Health Disorders	3	CLP206,CLP207
	CLP211	Foundations of Health Psychology	3	CLP206,CLP207
	HSC205	Biostatistics	3	None
	E1	Elective 1	3	None
Total Credit Hours			**15**	

Third Year (Junior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 5)	CLP312	Clinical Counselling and Psychotherapy	3	CLP210, CLP211
	HSC410	Health care research methodology	3	HSC205
	FWS 305	Technical Communications for Workplace	3	ENG200, min 45 CH
	CLP313	Psychodiagnostics and Psychometric assessments	3	CLP210, CLP211
	CLP110	Professionals skills for health care professionals	3	none (open elective to other programs)
Total Credit Hours			**15**	
Spring (Semester 6)	CLP314	Advance clinical research methods (Qualitative and Quantitative)	3	HSC410,HSC205
	FWS310	Fundamen-tals of Innovation and Entrepreneurship	3	ENG200 + Completion of 60 Chrs
	E2	Elective 2	3	None
	CLP315	Clinical Cognitive Behavioral Interventions	3	CLP313
	CLP390	Designing and Submission of Clinical Research Project Proposal	3	HSC410,HSC205,coreq-CLP314
Total Credit Hours			**15**	
Winter Semester	CLP340	Winter semester: Internship 1 Internship 1: Application of Social-Clinical Psychology	3	Completion of 60 CH
Total Credit Hours			**3**	

Fourth Year (Senior)				
	Code	**Title**	**Credit**	**Prerequisite(s)**
Fall (Semester 7)	E3	Elective 3	3	None
	E4	Elective 4	3	None
	E5	Elective 5	3	None
	E6	Elective 6	3	None
Total Credit Hours			**12**	
Spring (Semester 8)	CLP460	Internship 2: application of physical and mental health psychology	3	CLP340
	CLP480	Internship3: Field Internship Project	3	CLP340, coreq CLP460
	CLP499	Clinical Research Project	3	CLP390
Total Credit Hours			**9**	
Winter Semester	E7	Elective 7	3	None
	E8	Elective 8	3	None
Total Credit Hours			**6**	



كلية
القانون

بكالوريوس في
القانون باللغة العربية

BACHELOR OF
LAW IN ARABIC

مهمة البرنامج

تطرح كلية القانون جامعة أبوظبي برنامج البكالوريوس في القانون باللغة العربية، وهو برنامج معتمد من قبل لجنة الاعتماد الأكاديمي في وزارة التربية والتعليم ، وتسعى كلية القانون من خلال هذا البرنامج إلى إعداد طلاب يتمتعون بدرجة عالية من المهنية القانونية، ليكونوا قادرين على استيفاء متطلبات سوق العمل التنافسي ومواجهة تحدياته، وذلك من خلال تقديم تعليم قانوني متطور وتدريب متخصص يعتمدان على الالتزام بقواعد ومعايير الاعتماد العالمي وضمان الجودة، وفي سبيل تحقيق ذلك تعتمد الكلية على كادر تدريسي متميز مختارين من صفوة حملة الدكتوراه في كل تخصص قانوني وتعمد إلى تقديم العلوم والمعارف والمهارات القانونية لطلابها عبر طرق وأساليب تعليم متنوعة متطورة

أهداف البرنامج

1. بناء قاعدة علمية قانونية لدى الطالب في مختلف مجالات القانون.
2. تزويد و تعزيز الجانب المهني التطبيقي للعلوم القانونية النظرية لدى الطالب.
3. تطوير القدرات والمهارات الفكرية لدى الطالب.
4. إكساب الطالب مهارات إعداد البحوث العلمية وفق منهج علمي سليم.
5. غرس روح التعليم المستمر مدى الحياة لدى الطالب.
6. تزويد الطالب بمهارات المنافسة في سوق العمل لرفع كفاءه أداؤه المؤسسي.
7. تسليح الطالب بالقيم المثلى التي ينبغي لرجل القانون أن يلتزم بها من خلال التواصل بالقيم العربية و الإسلامية.

Curriculum
Total Credit Hours: 133

المقرر الدراسي
إجمالي عدد الساعات المعتمدة: 133

General Education Requirements	30 credit hours	30 ساعة معتمدة	متطلبات التعليم العام
Major Compulsory Courses	94 credit hours	94 ساعة معتمدة	متطلبات التخصص
Major Electives Courses	9 credit hours	9 ساعات معتمدة	المساقات الاختيارية التخصصية

General Education Requirements
30 Credit Hours

متطلبات التعليم العام
30 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
ARL101(A)	مهارات الاتصال باللغة العربية Communication Skills in Arabic (A)	N/A	3
ENG100(AA)	مهارات اللغة الانجليزية للبرامج العربية (1) English 1	N/A	3
ENG200(AA)	مهارات اللغة الانجليزية للبرامج العربية (2) English 2	Grade C in ENG100(AA)	3
FWS100(AA)	المهارات الأكاديمية للنجاح Academic Skills for Success	N/A	3
FWS205(AA)	مجتمع مجلس التعاون الخليجي والامارات العربية المتحدة UAE & GCC Society	FWS100(AA)	3
FWS211(AA)	مبادىء الذكاء العاطفي Fundamentals of Emotional Intelligence	FWS 100 (AA)	3
FWS301(AA)	تنمية قادة المستقبل Developing Furure Leaders	FWS100(AA) + Completion of 45 Credit Hours	3
FWS310(AA)	مبادىء الابتكار وريادة الأعمال Fundamentals of Innovation and Entrepreneurship	Completion 60 Credit Hours Successfully	3
ISL100(A)	الثقافة الاسلامية Islamic Culture	N/A	3
ITD100(AA)	مقدمة إلى التكنولوجيا الرقمية وتكنولوجيا المعلومات Introduction to Information and Digital Technology	N/A	3

Major Compulsory Requirements
94 Credit Hours

متطلبات التخصص
94 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
INLA105	المدخل لدراسة القانون Introduction to Law Study	N\A	3
IFLA218	المدخل لدراسة الفقه الإسلامي Introduction to Islamic Jurisprudence	N\A	3
PCLA110	النظم السياسية والقانون الدستوري Political Systems and Constitutional Law	N\A	3
PELA220	مبادىء علم الاقتصاد (باللغة الانجليزية) Principles of Economics (In English)	N\A	3
SULA203	المصادر الإرادية للالتزام Voluntary Sources of Commitment	INLA105	3
ADLA205	القانون الإداري Administrative Law	INLA105	3
PALA229	الأحوال الشخصية Personal Status	IFLA218	3
SULA209	المصادر غير الإرادية للالتزام والاثبات Involuntary Sources of Commitment	SULA203	3
COLA200	القانون التجاري Commercial Law	INLA105	3
PGLA226	قانون العقوبات العام - الجزء الأول General Penal Law – Part I	INLA105	3
PGLA227	قانون العقوبات العام - الجزء الثاني General Penal Law – Part II	PGLA226	3
INLA211	القانون الدولي العام (باللغة الانجليزية) Public International Law (In English)	INLA105	3
CCLA331	الشركات التجارية والافلاس (باللغة الانجليزية)	COLA200	3
RCLA310	أحكام الالتزام Provisions of Commitment	SULA209	3
ENLA208	مصطلحات قانونية باللغة الإنجليزية Legal Terms in English	ENG200(AA)	3
CCLA320	العقود المسماة Nominated Contracts	RCLA310	3
TVLA220	دراسات قانونية باللغة الإنجليزية Legal Studies in English	ENLA208	3
PGLA325	قانون العقوبات الخاص Special Penal Law	PGLA227	3

PCLA306	قانون الإجراءات المدنية Civil Procedures Law	RCLA310	3
IILA337	المواريث والوصايا Inheritances and Wills	PALA229	3
BBLA431	الاعمال المصرفية والعقود والأوراق التجارية Banking, Contracts and Commercial Papers	CCLA331	3
SWLA441	القانون البحري والجوي (باللغة الانجليزية) Maritime and Air Law (In English)	CCLA331	3
BFLA348	المالية العامة والتشريع الضريبي Public Finance and Tax Legislation (In English)	PELA220	3
LSLA336	قانون العمل والتأمينات الاجتماعية (باللغة الانجليزية) Labor Law and Social Securities (In English)	SULA209	3
PPLA450	قانون الإجراءات الجزائية Penal Procedures Law	PPLA325	3
FFLA340	أصول الفقه Principles of Jurisprudence	PALA229	3
IPLA342	القانون الدولي الخاص Private International Law	PCLA306	3
ORLA477	الحقوق العينية الأصلية والتبعية Primary Rights in Rem and Accessory Real Rights in Rem	CCLA320	3
EILA420	التنفيذ الجبري Forced Execution	PCLA306	3
IPLA490	التدريب العملي الداخلي Internal Internship	PCLA306 + PPLA450+ PALA229	3
GPLA498	بحث التخرج Graduation Research	90 Credits	3
EPLA495	التدريب العملي الخارجي External Internship	90 Credits +IPLA490	1

Electives
9 credit Hours

المساقات الاختيارية التخصصية
9 ساعة معتمدة

Course Code رقم المساق	Course Title اسم المساق	Prerequisite(s) المتطلب السابق	Credit Hours عدد الساعات المعتمدة
CPLA288	قانون حماية المستهلك Consumer Protection Law	COLA200	3
HPLA150	تاريخ النظم القانونية والاجتماعية History of Legal and Social Systems	N/A	3
EPLA285	قانون حماية البيئة Environmental Protection Law	N/A	3
PLLA300	التشريعات العقابية الخاصة Private Criminal Legislations	PGLA227	3
ECLA301	الجوانب القانونية للتجارة الالكترونية Legal Aspects of E-commerce	COLA200	3
ACLA290	العقود الإدارية Administrative Contracts	ADLA205	3
JILA344	التحكيم التجاري الداخلي والدولي Domestic and International Arbitration	PCLA306	3

BACHELOR OF LAW - Study Plan

الخط الدراسية لبرنامج بكالوريوس في القانون

First Year (Freshman) السنة الاولى				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 1)	ISL 100 (A)	الثقافة الاسلامية	3	لا يوجد
	ARL 101 (A)	مهارات الاتصال باللغة العربية	3	لا يوجد
	INLA 105	المدخل لدراسة القانون	3	لا يوجد
	PCLA110	النظم السياسية والقانون الدستوري	3	لا يوجد
	ENG 100 (AA)	مهارات اللغة الانجليزية (1)	3	لا يوجد
	FWS 100 (AA)	المهارات الأكاديمية للنجاح	3	لا يوجد
Total Credit Hours/اجمالي عدد الساعات			18	
الربيع/Spring (Semester 2)	IFLA 218	المدخل لدراسة الفقه الإسلامي	3	لا يوجد
	ITD 100 (AA)	المدخل لدراسة تكنولوجيا المعلومات	3	لا يوجد
	PELA 220	مبادىء علم الاقتصاد (باللغة الانجليزية)	3	لا يوجد
	ENG 200 (AA)	مهارات اللغة الانجليزية (2)	3	Grade C in ENG100(AA)
	SULA 203	المصادر الإرادية للالتزام	3	INLA 105
	INLA 211	القانون الدولي العام (باللغة الانجليزية)	3	INLA105
Total Credit Hours/اجمالي عدد الساعات			18	

Second Year (Sophomore) السنة الثانية				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 3)	COLA200	القانون التجاري	3	INLA 105
	FWS 205 (AA)	مجتمع الإمارات والخليج العربي	3	لا يوجد
	SULA 209	المصادر غير الإرادية للالتزام والثبات	3	SULA 203
	FWS 211 (AA)	أساسيات الذكاء العاطفي	3	FWS 100 (AA)
	ADLA 205	القانون الإداري	3	INLA 105
	ENLA 208	مصطلحات قانونية باللغة الإنجليزية	3	ENG 200 (AA)
Total Credit Hours/اجمالي عدد الساعات			18	
الربيع/Spring (Semester 4)	PALA 229	الأحوال الشخصية	3	IFLA 218
	RCL A310	أحكام الالتزام	3	SULA 209
	PGLA 226	قانون العقوبات العام - الجزء الأول	3	INLA 105
	TVLA 220	دراسات قانونية باللغة الإنجليزية	3	ENLA 208
	FWS 301 (AA)	تطوير قادة المستقبل	3	FWS100(AA) + Completion of 45 Credit Hours
	BFLA 348	المالية العامة والتشريع الضريبي	3	PELA 220
Total Credit Hours/اجمالي عدد الساعات			18	

Third Year (Junior) السنة الثالثة				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
الخريف/Fall (Semester 5)	PCLA 306	قانون الإجراءات المدنية	3	RCLA 310
	CCLA 320	العقود المسماه	3	RCLA 310
	PGLA 327	قانون العقوبات العام - الجزء الثاني	3	PGLA 226
	CCLA 331	الشركات التجارية والافلاس (باللغة الانجليزية)	3	COLA 200
	LSLA 336	قانون العمل والتأمينات الاجتماعية (باللغة الانجليزية)	3	SULA 209
	IILA 337	المواريث والقضايا	3	PALA 229
Total Credit Hours/اجمالي عدد الساعات			18	

Spring/الربيع (Semester 6)	FFLA 340	أصول الفقه	3	PALA 229
	IPLA 342	القانون الدولي الخاص	3	PCLA 306
	PPLA 325	قانون الجزاء الخاص	3	PGLA 227
	EILA 420	التنفيذ الجبري	3	PCLA 306
	FWS 310 (AA)	أساسيات الابتكار وريادة الأعمال	3	60 Credits
		Major Elective (First Level)	3	-
Total Credit Hours/اجمالي عدد الساعات			**18**	

Fourth Year (Senior) السنة الرابعة				
	Course Code رقم المساق	Course Title اسم المساق	Credit Hours عدد الساعات المعتمدة	Prerequisite(s) المتطلب السابق
Fall/الخريف (Semester 7)	BBLA 431	الاعمال المصرفية والعقود والأوراق التجارية	3	CCLA 330
	ORLA 477	الحقوق العينية	3	CCLA 320
	PPLA 450	قانون الإجراءات الجزائية	3	PPLA 325
	SWLA 441	القانون البحري والجوي (باللغة الانجليزية)	3	CCLA 330
		Major Elective (Second Level)	3	
	IPLA 490	التدريب العملي الداخلي	3	PCLA 306 + PPLA 450 + PALA 229
Total Credit Hours/اجمالي عدد الساعات			**18**	
Spring/الربيع (Semester 8)	GPLA 498	بحث التخرج	3	90 credits
	EPLA 495	التدريب العملي الخارجي	1	90 credits + IPLA490
		Major Elective (Third Level)	3	-
Total Credit Hours/اجمالي عدد الساعات			**7**	





البرامج الأكاديمية
للكليات العسكرية

الرسالة

تهدف البرامج الأكاديمية للكليات العسكرية إلى تطوير معايير عالية الجودة ومهنية استثنائية في كل من الدورات العسكرية والمدنية ، وكذلك تزويد الأفراد بالمعرفة والمهارات في مجالات التخطيط والتحليل ،مما يمكنهم من حل المشكلات وأداء واجباتهم ومسؤولياتهم بتفان ودقة.

الرؤية

تمثل البرامج الأكاديمية للكليات العسكرية شراكة استراتيجية وأكاديمية بين جامعة أبوظبي والقيادة العامة للقوات المسلحة لدولة الإمارات العربية المتحدة ، بهدف إعداد خريجين مؤهلين تأهيلا عالياً لتلبية الاحتياجات المستقبلية للقيادة العامة. حيث بدأت الشراكة في عام 2009 بتوقيع مذكرة تفاهم.

برنامج البكالوريوس في
العلوم والإدارة العسكرية (131) ساعة معتمدة

أهداف البرنامج

يهدف البرنامج إلى إعداد ضباط القوات المسلحة لأن يكونوا قادة عسكريين ، يمتلكون من العلوم والتدريبات العسكرية ، والمعرفة القانونية والسياسية والاستراتيجية ، والثقافة الإسلامية والتاريخية ، والمعارف العلمية والتكنولوجية ، والمهارات البحثية والإدارية و اللغوية ، يمتلكون من كل ذلك ما يؤهلهم لأداء ما يُسند إليهم من مهام ووظائف قيادية بكفاءة واقتدار. ويتحقق الهدف عبر مساقات البرنامج المتعددة المتنوعة بتنوع المعارف والعلوم والمهارات. و لكل مساق إسهامه البارز المحدد فى تحقيق الهدف العام للبرنامج وأهدافه الفرعية.

مخرجات البرنامج

بعد إتمام متطلبات البرنامج بنجاح، سيكون الخريج قادراً على:

1. الإسهام في التخطيط الإستراتيجي.
2. تطبيق القيادة الفعالة.
3. إجراء الدراسات التحليلية لمناطق العمليات .
4. إدارة العمليات البحرية والبرية والجوية.
5. إجراء البحوث والدراسات في المجال العسكري.
6. التواصل وتطوير المعارف والخبرات.

المقرر الدراسي:	
متطلبات الآداب والعلوم	26 ساعة معتمدة
المتطلبات العسكرية	26 ساعة معتمدة
متطلبات التخصص	3 ساعة معتمدة
متطلبات القيادة والأركان	76 ساعة معتمدة
المجموع	131 ساعة معتمدة

برنامج البكالوريوس في
العلوم العسكرية والإدارةالمتخصصة (133) ساعة معتمدة

هذا البرنامج مخصص لضباط القوات المسلحة الإماراتية فقط.

أهداف البرنامج

إعداد الطلاب لأن يكونوا ضباطًا بالقوات المسلحة ، يمتلكون من العلوم والتدريبات العسكرية ، والثقافة الوطنية والدينية واللغوية ، والمعارف العلمية والتكنولوجية ، يمتلكون من كل ذلك ما يؤهلهم لأداء ما يُسند إليهم من مهام ووظائف عسكرية بكفاءة واقتدار.5.5. يستخدم اللغتين العربية والإنجليزية بفاعلية، للحصول على المعلومات، وتحليلها وتفسيرها، من خلال تكنولوجيا المعلومات، والأساليب الرياضية والإحصائية.

كما يهدف البرنامج الى إعداد طلاب لأن يكونوا متخصصين فى الإدارة المالية أو إدارة الموارد البشرية أو نظم المعلومات الادارية أو إدارة الإمداد والخدمات اللوجستية (كلٌ بحسب تخصصه):

الإدارة المالية:

تمكين الطالب من وصف الطرق والأساليب العلمية في إدارة الأموال والمؤسسات المالية، وأن يكون قادرا على تُطبّيق خطوات حل المشكلات بطريقة علمية لحل المشكلات المالية والاستثمارية، ينفّذ الدراسات والتقارير والأبحاث العلمية حول قضايا وموضوعات مالية استثمارية بإتباع خطوات البحث العلمي ويميز بين مجالات وأبعاد الإدارة المالية.

إدارة الموارد البشرية:

تمكين الطالب من وصف الطرق والأساليب العلمية في إدارة الأفراد العاملين في المنظمات، يُطبّق خطوات حل المشكلات بطريقة علمية لحل المشكلات الإداريـة, ينفّذ دراسات وتقارير وأبحاث علمية حول قضايا وموضوعات إدارية بإتباع خطوات البحث العلمي، ويبين الطرق العلمية والإجراءات لتنمية أداء الموظفين العاملين في المنظمة وزيادة القدرة التنافسية.

نظم المعلومات الإدارية:

1. تزويد طلبة الكليات العسكرية بالمهارات العلمية الأساسية بهدف إعدادهم ليصبحوا على دراية كبيرة بنظم المعلومات ككل.
2. تدريب عام وشامل في تطبيق نظم المعلومات الإدارية لمساعدة الطلاب من الاستخدام الأمثل لها وتوظيفها في مختلف المؤسسات بفاعلية وإقتدار.

تخصص إدارة الامداد والخدمات اللوجستية

1. التعرف على المبادئ والاستراتيجيات الرئيسية وأفضل الممارسات في إدارة سلسلة الإمداد والخدمات اللوجستية.
2. تميز الأدوار المختلفة وما يتعلق بإدارة العمليات وأنظمة المعلومات لسلسة الإمداد وأهمية الاستدامة اللوجستية ووظائف إدارة سلسلة الإمداد المختلفة
3. حسن كفاءة وفعالية أداء سلسلة الإمداد بين المؤسسات وداخلها من خلال تطبيق أنظمة إدارة الجودة وتقييم جدوى المشاريع ومناقشة اقتصاديات اللوجستيات.

4. تطبق المهارات الإدارية، ومهارات الاتصال، والتواصل المهني، والعمل كفريق، لحل المشكلات، واتخاذ القرارات المناسبة في المواقف المعقدة
5. يستخدم اللغتين العربية والإنجليزية بفاعلية، للحصول على المعلومات، وتحليلها وتفسيرها، من خلال تكنولوجيا المعلومات، والأساليب الرياضية والإحصائية.

متطلبات البرنامج	عدد المساقات	الساعات المعتمدة
المتطلبات العامة	(12)	(36) ساعة معتمدة
المتطلبات العسكرية	(30)	(55) ساعة معتمدة
متطلبات التخصص الأكاديمي	(14)	(42) ساعة معتمدة
المجموع	(56)	(133) ساعة معتمدة

برنامج بكالويوس في العلوم العسكرية والادارة المتخصصة:

شروط القبول:

1. أن يكون ملتحقًا بكلية زايد الثاني العسكرية.
2. أن يكون حاصلاً على الشهادة الثانوية (أو ما يعادلها).
3. تحقيق شرط الكفاءة في اللغة الانجليزية لتخصص (نظم المعلومات الإدارية) بدرجة لا تقل عن 5.0 في اختبار الايلتس الأكاديمي أو 500 في التوفيل أو ما يكافئها من الاختبارات المعتمدة لدى الجامعة.

برنامج بكالويوس في العلوم والادارة العسكرية :

شروط القبول:

1. قبول التحاقه بدورة الأركان بكلية القيادة والأركان المشتركة في أبوظبي.
2. حاصلاً على شهادة الثانوية (أو ما يعادلها).
3. أن يكون خريجًا من إحدى الكليات الثلاث التالية: كلية زايد الثاني العسكرية - كلية خليفة الجوية - الكلية البحرية أو ما يماثلها، مع ضرورة استكماله بنجاح لـ (16) مساقًا معتمدًا في البرنامج.

خريِّجو دورات الركن السابقة:

تنسحب عليهم (تطبق عليهم) الشروط السابقة ، ما عدا الشرط الأول. ويُشترط بدلاً منه أن يكون الطالب أنهى بنجاح متطلبات دورة الركن.



MINORS AT
ABU DHABI UNIVERSITY

College of Business

Business Administration General Minor			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
BUS102	Introduction to Business	IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102	3
ACC 200	Principles of Accounting	ENG 200 + ITD 100 + (MTB 101 or MTT 101 or MTT 102)	3
ECO 201	Principles of Microeconomics	ENG 200 + (MTB 101 or MTT 101 or MTT 102)	3
FIN 200	Principles of Finance	ACC 200	3
MGT 255	Management and Organizational Behavior	ENG 200	3
MKT 200	Principles of Marketing	ENG 200	3
Note: COB students are not eligible to take a minor in Business Administration.			

Finance & Fintech Minor for Non-Finance Major			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
FIN 200	Principles of Finance	ACC 200	3
FIN 301	Managerial Finance	FIN 200 + ECO 201	3
FIN 302	Financial Statements Analysis	FIN 200	3
FIN 401	Investment and Financial Policy	FIN 301	3
FIN 423	International Fintech and Big Data	ECO 202 + FIN 301	3
FIN 424	Innovation, Entrepreneurial Finance and Fintech	FIN 301 + FIN 304 + Co-req FIN 303	3

Accounting Minor for Non-Accounting Major			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
ACC 200	Principles of Financial Accounting	ENG 200 + ITD 100 + (MTG 100 or MTT 101 or MTT 102)	3
ACC 201	Principles of Managerial Accounting	ACC 200 + BUS 102	3
ACC 302	Intermediate Accounting I	ACC 200 (C grade)	3
ACC 304	Intermediate Accounting II	ACC 302	3
ACC 306	Cost Accounting	ACC 201	3
ACC 404	Auditing	ACC 304	3

*HRM Minor for Non-HRM Major			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
Total of six (6) courses to be taken			
Required Courses			
MGT 255	Management and Organizational Behavior	ENG 200	3
HRM 313	Human Resources Management	MGT 255	3
Choose four (4) courses from the below list			
HRM 315	Staffing and Talent Management	HRM 313	3
HRM 316	Compensation and Benefits	HRM 313	3
HRM 317	Employee Performance Management	HRM 313	3
HRM 318	Human Resource Analytics	BUS 204 + HRM 313	3
HRM 404	Employee Relations and Law	HRM 313	3
HRM 419	Training and Development	HRM 313	3
HRM 424	Contemporary Research in HRM	HRM 313	3
HRM 428	International Human Resource Management	HRM313 + MGT402 (co-requisite)	3
HRM 429	Strategic Human Resource Management	HRM315 + HRM316 + HRM317+ HRM318 (co-req)	3

Digital Marketing Communications Minor for Non-Digital Marketing Communications Major			
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
Total of six (6) courses to be taken			
Required Courses			
MKT 200	Principles of Marketing	ENG 200	3
MKT 308	Social Media Marketing	MKT 200 + MIS 200	3
MKT 408	Applied Digital Marketing	MKT 308	3
Choose three (3) courses from the below list			
MKT 301	Consumer Behavior	MKT 200 + FWS 305 (Co-req)	3
MKT 303	Retail Marketing	MKT 200	3
MKT 304	Marketing Communication	MKT 301	3
MKT 305	Marketing Research	MKT 200 + BUS 204	3
MKT 307	Services Marketing	MKT 200	3
MKT 401	International Marketing	MKT 200 + ECO 202	3
MKT 409	Digital Marketing Analytics	MKT 308	3
ITE 414	Introduction to E-Commerce	Junior level	3
ITE 415	Advanced E-Commerce Application Design	ITE 414	3

College of Engineering

Interior Design Minor			18 Credit Hours
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
IND 240	Color Theory in Design Applications	-	3
IND 290	Furniture Design	IND 215 or DES 210	3
IND 335	Textiles	IND 290	3
DES 110 or ARC 582	Design Communication I (not for ARC students) or 3D Modelling (for ARC students)	No Prerequisite or DES 210	3
IND 100	Introduction to Interior Design	-	3
IND 215	Interior Design Studio I	DES 110 + IND 100	3

Construction Management Minor			24 Credit Hours
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
Requirements for the minor are completing, from the following list, the first 3 courses in addition to 3 more courses from the remaining five courses:			
CMT 120	Building Equipment and Methods	ENG 100	3
CMT 200	Introduction to Construction Management	ENG 200	3
CMT 230	Specifications, Codes and Quantity Takeoff	ENG 100	3
CMT 232	Mechanical & Electrical Systems in Building (MEP)	CMT 120	3
CMT 242	Construction Cost Estimating	CMT 230 + CMT 120	3
CMT 331	Construction Scheduling, Planning & Control	CMT 242	3
CMT 335	Principles of Construction Safety & Health	CMT 200	3
CMT 499	Special topics in construction	Senior Status	3

Note: Only for Civil Engineering, Architecture, Landscape Architecture and Interior Design Students.

Electrical Engineering Minor			18 Credit Hours
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
CEN 201	Electric Circuits I	ECS 200 or PHY 201	3
EEN 220	Electric Circuits II	CEN 201	3
CEN 320	Signals and Systems	MTT 20 + CEN 201	3
CEN 324	Digital and Analog Electronics	CEN 304	3
EEN 337	Analog and Digital Communication	CEN 320	3
EEN 345	Power Systems	EEN 220	3

- Students in Computer Engineering or Biomedical Engineering must also take EEN 449-Renewable Energy
- BME 320 covers the CEN 320 requirement for BME students
- MEC 390 covers the CEN 201 requirement for MEC students

Computer Engineering Minor			18 Credit Hours
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
CSC 202	Computer Programming II	CSC 201	3
CSC 303	Digital Logic Design	ECS 200	3
CEN 325	Internet of Things: Foundation and Design	CSC 201 + CSC 303	3
CEN 425	Internet of Things: Applications & Networking	CEN 325	3
CEN 468	Computer Architecture and Organization	CSC 303 + CEN 325	3
AIRE 305	Artificial Intelligence for Engineers	CSC 201 + COE 101	3

- BME 325 covers the CEN 325 requirement for BME students
- BME 425 covers the CEN 425 requirement for BME students
- Students in Electrical Engineering or Biomedical Engineering must also take AIRE 310 as an extra course to compensate for the courses already taken in the major.

Aerospace Engineering Minor			18 Credit Hours
Course Code	**Course Title**	**Prerequisite(s)**	**Credit Hours**
MEC 350	Fluid Mechanics	CIV 201 + MTT 205	3
MEC 420	Heat Transfer	MEC 320 + MEC 350	3
MEC 491	Aerodynamics	MEC 350	3
MEC 493	Aerospace Structures	MEC 302 + MEC 350	3
In addition to any two (2) of the following Elective Courses:			
MEC 490	Compressible Fluid Mechanics	MEC 350	3
MEC 492	Aerospace Propulsion	MEC 350	3
MEC 494	Computational Thermo-fluids	MEC 465	3
MEC 495	Aircraft Design	MEC 350 + MEC 430	3

CODE
OF CONDUCT

Academic Integrity

The Academic Integrity Policy (AIP) establishes the framework for the expected conduct of students to maintain the highest standards of ethics. The information on the following pages will help students and faculty to understand the various forms of Academic Integrity (AI) violations and the consequences resulting from such violations.

I. Academic Integrity (AI) Violations

There are various ways in which academic honesty can be violated which are discussed below.

A. Cheating

Cheating is an act that diminishes the learning process and is intended to gain grades and academic advantages without actually doing the intellectual work that merits the grades or degree.

Examples of cheating include but are not limited to:

1. Copying another person's test answers during an exam.
2. Exchanging information regarding an exam during the exam.
3. Copying answers from notes such as those written on the body, clothing, pieces of paper, or electronic devices such as earpieces, mobile phones and/or calculators.
4. Obtaining a copy of or information about an examination ahead of time.
5. Looking up answers in a book when the exam is specifically a closed book exam.
6. Buying projects and term papers.
7. Copying from someone else's paper, project or assignment.
8. Using notes or books during exams unless expressly allowed by the instructor.
9. Hiring a surrogate test taker in paper-based exams or giving remote access to someone else in computer-based exams.
10. Bringing forbidden materials such as calculators, computers, books, or notes into the exam unless expressly allowed by the instructor.
11. Communicating with other students regarding an examination during the exam.
12. Failing of students to switch off mobile phones during the exam.

B. Plagiarism

Plagiarism means representing another person's work as the student's own without acknowledgments. Plagiarism is a form of cheating. It means that students have submitted work for grading that they have not written themselves. Hence, there is no way to know if students have learned the material or merely copied it.

While students may cite direct quotes and pieces of texts, these should be used to support ideas. Even if all the sources have been properly cited, extensive copying is unacceptable, as understanding can only be demonstrated by students using their own thoughts and words.

All borrowed materials – direct or indirect (paraphrased) – require acknowledgments of the sources

Examples of materials borrow that require referencing are texts, graphs, photos/images, etc. from external sources such as internet, journals, books, and alike.

Examples of plagiarism include but are not limited to:

1. Borrowing all or part of another student's paper or using someone else's outline.
2. Using the same paper for multiple classes.
3. Submitting the same paper in two different courses and submitting it as the student's own work.
4. Copying sections of text from a source and replacing several individual words or phrases with synonyms, or similar words.

5. Using any Artificial Intelligence (AI) software to support in writing without providing a clear declaration in the student's paper.

Turnitin (anti-plagiarism software)

The faculty at Abu Dhabi University use a variety of techniques to authenticate student work. All written work is authenticated using Turnitin detection software. Turnitin is designed to detect various types of plagiarism in submitted documents, including text wherein individual words have been replaced by synonyms, or similar words. Any submitted written work that is suspected of plagiarism will be referred to the Office of Academic Integrity for further investigation. Students violating the University's Academic Integrity Policy are subject to penalties that include dismissal from the University.

C. Fabrication of Data

Fabrication of data is the falsification or invention of any information or citation in an academic exercise. Fabricated information or data may not be used in any laboratory experiment or research project.

Examples of fabrication of data include but are not limited to:

1. Deliberately misreporting results of an experiment or field research.
2. Inventing data and resources for written, oral, or other presentations.
3. Inventing case studies and relevant facts in reports, papers, or presentations.

D. Presenting False Credentials

Presenting false or misleading credentials on applications, CV's, and any other documents presented as part of the student's life constitutes academic dishonesty.

Examples of false credentials include but are not limited to:

1. Claiming degrees that were not earned.
2. Failing to report colleges and universities attended.
3. Presenting falsified transcripts.
4. Presenting falsified information.
5. Claiming false employment.
6. Misrepresenting immigration status.
7. Using fake ID cards.

E. Collusion

Collusion occurs when students work together on a piece for assessed work when "working together" is not allowed. Collusion can occur when students copy from each other. Evidence of collusion on students' papers occurs when two or more papers have similar or identical wording. An individual student's understanding cannot be assessed if "ownership" of the assignment cannot be determined.

A student who "lends" his/her paper to other students is just as guilty as those who have copied from it, and unless it can be proven with absolute certainty, who wrote the original paper, the "lender" will also be faced with academic penalties.

F. Free Riding

When assigned to work in collaborative groups, all students should participate in the activity or project. Students who could not demonstrate their contribution to the group work/activity will be considered as cheaters.

II. Penalty for Violations of Academic Integrity (AI)

All instances of violations of the AIP are subject to sanctions, including dismissal for cheating, other academically related egregious acts of deceptions and/or reckless disregard for the principle of AI. Under special circumstances and/or based on lesser degree of severity of the AIP violations, lower sanctions may be imposed.

Students found in violation of the AIP for the second time will be subject to more heightened sanctions. Students found in violation of the AIP for the third time will be subject to dismissal from Abu Dhabi University.

Imposition of any sanction for violation of the AIP is subject to due-process being carried out, availability of sufficient evidence being examined, the adjudication process being completed, and the process of appeal being exhausted.

Students dismissed from Abu Dhabi University for violations of the AIP will receive a failing grade (F) in the course in which the violation has occurred. Students dismissed from Abu Dhabi University for violations of the AIP are not eligible for receiving any refunds of tuitions and fees.

Excerpts of Examinations Protocols and Rules - Students' Responsibilities

I. Introduction

The Office of Academic Integrity (OAI) has formulated Examinations' Protocols and Rules that govern students' conduct during examinations. It is the responsibility of students to be familiar with these rules and comply with them.

II. Types of Examinations

Examinations at Abu Dhabi University (ADU) can be either "closed book" or "open book." In "closed book" examinations, access to all materials related to the course is strictly prohibited. In "open book" examinations, students are allowed to have access to all materials during examination, with the exception of those specifically prohibited by the instructor. In the absence of any specific information, examinations are to be considered as "closed book."

III. Students' Responsibilities

A. Pre Examination

1. Switch-off your mobile phones (and all other electronic devices) and place them in front of the examination room and away from where you are seated.
2. Put all the materials such as books, notes, etc. in front of the examination room and away from where you are seated.
3. Select your seat randomly and avoid seating next to friends, family, and/or associates.
4. Bring and use only the type of calculator that is allowed by the instructor.

B. During Examination

1. Read and sign the "Warning Section" on the top of the Exam Cover Sheet.
2. Sign the exam's "Attendance Sign-Up Sheet."
3. Refrain from looking at someone else's exam paper.
4. Refrain from engaging in any form of communication (e.g., talking and/or whispering) with other students.
5. Refrain from any movements that can raise suspicions of illicit activities.
6. Refrain from engaging in any arguments with the instructor or proctor.
7. Write answers on the papers provided by the proctor.
8. Use the back of your answer sheets for any required calculations.

C. After Examination

1. Finish the examination on time and stop writing answers when instructed to do so.
2. Leave the room quietly.
3. Collect your belongings.
4. Report any concerns or problems to the OAI staff.

Excerpts of Procedural Guidelines for Examinations and Proctoring

I. Introduction

The content and particulars of examinations are decided by the faculty members and communicated to the proctors and other concerned individuals such as IT staff. The overriding responsibility of the Office of Academic Integrity (OAI) is to ensure the integrity of the examination processes.

The responsibility for providing proctors to administer examinations rests with colleges and academic units. In the event of any shortfalls, the OAI will arrange for additional proctors to meet the needs of colleges and academic units.

The Procedural Guidelines for Examinations and Proctoring are described in the following sections. It is the responsibility of faculty members and proctors to be familiar with these rules and comply with them.

II. Personal and Professional Attributes of Proctors

- Good reputation,
- Ability to take a supervisory role in the administration of examinations, and
- Lack of conflict of interest, both "in fact" and "in appearance."

III. Types of Examinations

Irrespective of the type of examination, and to minimize the possibility of students' violations of the Academic Integrity Policy, faculty members are requested to prepare more than one version of an exam (this could be done by simple rearrangement of the questions or changing numbers in the exercises, etc.). In addition, all examinations should have the standard Exam Cover Sheet.

Examinations at ADU can be either "closed book" or "open book." In "closed book" examinations, access to all materials related to the course is strictly prohibited, unless the materials are provided by the instructor (e.g., a formula sheet). In "open book" examinations, students are allowed to have access to all materials, with the exception of those specifically prohibited by the instructor. In the absence of any specific information, examinations are to be considered "closed book."

IV. Types of Proctors

- Proctor – the person responsible for monitoring exam-taking activities to ensure compliance with applicable rules and procedures.
- Roving proctor – the person representing the college and responsible for all examinations in any given examination time slot. The roving proctor is responsible for overseeing the activities of all proctors and addressing any issues of concern.

V. Assigning Proctors

The scheduling of final examinations is the responsibility of the Office of the Registrar. The responsibility of the OAI is the assignment of proctors, which is done in collaboration with the colleges.

VI. Proctoring Duties

A. Pre Examination

1. Be available in the examination rooms 20 minutes and rearrange the chairs to create physical separation between students.
2. Review each examination information sheet for special requirements requested by the instructor.
3. Allow students into the examination room ten (10) minutes before the exam time.
4. Ensure random seating of students as they enter the classroom and take-up seats.
5. Request each student to display valid Student ID (other valid IDs with photo such as driving license may be acceptable).
6. Instruct students to put away all unauthorized materials, including mobile phones and other electronic devices in front of the examination room and away from where they are seated.
7. Review with students major items that constitute cheating (e.g. speaking, exchanging information, accessing unauthorized materials such as mobile phones, etc).
8. Ensure each student receives the correct version of the exam.
9. Place the examination papers in front of students, faced-down, and one-by-one.
10. Announce the start of the examination, write the time of the examination on the whiteboard (e.g., exam duration two (2) hours, starting time 09:00 a.m., and finishing time 11:00 a.m.), and adjust the finishing time, if necessary (e.g., exams starting with some delays require finishing time to be extended to compensate for the delay).
11. Start the exam.

B. During Examination

1. Preventing conducts that are violations of the provisions of the AIP (e.g., cheating), and
2. Detecting acts of violations of the provisions of the AIP (e.g., catching cheating activities).

Prevention - The continuous vigilance and engagement of proctors are the two necessary conditions to prevent violations.

Detection of Violations – In instances where direct evidence of violations exists (e.g., students using and/or possessing handwritten or electronically stored course related materials), the proctor should take the following actions:

1. Approach the student.
2. Collect the Student ID and the examination papers.
3. Secure the evidence of violation such as handwritten notes or electronic devices.
4. Notify the instructor of the course or the roving proctor.
5. Complete and submit to the OAI the Exam Violation Documentation Form along with the evidence of cheating (e.g., notes, mobile phones, or other electronic devices).
6. Notify the roving proctor and/or the representative of the OAI, in cases of non-cooperating students.

In instances where the violations of the AIP is suspected, but no direct evidence is observed, students should be allowed to complete the exam. However, once the exam is completed, students' exam papers should be marked as "suspected case of cheating," the instructor of the course notified, the Exam Violation Documentation Form completed, and the case referred to the OAI.

In addition to the above broad guidelines, proctors need to follow specific rules during examinations, as outlined below:

1. Ensure unauthorized electronic devices are kept away from the proximity of students.
2. Remind students that any violations of the AIP will result in the ejection of students from the examination room.
3. Instruct students to read and sign the "Warning Section" on the top of the Exam Cover Sheet.
4. Circulate exam's "Attendance Sign-Up Sheet" to collect students' signatures.
5. Prevent students to enter the examination room after 30 minutes from the start of the exam. In these cases, the Non-Admitted Late Comers Notification Form should be completed and submitted to the OAI.
6. Prevent students to leave the examination room prior to 40 minutes from the start of the exam.
7. Prohibit use of any unauthorized materials or resources unless specifically allowed by the instructors.
8. Monitor students to ensure they are focused on completing the examination.
9. Maintain a physical presence at all times by walking around and paying close attention to students' behavior and conduct.
10. Monitor students' conduct while on emergency break (e.g., using the restrooms).
11. Enforce the following exam-taking rules:
    a. No talking between and among students,
    b. No answering of questions by students or proctors,
    c. No exchanges of any kind of materials between and among students, and
    d. No change of seats unless for valid reasons and with the consent of the proctor.

C. After Examination

1. Finish the examination on time and orderly.
2. Secure the completed examination papers.
3. Deliver completed exams to the representative of the college or the roving proctor.
4. Ensure students remain seated until the proctor collects the examination papers.
5. Collect examination papers from students, one-by-one.
6. Account for the total number of exam copies by counting completed exam papers, match the numbers against the number of students on the "Attendance Sign-Up Sheet", and the head count.
7. Validate the completeness of total copies of the exam (i.e., exams taken plus excess copies should be equal to the number of copies originally received).
8. Contact the IT staff to secure the lab for the lab-based examinations.
9. Remind students to collect their personal belongings.
10. Handover any items left behind by students to the Security Officer or the OAI Representative.



COURSE DESCRIPTIONS

COLLEGE OF ARTS, EDUCATION, AND SOCIAL SCIENCES

General Education Courses

ARL 101 (A) - Communication Skills in Arabic Language

Credit Hours: 3

Prerequisite: No Prerequisite

يهدف هذا المساق إلى تطوير مهارات الطلاب اللغوية وتعزيز كفاءتهم في اللغة العربية المعاصرة. وقد تم تصميم هذا المساق لتنمية مهارات الطلاب الأساسية والمتقدمة في القراءة والكتابة والتحدث والاستماع باللغة العربية من أجل تلبية احتياجاتهم الأكاديمية في الجامعة والمتطلبات المهنية في مكان العمل؛ حيث يسعى هذا المساق إلى تطوير أساس لغوي متين لدى الطلاب، وإكسابهم معرفة دقيقة بالأنماط الوظيفية لكتابة المقالات والتقارير وأوراق البحث، وذلك من خلال المشاركة الناقدة والفعالة وباستخدام مواد تدريبية ورقية وإلكترونية متنوعة ومبسطة، ومختارة بعناية لتغطي تخصصات متعددة.

ARL 101 (E) - Communication Skills in Arabic Language-Basic

Credit Hours: 3

Prerequisite: Arabic as second language in high school or Non-Native Arabic Speaker

This course is an upper intermediate skill-based course designed to offer students whose native language is not Arabic the opportunity to enhance the learning process in a systematic manner; since they are certified in Arabic as second language in high school/ Non-Native Arabic Speaker and/or those having one Arab parent. This course will also help them overcome communication difficulties in work place and everyday life situations. The language of communication in the class is the simple and contemporary Arabic that is used in mass media, every day and official conversations, school and college instruction, etc.

ENG 100(AA) - English 1 for Arabic Language

Credit Hours: 3

Prerequisite: None

The course offers instruction and practice in general English for freshmen students whose majors are using Arabic as a medium of instruction. The students acquire and develop intermediate grammar and vocabulary skills needed for effective communication with an emphasis on critical reading and thinking conducive to writing. This course provides explicit instruction and practice in academic reading and writing strategies to not only enable students to develop a deeper understanding of thee language but also to consider how purpose, audience, and situation interact to shape different communication formats.

ENG 102 (R) - English 1 (Remedial)

Credit Hours: 3
Prerequisite: None

This course provides instruction and practice in university level academic writing skills. It enhances the students' skills in writing standard academic paragraphs with clear topic sentences, supporting ideas, and details. It also develops their ability to write essays with clear thesis statements, supporting/body paragraphs, and conclusions. The course not only strengthens and highlights the students' proficiency in grammar and sentence structure but also builds on their ability to present information orally. Students are encouraged to become independent learners, capable of exploring the reading and writing processes.

ENG 200 - English 2

Credit Hours: 3

Prerequisite: IELTS average score 6 or EMSAT average score of below 1400 or passing grade in ENG 102 (R)

Co-requisite: (FWS 100 (E)/USS001 as co-req if placed in ENG 200

The course focuses on writing for academic purposes. It teaches expository writing using a process-oriented approach. The structure of paragraphs and essays and their

components are taught in steps and are connected to each other. The course also reviews sentence structure and punctuation rules. Writing exercises involve extensive drafting and revising based on individual input and tutorials from the course instructors. Students also practice writing under pressure. An important component of the course is a research project where students research and write on a topic related to their field of study or area of personal interest.

ENG 200(AA) - English II for Arabic Language Program

Credit Hours: 3

Prerequisite: Minimum C grade from ENG100(AA)

This course builds students' ability to communicate in everyday situations as well as in work-related settings. Through individual and pair activities, the course focuses on developing students' competencies in oral and written forms and on enhancing students' ability to read and think critically.

FWS 100 (E) - Academic Skills for Success

Credit Hours: 3

Prerequisite: No pre-requisite

The course is tailored to prepare students for higher education. It works towards developing a positive growth mindset in students and to equip them with the necessary skills required for them to succeed in higher education. The course also offers topics related to the development of reasoning and critical thinking skills, basic research skills, as well as how to develop effective presentations. A key outcome of the course is to enable students to transition smoothly into an academic life as well as to become familiar with academic standards and requirements pertinent to higher education. The course will provide them with foundational tools and skills to be successful in their major courses.

FWS 201 - Fundamentals of Life Skills

Credit Hours: 3

Prerequisite: ENG102 (R)

In an age of accelerating change and an incredible web of global interaction, the ability to adapt, engage in a growth mindset, behave positively, and persevere in uncertain times, have become pre-requisites for progress. The Life Skills course is tailored to the needs of the 21st century learners by providing them with key personal and social skills to enable them to thrive in a competitive and challenging environment. This specially-curated course with its experiential learning approaches will enable the learners to apply key skills such as communication, active listening, digital, media and financial literacies in their personal and professional contexts. Moreover, through careful personal planning, development and self-growth strategies, students will craft their future selves where they will work towards becoming dynamic individuals with a strong sense of personal and social purpose

FWS 205 - UAE and GCC Society

Credit Hours: 3

Prerequisite: ENG102 (R)+ FWS100

Co-requisite: FWS 100 as co-requisite if students enter to ENG200 course directly

The course aims at developing a better understanding of the UAE and GCC society and its social, cultural, economic and political development. Students will cultivate a deeper appreciation of the pivotal role played by the UAE and GCC in leveraging government policies including technology for improving the overall quality of life. The profound role played the country's leadership in contributing towards the fulfilment of its commitment of the country's commitment towards the SDGs. By examining initiatives and strategies undertaken in the UAE, learners will grasp the importance of collective action in driving societal progress.

FWS 211 - Fundamentals of Emotional Intelligence

Credit Hours: 3

Prerequisite: ENG102(R) + FWS100

Co-requisite: FWS100 as co-requisite if students enter to ENG200 course directly

This course enables students to gain scientific insights into emotions and their impact in their personal and professional lives. In addition, the students will gain insight into how psychology will have an influence on human behavior and develop valuable relationship with others by understanding the fundamental principles of Emotional Intelligence. This specifically includes fostering a greater sense of developing the building blocks of emotional intelligence, helping the students to apply effective strategies for self-management and self-improvement.

FWS 305 - Technical Communication for Work Place

Credit Hours: 3

Prerequisite: ENG 200 + Completion of minimum 45 credit hours

Technical communication for the workplace introduces students to the principles, techniques, and skills with emphasis on professional

writing for workplace purposes. It also emphasizes the reporting tools to help students prepare effective workplace documents. Students develop project planning and time management skills by working in teams to gather and share information, deliver different types of written correspondences and multimedia oral presentations.

ISL 100 - Islamic Culture

Credit Hours: 3

Prerequisite: No Prerequisite
ISL 100 -E Pre-Requisite will be Non-Native Arabic Speaker/ or Students who did Arabic as secondary language in high school.

The course aims to move the discussion on Islam from a theological framework to a cultural one. Its goal is to inculcate a broad understanding of the unity and diversity of the Muslim world, which has existed historically and continues today. Thus, students will investigate several aspects of Islamic culture: Muslim ethics, the contributions of Muslims to world civilization, the rich legacy of Islamic art and architecture, as well as the traditions of learning. Students will also explore contemporary Muslim societies with a view to understanding some of the issues and challenges, which Muslims are facing today. Ultimately, the course will ask students to examine how they can contribute to a positive image of Islam.

USS 001 (P) - University Skills for Success

Credit Hour: 0

Prerequisite: No pre-requisite

The course will be delivered in Seminar module form. It is designed to help students to develop in those skills that are vital to the academic learning process as they move from the secondary level of education to higher education. Thus, it helps freshmen to adapt to the university environment and develop a better understanding of essential academic skills such as stress and anxiety management, academic literacy, information literacy, and time and study management. Students also learn to self-assess their strengths and weaknesses during their academic life and aims to inculcate high levels of personal and academic integrity which are indispensable dimensions of their personal and intellectual growth.

Service Course

ITA 101 - Introduction to Italian

Credit Hours: 3

Prerequisite: No pre-requisite

This course introduces students to the basics of Italian language. It covers basic Italian language skills for everyday life: speaking, listening, reading, writing, grammar, and vocabulary. Dialogues and role-plays are the privileged way to show how the language works and through them new grammatical elements are explained in every class.

FRE 101 - Introduction to French

Credit Hours: 3

Prerequisite: No pre-requisite

This course introduces students to the basics of French language. It covers basic French language skills for everyday life: speaking, listening, reading, writing, grammar and vocabulary. The main topics of study are school, family and friends, travel,food, house, vacations, occasions, and topics pertaining to French culture.

JPN 101 - Introduction to Japanese Language

Credit Hours: 3

Prerequisite: No pre-requisite

This course is designed for students with no prior knowledge of Japanese. The course aims at developing the four core language skills: listening, speaking, reading and writing by focusing on basic vocabulary, grammar, oral comprehension, and hiragana and katakana. Audio-visual materials will be used in the class to familiarize students with Japanese language and culture through short passages or dialogues that are encountered in everyday situations. In addition, students will be engaged in various class activities that will develop their communication skills in Japanese.

CHI 101 - Introduction to Chinese Language

Credit Hours: 3

Prerequisite: No pre-requisite

The course is designed to enable learners to gain basic communication skills in listening, speaking, writing and reading Chinese language in daily situations, and develop basic understanding of Chinese culture. The preparation for the first level of international Chinese proficiency test (HSK Level 1) will be incorporated.

Bachelor of Arts in INTERNATIONAL RELATIONS

Program Core Requirements

INR 200- Introduction to International Relations

Credit Hours: 3

Prerequisite: (Co) ENG 102/ENG 200

This course introduces the basic concept of interdisciplinarity International Relations. It presents the various humanities and social science disciplines that form the basis of the study of International Relations. The course engages with the big questions of our times, including but not limited to international economic interdependency, international security, humanitarian crises, alternatives to war, and state and non-state actors. It forms the bedrock on which is built the coursework of the major.

INR 210- Perspectives in Political Science

Credit Hours: 3

Prerequisite: INR200

This course introduces students to the fundamental elements of political systems, institutions, and behaviors that have a bearing on the interplay between the political, economic, and cultural aspects of international relations. It familiarizes students with theoretical aspects of political systems that have a global reach; and consequently, affect relationships between peoples, cultures, and nations. This course leads to an understanding of perceptions of international relations from a political science point of view.

INR 220- History of International Relations

Credit Hours: 3

Prerequisite INR200

This course will familiarize students with the historical developments that have affected the progress of international relations theories over the last two-hundred years. It demonstrates that international relations are in a constant state of flux; therefore, the maturing of its theories is dependent on historical processes. The course introduces the ways in which past events have influenced present international relations and how the field of international relations of our own day has been used to construct a fictive representation of the past for contemporary political purposes

INR 230- Contemporary Perspectives in International Relations

Credit Hours: 3

Prerequisite: INR 220

This course introduces students to the classic era of international relations: the twentieth century re-alignments that occurred all over the globe. Reading of the World Wars to the Cold War to Proxy Wars in the developing world, this course shall familiarize students with the complex international relationships that have created the world within which they live. The course forms a foundation for upper division courses.

INR 280- Comparative Political Systems

Credit Hours: 3

Prerequisite: INR 210

This course introduces students to the importance of comparative study of different political units, systems, and processes in whole or in part. The aim is to be able to analyze the similarities and differences between those political systems. Political thought and theory become the tools to access the political systems, unpacking the complexity that exists within them, while simultaneously expanding the meaning of international relations via the layered interpretation of political systems and institutions. The course familiarizes students with the multiple constructs of political arrangements that exist across the globe that ultimately affect the ways in which international relations are informed.

INR 290- International Political Economy I

Credit Hours: 3

Prerequisite: INR 210

This is the first in a three-course sequence (please see INR 350 and INR 430) that introduces the essential concepts of political economy and its inextricable relationship to international relations theories. The course demonstrates the interdisciplinary nature of international relations as a discipline, and how these concepts lay the foundations for accessing the ramifications of political economy structures that affect the

successes and failures of international relations. Students will analyze and engage critically with the perspectives of International Political Economy (IPE).

INR 299- International Law

Credit Hours: 3
Prerequisite: INR280

This course familiarizes students with fundamental knowledge of international law. Its concepts, principles, and legal boundaries form the main aspect of the course. Students learn about the multifarious ways in which complexities of international relations are addressed with international law. They also learn what constitutes nation-states, sovereignty, state jurisdictions, and international immunity, among other topics within the purview of international law.

INR 300- International Crime and Justice

Credit Hours: 3
Prerequisite: INR 299

This course acquaints students with those aspects of international law that aim to provide international peace and security. Students learn that armed conflict, diplomatic disputes, and belligerency by state actors are contained within the boundaries of agreed upon concepts of international law. Additionally, the course addresses individual international crimes against state and non-state actors by non-state actors, which are also under the purview of the concepts of international law. The course will conclude with enunciating the goals of international peace and security, the aim of international law.

INR 301- Cross-Cultural Psychology

Credit Hours: 3
Prerequisite: ENG200 & FWS211

This course will enable students to develop better understanding of cultural effects on human psychology. The course will also analyze the similarities and differences in the behavior among individuals who were raised in different backgrounds. This course will further examine psychological diversity and the links between cultural norms and behavior. The course will also examine the ways in which some particular human activities are influenced by social and cultural forces.

INR 310- Diplomacy and International Relations

Credit Hours: 3

Prerequisite: INR 290

This is the first in a two-course sequence (please see INR 320) that introduces students to the central role that diplomacy plays in numerous aspects of international relations. There are numbers of state and non-state actors involved in diplomacy; they can affect the course of international relations. This course addresses the traditional notion of diplomacy in high politics where diplomats are involved in representation and negotiation, roles with which most are familiar. Extending the meaning of diplomacy further, this two-course sequence elaborates on the role of diplomacy in international relations particularly related to questions of security, commercial transactions, cultural exchanges, and legal ramifications.

INR 311- Technological Innovation and Diplomacy

Credit Hours: 3

Prerequisite: INR 310

This course familiarizes students with the nature of digital diplomacy in international relations. In an era of global governance there exists an evolving power dynamic that can, and has, shifted with technological innovations, especially in the digital world. The augmented digital initiatives in the nation-states' power centers are nothing short of revolutionary. This course examines how exactly digital diplomacy works and scrutinizes its degree of success in influencing all the changes in international relationships. Finally, the course suggests that to understand the power of technological innovation in diplomatic relations, it is necessary to confront the limitations of digital diplomacy.

INR 320- Sectors of Global Diplomacy

Credit Hours: 3

Prerequisite: INR 310

This is the second course in a two-course sequence (please see INR 310) that engages students with the central role that diplomacy plays in numerous aspects of international relations. There are numbers of state and non-state actors involved in diplomacy; in varying degrees, they can affect the course of international relations. This course extends further the study of several sectors of diplomacy. It elaborates on the various categories of diplomacy that are clear and present in international relations, particularly as related to questions of security, commercial transactions, cultural exchanges, and legal ramifications.

INR 321- Public Diplomacy

Credit Hours: 3

Prerequisite: INR 310

This course acquaints students with public diplomacy that goes beyond the formerly and formally recognized diplomatic international relations concepts. Public diplomacy contains within its arc cultural diplomacy, advocacy diplomacy, exchanges between states, media, and public discourse. Students will gain a nuanced understanding of the active and far-reaching inter-relationships that form between state and non-state actors due to public diplomacy. In a digitized world, public diplomacy is coming increasingly to the fore; students of international relations will find themselves progressively engaging in it into the future.

INR 350- International Political Economy II

Credit Hours: 3

Prerequisite: INR 290

This is the second course in a three-course sequence (please see INR 290 and INR 430) that introduces the essential concepts of political economy and its inextricable relationship to international relations theories. This course familiarizes students with the complex structures that inform International Political Economy (IPE) and have a profound effect on international relations. Students will learn of the intersectional relationships between trade, money, finance, debt, and power. Students will analyze and engage critically with IPE structures and their global ramifications.

INR 400- Theories of International Relations I

Credit Hours: 3

Prerequisite: INR 280

This is the first in a two-course sequence (please see INR 410) that evaluates and reframes the multifarious threads of international relations theories. The course does a deep dive into said theories that inform the interdisciplinary perspective of international relations. The aim is that students gain a nuanced understanding of the diversity of theories that inform the study of international relations. This course will have students engage with the idea “how we know what we claim to know” in international relations. Students have to analyze and think critically about the debates within international relations theories; to wit, rationalist and reflectivity approaches. Students will learn that any study of international relations has to be diverse, inclusive, and equitable.

INR 402- Comparative Criminal Justice Systems

Credit Hours: 3

Prerequisite: INR 400

This course demonstrates the diversity of criminal justice systems that can affect international relations. Using examples from different countries/ politico-cultural entities as representative, it helps students learn that cultural and political specificity of a nation-state informs the criminal justice systems. The diversity of criminal justice systems affects state and non-state actors when they find themselves encountering varied systems, causing diplomatic dilemmas and/or (mis) understanding of individual rights in a highly mobile and increasingly connected world.

INR 410- Theories of International Relations II

Credit Hours: 3

Prerequisite: INR 400

This is the second in a two-course sequence (please see INR 400) that evaluates and reframes the multifarious threads of international relations theories. The course continues the deep dive into theories that inform

the interdisciplinary dimension of International Relations. This course will have students engage with the idea “how we know what we claim to know” in international relations. Students have to analyze and think critically about the debates within international relations theories; to wit, rationalist and reflectivity approaches.

INR 420- Human Rights and Global Justice

Credit Hours: 3

Prerequisite: INR 300

This course introduces students to a sociological perspective in international relations, demonstrating the integrated nature of the discipline. Students will engage with the idea of universal human rights and the global dimensions of (in)justice. The course content asks questions of all structures that could, at once, undermine human rights and be the avenue to global justice, including political, economic, legal, and educational structures. It offers insights into how individuals could take responsibility in participating in global activism and transformative politics.

INR 430- International Political Econo-my III

Credit Hours: 3

Prerequisite: INR350

This is the third course in a three-course sequence (please see INR 290 and INR 350) that examines the essential concepts of political economy and its inextricable relationship to international relations theories. This course familiarizes students with the complex transnational dilemmas that inform International Political Economy (IPE). Certain political and economic actors and actions transcend nation-state borders, affecting internal and external realities of state and non-state actors. Students will learn of the intersectional relationships among and between economy, foreign investment, tourism, hunger, energy, migrations, and climate change, all of which know no borders. Students will analyze and engage critically with the consequences of these IPE structures and their global ramifications.

INR 499- Internship

Credit Hours: 3

Prerequisite: Completion of minimum 80CHs

The internship and/or practicum is the experience a student has in an entity outside of their academic institution where they bring to bear the applicability of several aspects of their learning to a work-based environment. This internship is meant to heighten the competencies of the student-learner to demonstrate an aptitude for autonomous learning, a sense of responsibility in a work environment, and noticeable growth in their self-development as accountable citizens of a globalized world and as a responsible member of the socio-cultural milieu in which they operate.

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Bachelor of Arts in Mass Communication (English)

Program Core Requirements

Compulsory Courses

ASC 301 - Research Report Writing

Credit Hours: 3

Prerequisite: ENG 200

This course will focus on research writing skills, which include locating, gathering, and evaluating source materials; formulating a thesis statement from a topic and/or a hypothesis; developing arguments based on solid research methods; and documenting sources in the text, in notes, and in the bibliography. Students will also work extensively on their academic and argumentative writing skills to produce high quality research papers.

MKT 200 - Principles of Marketing

Credit Hours: 3

Prerequisite: ENG 200

This course is designed to introduce students to the fundamental concepts of marketing and how they are currently applied in the marketplace. It should provide a stimulating environment for each participant in which they can explore the central tasks of marketing and build on previous experiences. The module enables participants to gain familiarity with the tools/processes currently used by practicing marketing professionals in analyzing market opportunities and to apply these in different contexts.

MMC 201 - Introduction to Mass Communication

Credit Hours: 3

Co-requisites: (Co) ENG 102(R)/ ENG 200

This course will provide an overview of the field of mass communication; concepts, scope, development and process of communication; functions; different fields of communication (print and electronic media, public relations and advertisements); selection and organization of materials; and finally, mass media information resources.

MMC 203 - Writing for Mass Media

Credit Hour: 3

Prerequisite: MMC 201

This course covers writing for various media fields: including but not limited to print and electronic journalism, public relations and advertising, etc. Students learn the basics of writing for mass communication including writing news leads, news stories, simple advertisements, broadcast items and press releases.

MAC 201 - Intercultural Communication

Credit Hour: 3

Pre-requisites: MMC 201

This course emphasizes the interaction between culture, communication, and language. Students examine the customs, beliefs, and values of various cultures worldwide and develop an appreciation and understanding of the factors that affect communication resulting from differences in language and culture.

MAC 205 - Theories of Mass Communication

Credit Hours : 3

Prerequisite : MMC 201

This course examines mass communication theories and theorists. The course will provide a basic understanding of the nature of mass communication. Students will learn, research, and discuss the various theoretical approaches related to the impact of mediated communication on the individual and the culture. Also, the nature of the communication process in groups and between mass media and audiences will be discussed.

MAC 207 - Introduction to Graphic Design

Credit Hours: 3

Prerequisite: ITD 100

This course will provide the students the graphic design concepts and principles, skills and technology required for professional graphic design practice. Students will use standard graphic design applications such as Adobe Illustrator, Photoshop and InDesign to create promotional materials such as magazine advertisements, posters, logos, brochures, etc. It is highly practical course of study focused on the development of graphic design competency.

MAC 308 - Photojournalism

Credit Hours: 3

Prerequisite: MMC 203

This course presents a study of basic photographic techniques from a practical and artistic point of view. Students will have the opportunity to develop aesthetic and compositional skills while building a portfolio of significant images. Each student will shoot news, feature, sports and portrait assignments. Emphasis is on using the camera as a reporting tool.

MAC 310 - Mass Media Ethics and Responsibilities

Credit Hours: 3

Co-requisites: MMC 201

This course is to assist students in thinking through complex ethical challenges they might face in communication and media careers. It attempts to answer the complicated question of right or wrong, ethical or not ethical that inevitably arises in media work places. It will illustrate many real-life issues and matters related to ethics and social responsibility in the media field as it depends heavily on discussing and evaluating some case studies.

MAC 317 - Public Speaking

Credit Hours: 3

Prerequisite: ENG 200

This course will focus on oral communication standards, problems, and responsibilities in the business and organizational environment. Students will deliver speeches and participate in problem-solvingfrom investigation and informative speaking to advocacy and debate strategies.

MAC 402 - Media Appreciation and Critique

Credit Hours: 3

Prerequisite: MMC 201

This course is designed to analyze film and television programming content from the perspective of the media critic and appreciation. Examination of theoretical issues and production elements as they affect programming genre. It also equips students with the skills and knowledge necessary for analyzing films as an art form.

MAC 404 - Social Media Management

Credit Hours: 3

Prerequisite: Completion of minimum 90 Credit Hours

This course covers the major characteristics and features of social media management. The main sections of the course address forms and content of social media; impact and users; social media marketing, mobile and social media applications, user generated content, global social media brands, the exponential growth and flow of global data and information, the future of social media management - Wearable Technology, IOT, Big Data and Social Media Business Models, Platforms and Ecosystems.

MAC 490 - Senior Design Project (Capstone Course)

Credit Hours: 3

Prerequisite: 100 Credit Hours

This capstone course requires students to engage in a substantive endeavor directed at solving problems related to, strategic communication, broadcasting and Media Production. They are to create their own work/projects as collaborative work.

MAC 499 - Internship

Credit Hours: 3

Prerequisite: 80 Credit Hours

The internship course is specifically designed to provide students an opportunity to understand industrial practices and culture before they graduate. Students are likely to gather invaluable experience and will have the option of impressing upon their future employers. Students will be assigned practical work and projects in advertising, journalism, multimedia, broadcasting, and public relations. Qualified students will work with their faculty mentor/internship coordinator to plan for placement, timeline, activities, and procedures.

Major Electives

MAC 328 - Event Management

Credit Hours: 3

Prerequisite: FWS 310

Contemporary event management is a diverse and challenging field. This course explores the multidisciplinary nature of events management and provides the student with all the practical skills and professional knowledge they need in order to succeed in the events industry. It introduces every core functional area of event management, such as marketing, finance, project management, strategy, operations, event design and human resources, in a vast array of different event settings from corporate to cultural events.

MAC 206 - Introduction to Journalism

Credit Hours: 3

Prerequisite: ENG 200

This course is designed to offer some practical, basic instructions in some of the major functions of journalism. Journalism affects us personally, but it also has a profound effect on the society that we live in. This effect takes form at many levels and in all aspects of society-political, social, economic, and so on. Journalism determines not only how we see ourselves within a larger environment, but it also determines how we share that environment with other people. The course is an introduction to the field of Journalism.

MAC 316 - Communication and Diplomacy

Credit Hours: 3

Prerequisite: MMC 201

The course brings together advanced skills in communication with in-depth knowledge of international relations to prepare students to meet the challenges of corporate and public communication in an increasingly complex global environment.

MAC 204 - Interpersonal Communication

Credit Hours: 3

Prerequisite: ENG 200

This course introduces students to the practice of effective dyadic communication in family, social, and work environments. It explores topics such as the development of the self-concept, perception, language, nonverbal communication, and conflict management. This course also encourages the students to spend time consciously examining interpersonal communication in general, and in particular.

MAC 403 - International Communication

Credit Hours: 3

Prerequisite: MAC 201

The course is an introduction to the globalization of media markets and media models in news and entertainment. Modernization, development, dependency, hegemony, free flow of information, political economy, and other historical, administrative and critical perspectives will also be discussed.

MAC 412 - Media Management

Credit Hours: 3

Prerequisite: ENG 200

This course will cover principles of media management including the elements of PR management, broadcast management, news

papers management, defining and choosing goals and objectives, and budgeting and decision making. It will also address the management of media industry including media and consumers relations, employee and member relations, and community and government relations.

Strategic Communication Core Requirements

MAC 301 - PR Protocol and Etiquette

Credit Hours: 3

Prerequisite: MMC 201

In the global marketplace, knowing how to receive, interact with, and entertain local, international guests and business associates are critical success factors. This course is a guide for conducting business relationships today, get up-to-date on what to say, what to write, how to eat, how to set up a table and how to communicate in the social world. This course also shows how to understand the local and international protocol, etiquette and respect cultural differences. Mistakes in protocol and etiquette can even ruin many situations or business. As a future public relations practitioner, students will need to practice effective communication strategies that are highly impressive. This includes written and verbal communication as well as body language, reactions, choice of words, reasoning and everything else. While media and PR skills are growingly required for any established organization, students also need to prepare themselves to excel in relevant skills.

MAC 303 - Organizational Communication

Credit Hours: 3

Prerequisite: MAC 201

This course presents the concepts of organizational communication within the competency-based approach, which incorporates personal knowledge, interpersonal sensitivity, communication skills, and ethical values. The course blends theory, practice, and analysis with emphasis on knowledge, sensitivity, skills, and values as necessary components of effective organizational communication. It examines individual and group communication in organizations with an emphasis on leadership and conflict management.

MAC 313 - Principles of Strategic Public Relations

Credit Hours: 3

Prerequisite: MMC 203

This course will survey the discipline of public relations, and will include its origins, concepts, scope, development, process, theories, functions, media and publics. The course will also focus on how public relation functions are different from advertising, marketing, propaganda and some other related domains.

MAC 314 - Communication Strategy in Advertising

Credit Hours: 3

Prerequisite: MMC 203 or MKT 200

This is a writing-intensive course providing the opportunity to apply the theories and principles of strategic communication and to practice their strategic and tactical planning skills in a teamwork environment. Emphasis is placed on the creative process, visual communication and the importance of research. Students work with real clients in a classroom.

MAC 315 - Writing for PR

Credit Hours: 3

Prerequisite: MMC 203

This course covers the basics of public relations writing, persuasive writing, writing news releases for print-media, news releases for TV and Radio, writing photo captions, speeches, and annual reports.

The course also focuses on the importance of good grammar, syntax, spelling and punctuation. It applies new technologies in PR writing.

Information on developing websites, how to find web-site host, how to write for the internet and other related topics.

MAC 413 - Public Relations Campaigns

Credit Hours: 3

Prerequisite: MAC 313

This course introduces students to the process of creating public relations campaigns using a hands-on approach that emphasizes the tools they will need when working in the industry. This course presents real examples and current case studies to help students develop practical skills for creating more effective PR campaigns.

MAC 407 – Integrated Communication Campaign

Credit Hours: 3

Prerequisite: MAC 314

This course emphasizes the preparation of complete advertising campaigns for business or non-profit organizations. Students will be able to integrate marketing, media research, and market segmentation, and promotion into their projects. A well-defined, planned, creative, and campaign will be presented toward the end of the term.

Media Production Core Requirements

FMP 180 - Principles of Production Technology

Credit Hours: 3

Prerequisite: No Prerequisite

An introduction to the basic terms, functions, theories, and applications of film and media-making equipment and technology related to camera, sound, and editing. Principles of Production Technology is an introductory course designed to provide students with a basic knowledge of media production technology and terminology as it relates to camera, sound and editing.

No prior knowledge of these skills is required. This class will not focus on feature filmmaking specifically, but will examine these technologies as they are used in a broad array of media that might also include commercials, promotional videos, documentaries, shorts, foreign, avant-garde, etc.

FMP 225 - Introduction to VFX

Credit Hour: 3

Prerequisite: FMP 180

This course is designed to introduce students to the world of visual effects for film and television and examine all aspects of the process from a practical, real-world perspective.

Students will learn the techniques of compositing multiple images into convincing and photo-realistic visual effects shots and the integration of those shots into film projects.

FMP 300 - Short Film Production

Credit Hours: 3

Prerequisite: FMP 180

Specialized study of conventional film techniques; emphasizes the creative process through project-based, hands-on learning. Group and individual exercises will cover all phases of short film production from creative inspiration to online distribution.

FMP 325 - Screenwriting

Credit Hours: 3

Prerequisite: FMS 100

This course is designed to help students understand the fundamentals of screenwriting. Students will learn how to write a screenplay from the conception of the idea through the outlining process and onto a finished short drama script. Topics covered will include techniques for generating ideas, the drafting process, screenplay structure, conflict, characterization, dialogue and how to write visually.

Students will be able to use standard script layout and understand what to look for in adapting a story for a dramatic screenplay. They will understand the basic elements of narrative script structures and also the difference between written and spoken dialogue. Besides developing a script, students will learn how to analyze their own work and work of others as a screenwriter.

FMP 350 - Directing for Documentary

Credit Hours: 3

Prerequisite: FMP 300

Directing for Documentary introduces students to the diverse and passionate world of documentary filmmaking and its relationship to society. Class time centers on screenings, critiques, discussions and workshops on documentary research, project development, video production and interview techniques. Directing documentaries is both exciting and challenging on many levels. Filming real people in uncontrolled events and settings often necessitates high shooting ratios and extensive time in post. Thus, previous film production and post-production experience are required. To inspire and help students learn through example, in class and online screenings and guest filmmaker presentations will introduce students to classic/foundational, recent, impactful, controversial, banned, overlooked and films in progress by award-winning, established and up and coming documentary filmmakers.

FMS 100 - Introduction to Film

Credit Hour: 3

Prerequisite: No pre-requisite

This course is an introduction to film analysis that examines critical approaches of authorship, genre, presentation, and narrative. Students will become literate in the language of cinema and learn basic film concepts, techniques, and terminology in an effort to appreciate films more completely. The course examines how films are shot, tell stories, develop characters and depict physical reality through the combined, constructed medium of sound and image.

MAC 410 - Web and Publications Design

Credit Hour: 3

Prerequisite: ITD 100

This course introduces students to basic methods for creating and designing websites, brochures, and publicity materials, using contemporary software, including other applications for animation and interactivity. Students will learn the basic techniques, tools and processes used to construct well-designed informational materials, and effective websites.

Bachelor of Arts in Psychology

General Courses

ARL101 (E) - Communication Skills in Arabic Language-Basic

Credit Hours: 3

Prerequisite: Arabic as second language in high school or Non-Native Arabic Speaker

This course is an upper intermediate skill-based course designed to offer students whose native language is not Arabic the opportunity to enhance the learning process in a systematic manner; since they are certified in Arabic as second language in high school/ Non-Native Arabic Speaker and/or those having one Arab parent. This course will also help them overcome communication difficulties in work place and everyday life situations. The language of communication in the class is the simple and contemporary Arabic that is used in mass media, every day and official conversations, school and college instruction, etc.

ENG 200 - English 2

Credit Hours: 3

Prerequisite: IELTS average score 6 or EMSAT average score of below 1400 or passing grade in ENG 102 (R). Co-requisite: (FWS 100 (E)/USS001 as co-req if placed in ENG 200

The course focuses on writing for academic purposes. It teaches expository writing using a process-oriented approach. The structure of paragraphs and essays and their components are taught in steps and are connected to each other. The course also reviews sentence structure and punctuation rules. Writing exercises involve extensive drafting and revising based on individual input and tutorials from the course instructors. Students also practice writing under pressure. An important component of the course is a research project where students research and write on a topic related to their field of study or area of personal interest.

FWS 100 (E) - Academic Skills for Success

Credit Hours: 3

Prerequisite: No pre-requisite

The course is tailored to prepare students for higher education. It works towards developing a positive growth mindset in students and to equip them with the necessary skills required for them to succeed in higher education. The course also offers topics related to the development of reasoning and critical thinking skills, basic research skills, as well as how to develop effective presentations. A key outcome of the course is to enable students to transition smoothly into an academic life as well as to become familiar with academic standards and requirements pertinent to higher education. The course will provide them with foundational tools and skills to be successful in their major courses.

FWS 205 - UAE and GCC Society

Credit Hours: 3

Prerequisite: ENG102 (R)+ FWS100

Co-requisite: FWS 100 as co-requisite if students enter to ENG200 course directly

The course aims at developing a better understanding of the UAE and GCC society and its social, cultural, economic and political development. Students will cultivate a deeper appreciation of the pivotal role played by the UAE and GCC in leveraging government policies including technology for improving the overall quality of life. The profound role played the country's leadership in contributing towards the fulfilment of its commitment of the country's commitment towards the SDGs. By examining initiatives and strategies undertaken in the UAE, learners will grasp the importance of collective action in driving societal progress.

FWS 211 - Fundamentals of Emotional Intelligence

Credit Hours: 3

Prerequisite: ENG102(R) + FWS100

Co-requisite: FWS100 as co-requisite if students enter to ENG200 course directly

This course enables students to gain scientific insights into emotions and their impact in their personal and professional lives. In addition, the students will gain insight into how psychology will have an influence on human behavior and develop valuable relationship with others by understanding the fundamental principles of Emotional Intelligence. This specifically includes fostering a greater sense of developing the building blocks of emotional intelligence, helping the students to apply effective strategies for self-management and self- improvement.

FWS 305 - Technical Communication for Work Place

Credit Hours: 3

Prerequisite: ENG 200 + Completion of minimum 45 credit hours

Technical communication for the workplace introduces students to the principles, techniques, and skills with emphasis on professional writing for workplace purposes. It also emphasizes the reporting tools to help students prepare effective workplace documents. Students develop project planning and time management skills by working in teams to gather and share information, deliver different types of written correspondences and multimedia oral presentations.

FWS 310 - Fundamentals of Innovation and Entrepreneurship

Credit Hours: 3

Prerequisite: ENG 200 + Completion of minimum 60 credit hours

The course aims at equipping the next generation of leaders with an innovative and entrepreneurial mindset. It takes a skill-rich approach to learning innovation and entrepreneurship that can be applied to any high-growth enterprise or other organization in the UAE and globally. The course is composed of three modules: Design Thinking Process; Entrepreneurship; and Growth and Leadership. Students will develop an understanding of the nature of entrepreneurship and its connections to the culture and economy of the UAE, and how innovation drives entrepreneurship. The course uses a hands-on approach and engages students in critical thinking, creativity, active and reflective citizenship, empathy, teamwork and ethical decision making preparing them to contribute to the entrepreneurial ecosystem of the country.

ISL 100 - Islamic Culture

Credit Hours: 3

Prerequisite: No Prerequisite

ISL 100 -E Pre-Requisite will be Non-Native Arabic Speaker/ or Students who did Arabic as secondary language in high school.

The course aims to move the discussion on Islam from a theological framework to a cultural one. Its goal is to inculcate a broad understanding of the unity and diversity of the Muslim world, which has existed historically and continues today. Thus, students will investigate several aspects of Islamic culture: Muslim ethics, the contributions of Muslims to world civilization, the rich legacy of Islamic art and architecture, as well as the traditions of learning. Students will also explore contemporary Muslim societies with a view to understanding some of the issues and challenges, which Muslims are facing today. Ultimately, the course will ask students to examine how they can contribute to a positive.

Requirements Courses

DTC212- Fundamentals of Design Thinking

Credit Hours: 3

Prerequisite: ENG 200

Believing that one can be creative is the first step to becoming an innovative thinker and leader. Fundamentals of Design Thinking (DTC212) is a hands-on, practical course, which will allow students to develop creative confidence and explore the concept of creativity and the sources of innovative ideas. The course will focus on the framework of divergent and convergent thinking and the process of reflectivity throughout the process. Students will engage in the process of empathy building, insight development, understanding the needs (for the design) and reframing their needs. In doing this they will constantly apply divergent and convergent thinking. Students will also go through the process of ideation and prototyping and engage themselves in a thorough process of testing their prototypes using the framework of iteration and learning.

ASC301- Research Report Writing

Credit Hours: 3

Prerequisite: ENG200

This course will focus on research writing skills, which include locating, gathering, and evaluating source materials; formulating a thesis statement from a topic and/or a hypothesis; developing arguments based on solid research methods; and documenting sources in the text, in notes, and in the bibliography. Students will also work extensively on their academic and argumentative writing skills to produce high quality research papers. Additionally, the course will explore the use of AI tools in literature review and data analysis and identify various types of research gaps.

MAC317- Public Speaking

Credit Hours: 3

Prerequisite: PSY202

This course will focus on oral communication standards, problems, and responsibilities in the business and organizational environment. Students will deliver speeches and participate in problem-solving, from investigation and informative speaking to advocacy and debate strategies.

PSY415- The Resilient Mind

Credit Hours: 3

Prerequisite: FWS 211

This course will provide an overview of the scientific and evidence-based study of application of positive psychology tools to boost optimism, resiliency and self-efficacy. The students will develop skills to challenge their thoughts and learn the science of stress, adversities and overcoming strategies. Thus the students can expect to develop more resilient attitude when faced with challenges and disruptive behaviours and regulate emotions using full attention techniques learnt from problems and setbacks by taking on a growth mind-set and using reflective thinking tools, which will enable them to help the vulnerable people.

Major Core Courses

PSY100- Introduction to Psychology-1

Credit Hours: 3

Prerequisite: Pre-Requisite ENG102 / or ENG200 as Co-requisite

This course is designed to introduce students to the study of psychology. It is intended to provide broad coverage of the field by presenting basic theories, research, and applied use of psychology. It will give students a background from which to either pursue more advanced psychological courses or retain the information as a basic knowledge of psychology.

PSY110- Introduction to Psychology-2

Credit Hours: 3

Prerequisite: Pre-Requisite ENG102 / or ENG200 as Co-requisite

The goal of this course is for you to get a basic understanding of the major topics surrounding the study of mind and behavior to see how psychological theories relate to each other and to your everyday life. Students will gain the ability to analyze a variety of theoretical perspectives from critical and diverse points of view while applying them to problems of daily living.

PSY200- Brain and Behaviors

Credit Hours: 3

Prerequisite: ENG200

An introduction to the relation between body and behavior with a special focus on the brain and its role in human behavior. It gives an overview of brain development and various techniques to study the functional brain, domains of cognitive development, and neural streets of cognitive functions viz. memory, speech, etc. The course familiarizes the genetic and neural basis of developmental disorders and cognitive rehabilitation of children with neurological impairment.

PSY202- Introduction to Statistics for Psychology-1

Credit Hours: 3

Prerequisite: PSY100

This course will introduce students to the basic descriptive and inferential statistics used in the behavioral and social sciences. Students will focus on the interconnections between theory, statistical techniques, and research methods to identify the appropriate statistical tests to analyze data and reach objective conclusions regarding research questions in

the social sciences. The course will

provide practice in using statistical software for data summarization, presentation, and analysis.

PSY210- Cognitive Psychology

Credit Hours: 3

Prerequisite: PSY110

This course is designed to introduce students to the study of Cognitive psychology. It is intended to provide broad coverage of the field by presenting basic theories, research, and applied use of cognitive psychology. This will give students a background from which to either pursue more advanced psychological courses or retain the information as a basic knowledge of psychology.

PSY211- Introduction to Statistics for Psychology-11

Credit Hours: 3

Prerequisite: PSY201

This course trains students to design and conduct creative, systematic and ethical psychological research studies and statistical methodology in the field of psychological research an endeavor will be made to create a learning environment for students in which the excitement of learning psychology is enhanced. The course will provide practice in using statistical software for data summarization, presentation, and analysis.

PSY221- Psychology of Sustainability and Environmental Behavior

Credit Hours: 3

Prerequisite: ENG200, PSY100

This course explores the psychological principles underlying sustainable behavior and the human- environment relationship. It integrates theories from environmental psychology, social psychology, and behavioral science to understand how individual and collective actions impact environmental sustainability.

PSY220- Experimental Psychology

Credit Hours: 3

Prerequisite: PSY110

Experimental psychology is an applied research course for psychology majors. Basic research methods and terminology will be presented and practiced in the classroom and then the same basic research principles practiced and applied in a laboratory setting. Students will be expected to participate in the early stages of designing a quantitative research study to include identifying a research idea, critically reviewing relevant literature, formulating testable hypotheses, identifying the sample population, choosing an appropriate research design, outlining the methods and proposed analyses, and practicing and conducting applied statistical analysis on simulated data.

PSY230- Psychological Transitions Across the Lifespan

Credit Hours: 3

Prerequisite: PSY 210

This course will provide a comprehensive understanding of human growth and development needed to facilitate change in a variety of practice settings. The course includes a review of the major theories and models associated with lifespan development. The primary focus of this course is to acquire an in-depth understanding of the theories and models of human growth and development over the lifespan. Students identify interventions and techniques of behavior change appropriate for age groups or stages of development.

PSY240- Research Methods in Psychology

Credit Hours: 3

Prerequisite: PSY201

This course focuses on the various methods that psychologists use to study behavior within the context of the scientific method. This course revolves around the scientific method as it relates to the field of psychology. This course will improve the ability to think critically and logically about any topic that might encounter in other courses, in job settings, and in your daily life.

PSY300 - Social Psychology

Credit Hours: 3

Prerequisite: PSY230

This course is designed as a comprehensive course of theory and research in social psychology. The goal of this course is to explain how our thoughts, feelings, and behavior are influenced by the actual, imagined or implied presence of other people. Throughout the course, the learner will be encouraged to think about how research in social psychology can shed light on events going on around the world and in your own lives and how it can help to better human existence.

PSY310 Abnormal Psychology

Credit Hours: 3

Prerequisite: PSY200

This course will provide an overview of the scientific study of mental illness. The student is introduced to the concept of psychological abnormality, the DSM classification system for diagnosing disorders, and paradigms for interpreting data regarding psychological disorders. Students can expect to increase their awareness of the therapeutic approaches to psychological disorders and the different assumptions behind specific therapies.

PSY312(L) A, B & C Introduction to Psychology Lab

Credit Hours: 3 (1 for each lab & total 3)

Prerequisite: Co-requisite or Pre-requisite PSY110, PSY312(L) A for Lab B, PSY312(L) B for lab C.

General psychology is an introductory course dealing with major concepts in psychology like heredity, environment, emotions and motivation, perception and memory, learning, intelligence, and personality The course familiarizes the introductory principles and technical knowledge of these concepts. The lab work helps your general psychology learning impactful through two-way communication and interactive lab sessions.

PSY320 Counseling Psychology

Credit Hours: 3

Prerequisite: PSY210

Counseling Psychology offers an inside view of core counseling techniques and approaches, and opportunities for students to understand the complex role client diversity plays in their work. The course includes basic counseling skills and group facilitation of personal development.

PSY330- Fundamentals of Psychotherapy

Credit Hours: 3

Prerequisite: PSY320

The course is designed to understand evidence-based practices in Psychotherapy, and it will have a dual focus on various approaches to psychotherapy and behavior change enhancement skills. students should have a basic knowledge of the theories and techniques of major psychotherapy approaches, and awareness of ethical issues associated with the field, an understanding of the different critiques that have been directed at mainstream therapeutic approaches.

PSY340- Health Psychology

Credit Hours: 3

Prerequisite: PSY320

Wellbeing and Positive Mental Health.

This course introduces various realms of health psychology including health-promoting behaviors and practices. This course acquaints the psychosocial processes that influence health and health care systems and practices. It familiarizes the influence of individual responses to health and illness. The course inspires the individuals to have a positive outlook towards health by involving practices that promote healthy living, or prevention of poor health and maintenance of quality life

and wellbeing within the context of holistic living.

PSY350- Psychology of creativity

Credit Hours: 3

Prerequisite: PSY230

This course is the study of the cognitive, affective, and social mechanisms that underlie creative behavior and cognition. Major psychological theories of creativity, including impacts from the environment, biology, and cognition, are examined in this course. The characteristics of creative people, the phases of the creative process, and the influence of emotion and motivation on creativity will all be studied by the students. The course will also address how culture, education, and technology affect creativity, along with real-world applications in the arts, innovation, and problem-solving.

PSY400- Industrial Psychology

Credit Hours: 3

Prerequisite: PSY230

The course is designed to provide an elaborate overview of psychological principles, theories, and research to the work and business settings. It includes the scientific study of employees, the workplace, and business. Industrial psychologists contribute to an organization's success by improving the workplace and the performance, satisfaction, and well-being of its people. It familiarizes the employee behaviors and attitudes through hiring programs, training programs, and feedback management.

PSY410- Media Psychology

Credit Hours: 3

Prerequisite: PSY350

Media Psychology is the application of psychological theories, principles, and research to media and technology. Media psychology majorly deals with human interactions with media and technology; hence the course covers the use, creation, and distribution or sharing of media as well as the impact of the actions on individuals, society, and culture. The media is never independent of the environment; hence it discusses the social forces and issues also. The main objective of the course is to help individuals in the positive applications of media and technology.

PSY420- Psychometrics

Credit Hours: 3

Prerequisite: PSY201

The course is designed to introduce the learner to the central concepts of psychological measurement, critical aspects of psychometric theories including test construction and validation. Measurement is fundamental to psychological research and its application and is inevitable for the practical application of the subject. Psychometrics includes the quantification of psychological concepts like moods, attitudes, personality, and various other cognitive abilities including memory, attention, and thinking.

PSY430 Applied Psychology Research (Design Project)

Credit Hours: 3

Prerequisite: PSY240, PSY201

This course will provide the Psychology student with the opportunity to apply psychology knowledge and methods in an actual work environment. The student may develop an independent project of their own under the supervision of a faculty member. The Research design Project consists of one semester-long course focusing on intensive independent research that culminates in a written thesis and oral presentation. Each student will attend seminars and complete a research or application project.

PSY499- Internship (A & B)

Credit Hours: 3 (1.5 each)

Prerequisite: Completion of minimum 80CHs & Completion of Internship I

Selected topics in psychology will be treated at an advanced level. Experience will be acquired in clinical settings and through exposure/ intern opportunities. Applications are processed through the university students' service department. Applicants must apply the semester prior to starting the internship. The course provides direct experience in helping persons with special needs, enhances awareness of the responsibilities and skills needed for professional employment in psychological services, and requires a synthesis of human development in spiritual, social, emotional, and cognitive behaviour patterns. During the internship, the student will work in a local organization.

Major Electives

PSY223 Behavior Modification

Credit Hours: 3

Prerequisite: ENG200, PSY100

This course focuses on changing problematic behavior by using techniques derived from learning theory. Behavior modification has been applied to a wide variety of persons and many different types of issues. This course is designed to provide fundamental knowledge of the philosophy, principles, and procedures of behavior modification and to illustrate its evidence-based application in a variety of areas.

MGT255 Management and Organizational Behavior

Credit Hours: 3

Prerequisite: FWS211+FWS100

This course provides an understanding of the discipline of organizational behavior (OB) within a management perspective. OB is considered at an individual, group and organization level. Job Attitude, perception, values and personality attributes are viewed from a management viewpoint with a consideration of motivation theories, decision making and the notion of ethics as applied to the workplace. Issues of trust, leadership and the conflict management process are reviewed.

Organizations are examined as hierarchies and matrix structures and the concept of organizational culture is reviewed in terms of its impact upon performance. OB and the contribution it has made to HRM is examined. The course concludes with a consideration of organizational change and how best to optimize the change process.

INR301: Introduction to Cross-Cultural Psychology

Credit Hours: 3

Prerequisite: FWS211+FWS100

Cross-cultural psychology course will enable students to develop better understanding of the cultural effects on human psychology. The course will also analyze the similarities and differences in the behavior among individuals who were raised from different background. This course will further examine psychological diversity and the links between cultural norms and their behavior. This will also examine the ways in which some particular human activities are influenced by social and cultural forces.

PSY311 Artificial Psychology

Credit Hours: 3

Prerequisite: ENG200

The course introduces the basic concepts and principles of artificial psychology and artificial emotion, analyzing the unified macro-model of the cross-disciplinary system architecture against the need-motivation-behavior framework. Second, we discuss the origin of artificial psychology and artificial emotion, its course of development, and its present situation. Students will examine topics like emotion in AI, cognitive computing, and human-computer interaction while gaining hands-on experience in building and evaluating artificial agents with psychological attributes. The course also addresses the ethical implications and future directions of integrating psychology with AI technologies

PSY325 Psychology Careers and Applications

Credit Hours: 3

Prerequisite: PSY 230

Careers in psychology are as diverse as the field itself. This course provides an overview of various career paths aligned with personal interests, abilities, and skills, broadening career perspectives in psychology. It will introduce the students to different career opportunities and processes, helping them explore their career options. Additionally, it will also sharpen the professional skills and competencies that are the prerequisites of success in the students' career goals.

PSY305 Orientation to School Counseling

Credit Hours: 3

Prerequisite: ENG200

This course introduces the student to current school counseling models and effective practices. The focus is on practical issues faced by school counselors as they implement a school counseling program, work with students, colleagues, and families, and manage role responsibilities effectively.

Bachelor of Arts in Video Game Design

Program Core

Compulsory Courses

GDS 131 - Escape Game Project

Credit Hour: 3

This course introduces students to the design and development of escape games, focusing on storytelling, puzzle creation, and production. Students will work in teams to conceptualize a game theme, narration, design locations, and develop engaging puzzles. Through iterative prototyping, testing, and refinement, they will produce a fully functional escape game. Emphasis will be placed on practical skills, including the creation of game components and solving gameplay creation challenges. The course concludes with final playtesting and evaluation of the completed games

GDS 100 – Level Design

Credit Hour: 3

This course introduces students to the fundamentals of Level Design through hands-on exercises and collaborative workshops. Students will explore the roles of a level designer, learn key concepts such as rhythm, variety, pacing, and progression at both micro (within a level) and macro (across the game) scales, and create cohesive and challenging game levels. By designing, testing, and refining their levels based on peer feedback, students will develop practical skills in level architecture, player guidance, spatial design, and narrative integration, preparing them for more advanced game design courses and applications

GDS 101 – Principles of Game Design

Credit Hour: 3

In this course students will explore the fundamentals of game design, including game rules, components, and player-centric design principles, while gaining an understanding of neurological factors that influence gameplay. Through practical workshops and assignments, students will analyze various game types, develop a game concept, and learn to present their ideas effectively. The course emphasizes hands-on experience with design frameworks, such as the MDA Framework, and develops the students' ability to structure, define, and communicate game concepts with clarity

GDS 132 – Level Design Workshop

Credit Hour: 3

Prerequisite: GDS 100

This course offers an in-depth study of game level design. Students will learn to structure level design by evaluating game elements and considering the macro structure of levels, with an emphasis on design intentions and gameplay progression. Students will create a comprehensive level design strategy document which outlines the direction and gameplay elements for each level. Throughout the course, students will develop and refine their designed levels, incorporating feedback from testing. The course concludes with the modification, enhancement, and completion of a full game prototype, providing students with practical experience in crafting engaging and cohesive game levels

GDS 121 – Introduction to Adobe Suite

Credit Hour: 3

In this course, students will explore the fundamental functions and interfaces of Adobe Illustrator, Photoshop, and Animate, equipping themselves with the skills necessary to create, edit, and animate simple visual content. The course begins with an introduction to the Adobe Suite, followed by foundational skills in Illustrator, including document creation, workspace navigation, and the use of various design tools. Students will engage in practical exercises to design logos and game objects. This will be followed by hands-on lessons in Animate that cover keyframes, object rigging, and character animation principles such as breathing and running. The course will also introduce students to the essentials of Photoshop, focusing on layers, selections, and retouching techniques to enhance images effectively but also ethically

GDS 102 – Prototyping Techniques

Credit Hour: 3

Prerequisite: GDS 101

This course introduces students to game design prototyping techniques, starting with non-engine methods such as paper prototypes, tokens, and post-its, before progressing to simple digital prototyping using tools like spreadsheets and Figma. Students will conceptualize, design, test, and refine their prototypes through iterative processes, learning to apply mathematical concepts such as probabilities and balancing to enhance gameplay systems. The course emphasizes hands-on practice, critical testing, and adaptation, culminating in the creation and presentation of a finalized game system prototype as part of their final assessment.

GDS 231 – Board Game Project

Credit Hour: 5

This course offers an in-depth exploration of board game design, guiding students from the initial concept to a fully developed prototype. Students will analyze existing games, brainstorm themes, and collaborate in teams to create original game ideas. The course covers pitching concepts, designing game mechanics, and developing paper prototypes, with a focus on iterative testing and refinement. Students will also be introduced to production planning, component creation, and quality assurance through comprehensive testing and feedback. Upon completion of the course, students will have practical experience in board game development, along with improved skills in teamwork, creativity, and project management.

GDS 223 – Introduction to Unity

Credit Hour: 2

This introductory course on Unity provides students with a comprehensive foundation in video game development using the Unity engine. Students will familiarize themselves with the Unity interface, learn to create basic projects and scenes, and grasp essential concepts such as GameObjects, components, and C# scripting. Over the duration of the course, students will engage in hands-on projects which will cover critical skills like asset integration, user interface design, animations, and debugging tools. By the end, students will have the knowledge and experience necessary to develop a small 2D or 3D game, utilizing Unity's core features and best practices for project management and error handling.

GDS 222 – Office Tools and Applications

Credit Hour:1

This course introduces students to essential office tools used in modern companies, focusing on both Office 365 and Google Workspace. Students will explore word processing with Word and Google Docs, learning about interfaces, document creation, formatting, and collaborative features such as headers, footers, and table of contents. The course also covers spreadsheet applications with Excel and Google Sheets, emphasizing data entry, formulas, charts, and conditional formatting for data analysis. Additionally, the course addresses effective email and calendar management, notification management, and advanced calendar functionalities. Students will also gain insights into cloud storage solutions with Google Drive and OneDrive.

GDS 201 – Game Mechanics

Credit Hour: 3

Prerequisite: GDS 101

This course focuses on the essential role of game mechanics in game design, guiding students to create, explain, and justify their unique game mechanisms. Students will explore innovative mechanics from various games and engage in designing their own. Communication is also emphasized, with discussions and exercises on effectively conveying key concepts like gameplay, rules, core gameplay, gameplay loops, objectives, resources, and rewards to production teams and editorial decision-makers

GDS 211 – History of Video Games

Credit Hour: 3

This course explores the history, development, and key milestones of the video game industry, from its origins to the modern era. Students will examine the industry's major players and technological innovations, starting with early experiments through the first consoles and arcade machines. The course covers pivotal moments such as the 1983 market crash, the revival led by Nintendo in the 1980s, the Sega-Nintendo rivalry of the 1990s, and the technological advancements of the 32-bit and 3D eras. Topics include gameplay innovations, challenges in 3D design, the maturing console market of the 2000s, the rise of e-sports, online gaming, and new economic models. By the end of the course, students will gain a comprehensive understanding of how video games evolved into a global cultural and economic phenomenon

GDS 232 – 2D Game Design Project

Credit Hour: 5

Prerequisite: GDS 121, GDS 223, GDS 100, GDS 201

In this hands-on course, students will engage in the design and development of a 2D video game prototype using the popular game engine Unity. The course begins with an introduction to the Unity interface and essential functionalities, including asset retrieval and instantiation. As students explore their creative concepts, they will develop a comprehensive game design document and prepare a pitch for their project. The course emphasizes iterative development, featuring playtests to evaluate prototypes and refine gameplay mechanics, controls, and visuals. Through a cycle of testing, feedback, and adjustment, students will polish their prototypes and finalize their presentations.

GDS 212 – Mobile Game Culture

Credit Hour: 3

This course explores the evolution of mobile video games from their inception to the present day, focusing on gameplay mechanics, technological advancements, economic models, and cultural implications. Beginning with the early days of mobile gaming in

the 1990s, students will analyze iconic titles, examine technological limitations of the era, and discuss the role of mobile games in driving phone sales. The course discusses the transformation brought by smartphones, emphasizing the impact of app stores and touch technology on game distribution and monetization strategies, including the rise of freemium models. The course investigates also social and competitive mobile games from 2015 onward, highlighting innovations such as augmented reality and cross-platform play while considering the influence of the Asian market on global trends.

GDS 202 – Gamer Profiles and Behaviors

Credit Hour: 3

This course provides an understanding of players, focusing on their motivations, play styles, economic behavior and retention. Students will be introduced to various player profiles and will engage in advanced player profile analysis. The course also covers the evolution and categories of players in the mobile market, examining their motivations, gameplay preferences, and spending patterns. Moreover, through class work and assignments, students will develop their own game concepts and mechanics targeting specific player profiles.

GDS 203 – Game Documents

Credit Hour: 3

Prerequisite: GDS 101

This course introduces students to essential game development documentation, focusing on maintaining comprehensive records. Students will conceptualize a game, targeting audience, genre, and core gameplay, and create a streamlined concept document. The course covers the documentation of game mechanics design through iterative processes, with exercises on detailing gameplay elements. By course end, students will produce a complete set of game design documents.

GDS 331 – Platformer Game Project

Credit Hour: 5

Prerequisite: GDS 100, GDS 223, GDS 201

In this course, students will design and prototype a 2D platformer game using a video game engine. The course covers fundamental mechanics and interactions of platformer games, with analysis and discussions on iconic titles like Mario and Sonic. Students will work in teams to conceptualize their game, developing core gameplay elements, characters, and settings, while also creating a comprehensive pitch document. The course emphasizes practical skills in 2D platformer game design, including systems and documentation, programming, planning, and production. It guides students through asset retrieval, gameplay testing, and iterative refinement of their projects. By the end, students will have created a polished prototype and prepared a presentation for a final jury review

GDS 301 – Narrative Design for Video Games

Credit Hour: 3

Prerequisite: GDS 101

This course provides an introduction to narrative design, covering its development from tabletop role-playing games to modern video games. Students will practice thematic dialogue writing, minimalist storytelling, and environmental narrative techniques. The course covers world-building concepts and explores the impact of historical and cultural contexts on narrative creation. Character development skills are developed through the study of archetypes, motivations, and conflicts. The course combines lectures, discussions, and assignments to equip students with tools for crafting engaging video game stories and characters.

GDS 311 – Current Trends in Video Games

Credit Hour: 3

Prerequisite: GDS 211

This course explores the evolution of the video game industry from the early 2000s to the 2020's, highlighting landmark titles and significant trends that shaped the gaming landscape during that era. Students will examine the emergence of new consoles, the transition to 3D gaming, and the rise of handheld devices, alongside shifts in gameplay mechanics and audience diversification. The course includes discussions on the impact of online gaming, the mobile revolution, independent game development, and the introduction of monetization strategies such as free-to-play models. Additionally, the course will analyze the influence of technological advancements, the emergence of genres, as well as the industry's adaptation to changing social dynamics, particularly during the Covid-19 pandemic, while contemplating the future of gaming in light of technical innovations and environmental considerations.

GDS 321 – Introduction to 3D Modeling

Credit Hour: 3

This course covers the essentials of 3D modeling using industry standard software such as Blender, 3DMAX or another industry standard software. Students will be introduced to several concepts and tools such as the x, y, z axes, the types of views and the 3D tool interface. The course also covers camera manipulation, shape creation, transformations, alignments, measurements, and pivot management. Through guided practice, students will create simple and complex objects. Additional topics include polygonal modeling, optimization practices, and material blueprints. The course concludes with lighting techniques, allowing students to integrate and adjust various light types in their scenes.

GDS 332 – First-Person Shooter Game Project

Credit Hour: 5

Prerequisite: GDS 232, Co-Req GDS 312

This course offers a comprehensive exploration of 3D first-person-shooter game design, guiding students through the process of creating a gameplay prototype using a video game engine. Students will begin with the conceptual design phase where they will establish core gameplay mechanics, characters, and game objectives, then engage in practical activities including the writing of pitch documents, designing game elements, and programming controls while refining their prototype through rigorous testing. As they progress, students will also focus on production planning, visual asset creation, level design, and interface development, ultimately culminating in the preparation of a final presentation that showcases their work and the gameplay experience they have crafted.

GDS 302 – Game Analytics and Philosophies

Credit Hour: 3

Prerequisite: GDS 101

This course enhances students' understanding of analytical tools and concepts in game design. Through practice sessions, micro challenges, and case studies, students learn data mining, analytics, and machine learning, exploring data types in games and practical applications like balancing and retention, while considering ethical issues like privacy and biases. The course also covers game design philosophies, diversity, and discrimination to explore meaningful game creation.

GDS 312 – Game Genre Analysis (FPS)

Credit Hour: 3

This course explores the first-person shooter (FPS) genre, tracing its evolution from early titles to modern hybrid sub-genres. Students will examine key milestones of the games history, the diversification of gameplay mechanics, and the rise of competitive gaming through iconic tournaments. The course also covers the influence of technology on FPS game design, from the advent of 3D engines to the integration of online communities, as well as the contrasting approaches of certain franchises. Through discussions, assignments, and analysis, students will gain a comprehensive understanding of how FPS games have shaped and continue to influence the gaming industry

GDS 431 - Mobile Game Project

Credit Hour: 5

Prerequisite: GDS 212, GDS 201, GDS 202

This course is designed to guide students through the entire process of mobile game development, from initial concept to prototype production using a specialized game engine. Students will engage in team-based projects, where they will develop core gameplay mechanics, create compelling characters, and define the mobile game's context and objectives. Throughout the course, students will write pitch documents, design mobile gameplay elements with defined functionalities, and produce essential game components, including coding and level design. The course emphasizes iterative testing and refinement of the game mechanics, culminating in a polished prototype and a comprehensive presentation for a final jury.

GDS 421 – Introduction to Unreal

Credit Hour: 3

This course focuses on the theoretical and practical aspects of game development using the Unreal Engine. Students will explore the fundamentals of Unreal Engine, including its interface, viewport, and notable tabs, while learning to integrate and manipulate game elements using Blueprints. The course covers topics such as actor manipulation, level creation, integration of materials, lighting, and rendering techniques. Students will also practice animation, advanced Blueprints, navigation, and particle effects, equipping them with the skills to design and adjust gameplay elements and produce basic level designs using the Unreal Engine

GDS 490 - Capstone Project

Credit Hour: 6

Prerequisite: GDS 332, GDS 232, GDS 421

This course offers students the opportunity to apply their accumulated knowledge and skills in game design by developing a comprehensive capstone project in groups. Students will choose to create either a PC or Mobile game, engaging in all stages of game development from concept inception to final production. The course emphasizes iterative design, technical proficiency, creative problem-solving as well as team work. Regular feedback will be provided by the instructor to guide the progress, and a final presentation will be evaluated by a jury

GDS 499 – Internship

Credit Hour: 3

Prerequisite: Completion of 90 Credit hours

The internship course is specifically designed to provide students an opportunity to understand industrial practices and culture before they graduate. Students will gather invaluable experience and will have the option of impressing upon their future employers. Students will be assigned practical work and projects in different areas related to the gaming industry and its different applications such as education, training, simulation, etc. Qualified students will work with their faculty mentor/internship coordinator to plan for placement, timeline, activities, and procedures

COLLEGE OF BUSINESS

General Education Courses

FWS310 - Fundamentals of Innovation and Entrepreneurship

Credit Hour: 3
Prerequisite: ENG 200 and completion of 60 credit hours

The course aims at equipping the next generation of leaders with an innovative and entrepreneurial mindset. It takes a skill rich approach to learning innovation and entrepreneurship that can be applied to any high- growth enterprise or other organization in the UAE and globally. The course is composed of Two modules: 1. Design Thinking Process; and 2. Entrepreneurship. Students will develop an understanding of the nature of entrepreneurship and its connections to the culture and economy of the UAE, and how innovation drives entrepreneurship. The course uses a hands-on approach and engage students in critical thinking, creativity, active and reflective citizenship, empathy, teamwork and ethical decision making preparing them to contribute to the entrepreneurial ecosystem of the country.

FWS310(AA)* Fundamentals of Innovation and Entrepreneurship (Arabic)

Credit Hour: 3
Prerequisite: ENG 200 and completion of 60 credit hours

يهدف المساق إلى تزويد الجيل القادم من القادة بعقلية مبتكرة وريادية. يتطلب الأمر نهجًا غنيًا بالمهارات لتعلم الابتكار وريادة الأعمال التي يمكن تطبيقها في أي مؤسسة سريعة النمو أو أي مؤسسة أخرى في دولة الإمارات العربية المتحدة وعلى مستوى العالم. يتكون المساق من ثلاث وحدات: عملية التفكير التصميمي، وريادة الأعمال، والنمو والقيادة. سيطور الطلاب فهمًا لطبيعة ريادة الأعمال وعلاقاتها بثقافة دولة الإمارات العربية المتحدة واقتصادها ، وكيف يقود الابتكار ريادة الأعمال. يستخدم المساق نهجًا عمليًا حيث يعمل على دمج وإشراك الطلاب في التفكير النقدي، والإبداع، والمواطنة النشطة والتأملية، والتعاطف، والعمل الجماعي، واتخاذ القرار الأخلاقي، بهدف إعدادهم للمساهمة في النظام.

FWS301 Developing Future Leaders

Credit Hour: 3
Prerequisite: FWS100(E)/USS001 (P) + ENG200 and Completion of minimum 45 credit hours

Leadership is the result of a combination of traits, behaviors and knowledge that help in influencing others, inspiring their commitment, and improving overall organizational effectiveness.. It is about the ability to communicate effectively, negotiate strategically, persuade strongly and mentor team members to create an environment of collegiality, quality and trust. In this course, students will learn and apply leadership skills in a practical way that encourages them to challenge their knowledge and awareness about what constitutes leadership. Students will be familiar with different ways of exercising leadership in different contexts through acquiring knowledge about different leadership theories, approaches and styles.

FWS301(AA)* Developing Future Leaders

Credit Hour: 3
Prerequisite: FWS100(E)/USS001 (P) + ENG200 and Completion of minimum 45 credit hours

القيادة هي نتيجة مزيج من السمات والسلوكيات والمعرفة التي تساعد في التأثير على الآخرين، وإلهام التزامهم، وتحسين الفعالية التنظيمية. يتعلق الأمر بالقدرة على التواصل بشكل فعال، والتفاوض بشكل إستراتيجي، وإقناع أعضاء الفريق إقناعا تاماً، وتوجيههم لخلق بيئة من الزمالة والجودة. وفي هذا المساق، سيتعلم الطالب مهارات القيادة ويطبقونها بطريقة عملية وفعالة تشجعهم على تحدي معرفتهم وافتراضاتهم السابقة حول ما يشكل القيادة. سيتعرف الطلاب على الطرق المختلفة لممارسة القيادة في سياقات مختلفة من خلال اكتساب المعرفة حول نظريات وأساليب القيادة المختلفة.

MTG100 Math for Life

Credit Hour: 3
Prerequisite: None

This course is designed to enable students to practice basic math skills in daily life applications. It also teaches them how to use the calculator properly in problem solving. It contains basic and essential topics such as various number notations, order of operations, ratios, measurements and conversions, as well as solving simple equations. In addition to day-to-day practical applications like donations, purchases, vacations, mileage, sales, discounts, etc., the course also addresses many interesting applications that will stimulate students' thinking.

MTB101 Math for Business

Credit Hour: 3
Prerequisite: >=600 score in EMSAT math (Accounting and Fin & Fintech major)

This course is designed to enable students to apply practical knowledge of the application of mathematics in business. It allows students to interpret basic mathematical concepts to common business usage covering such topics such as percentages, interest, bank and cash discounts, and payroll. In addition to day-to-day practical applications like purchases, vacations, sales, discounts, etc. The course also addresses many interesting applications that will stimulate students' thinking.

FWS212 AI for Business

Credit Hour: 3
Prerequisite: ITD 100 and STT 100

In this course, students will be introduced to the concept of Artificial Intelligence and its recent developments in the business world. The course covers essential topics such as Artificial Intelligence, Machine Learning, Big Data, Data Science, Data Analytics, IoT, security breaches and solutions and digitalization. The course will help students understand the implications of the technology for business strategy and how to apply AI-based methods to solve practical business problems.

MTG001(P) Preparatory Math for EmSAT Business

Credit Hour: 3
Prerequisite: None

The course presents a comprehensive overview to Algebra, Geometry, and Statistics tailered for business students. Through a series of engaging and relevant lessons, students will acquire problem-solving skills and critical thinking abilities necessary for tackling mathematical challenges in business contexts. By the end of the course, students will have built a solid foundation in Algebra, Geometry, and Statistics, equipping them with the mathematical knowledge needed to analyze data, make informed decisions, and solve quantitative problems encountered in the business realm. This course serves as a vital platform for business students, facilitating their academic growth and readiness for college-level mathematical coursework. Successful completion of this course provides the option to waive the EmSAT exam requirement for college admissions, validating their mathematical competence in a business context.

College Requirements

ACC 200 - Principles of Financial Accounting

Credit Hour: 3
Prerequisite: ENG 200 + ITD 100 + (MTB 101 or MTT 101 or MTT 102)

This course presents financial accounting as an essential part of the decision-making process by both the external users and the management. The course involves the study of foundations of accounting methods and systems, including transaction analysis, the accrual system of accounting, the process of income measurement, and understanding of financial statements. This course assumes no prior accounting knowledge.

ACC 201 - Principles of Managerial Accounting

Credit Hour: 3
Prerequisite: ACC 200 + BUS 102

Managerial accounting is a branch of accounting that is concerned with the identification, measurement, analysis, and interpretation of accounting information so that it can be used to help managers make informed operational decisions. Managerial accounting is geared towards "insider users" and provides an in-depth study of accounting related topics such as: Basic cost concepts, cost classification, budgeting, cost allocation systems, planning and control, and costing for decision making (i.e., strategic cost analysis). This course is oriented towards the concepts and techniques of accounting information system that are applicable to management of organizations (i.e., internal decision makers) resources effectively.

BUS 102 - Introduction to Business

Credit Hour: 3

This course is an introduction to business with the aim to give students a good understanding on the important role business organizations play in today's world. The emphasis is on understanding various business functions and activities and recognizing their significance in the successful operation of business organizations. The course also aims to provide students a good understanding on the role of technology in improving business functions. Furthermore, the course addresses various career opportunities in various functional areas of business management.

BUS 204 - Business Research Methods

Credit Hour: 3
Prerequisite: STT 100 + BUS 102

The purpose of this course is to enable students to acquire the skills necessary to undertake an ethical business research project. It covers the basics of business research concepts and how these concepts relate to decisions about conducting specific business research projects. Topics include an overview of how to conduct ethical research, collecting primary and secondary data collection, questionnaire design, sampling, and data analysis, presentation.

BUS 301 - Business Law

Credit Hour: 3
Prerequisite: FWS 305

This course focuses on the study of the UAE legal system as it applies to the business environment, with emphasis on laws related to contracts, commercial companies, negotiable instruments, and labor disputes. The course highlights elements of the legal framework adopted in the UAE in comparison to other countries, and reviews

implications of legal principles on the regulatory environment in which UAE businesses operate.

BUS 306 - Applied Management Science

Credit Hour: 3

Prerequisite: MGT 255 + STT 100 + ECO 201

This course presents quantitative methods necessary for decision making in business. Topics covered are: an introduction to Analytics and Management Science , linear programming (formulation; graphical solution, computer software for optimization, optimal solution and sensitivity analysis), extensions to specialized business models of (staffing assignment, transportation, and transshipment), decision theory (decision tree, expected value and utility, value function), theory of waiting lines and their economic analysis, and an introduction to computer simulation. Computers will be used to obtain solutions for these problems.

Formulation and analysis of variety of business problems will be emphasized. While computers will be used to obtain the solution for these problems. By the end of the course, students are expected to will, hopefully, gain enough proficiency in (1) building mathematical models for complex business-oriented problems and (2)preparing managerial reports with recommendations to the decision makers based on solving and analyzing the models they created using the techniques learnt in class.

ECO 201 - Principles of Microeconomics

Credit Hour: 3

Prerequisite: ENG 200 + (MTG 100 or MTT 101 or MTT 102)

Principles of Microeconomics are an introductory course in microeconomics theory and applications. The course is designed to introduce undergraduate students to the fundamental concepts and theories of microeconomics with the primary focus being the application of principles and practices of microeconomics to business, finance and managerial economics.

The first part of the course will involve discussing the problem of scarcity, demand, supply, equilibrium prices, and the use of prices as guide for production and consumption. Concepts including; marginal analysis, opportunity cost, production possibilities frontier and elasticity.

In the second part of the course, the discussion will center on consumer choice; the behavioral and firm's production decisions and on the short-run and long-run costs and output decisions. The theory of firm in perfect competition, monopolistic competition, monopoly, and oligopoly markets are fully examined in the third part. In each of these market models, equilibrium price, output and profits are reviewed.

Throughout the course, particular emphasis is placed on the use of microeconomic analysis to explain contemporary economic issues and subjects influencing individual, business and government decisions.

ECO 202 - Principles of Macroeconomics

Credit Hours: 3

Prerequisites: ENG 200 + (MTG 100 or
MTT 101 or MTT 102) + BUS 102

Principles of Macroeconomics is an introductory course to macroeconomic theory and applications. The objective of this course is to provide an introduction to theories and methodologies of macroeconomics with the primary focus being the application of principles and practices of this field to business and managerial economics.

The first part of the course is centered on building and developing the foundations of economics, including the notion of scarcity, demand and supply, price setting and economic efficiency. The discussion will include the concepts of marginal analysis, opportunity cost, production possibilities frontier, and consumer and producer surplus.

The second part of the course is devoted to examining the national economy, economic fluctuations, inflation, unemployment, aggregate demand and supply, productivity and growth, and the impact of technology on the economy.

The final segment of the course involves discussing aggregate demand and supply, fiscal and monetary theories and policies.

Throughout the course, particular emphasis is placed on the use of macroeconomic analysis to explain contemporary economic issues and subjects influencing individual, business, and government decision making behaviors.

FIN 200 - Principles of Finance

Credit Hour: 3
Prerequisite: ACC 200

This course is an introduction to the principles, issues, and institutions of finance. Topics include valuation, risk, capital investment, financial structure, cost of capital, working capital management, financial markets, and securities.

MGT 255 - Management and Organizational Behavior

Credit Hour: 3
Prerequisite: ENG 200 + FWS 211

This course provides an understanding of the discipline of organizational behavior (OB) within a management perspective. OB is considered at an individual, group and organization level. Job Attitude, perception, values and personality attributes are viewed from a management viewpoint with a consideration of motivation theories, decision making and the notion of ethics as applied to the workplace. Issues of trust, leadership

and the conflict management process are reviewed. Organizations are examined as hierarchies and matrix structures and the concept of organizational culture is reviewed in terms of its impact upon performance. OB and the contribution it has made to HRM is examined. The course concludes with a consideration of organizational change and how best to optimize the change process.

MGT 308 - Operational Management

Credit Hours: 3

Prerequisite: BUS 204

This course introduces the principles of Operations Management (OM) as they relate to both manufacturing and service operations. It assists students in integrating the other business specializations with the OM function. The course covers the nature and the dynamics of traditional and contemporary OM issues in today's business environment. Both qualitative and quantitative issues are addressed. The Topics related to big data , selection facility layout , planning and inventory management and daily operational decisions are covered.

MGT 402 - International Business Management

Credit Hours: 3

Prerequisites: MGT 255 + ECO 202

This course will provide an in-depth perspective of managing international business. Since business is becoming increasingly global, firms are requiring managers to understand and be able to resolve the challenges faced in surviving and succeeding in this competitive environment. Greater internationalization requires firms to be more competitive, dynamic, and interdependent. Managers must understand the complexities of global economic, political, socio-cultural, and financial forces and recognize how they affect cultural diversity, handling the increased risk of international operations, and developing appropriate international strategies. The course focuses on building skills to better understand the nature and dynamics global trade.

MGT 406 - Strategic Management

Credit Hour: 3
Prerequisite: Last semester

There is no single, easy recipe (or even a single difficult one) that can ensure that an organization can get competitive advantage. The choices that managers face, and make, are heavily influenced by the business environment, but also by their organization's own history. That environment, and that history, shape how organizations function, their operational routines, their cultures, and the way their managers think. So, even organizations in the same country and the same industry may have very different views of the world, use different methods to do the same thing, conjure up different images in the minds of their customers and thus have different – but equally valid – strategies.

This subject provides a study of the framework of strategic management and how it applies to organizations today. The course deals with strategy formulation at the functional, business, global and corporate levels and also focuses on strategy implementation with particular reference to environmental issues. It deals with real life strategic situations and decision-making aimed at ensuring that companies attain a sustained competitive advantage. The study of strategic management introduces students to a variety of theoretical concepts, each of which throws some light on how and why organizations function and succeed (or, sometimes, fail). On a practical note, it also gives a set of analytical tools and frameworks which you can use to make sense of an organization and its business environment, and to critique its strategy and appraise its chances of future success. It is important to mention that the course gives full attention to sustainability and environmental protection. Environmental issues are pressuring senior executives across many industries to rethink their businesses. Since the 1990s, increased interest in environmental sustainability, triggered by numerous ecological crises and stricter environmental regulations, is forcing companies to view corporate sustainability as a strategic issue. Sustainable strategic management involves analyzing, formulating, and implementing business strategies that are economically competitive, socially responsible, and in balance with the cycles of nature. Sustainable strategic portfolios allow organizations to create competitive advantages by serving as agents of social change and ecological protection.

MIS 200 - Introduction to Management Information Systems

Credit Hour: 3
Prerequisite: ITD 100 + ENG 200

This course focuses on the fundamental issues in using information technologies to manage and organize business processes. The premise of the course is that compared to traditional firms, digital firms rely heavily on a set of information technologies to organize and manage. Managers of digital firms need to identify the challenges facing their firms, discover the technologies that will help them meet these challenges, design business processes to take advantage of the technology and create management procedures and policies to implement the required changes. Topics include the role of information technology in business, IT infrastructure, enterprise applications, e-business and e-commerce. Please note that as an introduction course to the field of management information systems

(MIS), this course provides an overview of a wide range of topics in MIS. For each topic discussed in this course, there will be more advanced courses for in-depth discussion.

MKT 200 - Principles of Marketing
Credit Hour: 3
Prerequisite: ENG 200

This course is designed to introduce students to the fundamental concepts of marketing and how they are currently applied in the marketplace. It should provide a stimulating environment for each participant in which he/she can explore the central tasks of marketing and build on previous experiences. The module enables participants to gain familiarity with the tools/processes currently used by practicing marketing professionals in analyzing market opportunities, and to apply these in different contexts.

Bachelor of Business Administration

Program Requirements

FIN 301 - Managerial Finance
Credit Hours: 3
Prerequisites: FIN 200 + ECO 201

This course will focus on a study of the techniques used by the financial manager in planning and controlling the acquisition and use of funds to maximize the value of the firm. Topics covered will include cash budgeting, ratio analysis, capital budgeting, forecasting techniques, project evaluation, financial leverage, risk and the cost and the cost of capital.

HRM 313 - Human Resources Management
Credit hours: 3
Prerequisite: MGT255

This course provides students with an understanding of the many different perspectives that are needed to make HR management decisions. No longer can we rely upon a single vision and culture of an organization when we consider human resource issues. The student is presented with a view of organizations as fragmented, individual focused, with decentralized power and responsibility which contributes to a more flexible yet more complex whole. The course considers HRM as a key to organizational change and presents the student with a range of effective HRM practices that derive from the organization strategic plans so that as managers they can operate with flexibility and opportunity to initiate and sustain change using the people of the organization as change agents.

The course examines the development of HRM as a discipline and from a theoretical basis. The constituent parts of HRM are covered including a strategic overview, HR ethical, legal and social considerations, staffing, human resource development, compensation and benefits, safety and health, employee labour relations, global considerations for HRM.

MKT 301 - Consumer Behavior
Credit hours: 3
Prerequisites: MKT 200 + FWS 211

This course will explore the nature of consumer behavior that helps in comprehending different factors influencing consumer decisions making, and marketing strategy. Attention will be given to studying and analyzing external influences (culture, subculture, cross cultural variations in consumer behavior, group influence, families and households, and social class), internal influences (perception, learning, memory, product positioning, motivation, personality, emotions, attitudes, and self-concept and lifestyle), consume decision process and other marketing stimuli affects consumer purchasing behavior.

MGT 411- Project Management
Credit hours: 3
Co-requisite: BUS 306

This course is an examination of the knowledge sets, skills, tools and techniques of project management, with an emphasis on how project management contributes to the strategic goals of the organization. The course focuses on four of the knowledge areas of project management (Scope management, time management, cost management, risk management and marketing feasibility). Tools for resources estimation and scheduling will be applied in this course. MS Project software will be used extensively during this course to

apply project management skills and concepts acquired.

INE 344 - Innovation within Entrepreneurial Ventures
Credit hours: 3

Gaining a competitive advantage in today's business environment increasingly demands that organizations know how to innovate. This course will provide the know-how and tools to adapt any organization into a thriving environment where ideas are encouraged, and inspiration is implemented. Through real world examples and research from experts in the field, students learn how to incorporate innovation into daily work and develop the creative confidence to stay ahead of the curve. The course uses fun and hands-on activities to stimulate innovation.

MGT 399-I - Internship
Credit hours:3
Prerequisites: Consent of Department

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site- supervisor and the college –supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

Business Electives

ACC 302 - Intermediate Accounting I
Credit hours: 3
Prerequisites: ACC 200 (C Grade)

Financial accounting and reporting is the primary medium by which organizations provide information to their external stakeholders (e.g., shareholders, creditors, governmental agencies, customers and alike). The information provided would be used for a variety of decisions making purposes by interested parties. This is the first of a two part course. Intermediate accounting I provides an in depth study of the process of preparing and presenting financial information about an entity for outside users. Topics vary but typically include the process of accounting standard setting, the accounting cycle including data accumulation, adjustments, and preparation of financial statements. There is a focus on the recognition, measurement, and disclosure of revenue, valuation of inventory and cost of sales, and plant assets. This course will have "preparer orientation" and in that context assists the students as to understand the process of generating accounting information and its reporting. With the knowledge of such limitations, users would be in a position to attach appropriate level of confidence to the accounting and financial reporting in their decision making.

FIN 302 - Financial Statements Analysis
Credit hours: 3
Prerequisite: FIN 200

The objective of this e course is to understand how to read, interpret and analyze financial statements information. The course covers the main financial statements, namely the balance sheet, the income statement and statement of cash flow. In addition, the course covers the various techniques to emphasize the comparative and relative importance of data presented to evaluate and position of firm. These techniques include ration analysis, common size analysis and study of differences in components of financial statements among industries. The information derived from theses types of analysis help in determining overall financial position. Finally, the course focuses on the importance of cashflow as it provides an explanation of changes occurred in the firm's cash balances for specific period.

FIN 303- Risk Management and Insurance
Credit hours: 3
Prerequisite: FIN 200

This course will present risk exposures with regard to the individual and the firm. A wide variety of techniques for reducing risk exposure will be studied including life, property and casualty insurance. In addition, the course will examine the problems faced by insurers, such as re-insurance and investment policy.

MGT 321 - Change Management
Credit hours: 3
Prerequisite: MGT 255

This course provides students with a conceptual understanding of a framework for change using a series of contemporary Case Studies and Readings. The basis of such a framework is related to the three primary forces for change namely technology, customers and the forces of globalization. The course considers a need to articulate a vision in order to respond to the opportunities and constraints that are associated with change in contemporary organizations. The course accepts that change is a business benefit and focus upon sustainable goals that imply a 'borrow to use to return cycle' rather than a ' take and make waste system'. Students are provided with a diverse range of tools and techniques to implement a change strategy including an ability to help people cope with change successfully. The role of a change agent is considered in terms of the competences and capabilities required to manage the change process. Change is considered as a consequence of internal, external and social drivers and both planned and emergent change are examined.

MGT 422 - Management and Leadership Development

Credit hours:3
Prerequisites: MGT 255

This course provides the student with a detailed overview of contemporary leadership theory and practice and considers the nature of leadership in today's organizational context. Leadership is compared to management and the theories of leadership are considered as an evolutionary process from trait theory to contingency approaches. Leadership is examined as both a relationship process and as an opportunity to shape an organization that is capable of dealing with the growing public interest in sustainability.

The course also offers students a potential for self-assessment and leadership development. The essence of leadership development is self-awareness and a number of opportunities are made available to review values, competencies and skills that will contribute to the leadership development process.

MKT 305 - Marketing Research

Credit hours: 3
Prerequisites: MKT 200 + BUS 204

Marketing research serves as a central basis for marketing strategy and firm profitability by providing information relevant to marketing decision making. It is critical for marketing managers to understand the nature of marketing research and to be able to specify what information to seek, how to get it, and how to use it in making marketing decisions. This course will aim, therefore, to provide an overview of marketing research in terms of needs, definition, process, analysis and reporting.

FIN 499 - Special Topics in Finance

Credit hours: 3

Prerequisites: Consent of Department

This course is designed to give students an opportunity to learn about current issues and developments in the field of Finance that is not ordinarily dealt with elsewhere in the BBA curriculum.

Topics offered will depend on special faculty expertise in particular areas within the major. While the topics covered can vary each semester the course is offered, a student is not supposed to have more than one Special Topics in Finance course listed in his/her transcript.

HRM 462 - Managing Safety, Health and Well-being

Credit hours: 3

Prerequisites: HRM 313

This course focuses on equipping students with the theoretical and knowledge required to effectively address this rapidly evolving area of health, safety, and wellbeing. This course will examine theories on workplace stress and its relationship to mental health. The strategies for handling counterproductive workplace behaviors, such as conflict, workplace bullying, and workplace violence, will be examined, along with practical approaches and tools for dealing with these issues. The discussion of motivational theories and their applications in the workplace will highlight techniques for boosting staff involvement in a safety-conscious environment. In addition, students will gain an understanding of the legislative requirements for safety, health, and well-being in the context of the UAE.

MKT 307 - Services Marketing

Credit hours: 3

Prerequisites MKT 200

Services dominate the global economy and are becoming critical for competitive advantage in companies across the globe and in all industry sectors. This course is designed for students who may be interested in working in service industries and will address the distinct needs and problems of service firms in the area of marketing. The main theme of the course is that service organizations (e.g., banks, educational institutions, hospitals, hotels, professional services, and transportation companies) require a distinctive approach to marketing strategy, both in its development and execution. Particularly, the course focuses on the unique challenges of managing services and delivering quality service to customers. The attraction, retention, and building of strong customer relationships through quality service (and services) are at the heart of the course content.

MKT 308 - Social Media Marketing

Credit hours: 3

Prerequisites MKT 200 + MIS 200

This course builds upon integrating marketing theory with Internet reality. This course helps students develop the skills necessary to understand and integrate Internet technology and characteristics into a marketing strategy. It helps them recognize and understand the implications of the Internet not only as a marketplace but also as a set of tools and opportunities. In this course, teams of students will analyze Internet marketing opportunities facing a client firm. Teams will develop a strategic marketing plan. Issues assessed will include the firm's Internet marketing capabilities, stage of Internet development, Internet marketing objectives, stakeholder concerns, creation and maintenance of the website, nature of the marketing and communication, pricing, and service objectives

Bachelor of Business Administration in Finance and Fintech

Major Requirements

FIN 301 - Managerial Finance

Credit hours: 3
Prerequisites: FIN 200 + ECO 201

This course will focus on a study of the techniques used by the financial manager in planning and controlling the acquisition and use of funds to maximize the value of the firm. Topics covered will include cash budgeting, ratio analysis, capital budgeting, forecasting techniques, project evaluation, financial leverage, risk and the cost and the cost of capital.

FIN 302 - Financial Statements Analysis

Credit hours: 3
Prerequisites: FIN 200

The aim of the course is to introduce students to the basic approaches to financial statement analysis. The course covers the analysis, interpretation, and evaluation of financial statements. Financial statement analysis (FSA) is an applied tool, one must be able to apply as well as understand it. FSA involves a comparison of a firm's performance with that of others in the same line of business. The analysis is used to determine the financial position in order to identify current strengths and weaknesses, the projected profile and to suggest actions that might enable the enterprise to take advantages of its strengths and to put remedies in place to attend to its problems.

FIN 304 - Management of Financial Institutions

Credit hours: 3
Prerequisites: FIN 200

This course will present both theoretical and practical aspects of decision making in financial institutions. The primary focus will be on commercial bank management. Major topics will include asset/ liability and capital management, credit evaluation, lending policies and practices, liquidity management, bank performance evaluation, investment banking, investment portfolio management and international banking. This course will also present a broad survey of the institutions in banking and the capital markets. The business economics component will examine the interactions between the Central Bank, the banking industry and international financial institutions in the implementation of monetary policy and its effect on economic activity. The finance component will focus on the instruments and participants in the capital markets. The emphasis will be on the characteristics, behavior, and evolution of these markets.

FIN320 Introductory Econometrics for Finance

Credit hours: 3

Prerequisites BUS204 + ECO201 +ECO202

The aim of this course is to allow students gain a working knowledge of basic econometrics so they can apply modeling, estimation, inference, and forecasting techniques when working with real-world economic problems. Taking students from a basic level up to an advanced understanding in an intuitive, step-by-step fashion, it provides perfect preparation for doing applied econometric work. Economic tests and methods of estimation are presented clearly, and practical guidance on using several types of software packages is given. Real world data is used throughout, and emphasis is given to the interpretation of the results, and the conclusions to be drawn from them in econometric work. Also, they will also gain an understanding of econometrics that allows them to critically evaluate the results of others' economic research and modeling, and that will serve as a foundation for further study of the field.

FIN 399-I - Internship in Finance

Credit hours: 3
Prerequisites: Consent of Department

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site- supervisor and the college –supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

FIN 399-P - Project in Finance

Credit hours: 3
Prerequisites: Consent of Department

This course provides students with an opportunity to conduct original business research projects on subject that are of interests to them under the guidance of an assigned faculty supervisor. Students have the opportunity to conduct business research and gather relevant data, to integrate and apply knowledge and skills learned in preceding courses. The students are expected to move beyond mere examination of secondary sources and to investigate primary and documentary sources. The course is meant to reinforce the learning process by doing business research practically, reporting and presenting business projects results in a formal manner

FIN 401 - Investment & Finance Policy

Credit hours: 3
Prerequisites: FIN 301

The objective of this course is to cover the theoretical and practical application of investment. Within this context, the course guides students in developing a set of conceptual frameworks and analytical tools and then applying these to investment strategies. Students will revive various topics of investment theory that include a background of the financial securities, how securities are traded, risk and return, efficient diversification, the capital assets pricing model- CAPM, bond prices and yields, and equity valuation, all of which have become and integrated part of expected to master the theoretical background of investment approaches and their application.

FIN 407 - International Financial Management

Credit hours: 3
Prerequisites: ECO 202 + FIN 301

The objective of this course is to provide students with an in-depth knowledge of the theory of financial management in the international text. The course is concerned with the financial management of the firms that operate in the increasingly globalized business environment and that is exposed to international competition. The course covers the following topics: international financial markets including banks, exchange rates, international Arbitrage and interest Parity Conditions, international Fisher effect, exchange rate risk management, managing economic and translation exposure.

FIN 423 - Introduction to Fintech and Big Data

Credit hours: 3
Prerequisites: FIN 301

This introductory course focuses on the role of ICT-based financial innovations, such as FinTech and big data, and their impact on the finance industry, leading to the emergence of Big Data and Fintech. These financial innovations have changed the formation and dissemination of financial information, but also raised the complexity of financial markets. The course will introduce the students to the nature, form and functions of these financial innovations and provide the conceptual and operational background for understanding their implications for consumer and market behaviors as well as business strategies of financial organizations and markets. The course will also provide students with information on the association between financial innovation and entrepreneurial activity. This course will equip students with conceptual and analytical skills in understanding financial innovation and the financial environment in which it has developed and evolved. By the end of this course, students will be able to understand the technologies driving the advancement of fintech and big data, describe big data and its characteristics and assess fintech solutions of addressing real-world problems.

FIN 424 - Innovation, Entrepreneurial Finance, and Fintech

Credit hours: 3
Prerequisites FIN 301 + FIN 302

This course focuses on general innovative entrepreneurship and financial contracting using traditional finance theory with all its highly restrictive assumptions regarding decision makers' cognitive capabilities and behavior. However, recent developments in behavioral finance can now be applied with FinTech strategy model to understand how innovative entrepreneurs and VCs perceive risk and uncertainty and how they decide and act accordingly. Also, another goal of this course is the financial technology revolution, and the disruption, innovation and opportunity therein. It aggregates diverse industry expertise into a single informative volume to provide entrepreneurs, bankers and investors with the answers they need to capitalize on this lucrative market. Key industry developments are explained in detail, and critical insights from cutting-edge practitioners offer first-hand information and lessons learned. The financial technology sector is booming, and entrepreneurs, bankers, consultants, investors and asset managers are scrambling for more information: Who are the key players? What's driving the explosive growth? What are the risks? This book collates insights, knowledge and guidance from industry experts to provide the answers to these questions and more.

The fintech market increases globally. New startups are popping up at an increasing pace, and large banks and insurance companies are being pushed toward increasing digital operations in order to survive. The financial technology sector is booming and this course is focusing on this subject, making it an invaluable source of information for students working in or interested in this field.

FIN 425 - Introduction to Blockchain and Digital Currencies

Credit hours: 3
Prerequisites FIN 423

The course is an introduction to Blockchain technology and Digital currencies. It will help the students to reimagine the strategic thinking to create value through digital transformation. The main objective

of this course is to develop the information and skills to satisfy these changes head-on, as they acquire a deep understanding of Finance and FinTech environment. The students will also gain expertise in programming and financial applications and learn how to apply their technological skills to real-world problems. Students are expected to anticipate the acquisition of skills, knowledge, and professional training that enable them to pursue careers in finance, technology, and entrepreneurship such as investment banking, international finance, commercial banking, sales and trading, information technology, social entrepreneurship, etc..

Major Electives

FIN 303 - Risk Management and Insurance

Credit hours: 3
Prerequisites: FIN 200

This course will present risk exposures with regard to the individual and the firm. A wide variety of techniques for reducing risk exposure will be studied including life, property and casualty insurance. In addition, the course will examine the problems faced by insurers, such as re-insurance and investment policy.

FIN 400 - Computer Applications in Finance

Credit hours: 3
Prerequisites: FIN 301

The focus of this course is to provide students with computer skills in finance to support decision making by financial manager. Emphasis will be placed on Excel applications in the areas of: Financial ratios analysis, Time-value of money, Valuation and Rates of Return, The Cost of Capital, Risk, Capital Budgeting, and Diversification.

FIN 409 - Islamic Finance

Credit Hours: 3
Prerequisites: FIN301 + FIN304
Corequisite: FIN303

This course introduces basic concepts, fundamental features, and ongoing themes of Islamic finance for the students. The course starts with an introduction to Islamic finance and Islamic economics, followed by an introduction to the Shariah law. The course then gradually moves to wide range of Islamic financial topics such as the differences between Islamic and Conventional banking, Murabaha, Modaraba, Modaraba, Musharaka, Ijara, Salam, Istisna, Takaful, Islamic Investments and Sukuk and finally covers global standing of Islamic finance and banking.

FIN 499 - Special Topics in Finance

Credit hours: 3
Prerequisites: Consent of Department

This course is designed to give students an opportunity to learn about current issues and developments in the field of Finance that is not ordinarily dealt with elsewhere in the BBA curriculum. Topics offered will depend on special faculty expertise in particular areas within the major. While the topics covered can vary each semester the course is offered, a student is not supposed to have more than one Special Topics in Finance course listed in his/her transcript.

ITE 390 - Computer Ethics

Credit hours: 3
Prerequisites: CSC 202

A study of the ethical and social issues related to computers and computer networks, big data, computer algorithms and Artificial intelligence. This course examines the ethical issues arising from advances in Information Technology and the responsibility that IT professionals and users have in regards to ethical computer usage. Topics covered are social impact of computing, computer crime, software theft, privacy, intellectual property rights, autonomy, technology at the work place, technology and jobs, and computer games, big data and AI, as well as new and emerging ethical issues related to technology and information.

ITE 414 - Introduction to E-Commerce

Credit hours: 3
Prerequisites: Junior level

With the rapid growth of the Internet, commerce on the web has been a significant part of the revenue stream for companies. This course will develop a comprehensive understanding of the main business concepts and technical facets related to e-commerce. It starts by defining e-commerce and identifying its most prevalent features, then it moves to identify several e-commerce business models. Students will learn how to identify and analyze all the major elements of an e-commerce business model and will learn how to design a comprehensive e-commerce business plan. The course introduces the students to the IT infrastructure of e-commerce and helps the students understand the technical challenges involved in developing an e-commerce web presence. Finally, the students will learn the process of planning, designing, and developing an e-commerce web presence and will apply the learned concepts and technologies to design and develop a working prototype of an e-commerce website. The course also tackles topics related to online payment methods and security to enrich the learning experience.

Bachelor of Business Administration in Accounting

Major Requirements

ACC 302 - Intermediate Accounting I

Credit hours: 3

Prerequisites: ACC 200 (C grade)

Financial accounting and reporting is the primary medium by which organizations provide information to their external stakeholders (e.g., shareholders, creditors, governmental agencies, customers and alike). The information provided would be used for a variety of decisions making purposes by interested parties. This is the first of a two part course. Intermediate accounting I provides an in depth study of the process of preparing and presenting financial information about an entity for outside users. Topics vary but typically include the process of accounting standard setting, the accounting cycle including data accumulation, adjustments, and preparation of financial statements. There is a focus on the recognition, measurement, and disclosure of revenue, valuation of inventory and cost of sales, and plant assets. This course will have "preparer orientation" and in that context assists the students as to understand the process of generating accounting information and its reporting. With the knowledge of such limitations, users would be in a position to attach appropriate level of confidence to the accounting and financial reporting in their decision making.

ACC 304 - Intermediate Accounting II

Credit hours: 3
Prerequisites: ACC 302

This is the second of a two part course of intermediate accounting. This course explores specific accounting issues more in depth. The aim of the course is to consider the theoretical foundations and problems associated with measurement of elements of general-purpose financial statements. Theory and standards relating to measurement and reporting of liabilities and owners' equity are examined in details in this course. Specific topics concerning: Contingencies, leases, income tax allocation, price level changes and standards related to asset valuation, revenue recognition, gain and loss recognition, and their impact on income measurement and financial position are covered and discussed in detail.

ACC 306 - Cost Accounting

Credit hours: 3
Prerequisites: ACC 201

Cost accounting is a process of assigning costs to cost objects that typically include a company's products, services, and any other activities that involve the company. This course is designed to provide accounting students with practical knowledge of cost accounting systems and procedures. The course will focus on topics such as cost concepts and classifications; accounting for materials, labor and overhead production costs, direct and indirect costing, product costs and period costs, differential cost analysis and cost allocation methods. . Cost accounting systems such as Job order costing, Process costing, Activity-based costing and Standard costing will be covered in depth. Cost accounting is often considered as a subset of managerial accounting as its end goal is to advise management on how to optimize business practices and processes based on cost efficiency and capability. Cost accounting provides the detailed cost information that management needs to control current operations and to plan future operations. This course prepares students for the rewards and challenges facing them in the professional cost accounting world.

ACC 308 - Accounting Information Systems

Credit hours: 3
Prerequisites: ACC 302 + MIS 200

This is an introductory course in accounting information systems. It includes consideration of issues such as transaction processing and transaction processing cycles, the use and effects of computers and other relevant technology on accounting, database and file systems, internal accounting and administrative controls, and information technology audits. The module emphasizes the use of common business software, which may include spreadsheets, flowcharting software communications, general ledger, and database management systems.

ACC 399-I - Internship in Accounting

Credit hours: 3
Prerequisites: Consent of Department

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. Students will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site supervisor and the college supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

ACC 399-P - Project in Accounting

Credit Hours: 3
Prerequisites: Consent of Department

This course provides students with an opportunity to conduct original business research projects on a subject that is of interest to them under the guidance of an assigned faculty supervisor. Students have the opportunity to conduct business research and gather relevant data, to integrate and apply knowledge and skills learned in preceding courses. The students are expected to move beyond mere examination of secondary sources and to investigate primary and documentary sources. The course is meant to reinforce the learning process by conducting practical business research as well as, reporting and presenting business project results in a formal manner.

ACC 401 - Advanced Accounting

Credit hours: 3
Prerequisites: ACC 304

This course provides a comprehensive study of business combinations and the preparation of consolidated financial statements. It also covers accounting for partnership, partnership liquidation and accounting for branches.

ACC 404 - Auditing

Credit Hours: 3
Prerequisites: ACC 304

This course aims to provide a comprehensive understanding of auditing by combining theoretical knowledge with practical application. And designed to develop the student's ability to think critically, solve problems, and communicate effectively, all of which are crucial skills for an auditor to have for continuous learning. It covers several theoretical and practical knowledge, including the role of auditors, essential auditing concepts, evidence gathering, and independence. Also, delves into the professional responsibilities of auditors, including ethical considerations and the importance of internal control, as well as the auditor's report and other attestation services.

ACC 407 - International Accounting

Credit hours: 3
Prerequisites: ACC 304

The global economy is best characterized by a new economic and corporate world in which national boundaries are losing their importance. Multinational and local firms need to be aware of the linkages, ramifications, conditions, and demands of the global economy. International Accounting looks at how to produce accounting information that reflects this international reality for both external and internal users. The course takes in all the technical accounting problems in Financial Accounting, Cost Accounting, Management Accounting, and Auditing that have a bearing on the conduct of foreign operations. In addition, globalization and the information revolution have rendered the development and application of appropriate accounting systems a priority.

ACC 409 - Taxation

Credit Hours: 3
Prerequisites: ACC 304

This course is designed to introduce the undergraduates to the key tax concepts and tax role in the country's economy. Specifically, this course aims to equip students with needed competencies to apply direct and indirect tax rules and techniques; including individuals; business, property, and UAE value-added tax. The course begins with an introduction to the tax concepts and the implications of taxation on the country's economy, followed by tax filing status and principles of individual taxable income, deductions, and exemptions. Corporation and property tax computation under different scenarios. Finally, the course discusses the value-added tax and introduces the students to the knowledge and skills needed to apply UAE VAT practice, rules, computation, and filling.

ACC 311 - Data Analytics in Accounting

Credit hours: 3

Prerequisites ACC 201

Data analytics is transforming business processes and has major implications for accounting. The objective of this course is to introduce and develop a data analytics skill set which will prepare the students to add value to organizations in data driven business environments. The students will understand the role that data analytics plays in modern accounting practices. They will learn how to use data analytics to optimize performance, manage risk, and identify process improvements. The students will study how to master data, to perform test plans and to analyze the results. They will also learn and practice techniques to visualize and communicate the results of analysis. Students will also explore how these analytical tools can be used in auditing, managerial accounting, and financial statement analysis

Major Electives

ACC 310 - Introduction to CIMA Professional Diplomas

Pre-requisites: ACC 201 + FIN 200 + MIS 200 + MGT255 + MKT 200

Co-requisites: ACC 302/FIN 302

This course is specifically designed to help CoB students to prepare for the Operational Level Case Study exam and attempt to obtain the CIMA Diploma in Management Accounting, as per the memorandum

of agreement between Abu Dhabi University and the Chartered Institute of Management Accountants (CIMA). The learning outcomes of the course are matched with the operational level modules in the CIMA 2019 syllabus - E1, P1 and F1- which are defined as follows:

- E1 - Managing Finance in a Digital World;
- P1 - Management Accounting (MA);
- F1 - Financial Reporting (FR).

For students who are not planning to sit immediately in the CIMA Operational Case Study exam, the course will provide an integrative approach to management accounting, financial reporting and taxation, and organizational management. Building on prior knowledge from different functional disciplines across the CoB curriculum, the course is intended to help develop higher level analytical and critical thinking skills needed by the students to begin their professional careers as Management Accountants or Finance Officers.

ACC 499 - Special Topics in Accounting

Credit hours:3
Prerequisites: ACC 304

The objective of this course is to introduce students to current issues and recent developments in the files of accounting. Topics offered will depend on special faculty expertise in particular areas within the accounting major. While the topics covered can vary each semester the course is offered, a student is not supposed to have more than one Special Topics in Accounting course listed in his/her transcript.

FIN 302 - Financial Statements Analysis

Credit hours: 3
Prerequisites: FIN 200

The objective of this course is to understand how to read, interpret and analyze financial statements information. The course covers the main financial statements namely the balance sheet, the income statement, and the statement of cash flow. In addition, the course covers the various techniques to emphasize the comparative and relative importance of the data presented and to evaluate the position of the firm. These techniques include ration analysis, common size analysis and study of differences in components of financial statements among industries. The information derived from these types of analysis help in determining the overall financial position. Finally, the course focuses on the importance of cash flow as it provides an explanation of the changes occurred in the firm's cash balances for a specific period.

ACC 312 - Accounting for Oil and Gas

Credit hours: 3

Prerequisites ACC 304 + ACC 306

An introduction to oil and gas accounting with emphasis on accounting for costs incurred in the acquisition, exploration, development, and production of oil and natural gas using full cost accounting methods; also covers joint interest accounting, gas pipeline accounting, required disclosures for oil and gas activities, and analysis of oil and gas companies' financial statements.

Upon completion of this course, you will be able to recognize costs between oil and gas and non-oil and gas companies; analyze drilling, development and non-drilling exploration costs; evaluate ethical issues on acquiring rights in mineral interests and surface rights; apply full cost accounting on global markets and report financial results according to regulations.

ACC 400 Government and Not-for-Profit Accounting

Credit hours: 3
Prerequisites: ACC 304

This course presents the principle of accounting, control, and financial reporting in governmental and non-profit organizations. Students will be able to differentiate between the sources of accounting standards for various public and private sector organizations while performing the steps necessary to prepare government financial statements. Moreover, an application of the modified accrual basis of accounting in the recording of typical transactions of capital projects, debt service, and permanent funds will be introduced.

ACC 408 - Internal Audit

Credit hours: 3
Prerequisites ACC404

This course provides students with updated knowledge and skills related to the internal audit profession. It covers six main topics, foundations of internal auditing—independence and objectivity of internal auditor, proficiency and due professional care, quality assurance and improvement programs, governance, risk management, internal control, and fraud risks. Students will apply the gained knowledge and skills through a field project. In addition, this course leads and prepares the students for the first exam in the Certified Internal Auditor "CIA" certificate. The students will become familiar with risk assessment and response, in addition to evaluating and measuring the internal control in business. This course will offer the students details about the internal auditing standards and identify the importance and procedure of the Certified Internal Auditor "CIA" certificate managed by the Institute of Internal Auditors (IIA).

Bachelor of Business Administration in Human Resources Management

Major Requirements

HRM 313 - Human Resources Management

Credit hours: 3
Prerequisites: MGT 255

This course provides students with an understanding of the many different perspectives that are needed to make HR management decisions. No longer can we rely upon a single vision and culture of an organization when we consider human resource issues. The student is presented with a view of organizations as fragmented, individual focused, with decentralized power and responsibility which contributes to a more flexible yet more complex whole. The course considers HRM as a key to organizational change and presents the student with a range of effective and sustainable HRM practices that derive from the organization strategic plans so that as managers they can operate with flexibility and opportunity to initiate and sustain change using the people of the organization as change agents. The course examines the development of HRM as a discipline and from a theoretical basis. The constituent parts of HRM are covered including a strategic overview, sustainable and ethical HRconsiderations, staffing, human resource development, compensation and benefits, safety and health, employee labor relations, global considerations for HRM.

HRM 315 - Staffing

Credit hours: 3
Prerequisites: HRM 313

In this course, students study the theory and application of methods used in recruiting and selecting employees. The course provides students with an in-depth coverage of the recruiting and staffing function within organizations. Topics that will be particularly emphasized include: data selection, proactive search techniques, targeted recruitment techniques, talent mapping, equal employment opportunity and other laws relating to staffing, the techniques used in recruitment and selection, validation, and utility analysis. The course is designed for future and practicing human resource professionals, as well as employees and managers and incorporates a strategic approach to talent acquisition that considers sustainability as a business benefit. The course examines key performance metrics related to hiring and how to align candidates to organizational values. Emphasis is given to a review of job specifications and role requirements to recruit optimum candidates sympathetic to sustainable issues. It covers the staffing activities practiced in all types of organizations, and is taught using a combination of lectures, discussion, and experiential exercises/ applications. Particular emphasis will be placed upon staffing projects and applications.

HRM 404 - Employee Relations

Credit hours: 3
Prerequisites: HRM 313

This course introduces the student to the nature of employment relations and employment legislation that regulate the relationship between employees and employers in the workplace, with particular reference to the practice of employment relations with the support of the legal environment in sustaining human capital in the UAE. . The course provides a rationale for the need to establish a harmonious relationship between employers and employees in terms of being efficient, effective, and providing both parties with a voice for mutual communication. Employment relations is examined in a contemporary and pluralist context, including a review of anti-discrimination, a legal and policy framework, equal opportunities, a diverse labor market and the position of female workers. Consideration is given to how employer and employee needs can be aligned witho business policies, with opportunities provided to influence workplace and organizational decision making. While the focus of this course is rather international, the ultimate goal of this course is to provide students with an overview of the legal environment of the UAE; legal, social, economic, and political forces impacting employee-employer relationships; and strategies for effective response to forces in the legal, economic, and socio-cultural environment. Ultimately, this course teaches students to manage labor relations within a legal and ethical framework.

HRM 419 - Training and Development

Credit hours: 3
Prerequisites: HRM 313

This course provides students with an understanding of the theories and practice associated with an HRM responsibility of providing employees with appropriate training and development to ensure the sustainable human resource development in the workplace. If employees are to respond in an effective and flexible manner in relation to organization job demands then they need to acquire and develop the knowledge and skills considered necessary to perform their jobs. The process of training and development often referred to as HRD or Human Resource Development is considered as part

of an HRM function. The course examines the tools and techniques of HRD and students are provided with an understanding of how training and development can be used for the sustainable human development in organizations. HRD activities are placed within a context of knowledge management and the need to create and sustain a learning organization.

MGT 399-I - Internship in HRM

Credit hours:3
Prerequisites: Consent of Department

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. Students will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site supervisor and the college supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

MGT 399-P - Project in HRM

Credit hours:3
Prerequisites: Consent of Department

This course provides students with an opportunity to conduct original business research projects on subject that are of interests to them under the guidance of an assigned faculty supervisor. Students have the opportunity to conduct business research and gather relevant data, to integrate and apply knowledge and skills learned in preceding courses. The students are expected to move beyond mere examination of secondary sources and to investigate primary and documentary sources. The course is meant to reinforce the learning process by doing business research practically, reporting and presenting business projects results in a formal manner.

HRM 318 - Human Resource Analytics

Credit hours: 3
Prerequisites BUS 204 + HRM 313

This course introduces the student to the analytics knowledge, skills, and competencies needed to address human capital issues in organizations, especially in the UAE context. It introduces the central concepts of human resource-oriented analytics and, via hands-on exercises, builds skills and competencies around the management, analysis, and representation of data. Students' understanding will be developed with an up-to-the-minute grounding in current evidence about managing people, providing a knowledge base that can ensure that their future management is guided by best practices. These are the crucial skills necessary for students to be thoughtful, critical consumers of evidence on people management, allowing them to make the most of the analysis available to them as they make human resource decisions. By providing guidance and practice in conducting human resource analytics, students will be prepared to gather data of their own, making them more skilled analysts to explore how analytics helps managers to address both tactical and strategic level human capital issues.

HRM 316 - Compensation and Benefits

Credit hours: 3
Prerequisites HRM 313

This course introduces the student to the applied issues in the direct compensation of employees examined through both the theory and practice of total compensation. These issues will be understood through the guiding principles of effective compensation systems: internal alignment, external competitiveness, employee contributions, and management of the pay system. The topics of compensation and benefits are examined in the context of contemporary developments related to human resource management in the UAE and globally. These developments include increased migration of labor and increased reliance on expatriates; Emiratization; the changing nature of work in a global world; the impact of technological innovation and virtual organizations; the impact of outsourcing on work demographics; and issues related to finance such as recession and downsizing. Consideration is given to the interaction between human resource managers and managers throughout the organization in order to realize effective compensation programs.

HRM 317 - Employee Performance Management

Credit hours: 3
Prerequisites HRM 313

This course aims to prepare students to design effective performance management for organizations. The course examines in-depth the role of performance management in managing employees' productivity for overall organizational successes. More specifically, the course has been designed to familiarize the students with the concepts on performance management and the usage of performance management as a powerful tool for line manager as well as the Human Resource Management professionals in leveraging employees' performance. The course also helps students to develop a holistic understanding of performance management and its foundations . In doing so, topics such as developing performance management, the role of line managers in this, learning about performance management, and performance evaluation are discussed. Finally, the course centers on the practice of performance management and it discusses performance management systems, and the way performance and underperformance is managed.

HRM 428 - International Human Resource Management

Credit hours: 3
Prerequisites HRM 313

The goal of this course is to give students an overview of how international firms develop and manage their human resources. It focuses on the complexities, constraints, and options that international businesses confront, as well as the techniques they employ to create and manage their international workforce in culturally and geographically varied situations. It also focuses on expats management, with a focus on foreign employees recruiting, expats preparation, re-entry training and development, as well as a critical review of overseas deployment effectiveness. Last but not least, recent IHRM trends will be discussed.

HRM 429 - Strategic Human Resource Management

Credit hours: 3

Prerequisites: HRM 313

This course is designed in the way that students can understand the strategic role of Human Resource Management in creating a long-term competitive advantage that is critical to the organization's success. The course looks at how line managers use and develop efficient and effective HR practices to help their departments and the company achieve its strategic goals. You'll learn about the process of developing and implementing human resources management strategies, what constitutes a high-performance organizational culture, the importance of talent management in high-performance organizations, how performance management contributes to an organization's strategic business goals, the value of diversity in a high-performance organization, and the key drivers of employee engagement.

Major Electives

MGT 321 - Change Management

Credit hours: 3
Prerequisites: MGT 255

This course provides students with a conceptual understanding of a framework for change using a series of contemporary Case Studies and Readings. The basis of such a framework is related to the three primary forces for change namely technology, customers and the forces of globalization. The course considers a need to articulate a vision in order to respond to the opportunities and constraints that are associated with change in contemporary organizations. The course accepts that change is a business benefit and focuses upon sustainable goals that imply a "borrow to use to return cycle" rather than a "take and make waste system." Students are provided with a diverse range of tools and techniques to implement a change strategy including an ability to help people cope with change successfully. The role of a change agent is considered in terms of the competences and capabilities required to manage the change process. The course addresses change as a continuous process with the associated uncertainties, ambiguities and challenges that such a situation presents. Relying on case study material and selected readings the course provides students with a comprehensive picture of how and why organizations change.

MGT 422 - Management and Leadership Development

Credit hours:3

Prerequisites: MGT 255

This course provides the student with a detailed overview of contemporary leadership theory and practice and considers the nature of leadership in today's organizational context. Leadership is compared to management and the theories of leadership are considered as

an evolutionary process from trait theory to contingency approaches. Leadership is examined as both a relationship process and as an opportunity to shape an organization that is capable of dealing with the growing public interest in sustainability.

The course also offers students a potential for self-assessment and leadership development. The essence of leadership development is self-awareness and a number of opportunities are made available to review values, competencies and skills that will contribute to the leadership development process.

MGT 411 - Project Management

Credit hours: 3

Co-requisite: BUS 306

This course is an examination of the knowledge sets, skills, tools and techniques of project management, with an emphasis on how project management contributes to the strategic goals of the organization.The course focuses on four of the knowledge areas of project management (Scope management, time management, cost management, risk management and marketing feasibility). Tools for resources estimation and scheduling will be applied in this course. MS Project software will be used extensively during this course to apply project management skills and concepts acquired.

HRM 462 - Managing Safety, Health and Well-being

Credit hours: 3

Prerequisites: HRM 313

This course focuses on equipping students with the theoretical and knowledge required to effectively address this rapidly evolving area of health, safety, and wellbeing. This course will examine theories on

workplace stress and its relationship to mental health. The strategies for handling counterproductive workplace behaviors, such as conflict, workplace bullying, and workplace violence, will be examined, along with practical approaches and tools for dealing with these issues. The discussion of motivational theories and their applications in the workplace will highlight techniques for boosting staff involvement in a safety-conscious environment. In addition, students will gain an understanding of the legislative requirements for safety, health, and well-being in the context of the UAE.

HRM 461 - Negotiation and Managing Conflict

Credit hours: 3

Prerequisites: MGT 255

This course introduces students to conflict analysis and resolution. It teaches them how to accurately describe conflict, how to assist parties in resolving it, how to negotiate, and how to conduct mediation. The emphasis is on helping students in understanding and improving the conflict resolution and negotiation skills required in their professional careers. The course materials cover key subjects for effective conflict analysis and management, such as the impact of culture on conflict resolution, conflict styles and conflict resolution tactics, such as collaboration, mediation, and negotiation.

Bachelor of Business Administration in Digital Marketing Communications

Major Requirements

MKT 301 - Consumer Behavior

Credit hours: 3
Prerequisites: MKT 200

This course will explore the nature of consumer behavior that helps in comprehending different factors influencing consumer decisions making, and marketing strategy. Attention will be given to studying and analyzing external influences (culture, subculture, cross-cultural variations in consumer behavior, group influence, families and households, and social class), internal influences (perception, learning, memory, product positioning, motivation, personality, emotions, attitudes, and self-concept and lifestyle), consumer decision process and other marketing stimuli affects consumer purchasing behavior.

MKT 305 - Marketing Research

Credit hours: 3
Prerequisites: MKT 200 + BUS 204

Marketing research serves as a central basis for marketing strategy and firm profitability by providing information relevant to marketing decision making. It is critical for marketing managers to understand the nature of marketing research and to be able to specify what information to seek, how to get it, and how to use it in making marketing decisions. This course will aim, therefore, to provide an overview of marketing research in terms of needs, definition, process, analysis and reporting.

MKT 399-I - Internship in Marketing

Credit hours: 3
Prerequisites: Consent of Department

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. Students will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site supervisor and the college supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

MKT 399-P - Project in Marketing

Credit hours: 3
Prerequisites: Consent of Department

This course is designed to give students an opportunity to learn about current issues and developments in the field of Marketing that are not ordinarily dealt with elsewhere in the BBA curriculum. Topics offered will depend on special faculty expertise in particular areas within the major. While the topics covered can vary each semester the course is offered, a student is not supposed to have more than one Special Topics in Marketing course listed in his/her transcript.

In this particular offering, the course will focus on developing the skills required to successfully complete the requirements for google certification. These certifications are important for the practical application of marketing theory and also increase graduate employment opportunities.

ITE 414 - Introduction to E-Commerce

Credit hours: 3

Pre-requisite: Junior Level

With the rapid growth of the Internet, commerce on the web has been a significant part of the revenue stream for companies. This subject will develop an appreciation for all the issues involved in developing an e-commerce site, ranging from the business case to the technology involved. This subject will cover a range of business and technical concepts, which are required to understand e-commerce and e-business applications. These include supply chain management, systems analysis and development, e-commerce models, website analysis, legal and ethical issues, and building ecommerce web site.

ITE 415 - Advanced E-Commerce Application Design

Credit hours: 3
Pre-requisites: ITE 414

This subject aims to provide students with an understanding of e-business in the context of to-day's global business environment. Today most businesses compete in a global environment and a sound business strategy for on-line business is essential to facilitate this.
This subject covers key areas of e-business. It includes a wide coverage of the technological, organizational,
behavioral, social and legal issues related to the development, implementation, operation and management of e-business applications.
Topics include: security methods and techniques for e-Commerce, e-Commerce marketing concepts and communication, supply chain management and e-Procurement.

MKT 304 - Marketing Communication

Credit hours: 3

Prerequisites: MKT 301
Marketing Communications will profile a number of frameworks and theories to elaborate and evaluate communication initiatives. The overall structure of the course is designed to mainly answer the following question: How do we communicate to build brand equity

This course examines marketing communications strategies, tools and media that can be used by marketers to ensure effective communications with customers. The overall emphasis is on developing sound approaches to addressing marketing communications problems and relating these decisions to the firm's strategic orientation.

MKT 307 - Services Marketing

Credit hours: 3

Prerequisites: MKT 200

Services dominate the global economy and are becoming critical for competitive advantage in companies across the globe and in all industry sectors. This course is designed for students who may be interested in working in service industries and will address the distinct needs and problems of service firms in the area of marketing. The main theme of the course is that service organizations (e.g., banks, educational institutions, hospitals, hotels, professional services, and transportation companies) require a distinctive approach to marketing strategy, both in its development and execution. Particularly, the course focuses on the unique challenges of managing services and delivering quality service to customers. The attraction, retention, and building of strong customer relationships through quality service (and services) are at the heart of the course content.

MKT 308 - Social Media Marketing

Credit hours: 3

Prerequisites: MKT 200 + MIS 200

This course builds upon integrating marketing theory with Internet reality. This course helps students develop the skills necessary to understand and integrate Internet technology and characteristics into a marketing strategy. It helps them recognize and understand the implications of the Internet not only as a marketplace but also as a set of tools and opportunities. In this course, teams of students will analyze Internet marketing opportunities facing a client firm. Teams will develop a strategic marketing plan. Issues assessed will include the firm's Internet marketing capabilities, stage of Internet development, Internet marketing objectives, stakeholder concerns, creation and maintenance of the website, nature of the marketing and communication, pricing, and service objectives.

MKT 408 - Applied Digital Marketing

Credit hours: 3

Prerequisites: MKT308

This course builds upon previous marketing courses to provide students with the opportunity to apply their knowledge of digital marketing in practice. This course helps students develop the skills necessary to understand and integrate digital technology and techniques into the marketing strategy. It helps students recognize and understand the implications of the realities of the digital marketing landscape. Upon completion of this course, students will have provided a digital marketing solution to a real-life digital marketing problem. Students will also critically reflect on the sustainability of digital marketing to meet current and future customer needs.

MKT 409 - Digital Marketing Analytics
Credit hours: 3
Prerequisites: MKT308

This course provides students with analytical platforms from a practical marketing perspective to measure, analyze digital activities, and implement best practices for using data to develop marketing strategies. It enables students to integrate large amounts of data extracted from websites, digital, social, and search platforms to offer effective marketing decisions. Upon completing this course, students will be equipped with a practical framework to analyze data from different digital marketing channels and learn the strategic use of data analytics for marketing.

Major Electives

MKT 303 - Retail Marketing
Credit hours: 3
Prerequisites: MKT 200

The course provides an overview of the field of retailing and endeavors to familiarize the students with the basic concepts and issues that are deemed pertinent in today's world of retailing and retail marketing; including, but not limited to, the nature and structure of retail industry, the determinants of successful retail marketing strategies and the fundamental principles of sound retail management.

MKT 401 - International Marketing
Credit hours: 3
Prerequisites: MKT 200 + ECO 202

This subject will give a clear understanding to the students of environmental forces that the international marketer has to consider. The course will also focus on various activities necessary for international marketing planning and various international marketing activities. The course will discuss, at length, the strategic and marketing management issues relevant to the global operations of a multi-national organization. Finally, the course will address transitions in international marketing, with a particular focus on countertrade, newly emerging markets, and the future of the field and the students.

MKT 499 - Special Topics in Marketing
Credit hours: 3
Prerequisites: Consent of Department

This course is designed to give students an opportunity to learn about current issues and developments in the field of Marketing that are not ordinarily dealt with elsewhere in the BBA curriculum. Topics offered will depend on special faculty expertise in particular areas within the major. While the topics covered can vary each semester the course is offered, a student is not supposed to have more than one Special Topics in Marketing course listed in his/her transcript.
In this particular offering, the course will focus on developing the skills required to successfully complete the requirements for google certification. These certifications are important for the practical application of marketing theory and also increase graduate employment opportunities.

MAC 314 - Communication Strategy in Advertising
Credit hours: 3
Prerequisites: MKT 200

This is a writing-intensive course providing the opportunity to apply the theories and principles of strategic communication and to practice their strategic and tactical planning skills in a teamwork environment. Emphasis is placed on the creative process, visual communication and the importance of research. Students work with real clients in a classroom.

COLLEGE OF ENGINEERING

General Education Courses

ITD100 (AA) - Introduction to Information and Digital Technology

Credit hours: 3
Pre-requisites: No Prerequisite

This is a practical introductory course that provides a basic overview of various emerging technologies and underlying systems used in the fields of business, healthcare, and communications. Students will work in a computer lab to complete the practical requirements of the course and will review a variety of software such as Microsoft Excel, Microsoft Project, Microsoft Visio, Microsoft Access, Power BI, cloud networks, and IT sustainability and related topics.

CHE 100 (R) - Remedial Chemistry

Credit Hours: 3
Prerequisite: No prerequisite
Co-requisite: No prerequisite

This course is designed as a first contact preparatory course for the General Chemistry (CHE205) Course and not a substitute for it. Topics include a review of basic math, dimensional analysis, formulas and nomenclature, chemical equations and reactions, and acids and bases. The basic concepts of Chemistry and its importance in daily life are explained through the topics. This course is designed to prepare students majoring in the Science and Engineering for the General Chemistry sequence. Prior study of chemistry is not assumed and will be helpful for the students from non-Science background in high School.

PHY 100(R) - Remedial Physics

Credit Hours: 3
Prerequisite: No prerequisite

This is a remedial physics course based on algebra intends to bridge the gap in the basic concepts in mechanics, heat, electricity and magnetism. It introduces engineering and science students with clear understanding of the fundamental laws and concepts of physics with minimal mathematics. course covers the following topics.

MTT 101 - Pre- Calculus

Credit Hours: 3
Prerequisite: None

This course provides students with a background in mathematical skills essential for progression to the study of Calculus and further engineering mathematics. Basic and essential topics will be covered including exponential, logarithmic and trigonometric functions, along with their graphs. The course also contains solving systems of linear equations by using matrices.

MTT 102 - Calculus 1

Credit Hours: 3
Prerequisite: MPT/or MTT101 with minimum grade of C for all Engineering majors, except Architecture, Aviation, Interior Design and IT.

This is a single variable calculus course. Its purpose is to establish a firm understanding of the foundations of calculus and its applications in real world problems. Students will be introduced to the concepts of limits, continuity, derivatives, anti-derivatives, and definite integrals. Students will also be exposed to applications such as curve sketching, optimization problems, area and volumes.

STT 100 - General Statistics

Credit Hours: 3
Prerequisite: No Prerequisite

This course aims at providing students with an understanding of fundamental concepts in general statistics. The topics will be covered in the course include descriptive statistics, probability, and binomial and normal distributions. The course will be devoted to applications of how statistics is commonly used in real life.

ITD 100 - Introduction to Information and Digital Technology

Credit Hours: 3
Prerequisite: No Prerequisite

This course aims at providing students with an understanding of fundamental concepts in general statistics. The topics will be covered in the course include descriptive statistics, probability, and binomial and normal distributions. The course will be devoted to applications of how statistics is commonly used in real life.

Bachelor of Architecture

Degree Requirements

PHY 102 - Physics and Engineering Applications I

Credit Hours: 3
Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics,Newton's laws of Motion, Work and Energy, Oscillatory Motion, Waves Motion, Sound Waves and Superposition of Waves. Taken simultaneously with PHY 102L (1credit hour) prerequisite MTT 102 + PHY 102 Co-requisite.

PHY 102L - Physics and Engineering Applications I Lab

Credit Hours: 1
Co-requisite: MTT 102 + PHY102 (co-req)

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

Major Requirements

DES 110 - Design Communication I

Credit Hour: 3
Prerequisite: No Prerequisite

This course aims at developing the visual skills used by professionals in the built environment. The course offers an introduction to basic drawing and graphic modeling skills for architecture, interior design civil engineers and Construction managers. Instruction on two-dimensional visualization of the built environment and space will be covered. This includes technical as well as freehand drawing and representations. Basic 2d image processing software as well as basic 2D vector drawing software are introduced. Topics include: basic freehand drawing and drafting skills, orthographic projection, shades and shadow, sketching skills, drawing and projection composition, Drafted and freehand drawing of actual and proposed environments is considered including analysis of light, shade, materials, textures and various contextual elements. Basic graphic software are also introduced to students as a presentation and design communication tool. Educational enrichment activities in this course will include field-trips to project exhibits as well as art museums and architectural offices.

DES 120 - Design Communication II

Credit Hour: 3
Prerequisite: DES 110

This course builds upon the drawing skills introduced in Design Communication I and introduces the students to three-dimensional visualization of the built environment with a special emphasis on freehand drawing, paraline drawing and technical perspective drawing of the built environment along with isometric, oblique and axonometric projections. The courses also introduced basic 3D sketching techniques using manual and digital means. Communication of design ideas and details using nonlinear multimedia presentation tools will be introduced. Educational enrichment activities in this course will include field-trips to project exhibits as well as art museums and architectural offices.

DES 130 - Design Foundations

Credit Hour: 3
Prerequisite: DES 100

A series of studio exercises to develop an understanding of the use of a model for structuring design information, fundamentals of programming, research, communication skills and the design process. This course is designed to introduce the students to the basic elements of design including vocabulary, configuration, form and order.

ARC 210 - Architectural Design I

Credit Hour: 4
Prerequisite: DES 120 + DES 130

Elements and principles of architectural design; form, space/volume, and function and their interrelationships, it will also address basic design requirements through a small-scale project(s) (e.g. single family house, studio). Educational enrichment activities in this course will include invited professionals for the jury and famous local architects as guest speakers.

ARC 220 - Architectural History I

Credit Hour: 3
Prerequisite: ENG 200

This course is a historical and conceptual survey of architecture from prehistory to Medieval. The course will address questions of style and cover the major movements and figures in architectural history. The course will focus on the way architecture provides the physical, spatial, and temporal frameworks for human interaction with nature, culture and the built environment.

ARC 230 - Building Technology I

Credit Hour: 3
Prerequisite: DES 110

An overview of basic concepts and properties of building structural components and their materials.The course discusses elements and types of superstructure, substructure, and foundations. It covers linear and planner, vertical and horizontal, structural systems and their members such as short–medium span roofing, flooring, walls, columns, girders, and beams.

ARC 240 Architecture and the Environ- ment

Credit Hour: 3
Prerequisite: No Prerequisite

This course is an introductory course on the interaction between buildings and their environment. The course uses examples of vernacular architecture as examples of architecture adapted to its environment. It explores the influences of local materials, human comfort, climate and culture on building forms. The course discusses passive heating, cooling, ventilation, shading and daylighting strategies in different climatic zones.

ARC 250 - Architectural Design II

Credit Hours: 4
Prerequisite: ARC 210

Simple and single use architectural project (s); aspects of spatial arrangements, site, climate and traditions are to be examined. (e.g. kindergarten, small clinic, art workshop).

ARC 260 - Architectural and Interior Design History II

Credit Hours: 3
Prerequisite: ARC 220

This course will examine twentieth- and twenty-first (21st) century architecture and its origins. Through slide lectures, readings, and class discussions. The course will focus on issues concerning style, technology, urbanism, regionalism, function, and reform to address the diverse forces that have shaped modern architecture.

ARC 270 - Building Technology II

Credit Hours: 3
Prerequisite: ARC 230

The course provides an insight of materials, and detailing of walls, floors, false ceilings, doors and windows. Also special attention to wood systems and carpentry and means of vertical circulation (stairs, elevators and escalators).

ARC 280 - Computer Aided Design

Credit Hours: 3
Prerequisite: DES 110

This course serves as an introduction to various electronic media employed within the practice of architecture and interior design. Creative and effective skills in the use of computers in architecture and interior design applications are consistently stressed.

ARC 310 - Architectural Design III

Credit Hours: 6
Prerequisite: ARC 250

Issues concerning manipulation of space/volume and building form are explored, with special emphasis on alternative spatial organization of space (centralized, linear, radial, and clustered). Design process, conceptualization, and creativity are practiced by students. The problem of space formation, and form/function interaction are characterizing in this design course. Students are also expected to handle design problems related to large span single-use spaces; issues of structural systems and light weight material are applied. Contextual design elements of site, topography, climate, and traditional architecture are identified. Their influence on the conceptual design solution(s) are analyzed.

ARC 320 - Environmental Design I: Lighting and Acoustics

Credit Hours: 3
Prerequisite: ARC 210

This course is a comprehensive overview of the luminous and sonic environment with consideration to energy conscious design. Content includes human physiological and psychological perceptions of light in the built environment, natural and electric light sources, day lighting design techniques, lighting measurements and controls, light and form, computations for quantity and quality light, and the use of illuminated models for day lighting and electric lighting design, the base principles of acoustics impacting room acoustics, mechanical system noise, sound absorptio and isolation, and the basic principles of electrical systems.

ARC 330 - Structure for Architects I

Credit Hours: 3
Prerequisite: ARC 270

An introduction to main concepts of structures and structural members. The course introduces different kinds of structural systems. It discusses the structural analysis of simple structures.

ARC 340 - Building Technology III

Credit Hours: 3
Prerequisite: ARC 270

Different advanced building systems & technologies and means of deploying them in buildings. Emphasis on prefabrication, modular coordination, mechanization, super structures, and long spans: concrete, steel, and wood. The building envelope, cladding, curtain walls. An overview of basic concepts and properties of different systems.

ARC 350 - Architectural Design IV

Credit Hours: 6
Prerequisite: ARC 310

This design studio introduces architectural design as a multi-faceted problem-solving effort. It focuses on to different aspects of the design process such as site analysis/ selection, environmental/ climatic impacts, culture, and tradition. Problem-solving techniques are applied in terms of configuration and manipulation circulation paths, space interaction, structural system, and building form. (e.g. small museum, bank, library, recreational facilities).

ARC 360 - Urban Planning

Credit Hours: 3
Prerequisite: ARC 210

This course introduces the evolution of city form and structure and the development of order and organization in the city. Theories of planning at different levels are discussed and different models to the planning process are introduced. The course alsoexplores social, cultural, economic and environmental aspects of planning, planning management and implementation.

ARC 370 Professional Practice and Ethics

Credit Hours: 3
Prerequisite: ENG 200

This course is an introduction to the organization, management, and practice of Architecture, Landscape architecture Interior Design as a business and profession. Emphasis is placed on the range of services provided, professional ethics, business management, marketing, contracts and negotiations, design cost analysis/control, and other aspects of professional practice. The course introduces the students to effective techniques for resume writing, letters of introduction, portfolio preparation, and job interview techniques.

ARC 399A Internship

Credit Hours: 1.5
Prerequisite: 90 credit hours

ARC 399B Internship

Credit Hours: 1.5
Prerequisite: ARC 399A

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college- supervisor. The course is intended to be a breakthrough experience in exposing student to the organizational work culture and the nature of business complexities.

ARC 410 - Architectural Design V

Credit Hours: 6
Prerequisite: ARC 350

Manipulation of a complex multi- use/mix-used project(s), and experimentation with the vocabulary of architectural form, space,and order. Aspects of the inter-relationship of architectural form and function are analyzed, and evaluated to be applicable to the potential design concept. Expression in the context of traditional architecture is a considerable aspect for developing design solution(s). (e.g. Hospital, museum, cultural center, local airport).

ARC 420 - Environmental Design II: Energy and Systems

Credit Hours: 3
Prerequisite: ARC 240 + ARC 270

This course will study the influences of energy, human comfort, climate, context, heating, cooling and water on the design of buildings and sites. The design of passive and active environmental systems with continued emphasis on day lighting, acoustics and design strategies for sustainability, and issues of green construction relating to energy in buildings.

ARC 430 - Working Drawings I

Credit Hours: 3
Prerequisite: ARC 340

Through a series of exercises and a small to medium size final project, this course will examine the process of design development and the logical structure of "working drawings." At the same time, the production of working drawings will be pursued as a creative design process.

ARC 450 - Architectural Design VI

Credit Hours: 6
Prerequisites ARC 410

This course introduces students to the process of developing a program for functional/environmental requirements of the determined project, setting up solution for the concerned design problem, and selecting the relevant site for the developed program. Taking into account the real needs of local society, students are also introduced

to the process of analysis and synthesis, and evaluation of large scale design problems as applied to large community projects (e.g. residential, commercial, convention, and health complexes).

ARC 460 - Structures for Architects II

Credit Hours: 3
Prerequisite: ARC 330

Strength of structural materials, design of tension & compression members, beams, slabs, and columns in both concrete and steel design.

ARC 470 - Urban Design

Credit Hours: 3
Prerequisite: ARC 360

This course introduces concepts and theories of urban design. It explores elements and structure and the tools needed for analysis and evaluation of urban space, project development, project management and presentation. The course will build skills fundamental to undertaking a wide variety of urban design efforts, including for example: design of streets and public places, shaping neighborhood form and function, and incorporating natural systems into the urban fabric.

ARC 510 - Graduation Project II

Credit Hours: 6
Prerequisite: ARC 450

A substantial work of design research presented as a short thesis report, entailing practical application to a researched topic of a specific building type (complex multi- use design problem). Project selection is based on the real needs of society. Methodology in architectural design through a process of programming. Literature review, data collection, statistics, case study critique, developed architectural program and schematic design concept. Special consideration of social, environmental, cultural and traditional aspects in architectural design. Presentation is in a form of a report and preliminary project.

ARC 520 Research Methods and Program- ming

Credit Hours: 3
Prerequisite: ARC 410

This course revisits the architectural design process with emphasis on the study of methods for gathering data and analysis of project information for the design synthesis.

ARC 530 - Working Drawings II

Credit Hours: 3
Prerequisite: ARC 430

This course focuses on the preparation of a complete set of working drawings for a medium size architectural project with emphasis on detailing. Drawings include plans, layouts, schedule, details, building systems such as architectural, structural as well as the integration of mechanical, electrical, and communication systems.

ARC 540 - Sustainable Design

Credit Hours: 3
Prerequisite: ARC 410

This course investigates the theory and practice of sustainability and the interrelated design methods and processes for sustainable architecture. It will study sustainable theory how it influences practice and informs design thinking. The "triple-bottom-line" or "three-E's" (Environment, Economy, and Equity) will be used as an organizing theme to connect theory to daily practice. Building rating systems such as LEED will be used to evaluate and enhance the sustainability of a given project.

ARC 550 - Graduation Project II

Credit Hours: 6
Prerequisite: ARC 510

Development of the schematic concept formulated during Graduation Project I. Development of design preliminary drawings in accordance with the Architectural design program formulated in Graduation Project I. Rendering and presentation of the design final drawings, using advanced CAAD application. A comprehensive experience closely related to professional practice of Architecture after graduation.

Professional Elective Courses

Special Design Focus

ARC 581 - Landscape Architecture

Credit Hours: 3
Prerequisites: ARC 210

This course emphasizes the history and Development of Landscape Architecture in addition to understanding the contemporary landscape architecture, its various elements, materials, assemblies and their characteristics. The technology and methods of landscape design will also be covered. The complete process of landscape design as applied to complex projects in Landscape architecture will include the proposal, programming, analysis, concept development and final presentation of the design project. The Course will expose the students to drawings and detailing and develop an understanding of drawings for landscape architecture and the skill of creating specifications for landscape projects.

ARC 584 - Housing

Credit Hours: 3
Prerequisite: ARC 360

Concepts of housing policies, developments and design. Site considerations and computations for accomplishing residential housing development projects. Real estate development process. Site evaluation considerations include those relating to boundary surveys, topographic evaluation, soil analysis, traffic

evaluation, hydrographic analysis, plus environmental, aesthetic, and cultural considerations.

ARC 585 - Islamic Architecture

Credit Hours: 3
Prerequisite: ARC 220

This course is an exploration of the history of Islamic cultures through their most vibrant creation: architecture. The course explores Islamic architecture both as a historical tradition and as a cultural catalyst that influenced and was influenced by the civilizations with which it came in contact. It surveys the sacred, commemorative, pious, and educational architecture in the Islamic world from the beginning of Islam as a religious revolution in 7th-century Arabia to its evolution as a global power straddling three continents, Asia, Africa, and Europe, in the medieval period to a world religion professed by one-sixth of humanity in the present.

ARC 588 - Interior Architecture

Credit Hours: 3
Prerequisites: ARC 210

This course is an introduction to architectural and interior design concepts, elements and principles of design, and basic concepts of space planning and furniture layout. Development of design vocabulary relative to architectural details, furnishings, and finishes. It will introduce terminology that helps clarify and amplify architectural and interior design thought and introduce students to careers in interior design.

Computer Application

ARC 582 - 3D Modeling

Credit Hours: 3 (1 lecture + 4 studio)
Prerequisite: ARC 280

This course is designed to teach an advanced level of 3D modeling and animation for architects. Emphasis will be placed on building 3D world space representing various aspects of the built environment. It will allow students to build upon concepts such as complex geometries, light effects, materials, camera settings, physical motion, and modeling techniques, rendering, and post production.

ARC 583 - Building Information Modeling

Credit Hours: 3 (1 lecture + 4 studio)
Prerequisite: ARC 280

This course explores Building Information Modeling (BIM) programs from Preliminary Design through Design Development, and into Construction Documents. It focuses on streamlining the design process with a central 3D model.

ARC 591 - Geographical Information Systems

Credit Hours: 3 (1 lecture + 4 studio
Prerequisite: ARC 280

Develop a solid understanding of the planning and public management uses of geographic information systems (GIS). The development and history of GIS, present applications of the technology. Essential elements of a Geographic Information System. Basic concepts and principles of Geographic Information Systems. Acquire technical skills in the use of GIS software; acquire qualitative methods skills in data and document gathering, analyzing information, and presenting results; and investigate the potential and practicality of GIS technologies in a typical planning setting and evaluate possible applications.

Management

ARC 586 Architectural Conservation

Credit Hours: 3
Prerequisite: ARC 260

History of the conservation movement, international and local conservation programs, regulatory instruments, methods and techniques. Case studies. Conservation experience in UAE. This class examines the history and theory of historic conservation, focusing on the UAE, but with reference to traditions and practices in other countries, and explore how laws, public policies and cultural attitudes shape how we preserve or do not preserve the built environment.

ARC 587 - Project Management

Credit Hours: 3
Prerequisite: ARC 340

Theories, methods and quantitative tools used to effectively plan, organize, and control construction projects; efficient management methods revealed through practice and research; hands-on, practical project management knowledge from on-site situations and field trips.

ARC 590 - Building Economics

Credit Hours: 3
Prerequisite: ARC 340

This course covers the principles of economics and its application in the construction and building industry. It conveys an appreciation of macroeconomics, business and fiscal aspects of engineering practice. Attention is given to essential topics such as Market demand, Competition and monopoly, Macroeconomics, Government and fiscal policies, Labour economics and Building obsolescence.

Bachelor of Science in Aviation

Major Requirements

AVS 101 - Introduction to Aviation

Credit Hours: 3
Prerequisite: None

This course is designed to provide the student with an understanding about the evolution of the aviation industry. From its early pioneers and contributors, to the practicality of flight in this modern era. To provide an overview of the rapid growth of aviation science and an appreciation of the increasing importance of aviation in American civil and military affairs. It includes the effects of wars on the development of civil and military aircraft and discusses significant achievements and people that contributed to the advancement of aviation.

AVS 120 - Introduction to Aeronautics

Credit Hours: 3
Prerequisite: None
Co-requisite: AVS 120L

An introduction to aviation designed to provide students with a basic understanding of flight theory, aircraft components, navigation concepts, communication procedures, airports, airspace, and air traffic in the United States and around the globe. Students will also be introduced to the missions of the FAA, EASA, NTSB, and NASA.

AVS 120L - Introduction to Aeronautics Lab

Credit Hour: 1
Prerequisite: None
Co-requisite: AVS 120

An introduction to aviation designed to provide students with a basic understanding of flight theory, aircraft components, navigation concepts, communication procedures, airports, airspace, and air traffic in the United States and around the globe. Students will also be introduced to the missions of the FAA, EASA, NTSB, and NASA.

AVS 422 - Instrument and Commercial Pilot Operations

Credit Hours: 3
Prerequisite: AVS 120 + AVS 209 + AVS 310 + AVS 402
Co-requisite: AVS 422L

The course provides a comprehensive study of instrument and commercial pilot operations. Topics covered include forecast analysis, IFR chart analysis, flight instruments, IFR in-flight operations (Departure, En-route and Arrival), instrument approaches, cockpit and crew management, IFR along with commercial operation regulations, flying in VFR and IFR environments and include flight instruments, aerodynamics, performance, navigation, weather (analysis and decision making), and chart.

AVS 422L - Instrument and Commercial Pilot Operations Lab

Credit Hours: 3
Co-requisite: AVS 422

The course provides a comprehensive study of instrument and commercial pilot operations. Topics covered include forecast analysis, IFR chart analysis, flight instruments, IFR in-flight operations (Departure, En-route and Arrival), instrument approaches, cockpit and crew management, IFR along with commercial operation regulations, flying in VFR and IFR environments and include flight instruments, aerodynamics, performance, navigation, weather (analysis and decision making), and chart.

AVS 209 - Aerodynamics

Credit Hours: 3
Prerequisite: GES 201 + MTT 101

Students are provided with an opportunity to explore incompressible flow airfoil theory and wing theory. Topics center on stall speed, drag and basic performance criteria, configuration changes, high and low speed conditions, special flight conditions and an introduction to compressible flow. Further, this course is designed to provide students with the technical background necessary to understand the operating limitations and procedures of modern airplanes and to optimize pilot technique by properly defining required tasks.

AVS 211 - Aircraft Jet Engines

Credit Hours: 3
Prerequisite: GES 201 + AVS 120

This course aims to cover the fundamental theory and operating principles of aircraft gas turbine engines. Topics covered include history, various types, construction and design, systems and maintenance. The course concludes by applying theoretical knowledge in a more detailed analysis of a typical commercial aircraft's engines.

AVS 254 - Aviation Law

Credit Hours: 3
Prerequisite: AVS 101

This course reviews the historic developments that laid the foundation of aviation law and outlines present-day sources of public and private international aviation law such as the Chicago, Montreal, and Cape Town conventions. The various legal systems and classifications of law around the world will be explained

in the context that most affects aviation practitioners. Finally, the safety, technical and economic/ commercial regulation of aviation will be examined, with particular focus on rules affecting international carriage by air, airline operations, airport operations, and air traffic management.

AVS 310 - Aircraft Performance

Credit Hours: 3
Prerequisite: AVS 211

This course explores the performance of aircraft powered by turboprop and jet engines. Topics covered include performance associated with various phases of flight, speeds, variables and the impact of aerodrome limitations on aircraft performance. Further, this course of study will provide the student with an understanding of the performance characteristics of modern reciprocating, turbo-prop, and/or jet-powered airplanes. Students will acquire a knowledge of weight and balance; takeoff and cruise control; and airplane performance charts and curves, from which they will extract data that maximize performance.

AVS 350 - Flight Navigation

Credit Hours: 3
Prerequisite: MTT 101 + AV S120
Co-requisite: AVS 350L

The course provides an insight into principles of navigation, which the air transport industry is using to provide a safe, precise and timely service and minimizing adverse effects of weather. Global Navigation Systems and radio navigational aids have enhanced the performance of flight operations over the past decades. This has a huge impact to the efficiency on the entire air transport system. Topics covered include basic principles of navigation, Earth's shape, coordinate system, magnetism, aeronautical charts. The navigation systems addressed in detail are inertial navigation, radio navigation systems and satellite based global navigation systems.

AVS 350 - Flight Navigation Lab

Credit Hour: 1
Prerequisite: None
Co-requisite: AVS 350

The course provides an insight into principles of navigation, which the air transport industry is using to provide a safe, precise and timely service and minimizing adverse effects of weather. Global Navigation Systems and radio navigational aids have enhanced the performance of flight operations over the past decades. This has a huge impact to the efficiency on the entire air transport system. Topics covered include basic principles of navigation, Earth's shape, coordinate system, magnetism, aeronautical charts. The navigation systems addressed in detail are inertial navigation, radio navigation systems and satellite based global navigation systems.

AVS 287 - Crew Resource Management

Credit Hours: 3
Prerequisite: None

This course provides a comprehensive study of the organizational behavior, interpersonal relationships skills, behavioral aspects associated with professional flight crews. Although the course is targeted at future airline pilots, the course provides a platform for understanding the dynamics of crew management within the entire airline operating environment (including maintenance personnel, ground crew and cabin crew). The course uses previous CRM knowledge developed during flight training. Topics covered include the nature of CRM, CRM training applications, CRM Perspectives and the future of CRM. Theory is complimented with studies of recent cases citing CRM as critical to its outcome.

AVS 303 - Aviation Security

Credit Hours: 3
Prerequisite: Completion of 80 Credit Hours

This course familiarizes with the requirements and applied methods to safeguard aviation. Security awareness is raised with regard to the global environment and terrorism. The International Civil Aviation Organizations Framework for Regulations (Annex 17 and ICAO Doc 8973) is highlighted together with resulting respective national regulations (GCAA CAR Part VII). Resulting security measures mainly with regard to airport security are discussed addressing screening of passengers, carry-on baggage, checked baggage, freight and cargo as well as access control of persons and vehicles. It is studied, how these measures are implemented in the design of infrastructure and processes. Further subjects are the technology and equipment, human factors and training, and a compliant Airport Security Program. Finally, the role of privacy and data protection and other human rights in aviation security is highlighted.

AVS 403 - Introduction to Space

Credit Hours: 3
Prerequisite: AVS 211

This course introduces students to space. Students develop an understanding of astronautics, space exploration, various space programs, and the space environment. They study the basics of orbits, launch and orbiting vehicles, and orbit predictions.

AVS 356 - Aircraft Systems I

Credit Hours: 3
Prerequisite: GES 201 + AVS 120

This first out of two courses on aircraft systems starts with an introduction to conventional aircraft systems in general. Minimum certification requirements are then discussed and system design

requirements including redundancy concepts are presented. During the course the following aircraft systems are covered in detail: Flight Control Systems, Hydraulic Systems, Electrical Systems, Fuel Systems, Pneumatic and Environmental Control Systems, Emergency Systems. General principles of system layout and function are explained with reference to a commercial aircraft.

AVS 411 - Aircraft Systems II

Credit Hours: 3
Prerequisite: AVS 356

This second part about aircraft systems starts with an introduction to modern large commercial aircraft systems in general. In the further course, the following systems are analyzed in detail: Flight Control Systems, Engine Systems, CNS Aircraft Systems, Hydraulic Systems, Electrical Systems, Fuel Systems, Pneumatic and Environmental Control Systems, Emergency Systems. With reference to a particular aircraft type (e.g. Airbus A320), general principles of system design, implementation, and function are investigated. Finally, certification requirements are discussed and methods for system design including redundancy concepts are presented.

AVS 289 - Airline Management

Credit Hours: 3
Prerequisite: AVS 101 + Completion of 40 Credit Hours

The aviation industry is a high cost undertaking relying on sophisticated technology in all areas of its business activities. There is a need for future aviation sector managers to understand this complex environment and the many management challenges and pitfalls that are present. As a result, the combination of people, technology, training, and finance need to work as a system that interacts to bring the traveling public a safe and affordable product. The correct management of these systems is imperative to the success of any airline. The course is designed to provide an insight into all management areas of the aviation business so that future managers have a broad perspective in a growing competitive and increasingly globalized industry.

AVS 415 - Airport Operations

Credit Hours: 3
Prerequisite: AVS 120

The course provides an understanding of the key elements of an airport and its operations. Main topics include Functions, layouts, capacity considerations of the airside, the terminal and the landside. Safety requirements resulting from ICAO Annex 14 and supplementing documents on the infrastructure are addressed as well as service standards according to IATA recommendations. The operations of the airport addresses the subjects of operations control, operational performance management, the airport safety management and the environmental challenges airports are facing. The concepts of Total Airport Management (TAM) and Collaborative Decision Making (CDM) are discussed. Finally, aircraft emergencies and the emergency response planning and respective procedures are addressed.

AVS 402 - Aviation Meteorology

Credit Hours: 3
Prerequisite: GES 201

The course provides an introduction to meteorology with relevance to aviation. It includes the study of significant weather hazards effecting aviation. Topics covered include aviation weather basics, atmospheric circulation systems, atmospheric stability, aviation weather hazards, the forces that drive the earth's weather systems, atmospheric properties, wind patterns, clouds, ice formation, thunderstorms and cyclones, aerodrome visibility, and severe weather systems. The course aims to develop knowledge of the hazards that various weather systems present to flight.

AVS 408 - Aviation Safety

Credit Hours: 3
Prerequisite: Completion of 80 Credit Hours

This course introduces the basic elements of aviation safety and differentiates between reactive, proactive, and predictive safety. The contribution of human factors and human performance to accidents is discussed, as well as the human's role in preventing accidents. The course reviews the principles of Crew Resource Management and introduces Threat and Error Management (TEM). Aviation safety systems relating to the design of aircraft, airports, and airspace are presented. The course concludes by introducing the Safety Management System (SMS) concept, its components and implementation.

AVS 412 - Unmanned Aircraft Systems Operation

Credit Hours: 3
Prerequisite: Completion of 80 Credit Hours

This course explains and analyzes the development of Unmanned Aircraft Systems (UAS), and their role in the aviation industry, as well as an increased awareness of the importance of UAS in modern commercial and military operations. Further, this course describes and categorizes the operation and application of UAS. An analysis of UAS is covered, including structural and mechanical factors, avionics, navigation, flight controls, remote sensing, guidance control, propulsion systems, and logistical support. Operations of UAS include an examination and analysis of their integration with commercial and military airspace, air traffic control and civilian/federal air and ground operations. The course will also look at past, present and future applications of UAS operations,

with an emphasis on commercial applications.The goal of this course is to provide an understanding of UAS, their supportability issues and their role in the aviation industry, as well as an increased awareness of the importance of UAS in modern commercial and military operations.

AVS 357 - Flight Physiology

Credit Hours: 3
Prerequisite: GES 201

This course provides an overview of the human biology within the aviation environment. The course concentrates on the physiological aspects relevant to flight crew and includes topics such as anatomy and physiology, the atmosphere, the flight environment, lifestyle, disease mitigation and contemporary issues in aviation medicine.

AVS 399A - Internship

Credit Hours: 1.5
Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and well-known organization in the area of Aviation. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and faculty-supervisor. The course will expose the students to the professional work culture and conduct of business complexities. The student will first get familiar with the organization and its business elements. Then, the student will be assigned to various departments to work on their day-to-day routines and learn assigned skills. The trainee will be using the resources available at the organization and the training centered to apply the appropriate methodology to solve the assigned problem. The student will submit a technical report to summarize his/her work activities, the solved problem, and the acquired skills.

AVS 399B - Internship

Credit Hours: 1.5
Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and well-known organization in the area of Aviation. The student will follow a well- planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and faculty-supervisor. The course will expose the students to the professional work culture and conduct of business complexities. The student will first get familiar with the organization and its business elements. Then, the student will be assigned to various departments to work on their day-to-day routines and learn assigned skills. The trainee will be using the resources available at the organization and the training centered to apply the appropriate methodology to solve the assigned problem. The student will submit a technical report to summarize his/her work activities, the solved problem, and the acquired skills.

AVS 435 - Advanced Flight Guidance and Control Systems

Credit Hours: 3
Prerequisite: AVS 209 + AVS 350 + AVS 411
Co-requisite: AVS 435L

This course provides a comprehensive study of the theory and principles associated with pilot assistant systems and flight automation. Topics include the basic design, function, and operation of Fly-by-Wire, Autopilot, Auto Thrust, Flight Director, Electronic Instrument System, Flight Warning System, Enhanced Ground Proximity Warning System, Traffic Alert and Collision Avoidance System. Through simulator exercises, students will be exposed to the decision-making processes associated with the operation of these systems in flight.

AVS 435L - Advanced Flight Guidance and Control Systems Lab

Credit Hour: 1
Prerequisite: AVS 435

This course provides a comprehensive study of the theory and principles associated with pilot assistant systems and flight automation. Topics include the basic design, function, and operation of Fly-by-Wire, Autopilot, Auto Thrust, Flight Director, Electronic Instrument System, Flight Warning System, Enhanced Ground Proximity Warning System, Traffic Alert and Collision Avoidance System. Through simulator exercises, students will be exposed to the decision-making processes associated with the operation of these systems in flight.

AVS 472 - Aviation Human Factors

Credit Hours: 3
Prerequisite: AVS 287

Considering the rapid pace and growth of technology and teamwork within air transport operations, this course provides an overview of the application and effective implementation the science of human factors in multi crew operations. Whilst the pre-requisite course AVS287 provides the foundation for crew resource management including teamwork, leadership and communication, this course aims to extend the students' knowledge by considering the component and compounding effects applicable to multi-crew operations. The pre-requisite course also provides a platform for understanding the dynamics of crew management within the entire airline operating environment. However, this course aims to specifically amplify the application of CRM principles in the context of flight deck operations.

AVS 410 - Air Traffic Management

Credit Hours: 3
Prerequisite: AVS 101 + Completion of 50 Credit Hours

This course introduces the global ATM context and operational concept, and outlines the principle functions of ATM, including Air Traffic Services (ATS), Airspace Organization and Management (AOM), and Air Traffic Flow and Capacity Management (ATFCM). The underlying communication, navigation, surveillance, and ATM (CNS/ATM) technological infrastructure is covered in detail, along with the various global and regional ATM programs that plan and prioritize the implementation of such technologies. Finally, emerging ATM technologies and concepts will be discussed.

AVS 499 - Aviation Capstone Project

Credit Hours: 3
Prerequisite: Completion of 100 Credit Hours or Senior Level

The Aviation Science Capstone Course is the culminating effort of the student's entire learning experience. The student will complete a project associated with a problem in the aviation/aerospace industry that provides significant evidence of experience in aviation and aeronautical studies. Students will work with designated faculty members to formulate, develop, and complete the aviation/aerospace aviation project. The completion of the Capstone Course is designed to document evidence that Program Outcomes are understood and provides the student evidence of knowledge to show to current and prospective employers. The Capstone Course will be taken as the final course of the degree program.

Bachelor of Science in Chemical Engineering

Degree Requirements

MTT 200 - Calculus II

Credit Hours: 3
Prerequisite: MTT 102

This course is a continuation of Calculus I. The course will concentrate on integral calculus. A recurring theme throughout the semester will be the relationship between an approximation and the exact value. The topics covered are; The Fundamental Theorems of Calculus, Techniques of Integration, Numerical Integration, Improper Integrals, Area, Volumes, Arc Length, and Average Values, Infinite Sequences and Series, and Applications in the field of science and engineering.

MTT 201 - Calculus III

Credit Hours: 3
Prerequisite: MTT 200

This course is a continuation of the study of calculus. The course introduces the design analysis. The topics covered are: introduction to vectors, vector calculus, partial derivatives, and multiple integrals.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3
Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as; Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available.

MTT 205 - Differential Equations

Credit Hours: 3
Prerequisite: MTT 200
Co-requisite: MTT 204

The course will demonstrate the usefulness of ordinary differential equations (O.D.E.) for modeling physical and other phenomena. The topics covered are first and higher orders O.D.E, Laplace transform, applications of Laplace transform to initial value problems of O.D.E, systems of O.D.E and some engineering applications.

Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from a text form into a mathematical equation.

PHY 102 - Physics & Engineering Applications I

Credit Hours: 3
Prerequisite : MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Wave Motion, Sound Waves, and Superposition of Waves. Taken simultaneously with PHY 102L (1 credit hour).

PHY 102L - Physics and Engineering Applications I Lab

Credit Hour: 1
Pre-requisite: MTT 102
Co-requisite: PHY102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

PHY 201 - Physics & Engineering Applications II

Credit Hours: 3
Prerequisite: PHY 102

The course is intended to provide engineering and computer science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts; Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law, inductance, and alternating current circuits. Taken simultaneously with PHY 201L (1 credit hour).

PHY 201L - Physics and Engineering Application II Lab

Credit Hour: 1
Prerequisite: PHY 102
Co requisite: PHY 201

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

CHE 205 - General Chemistry I

Credit Hours: 3
Pre -requisite: ENG 100

Chemistry is the study of matter and interactions . This course introduces the principles of chemistry including; elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry**.**

CHE 201L - General Chemistry I Lab

Credit Hour: 1
Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205.

CME 200 - Introduction to Chemical Engineering

Credit Hours: 3
Prerequisite: None

An introduction to the chemical engineering profession, its history, and its career-enabling potential. The course contains selected topics, plant visits, and alumni seminars covering the full range of career opportunities from emerging areas (nanotechnology, biochemical, multifunctional materials) to those found in the more traditional positions within the chemical, petrochemical, and petroleum industries. Further, introduction of computational tools Excel and MATLAP in programming environment.

CSC 201 - Structured Programming

Credit Hours: 3
Prerequisite: MTT 101 or higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix-based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to MATLAB Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

COE 102 - Introductory Big Data Analytics

Credit Hours: 3
Prerequisite: STT 100

This course provides a general introduction to Data Analytics. It provides an essential guide to understanding and using data analytics in real-life applications without the need for any previous familiarity with programming. The course starts by introducing the main concepts of Data Analytics to provide a solid understanding of the field, its subfields, and major application areas. Students will learn the different types of data, data sources and data use, and technologies for Big Data. Then, we move through the various types of analytics starting with basic univariate descriptive analytics and moving through multivariate until we reach predictive, model-based analytics. The course is designed in a way that balances theory and

practice. Throughout the course, the students will follow the data-driven approach to solving real-life problems through a series of practical labs and class activities. They will learn how to explain and identify the elements of introductory to intermediate data-driven systems using Microsoft Power BI. The course concludes by introducing the students to a variety of special data analytics applications in engineering, health, business, and the web emphasizing social, security, and economic dimensions.

COE 202 - Engineering Economy, Ethics and Law

Credit Hours: 3
Prerequisite: ENG 200 + MTT 102

This course articulates an ethical framework for engineers by critically reflecting on engineering practice and examining the ethical challenges that confront engineers, especially those working within large organizations. This course considers issues such as the social responsibility of engineers, truth-telling and disclosure, whistle-blowing, professionalism, and risk-assessment. Through case study, this course will provide the tools to evaluate ethical decisions in the field of engineering.

COE 101 - Introductory Artificial Intelligence

Credit Hours: 3
Prerequisite: STT 100

This course introduces students to broad topics in artificial intelligence (AI) and machine learning without requiring them to have a computing or mathematical background. Students will have a closer look at the booming field of AI and develop insights on how it drives value for the society in virtually all sectors including business, healthcare, education, engineering, and governance. The course covers basic AI concepts and terminologies, applications, tools, and performance evaluation in an accessible way to a wide range of audiences. Students are introduced to supervised learning including classification and regression, deep learning, unsupervised learning, and reinforcement learning. They are also trained on using simple yet powerful AI tools to empower their creativity and innovation in problem solving, AI strategy design, process automation, and cost reduction, and thus add value to their future employers. This is done through a practical course component designed to allow students to build simple data-driven AI using Excel. The data used in these laboratories is collected from different domains such as health, environmental science, business, and engineering.

Major Requirements

CHE 206 - General Chemistry II

Credit Hours: 3
Prerequisite: CHE 205

This higher course of chemistry is a continuation of CHE 205 and introduces the principles of chemistry including; elements, compounds and their configuration, geometry, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 206L - General Chemistry II Lab

Credit Hours: 1
Prerequisite: CHE 205
Co-requisite: CHE 206

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities of students to illustrate the principles and concepts of the course CHE 206.

CHE 305 - Organic Chemistry

Credit Hours: 4
Prerequisite: CHE 206

This course will cover the chemistry of carbon compounds and their properties, structures and reactions. It will cover Chemical bonding, physical properties, stereochemistry, reaction mechanisms, and synthesis. The course will give the students a solid understanding of organic chemistry by stressing how fundamental reaction mechanisms function and reactions occur. Organic laboratory experiments are included in the course. Labs will be for two hours per week.

CHE 330 - Physical Chemistry

Credit Hours: 3
Prerequisite: CME 220 + CHE 206

This course of Physical Chemistry reviews the properties of ideal and real gasses. The course gives a solid understanding of concepts of the first and second laws of thermodynamics and thermo-chemistry. Work, heat, internal energy, enthalpy, entropy and Gibbs energy are described in this course. The various principles of physical chemistry including solutions; colligative properties, thermodynamics of mixing and liquid mixtures are well explained. This course gives the students a full idea about vapor pressure and temperature-composition diagrams. Phase diagrams for single-, double-

and triple-component systems, types and orders of reactions, determination of some simple physical characteristics as melting point of solids, pH, viscosity and conductivity, electrochemistry, surface thermodynamics.

MEC 300 - Materials Science

Credit Hours: 3
Prerequisite: CHE 205

An introduction to the structure and properties of materials and the processing routes utilized to optimize properties. All major classes of materials are covered, including metals, ceramics, composites, and polymers. Emphasis on the relationships between chemical bonding, crystal structure, phase equilibria, microstructure, and properties including electrical band structures, electron excitation events and semiconductors. Diffusion, kinetics of phase transformations, and microstructure development during basic processes.

CME 210 - Principles of Chemical Engineering

Credit Hours: 4
Prerequisite: CME 200
Co-requisite: CHE 205

The course includes the following content related to the application of physicochemical principles to problems in chemical and processing industries; mass balances on non-reactive systems; applications of reaction stoichiometry and mass balances on reactive systems; Orsat analysis; the use of thermodynamic data and general energy balances; and the use of heats of reaction and energy balance for reactive systems.

CME 220 - Chemical Engineering Thermodynamics I

Credit Hours: 3
Prerequisite: CME 210

This course covers the following: Basic concepts of thermodynamics; Pressure Volume Temperature relationships of pure fluids and equations of state; First and second laws; Concepts of Entropy, Thermodynamic properties of pure fluids; Applications of energy balances and thermodynamics to flow processes; Production of power from heat, power cycles; Liquefaction and refrigeration.

CME 300 - Chemical Engineering Thermodynamics II

Credit Hours: 3
Prerequisite: CME 220 + MTT 205

This course covers: Review of basic thermodynamics; Gibbs phase rule; Theory and application of solution thermodynamics; Vapor-liquid and liquid-liquid equilibrium for ideal and non-ideal systems; Chemical reaction equilibrium. Students will learn essentials of property estimation from software, for instance ASPEN-Plus or equivalent.

CME 301 - Mass Transfer

Credit Hours: 3
Prerequisite: CME 300 + CME 341

This course covers: Molecular, convective and interphase mass transfer; Transport properties; Continuous and stage-wise mass transfer; absorption/stripping operations; Humidification/drying; Design of absorption/stripping equipment including hydrodynamic design (loading, flooding, column diameter and height).

CME 305 - Modeling and Simulation in Chemical Engineering (with Embedded Lab)

Credit Hours: 3
Prerequisite: CME 210 + CME 310
Co-requisite: CME 331

Many chemical engineering processes lead to sets of linear and nonlinear algebraic equations. This course will focus on numerical methods for solving these types of problems. In addition, techniques for analyzing data to evaluate different models and to obtain model parameters will be developed. Students will learn how to evaluate whether the information provided is sufficient to solve steady- state material balances frequently encountered in process design. Students will be exposed to both mathematical software as well as process modeling software useful for solving process engineering problems and when each should be utilized.

CME 212 - Fluid Mechanics for Chemical Engineers

Credit Hours: 3
Prerequisite: CME 210

This course covers: Fluid statics; Newtonian and non-Newtonian fluids; Bernoulli equation; Mechanical energy equation for viscous fluids : Dimensional analysis: Flow of fluids; Flow meters, Pumps and compressors; Two-phase flow, Fluid flow in porous media, Packed and Fluidized beds; Filtration; Agitation and mixing; Free and hindered settling.

CME 320 - Chemical Engineering Laboratory I

Credit Hours: 1
Prerequisite: CME 212 + CME 341
Co-requisite: CME 301

This is the first of a two laboratory courses sequence covering the application of principles of chemical and process engineering: Thermodynamics; Fluid Mechanics, Heat transfer and Mass Transfer; Experimental planning, data acquisition and safety considerations are emphasized throughout the course.

CME 321 - Process Dynamics and Control

Credit Hours: 3
Co-requisite: CME 331

This course covers principles of automatic control for chemical processes: Unsteady state modeling; Laplace open loop and closed loop systems; Stability; Feedback/feed forward, and cascade controllers.

It also covers instrumentation in chemical processes.

CME 331 - Chemical Reaction Engineering

Credit Hours: 3
Prerequisite: CHE 330 + MTT 205

Fundamentals of chemical reaction engineering. Rate laws, kinetics, and mechanisms of homogeneous and heterogeneous reactions. Analysis of rate data, multiple reactions, heat effects, catalytic reactors, safety Design of industrial reactors.

CME 341 - Heat Transfer

Credit Hours: 3
Co-requisite: CME 212

This course aims at providing students with essential concepts of Heat Transfer. Topics covered include: Steady heat conduction, forced and natural convection, principles of engineering thermal radiation, boiling and condensation. The course covers design of heat exchanger equipment including double pipe (hairpins), and shell and tube heat exchangers with emphasis on standards and specified constraints.

CME 398 - Internship I

Credit hours: 1.5
Prerequisite: Completion of 60 cr. hrs

This course is the first of 2 internships and it focuses on getting the students involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college-supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

CME 399 - Internship II

Credit hours: 1.5
Prerequisite: CME 398

This course is the second of 2 internships and it focuses on getting the students involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college-supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

CME 400 - Separation Processes

Credit Hours: 3
Prerequisite: CME 301 + CME 305

This course covers the fundamentals of mass transfer operations which result in separations required in Chemical Engineering. Examples of separation processes covered are: Distillation, absorption/stripping, liquid-liquid extraction. The material covers aspects of the design of the industrial equipment required for the particular separation process covered. Design constraints will be emphasized.

CME 430 - Chemical Engineering Laboratory II

Credit Hours: 1
Prerequisite: CME 321 + CME 331
Co-requisite: CME 400

This is the second of a two laboratory courses sequence covering the application of principles of chemical and process Engineering: Mass transfer; Separation processes; Reaction Engineering; Experimental planning, data acquisition and safety considerations are emphasized throughout.

CME 450 - Process Design

Credit Hours: 3
Prerequisite: CME 331
Co-requisite: CME 400

Process Design involves the synthesis, integration, and design of chemical engineering processes. This is a three-hour course which is intended to introduce students to the fundamentals and applications of process design. The course presents systematic process-integration tools for the synthesis, development, and screening of potential process flowsheets. It reinforces equipment design of common process equipment. The principles of process economics including evaluation of fixed and operating costs, depreciation, and profitability analysis will be covered.

CME 455 - Industrial Software for Chemical Engineers

Credit Hours: 2
Prerequisite: CME 300 + CME 331 + CME 400 (Co-req)

The objective of this course is to provide students with a guided experience on the construction and convergence of chemical processes in an industry-utilized process simulator like Aspen Plus and Aspen Hysys. Students will understand how to access variables, define and converge design specifications and converge tear/recycle streams. Topics covered include an introduction to the commercial process simulation software and more specifically to Aspen Plus, Process Simulation Software Graphical User Interface, Physical Properties Environment Set Up, Simulation Environment and Flowsheet, Unit Operations and the Models, Basic Reporting, Worked Case Studies. The Worked Case Studies along with the projects and assignments the students will undertake will emphasize problem definition, design conceptualization, modeling, simulation and process integration.

CME 498 - Capstone Design Project I (Capstone)

Credit Hours: 1
Prerequisite: Senior Level + CME 301 + CME 321 + CME 331 + CME 305

This course incorporates the integration of material from other chemical engineering courses with applications to the design of plants and processes representative of the chemical, biological, and related industries bounded by design constraints, namely economic, environmental, manufacturer and technical and scientific.

CME 499 - Capstone Design Project II

Credit Hour: 2
Pre-requisite: CME 498

A continuation of CME 498.

Major Elective

Gas Processing and Petrochemicals

CME 460 - Natural Gas Processing

Credit Hours: 3
Prerequisite: CME 301

This course introduces different techniques for processing natural gas. Topics include properties and behavior of natural gas using equations of state, hydrate formation, field treatments including dehydration, sour gas sweetening, sulfur recovery, and liquefaction. Design of main processing equipment will be studied.

CME 461 - Petroleum Refining Processes

Credit Hours: 3
Prerequisite: CHE 305 + CME 341 + CME 331

This course covers crude oil and its properties and processes involved in refineries: Atmospheric and vacuum fractionation; Catalytic cracking; Thermal cracking, Hydro-cracking, Steam reforming; Isomerization, alkylation, Absorption; etc. It also covers selected petrochemical industries; Design of processes.

CME 462 - Chemical Process Industries

Credit Hours: 3
Prerequisite: CHE 305 + CME 331

This course introduces students to the processes that chemical engineers use in chemical industries. Specific focus will be made on processes used in the following industries: Petrochemical, Water/ sewage treatment, Fertilizer, LNG, Soap and detergent, Cement, Food processing, Glass, Electromechanical, Plastics, Perfumes, and Pharmaceutical. Field trips to local facilities will be made to provide students with a better understanding of how the processes are integrated into various industries.

CME 463 - Corrosion Engineering

Credit Hours: 3
Prerequisite: CHE 330

This course introduces electrochemical principles and their application to corrosion of materials and corrosion control. Topics covered include thermodynamics and kinetics of corrosion, corrosion mechanisms, corrosion inhibition and electrochemical protection of metals. Case studies from oil and gas production and processing industries are also included.

CME 464 - Chemical Process Safety

Credit Hours: 3
Prerequisite: CME 301

Applications of engineering principles to process safety and hazards analysis, mitigation, and prevention, with special emphasis on the chemical process industries; includes source modeling for leakage rates, dispersion, analysis, relief valve sizing, fire and explosion damage analysis, hazards identification, risk analysis, accident investigations.

CME 465 - Process Heat Transfer

Credit Hours: 3
Prerequisite: CME 341 + MEC 300

This course covers design of heat transfer equipment for chemical processes including: Heat exchangers; Condensers; Cooling towers; Evaporators; Process furnace; Reboiler. Computer simulations are emphasized. Design constraints including first and second law of thermodynamic, manufacture, mechanical and materials.

Polymer and Materials

CME 470 - Introduction to Polymer Science and Engineering

Credit Hours: 3
Prerequisite: CHE 305 + CHE 330

Definitions, industry overview, nomenclature, basic organic chemistry of polymers, polymerization, molecular weight and molecular weight distribution. Basic polymer structure and thermo-mechanical behavior and structure property relationship. Mechanical properties, definitions, viscoelasticity, other mechanical properties. Basic rheology and introduction to polymer processing techniques, recycling.

CME 471 - Polymer Chemistry and Reaction Engineering

Credit Hours: 3
Prerequisite: CHE 305 + CHE 330

This course introduces the chemistry of polymerization and the polymer manufacturing process. It begins with basic concepts about polymers and polymerization and covers each major type of polymerization with relevant kinetics. The qualitative effect of reactor design on polymer manufacture is discussed as well as actual polymer manufacturing processes including those taking place in the UAE.

CME 472 - Polymer Properties, Testing and Characterization

Credit Hours: 3
Prerequisite: CME 470

Review and discussion of the properties of polymers with emphasis on structure-property-correlations. The principles and practical applications of the main techniques used for polymer characterization will be discussed. Some applications of polymers in relationship to their properties are illustrated.

CME 473 - Polymer Processing and Material Design

Credit Hours: 3
Prerequisite: CME 471

Introduction to the properties of polymers, their characterization techniques and the methods used to process polymeric materials.

Water Technology Concentration Courses

CME 480 - Physical and Chemical Processes for Water and Wastewater Treatment

Credit Hours: 3
Prerequisite: CHE 305 + CHE 330

To introduce and apply basic and advanced concepts of physical and chemical unit operations and processes commonly used in water and wastewater treatment. This involves introduction to the properties associated with water and wastewater such as alkalinity, turbidity, total solids, pH, hardness and estimation methods. Apply applied physics, chemistry, hydraulics and mathematics concepts to understand how physical unit operations and chemical unit processes work so that the learned concepts can be applied for the design of water treatment operations/processes.

CME 481 - Desalination Technologies

Credit Hours: 3
Prerequisite: CME 341 + CME 300

This course aims to study industrial desalination processes. Phase Rule and Equilibria, Thermodynamics and Colligative Properties, Scales and Chemical Treatment, Multi-Effect Desalination Systems, Multi Stage Flash Desalination Systems, Theory of reverse osmosis. Membrane types and preparation. Models for membrane transport. Module and process design. Process parameters, Concentration polarization and fouling. Turbulence promoters and back-flushing. Pre-treatment methods for RO desalination. Equipment design and economics for seawater water desalination.

CME 482 - Sludge Treatment

Credit Hours: 3
Prerequisite: CME 480

This course is an overview of chemical engineering approaches to sludge treatment processes with an emphasis on fundamental principles. Theory and conceptual design of systems for treating municipal wastewater is discussed, as well as reactor theory, process kinetics, and models. Physical, chemical, and biological processes are presented, including sedimentation, filtration, biological treatment, disinfection, and sludge processing. Finally, there is discussion of engineered and natural processes for wastewater treatment. The course gives the responsibility of engineers to develop the technological tools to meet the increasingly stricter standards for sludge treatment and disposal.

CME 483 - Industrial Wastewater Treatment

Credit Hours: 3
Prerequisite: CME 301

Definitions, characteristics, survey and monitoring of industrial wastewater. Legislation guidelines, and standards. Treatment processes: volume and strength reduction, neutralization, and equalization, removal of suspended and colloidal solids, removal of dissolved organics. Combined treatment of industrial wastewater with demos_tic_sewage. Treatment economics.

CME 484 - Industrial Water Pollution & Control

Credit Hours: 3
Prerequisite: CME 301

This course provides an overview of engineering approaches to protecting water quality with an emphasis on water treatment unit operations. It covers a wide range of topics, including water characterization parameters and designing systems to treat municipal and industrial wastewater, as well as the legislative framework. The course focuses on the principles and mechanisms of pollutant removal. As the course is intended for engineering students, special focus is placed on control technologies and future trends regarding preventing water pollution.

Biotechnology

CME 490 - Chemical Engineering Biology

Credit Hours: 3
Prerequisite: CHE 330

This course deals with the fundamentals of molecular biology and biotechnology applications. The main topics covered in this course are fundamentals of biology and biotechnology, engineering principles in biotechnology, molecular biotechnology.

CME 491 - Biochemical Engineering

Credit Hours: 3
Prerequisite: CME 490

Biochemical Engineering. Biochemical processes, thermodynamics, and kinetics are used in the application

of engineering principles to analyze, design, and develop processes using biocatalysts. Processes of interest include those that are involved in the formation of desirable compounds and products or in the transformation, or destruction of unwanted or toxic substances.

CME 492 - Biochemical Treatment

Credit Hours: 3
Prerequisite: CME 490

This course emphasizes on the biological treatment of wastes: constituents in wastewater, fundamentals of biological treatment, aerobic and anaerobic systems, attached and suspended treatment processes, process selection, and advanced wastewater treatment.

CME 493 - Biofuels Technology

Credit Hours: 3
Prerequisite: CME 490 + CME 331

This course provides an overview of the technologies available for biofuels production. The topics covered include

(a) Biodiesel: advantages of biodiesel over petroleum diesel, convention biodiesel production technologies, enzymatic biodiesel production and new feedstock,

(b) Bioethanol: advantages of bioethanol, fermentation processes, and production of bioethanol from cellulose.

Bachelor of Science in Civil Engineering

Degree Requirements

CHE 205 - General Chemistry

Credit Hours: 3
Co-requisite: ENG 102/ENG 200

Chemistry is the study of matter and interactions . This course introduces the principles of chemistry including; elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L - Chemistry Lab

Credit Hour: 1
Prerequisite: No Prerequisite
Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205.

GOL 205 - Physical Geology

Credit Hour: 3 (2 lecture+ 1 lab)
Prerequisite: No Prerequisite
Co-requisite: ENG 200

Origin of the Earth and its shells; composition of the Earth's crust and oceans, and their geological characteristics; primary and secondary structures; internal geological processes; plate tectonics and the relation of geological events to it. External geological processes; stratigraphic columns, details of the geological time scale and case studies of geological ages and their palaeogeographic distribution; climate; important biological aspects.

MTT 200 - Calculus II

Credit Hour: 3
Prerequisite: MTT 102

This Calculus II course builds upon Calculus I whose purpose was to establish a firm understanding of the foundations of calculus and their applications. It will start with some functions seen in Calculus I. Then, students will be introduced to the concepts of Transcendental Functions, Integration Technique, infinite Series and power Series. Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from text form into a mathematical equation.

MTT 201 - Calculus III

Credit Hour: 3
Prerequisite: MTT 200

This course is a continuation of the study of calculus II. The purpose was to establish a firm understanding of multi-dimensional aspects of calculus and its applications. The topics covered are: An introduction to vectors and geometry of space, partial derivatives, and multiple integrals. Through the process of working through application problems, the student will develop the ability to interpret and evaluate

real world application problems from text form into a mathematical equation.

MTT 204 - Introduction to Linear Algebra

Credit Hour: 3
Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as; Determinants, Vectors in Two and Three Dimensions, Vector Spaces, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available

MTT 205 - Differential Equations

Credit Hour: 3
Prerequisite: MTT 200
Co-requisite: MTT 204

The course will demonstrate the usefulness of ordinary differential equations (O.D.E.) for modeling physical and other phenomena. The topics covered are first and higher orders O.D.E, Laplace transform, applications of Laplace transform to initial value problems of O.D.E, systems of O.D.E and some engineering applications. Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from a text form into a mathematical equation.

PHY 102 - Physics and Engineering Applications I

Credit Hour: 3
Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Waves Motion, Sound Waves and Superposition of Waves. Taken simultaneously with PHY 102L (1 credit hour) prerequisite MTT 102 + PHY 102 Co-requisite.

PHY 102L - Physics and Engineering Applications I Lab

Credit Hours: 1
Prerequsite: MTT 102
Co-requisite: PHY 102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

PHY 201 - Physics and Engineering Application II

Credit Hour: 3
Prerequisite: PHY 102

The course is intended to provide engineering and computer science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts; Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law, inductance.).

PHY 201L - Physics and Engineering Application II Lab

Credit Hour: 1
Prerequisite: PHY 102
Co-requisite: PHY 201

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

CSC 201 - Computer Programming I

Credit Hour: 3
Prerequisite: MTT 101 or higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to MATLAB Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

COE102 - Introductory Big Data Analysis

Credit Hour: 3
Prerequisite: STT 100

This course provides a general introduction to Data Analytics. It provides an essential guide to understand and use data analytics in real-life applications without the need for any previous familiarity programming. The course starts by introducing the main concepts of Data Analytics to provide a solid understanding of the field, its subfields, and major application areas. Then, we move through the

various types of analytics starting with basic univariate descriptive analytics and moving through multivariate until we reach predictive analytics. The course is designed in a way that balances between theory and practice. Throughout the course the students will follow the data-driven approach to solve real-life problems through a series of practical labs and class activities. They will learn how to design and implement introductory to intermediate data-driven decision-support systems using Microsoft Excel. The course concludes by introducing the students to a variety of special data analytics applications in engineering, health, business, and the web emphasizing social, security, and economic dimensions.

GEN 300 - Numerical Methods

Credit Hour: 3
Prerequisite: MTT 205 + CSC 201

A course that deals with the application of numerical methods in solving civil engineering problems. Topics covered include: mathematical modeling and error analysis, solution of linear and nonlinear equations, numerical differentiation and integration, optimization, curve-fitting, and solution of ordinary differential equations. The course also provides students with a hands-on introduction to mathematical programming using MATLAB.

COE 101 - Introductory Artificial Intelligence

Credit Hour: 3
Prerequisite: STT100

This course introduces students to broad topics in artificial intelligence and machine learning without requiring them to have a computing or mathematical background. Students will have a closer look at the booming field of Artificial Intelligence and develop insights on how it drives value for the society in virtually all sectors including business, healthcare, education, engineering, and governance. The course covers basic Artificial Intelligence concepts and terminologies, applications, tools, and performance evaluation in an accessible way to a wide range of audiences. Students are introduced to supervised learning including classification and regression, deep learning, unsupervised learning, and reinforcement learning. They are also trained on using simple yet powerful Artificial Intelligence tools to empower their creativity and innovation in problem solving, Artificial Intelligence strategy design, process automation, and cost reduction, and thus add value to their future employers. This is done through a practical course component designed to allow students to build simple data-driven Artificial Intelligence using Excel. The data used in these laboratories is collected from different domains such as health, environmental science, business, and engineering.

COE 202 - Engineering Ethics, Economy and Law

Credit Hour: 3
Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society.

The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

Major Requirements

CIV 102 - Computer Aided Drawing

Credit Hour:3
Prerequisite: No Prerequisite

This course is an introduction to computer aided drawing utilizing AutoCAD software to produce civil engineering drawings. Students will gain basic to intermediate proficiency in AutoCAD, annotation, geometric construction, and line conventions. The course will also introduce students to orthographic projections, isometric view, sectional views, and drawings of section views for civil engineering applications including structural, geotechnical, transportation, etc., Examples included are intended to improve student's visualization.

CIV104 - Introduction to Civil Engineering

Credit Hour:3
Prerequisite: No Prerequisite

This course introduces students to the study and practice of civil engineering; specialized sub-disciplines of civil engineering; professionalism and professional registration; engineering ethics; introduction to static and dynamic equilibrium; mathematical computing; exercises in engineering technical communications

Water resources; environmental engineering; geotechnical engineering; foundation design; and transportation principles.

Introduction to the concepts of engineering design in the hot and humid environment of the Gulf region. Sample engineering design project to understand the effect of contemporary issues on civil engineering profession.

CIV 201 - Statics

Credit Hour: 3
Prerequisite: PHY 102

The course introduces undergraduate students to the fundamentals of engineering problem solving. It utilizes vector algebra and free body diagrams to solve statics problems. Students apply mathematics, calculus and physics to solve engineering problems such as, calculation of external and internal forces acting on rigid bodies (and particles) under static equilibrium. The course also enables students to analyze distributed forces; locate centroid; find moments of inertia, and draw moment and shear diagrams..

CIV 205 - Introduction to Geomatics

Credit Hour: 3
Prerequisite: MTT 102

This course covers plane surveying, topographical surveying, horizontal and vertical curves, topographic surveys, construction surveys, earthwork, route surveying. Use of specialized software for earthwork calculations, site grading, site layout, adjusting measured quantities, calculating coordinates and areas, and locating points for design grades and planned roadways.

Mathematical topics for surveying andconstruction including probability, error and precision; matrix operations; allocation theory; network analysis; and constraint based optimization.Applications of global positioning systems and geographical information systems to civil engineering projects. Brief coverage of the fundamental concepts of the systems.

CIV 206 - Mechanics of Materials

Credit Hour: 3
Prerequisite: CIV 201

The course presents elementary analysis of deformable solids subjected to force systems; concepts of stress and strain; one, two and three-dimensional stress- strain relationships for the linear elastic solid; statically determinate and indeterminate axial force, torsion and bending members; stress transformations, pressure vessels, combined loadings; and an introduction to column buckling.

CIV 242 - Fluid Mechanics

Credit Hour: 3
Prerequisite: CIV 201 + MTT 200

This is the first course in Water Resources Engineering. Fluid Mechanics encompasses a huge range of topics which deal with the behavior of gasses and liquids under static and dynamic conditions. The course covers the following topics: fluid properties; fluid statics and motion, pressure and force under hydrostatic conditions, manometers, buoyancy and stability of floating and submerged bodies, mass, energy and momentum conservation laws; dimensional analysis and modeling; friction factor and losses in pipes; and fluid measurements. Taken simultaneously with CIV242L (1 credit hour).

CIV 313 - Construction Materials

Credit Hour: 3
Prerequisite: CHE 205 + CIV 206

The course introduces the physical properties and mechanical characteristics of major civil engineering materials such as concrete, steel, aggregates, wood, plastic and bituminous materials. This course teaches how to determine appropriate aggregates gradations to meet desired specifications. The manufacturing process of cement and basic raw materials used will be covered. The design of a concrete mix to be given in the course according to ACI to meet specific design requirements. . In addition, the course teaches the durability of Portland cement concrete. In the course, there will be a term project with presentation. The students will select the topic of the term project with consultation and approval of the course instructor.

Taken simultaneously with CIV313L (1 credit hour).

CIV 314 - Structural Analysis

Credit Hour: 3
Prerequisite: CIV 206

.This course is designed to train students on fundamental concepts of structural analysis necessary to analyze statically determinate structural systems. It also introduces students to the analysis of statically indeterminate structures using contemporary commercial software.

Overview : Types of loads on structures; calculation of reactions; stability and determinacy of structures, analysis of statically determinate structures trusses, beams and frames; analysis of basic cables and arches, influence lines and moving loads; deflection analysis using geometric and energy approaches; analysis of indeterminate frames using software

CIV 316 - Structural Systems

Credit Hour: 3
Prerequisite: CIV 314

This course introduces students to the concept of load path and load distribution in structural systems; gravity and lateral force resisting systems with emphasis on steel and concrete buildings; structural systemsfor different types of structures such as cable-stayed

bridges and suspension bridges. The courses emphasizes classical and approximate methods of structural analysis for statically indeterminate structural frames; computer methods for analysis of statically indeterminate structures.

CIV 318 - Reinforced Concrete Design I

Credit Hour: 3
Prerequisite: CIV 314 + CIV 313

A course that teaches the behavior, strength, and design of reinforced concrete members subjected to moment, shear, and axial forces. Emphasis is on applicable design standards such as ACI318. A computer program is used to analyze a structural system and design selected elements.

CIV 324 - Geotechnical Engineering

Credit Hour: 3
Prerequisite: CIV 206
Co-requisite: GOL 205

This course presents the description, identification, and engineering classification of soils. The basic principles and mechanics of flow of water through soils, deformation and strength of soils, and the processes of consolidation and compaction are also presented, along with effective stress concepts, stress and settlement analyses, and evaluation of shear strength. . Taken simultaneously with CIV324L (1 credit hour).

CIV 331 - Highway Engineering

Credit Hour: 3
Prerequisite: CIV 205

The objective of this course is to provide basic understanding of highway design principles, including geometric design and pavement design and management. The first section covers geometric design of highways, including the principles of horizontal and vertical alignments and cross-section design of highways; intersection design and roundabouts. The second section covers pavement design and management, including the design of both flexible and rigid pavements, design of overlays as well as drainage design. The students will also be introduced to computer applications relevant to course materials.

CIV 332 - Fundamentals of Transportation Engineering

Credit Hour: 3
Prerequisite: CIV 205

This course provides the necessary skills needed to select different alternative solutions for the planning and designing of land transportation systems to meet public demand. Topics covered include calibrating models for trip generation, trip distribution, mode choice, and traffic assignment. The course also covers topics related to elementary traffic flow theories; queuing theories; capacity analysis; level of service analysis; traffic impact studies and emerging technologies related to the field of transportation engineering

CIV 343 - Hydraulics

Credit Hour: 3 (2 lecture + 1 lab
Prerequisite: CIV 242

This is the second course in Water Resources Engineering. It is an applied course of the fundamentals given in the perquisite fluid mechanics course. The course covers the following topics: laminar and turbulent flows; surface and form resistance; flow in pipes; hydraulic machinery, unsteady flow; flow in open channels.

In addition to the lectures, the course includes also laboratory experiments to demonstrate various phenomena encountered in the hydraulics. These include the following experiments:

Lab-1: the Osborne-Reynolds laminar – turbulent flow to observe the laminar, transitional and turbulent flow in a test pipe and to observe the velocity profile;

Lab-2: the broad crested weir to determine the relationship between upstream head and discharge for water flowing over a long base weir and to estimate the discharge coefficient and observe the developed flow pattern;

Lab-3: the crump weir to determine the relationship between upstream head and discharge for water flowing over a crump weir and to estimate the discharge coefficient and observe the developed flow pattern;

Lab-4: the sharp crested weir to determine the relationship between upstream head and discharge for water flowing over a sharp crested weir and to estimate the discharge coefficient and observe the developed nappe and flow pattern;

Lab-5: the hydraulic jump to investigate the characteristics of a standing wave (the hydraulic jump) produced when water flows under a sluice gate and to observe the developed flow pattern.

CIV 352 - Fundamentals of Environmental Engineering

Credit Hour: 3
Prerequisite: CHE 205 + CIV 104

This course provides the scientific, regulatory, financial, social, and design aspects of solid and liquid waste engineering and management. The technologies, and the management and regulatory components of landfill, waste-to-energy, and wastewater treatment facilities are presented with emphasis on the multi-disciplinary nature and complexity of the problems. Special topics include, among others, nuclear waste disposal and grey water utilization to familiarize students with advanced issues where addressing the concerns of diverse stakeholders and knowledge from multiple disciplines is required, and where engineering decision-making can have significant public health and social consequences.

The course includes elements of decision-tree analyses and an introduction to Bayesian decision theory to familiarize students with the uncertainty encountered in most complex civil engineering. The teaching material is supplemented by case studies that emphasize civil engineering solutions to contemporary issues in the UAE and the broader Gulf region

CIV 362 - Construction Management

Credit Hour: 3
Prerequisite: ENG 200

This course offers insight into the best practices in managing construction projects both buildings and heavy civil engineering projects.. It covers a project's life cycle, organization, contract administration, scheduling, budgeting, financing, and controlling. Discusses also safety and the risks involved in construction activities

CIV 398i - Internship in Civil Engineering 1

Credit Hour: 1.5
Prerequisite: Completion of 60 Credit Hours

CIV 399i - Internship in Civil Engineering 2

Credit Hour: 1.5
Prerequisite: Completion of 105 Credit Hours

This course's goal is to involve civil engineering students in real-life projects and to expose them to civil engineering work conditions, professional behavior, short-and-long term tasks and needs, and the opportunity to grow in the civil engineering profession. This is done by placing students for a period of six weeks in engineering firms, agencies, and/or organizations, where they participate in day-to-day operations and tasks in civil engineering projects. Students follow a well-planned course of action during the period of training, devised jointly by the site and faculty supervisor. The course's aim is to provide students with the experience of working in a civil engineering professional work environment, to expose them to the work culture and the relation of taught theory to practice, and familiarize them with the nature of their chosen profession and the career challenges, opportunities and requirements.

CIV413 - Structural Steel Design

Credit Hour: 3
Prerequisite: CIV 314

A course that covers the design and behavior of structural steel members and their connections subjected to moment, shear, and axial forces. It is a typical first course on design of steel structures with emphasis on Load and Resistance Factor Design Method.(LRFD)

CIV 421 - Foundation Engineering

Credit Hour: 3
Prerequisite: CIV 324

This course presents: Subsurface exploration, types of shallow foundations, bearing capacity of foundations, settlements, design of isolated footings, special types of footings, rectangular combined and strap footings, lateral earth pressure and retaining walls; introduction to Pile foundation.

CIV 442 - Hydrology and Urban Water Systems

Credit Hour: 3
Prerequisite: CIV 343

This course provides an introduction to engineering hydrology and the design elements of urban storm water systems. This includes the effects of watershed development on quantity and quality of surface runoff and stream flow. The practical applications of hydrology encountered in this course include urban storm water management, flood control and groundwater engineering.

CIV497 - Capstone Design Project I

Credit Hour: 1
Prerequisite: 103 CHs. + CIV 316, CIV 318, CIV324, CIV 332, CIV 352 and CIV 343

This course is a capstone project for civil engineering students. The project typically involves the design of a civil engineering system that simulates real-life engineering projects. The designed system must have a multi-discipline nature that involves three or more of the civil engineering disciplines (e.g. structural, transportation, environmental, geotechnical ... etc.)

CIV498 - Capstone Design Project II

Credit Hour: 3
Pre-requisite: CIV 497
A continuation of CIV 497.

Major Elective

CIV 405 - Sustainability in the Built Environment

Credit Hour: 3
Prerequisite: Junior Status

Introduction to sustainable design and construction. Introduction to the different climate zones. Topics include the design process for high-performance sustainable buildings. Other topics include high-performance building design strategies, green building materials, environmental quality issues, health and safety planning, and economic analysis of green buildings. Students will also be introduced to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standards, the characteristics and influences of climatic conditions on the natural and built environments, the responses to different climatic conditions, the optimization of

building performance to meet human thermal comfort requirements, and real-life applications on the local environments in the UAE.

CIV 403 - Fundamentals of Geographical Information System

Credit Hour: 3
Prerequisite: CIV 205

This course traces the origins and development of GIS, outlining the differences between GIS and the related technologies of digital mapping, provides a clear understanding and management of common GIS database systems. The different models that GIS employs to represent real-world entities are reviewed (Earth-map relationship, map projection, coordinate systems, raster, vector). Elements of graphic design and communication are reviewed with the intention of ensuring results are comprehensible and effectively portrayed. Introduction to hardware, software, and methods of data collection is provided. Applications of GIS in the different fields of civil engineering are emphasized.

CIV 430 - Traffic Engineering

Credit Hour: 3
Prerequisite: CIV 332

The objective of this course is to provide in- depth understanding of traffic engineering and analysis of different control systems with an emphasis on analyzing the level of service on different classes of highways (freeways, multi-lane highways, and two lane highways) as the level of service for signalized and un signalized intersections. The course also provides insights on the design of traffic signals and parking facilities. Intelligent Transportation systems (ITS) and safety analysis of traffic systems are also covered. . The students will also be introduced to computer applications relevant to course materials.

CIV 416 - Matrix Methods of Structural Analysis

Credit Hour: 3
Prerequisite: CIV 316

A course that deals with the application of matrix methods in the analysis of structural systems like plane and space trusses, beams and grids, and plane and space frames. Topics covered include – Linear analysis by hand and computer of two dimensional planar truss elements, two-dimensional beam and frame elements, two-dimensional plane stress and plane strain elements, Superposition of loads and elements. The main objective is to enable the student to have a good grasp of all the fundamental concepts in these advanced topics in structural analysis, besides enjoying the learning process, and developing analytical and intuitive skills. The course also provides students with a hands-on introduction to matrix programing using commercial software such as ANSYS, MATLAB and MS-EXCEL for matrix solution.

CIV 490 - Special Topics in Civil Engineering

Credit Hour: 3
Prerequisite: Senior Status

Course covers topics in the civil engineering discipline that are generally not available in the regular civil engineering course offering. Specific topic covered in a particular semester will be announced and included in the course syllabus at the time of offering.

CIV419 Computer Aided Structural Engineering

Credit Hour: 3
Prerequisite: Senior Status

Course covers topics in the civil engineering discipline that are generally not available in the regular civil engineering course offering. Specific topic covered in a particular semester will be announced and included in the course syllabus at the time of offering

CIV428 Slope Stability and Earth Structures

Credit Hour: 3
Prerequisite: CIV324

The purpose of this course is to provide the students with an in-depth knowledge and understanding of concepts/principles used in the stability investigation of slopes and embankments and their application in the design of earth dams and earth retaining structures.

Bachelor of Science in Computer Engineering

Degree Requirements

ECS100 - Introduction to Engineering and Computing

Credit Hours: 3
Prerequisite: No Prerequisite

This course provides an introductory general overview of electrical engineering, biomedical engineering, computer engineering, and AI and robotics engineering fields, introducing students to concepts, techniques, and applications of Electrical, Computer, and Biomedical Engineering. Topics covered include an Introduction to Engineering, Roles, and Workplace of Engineers, Ethical Practices in Engineering, Design Process, Basic Circuit Concepts, Numeric Systems, and Teamwork. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Ohm's law, electronic simulations, programming, and debugging. The course has a project where students work in teams using Tinkercad, EasyEDA, ICs, PCBs, and testing and measuring equipment to design an electrocution protection system and communicate their experience using presentations and reports. Students will also analyze the impact of Electrical, Computer, and Biomedical Engineering on society, the environment, and the economy.

MTT 200 -Calculus II

Credit Hours: 3
Prerequisite: MTT 102

This Calculus II course builds upon Calculus I whose purpose was to establish a firm understanding of the foundations of calculus and their applications. It will start with some functions seen in Calculus I. Then, students will be introduced to the concepts of Transcendental Functions, Integration Technique, infinite Series and power Series. Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from text form into a mathematical equation.

MTT 202 - Discrete Structures and Applications

Credit Hours: 3
Prerequisite: STT 100

This course introduces the basic foundations of logic, structures, algorithms, number theory, induction, recursion and relations with application in computer science and engineering. The course then introduces students to graphs and trees and their use in modeling and analyzing computer science and computer engineering problems. Finally, the course presents the basics of Boolean Algebra and Finite Automata with applications.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3
Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as: Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available.

MTT 205 - Differential Equations

Credit Hours: 3
Prerequisite: MTT 200
Co-requisite: MTT 204

The course aim is to provide engineering students with some standard methods to solve first order Separable, Exact, Linear and Bernoulli differential equations. Construct mathematical models of simple physical systems. Solve higher order linear ODE's with constant coefficients. Solve ordinary linear differential equations using infinite series and Laplace transform. Solve systems of differential equations.

PHY 102 - Physics and Engineering Applications I

Credit Hours: 3
Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Waves Motion, Sound Waves and Superposition of Waves. Taken simultaneously with PHY 102L (1credit hour) prerequisite MTT 102 + PHY 102 Co-requisite.

PHY 102L - Physics and Engineering Applications I Laboratory

Credit Hour: 1
Prerequisite: MTT 102
Co-requisite: PHY 102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments

with emphasis on the presentation and interpretation of experimental data.

PHY 201 - Physics and Engineering Applications II

Credit Hours: 3
Prerequisite: PHY 102

The course is intended to provide engineering and computer science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts; Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law, inductance, and alternating current circuits.

Taken Simultaneously with PHY 201L (1credit hour) prerequisite PHY 102 + PHY 201 Co-requisite.

PHY 201L - Physics and Engineering Applications II Laboratory

Credit Hour: 1
Prerequisite: PHY 102
Co requisite: PHY 201

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

• The student will be required to make extensive use of computer-generated graphs and tables for displaying and analyzing experimental data. This will be accomplished using Excel or other spreadsheet programs of comparable capability. To accomplish this, each laboratory station is equipped with a PC and required software.

• Experiments will be performed as shown in the lab syllabus. All labs will include an introductory lecture followed by completion of the laboratory assignment. Before students leave the lab, they must request the instructor s review of their data and sign it. Signed raw data sheets must be attached to reports when they are submitted. Student cannot receive a lab report grade without an original raw data sheet signed by their instructor.

CSC 201 - Computer Programming I

Credit Hour: 3
Prerequisite: MTT 101 or Higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to Matlab Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

COE 101 - Introductory Artificial Intelligence

Credit Hours: 3
Prerequisite: STT 100

This course builds on the concepts and skills acquired in STT100 General Statistics. It introduces students to concepts, techniques, and applications of Artificial Intelligence. Topics covered include Artificial Intelligence Termonologies, Data Preprocessing, Supervised Learning (e.g., Regression and Classification), AI Performance Evaluation and Bias, Neural Networks, Convolutional Neural Networks, Clustering, Reinforcement Learning, Ethics in AI and AI Strategy. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering data preprocessing, performance evaluation, cross-validation, and neural networks. The course has a project. In this project, students work teams using Excel and AI-Training Software to design a classification model and communicate their experience using presentations and reports.

COE 202 - Engineering Ethics, Economy and Law

Credit Hours: 3
Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society. The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

GEN 300 - Numerical Methods

Credit Hours: 3
Prerequisite: MTT 205 + CSC 201

This course covers the following main topics: (1) numerical computation and error analysis, (2) direct and iteration methods to solve system of linear equations, calculate Eigen values and Eigen vectors of matrices, (3) function approximation and interpolation method: Lagrange's interpolation, Newton's interpolation, subsection low interpolation, and cubic spline interpolation, (4) approximation for numerical integration and differential, (5) approximation method for solving equations.

Major Requirements

CSC 202 - Computer Programming II

Credit Hours: 3
Prerequisite: SWE 201 or CSC 201

Object-oriented programming offers greater reliability, maintainability, and reusability than structured programming. This course follows on from Structured Programming and introduces the concepts of Object-Oriented Programming. It develops the basic skills necessary to develop software application programs in Java using objected-oriented principles and concepts. The course presents the main principles of Objected Oriented Programming: data abstraction, objects and classes, inheritance, and polymorphism. It also covers Exception Handling, binary files, abstract classes, and interfaces. Graphical user interfaces and event-driven programming are also covered. Students should have a core foundation of structured programming principles in order to progress smoothly and effectively in this course.

CSC 202L - Programming Lab

Credit Hours: 1
Prerequisite: CSC201
Co-Prerequisite: CSC202

This lab focuses on the practical applications of computer programming concepts, techniques, and designs. Lab equipment includes a PC and programming IDE. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering Introduction to Integrated Development Environments (IDEs), Data Input and Output, Selection Structures, Repetition Structures, Debugging Techniques, Classes and Object-Oriented Programming, Decomposition and Modular Programming, Inheritance in Object-Oriented Programming, Polymorphism, Multithreading, Application Programming Interfaces (APIs), Profiling and Unit Testing, and Version Control Systems.

CSC 301 - Data Structures and Algorithms

Credit Hours: 3
Prerequisite: MTT 202, CSC 202

This course builds on the pre-requisites of programming courses and provides the students with an opportunity to further develop and refine their programming skills. In particular, the emphasis of this course is on the organization of information, the implementation of common data structures such as lists, stacks, queues, trees, and graphs, and techniques of data abstraction, including encapsulation and inheritance. We will also explore recursion, hashing, and the close relationship between data structures and algorithms, and their complexity analysis. Operationally, applications of data structures to searching and sorting algorithms will be incorporated into programming assignments as will complexity analysis. Hands-on programming is a central component of this course.

CSC 305 - Data Communications and Networks

Credit Hours: 3
Prerequisite: Junior Level

This course provides an introduction to modern data communications and computer network. It presents data communications fundamentals and computer networking methods, using the ISO 7-layer reference model to organize the study. Attention will focus on the protocols of the physical, data link control, network, and transport layers, for local and wide area networks. The course examines in detail analog and digital signaling, analog and digital conversions, data link control, detection & correction, multiplexing, local area networks (LANs), circuit switching, packet switching, network protocols & standards, and error.

CEN 330 - Probability and Stochastic Processes

Credit Hours: 3
Prerequisite: CEN320 + STT100

This course builds on the concepts and skills acquired in STT100 General Statistics and CEN320 Signals and Systems. It introduces students to concepts, techniques, and applications of Random Signals and Noise. Topics covered include probability theory, discrete and continuous random variables and their distributions, the concept of mean and variance, functions of one and two random variables, central limit theorem, statistics, and random processes. In this project, students work teams using MATLAB to design a graphical user interface (GUI) for image processing and communicate their experience using presentations and reports.

CEN 201 - Electric Circuits I

Credit Hours: 3
Prerequisite: ECS100 or PHY201 + EEN210L

This course builds on the concepts and skills acquired in ECS100

Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of Electric Circuits. Topics covered include Circuit Variables, Circuit Elements, Resistive Circuits, Voltage-Divider and Current-Divider Circuit Circuits, Circuit Analysis. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering voltage and current dividers, Star-Delta, and equivalent circuits. The course has a project. In this project, students work teams using Multisim and testing equipment to design a an RC high pass filter and communicate their experience using presentations and reports.

CEN 320 - Signals and Systems

Credit Hours: 3
Prerequisite: MTT 205 + CEN 201

This course builds on the concepts and skills acquired in MTT205 Differential Equations and CEN201 Electric Circuits. It introduces students to concepts, techniques, and applications of Signals and Systems. Topics covered include classification of systems, DT and CT systems, signal modeling and transformation, LTI systems, Frequency domain analysis and Fourier transform, Laplace transform, Z-Transform, and Discrete Fourier transform. The course has a project. In this project, students work teams using MATLAB to design a sound visualization interface and analyzer and communicate their experience using presentations and reports.

CEN 304 - Electronic Devices and Circuits

Credit Hours: 3
Prerequisite: CEN 201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of Electronic Devices and Circuits. Topics covered include diodes, Bipolar Junction Transistors (BJTs), Field Effect Transistors (FETs), and Operational Amplifiers (Op Amps). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering BJTs, FETs, and OpAmps. The course has a project. In this project, students work teams using Multisim and testing equipment to design a common source amplifier and communicate their experience using presentations and reports.

CEN 333 - Cross-platform Mobile Application Development

Credit Hours: 3
Prerequisite: CSC 201

This course builds on the concepts and skills acquired in CSC201 Computer Programming I. It introduces students to concepts, techniques, and applications of Cross-platform Mobile Applications. Topics covered include Ionic Apps, Angular, App navigation, Geolocation, Google Maps API, Google Fit, and Google Cloud Vision. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Experimenting with Local and Remote Persistence in Cross-Platform Mobile Applications: Implementation and Performance Analysis, Localization Strategies for Cross-Platform Mobile Applications: Testing and Evaluation of Multilingual Support, and Integrating Local and RESTful API Services in Cross-Platform Mobile Applications: Implementation, Benchmarking, and Optimization. The course has a project. In this project, students work teams using Visual Studio code, StackBlitz, and Ionic to design a Smart Autonomous Mobile Application: Combining Persistence, Navigation, Location, AI, and Native Services and communicate their experience using presentations and reports.

CEN 324 - Digital and Analog Electronics

Credit Hours: 3
Prerequisite: CEN 304

This course builds on the concepts and skills acquired in CEN304 Electronic Devices and Circuits. It provides students with an in-depth understanding of concepts, techniques, and applications of electronic circuits. Topics covered include amplifiers, building blocks, amplifier frequency response, ideal and non-ideal operational amplifiers and feedback, operational amplifier applications, differential amplifiers and operational amplifier design, analog integrated circuit design techniques. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering OpAmps applications. The course has a project. In this project, students work teams using electronic circuits to design a signal conditioning and filtering circuits and communicate their experience using presentations and reports.

CEN 325 - Internet of Things: Foundations and Design

Credit Hours: 3
Prerequisite: CSC201 + EEN210

This course builds on the concepts and skills acquired in CSC201 Computer Programming I and EEN210 Digital Circuits. It introduces students to concepts, techniques, and applications of Internet of Things and microcontroller interfacing. Topics covered include microcontroller fundamentals, digital and analog I/O, motor control, interfacing with sensors, registers, Timers, interrupts, and serial communication. The course has a project. In this project, students work teams using Arduino, sensors, and wireless communication to design a Sumo Robot and communicate their experience using presentations and reports.

CEN401L - Embedded and IoT Lab

Credit Hours: 3
Prerequisite: EEN210L
Co-Prerequisite: CEN425

This lab focuses on the practical applications of embedded systems and internet of things concepts, techniques, and designs. Lab equipment includes Arduinos, Raspberry Pis, actuators, sensors, and the PyCharm software. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering Introduction to the Arduino and the Raspberry Pi, State Machines Implementations using Embedded C++ and Python, TinkerCAD and TkCircuit Simulators, Bash Programming and Linux, Digital Inputs and Outputs on Arduino, GPIO, Serial Communication, Interfacing Motors and Sensors, Web and Mobile Interfaces for IoT Nodes, and Back End Technologies.

CSC 308 - Operating Systems

Credit Hours: 3
Prerequisite: CSC 301

This course introduces students to the concepts and principles of operating systems design and to the prevailing techniques for their implementation. The course requires students to be already familiar with the structure of a user-program after it has been converted into an executable form and that they have some rudimentary understanding of the performance trade-offs inherent in the choice of algorithms and data structures. The course will cover operating systems concepts including process management, memory management, file and file system management, and introduce distributed operating systems. Two concrete examples of operating systems are used to illustrate how the principles and techniques are deployed in practice

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CEN 399i - Internship in Computer Engineering I

Credit Hours: 2
Prerequisite: 90 Credit Hours

Internship in Computer/Electrical Engineering I" is designed to expand on the knowledge and skills acquired in the first 90 credit hours of the Computer/Electrical Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the fields of computer and electrical engineering within a professional, industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of computer and electrical engineering such as hardware design, software development, network architecture, circuit analysis, control systems, and power distribution. In the course of their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature of computer and electrical engineering fields. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of computer and electrical engineering on society, the environment, and the economy, providing them with a more holistic understanding of their role as future engineers.

CEN 399ii - Internship in Computer Engineering II

Credit Hour: 1
Prerequisite: CEN 399i

Internship in Computer Engineering II" is designed to expand on the knowledge and skills acquired CEN399i Internship in Computer Engineering I, and in the Computer/Electrical Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the fields of computer and electrical engineering within a professional industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of computer and electrical engineering such as hardware design, software development, network architecture, circuit analysis, control systems, and power distribution. In the course of their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature of computer and electrical engineering fields. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of computer and electrical engineering on society, the environment, and the economy, providing them with a

more holistic understanding of their role as future engineers.

CEN 454 - Computer Vision and Image Processing

Credit Hours: 3
Prerequisite: CEN464 + CEN464L

This course builds on the concepts and skills acquired in CEN464 Digital Signal Processing. It provides students with an in-depth understanding of concepts, techniques, and applications of image processing and computer vision. Topics covered include noise estimation, image filtering, image enhancement, image reconstruction, morphological operations, image segmentation, Convolutional Neural Networks (CNN), and object tracking. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Spatial and Frequency Domain Image Enhancement Pipelines on Matlab, Background Modeling and Foreground Segmentation using Gaussian Mixture Models and the EM Algorithm on Matlab, and Face Detection and Tracking using OpenCV. The course has a project. In this project, students work teams using MATLAB and PyCharm to design a Particle Filter-Based Object Tracking in Video Sequences and communicate their experience using presentations and reports.

CEN 464 - Digital Signal Processing

Credit Hours: 3
Prerequisite: CEN 320

This course builds on the concepts and skills acquired in CEN320 Signals and Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of digital signal processing. Topics covered include the z-transform and its application to the analysis of LTI systems, frequency analysis of signals, frequency-domain analysis of LTI systems, the properties and applications of discrete fourier transform, the design of digital filters, and the properties and applications of discrete fourier transform . The course has a project. In this project, students work teams using MATLAB to design a digital filters and communicate their experience using presentations and reports.

CEN464L - Signal Processing Lab

Credit Hours: 1
Co-Prerequisite: CEN464

This lab focuses on the practical applications of Digital Signal Processing concepts, techniques, and designs. Lab equipment includes a PC and Matlab software. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering signal operations, convolution, Fourier and Laplace transforms, Fourier domain representation, time domain sampling, aliasing, pre-filtering, filter design, random signals, probability, noise modeling and reduction, power spectral analysis, and 1D-3D signal processing for audio, sensor, image, and video signals.

CEN 425 - Internet of Things: Applications & Networking

Credit Hours: 3
Prerequisite: CEN 325

This course builds on the concepts and skills acquired in CEN325 Internet of Things: Applications and Networking. It provides students with an in-depth understanding of concepts, techniques, and applications of internet of things. Topics covered include microcontroller communication,RPi setup and IoT implementation, python basics, python lists and dictionaries , advanced python, computer vision with opencv, controlling hardware and motors, interfacing sensors and digital inputs , integrating microcontrollers and embedded linux boards, home automation, RPi hardware basics and interfacing techniques. The course has a project. In this project, students work teams using PyCharm, Linux OS, UMLETino, Rasberry Pi, Sesnors, Actuatos, and ICs to design a advanced IoT nodes and embedded systems with computer vision systems and communicate their experience using presentations and reports.

CEN 451 - Computer Engineering Design Project I

Credit Hours: 1
Prerequisite: Senior Level

"This course builds on the concepts and skills acquired in courses throughout the Computer Engineering program. It is the first part of a two-part sequence and requires students to be at the senior level. It introduces students to concepts, techniques, and applications of comprehensive project design and development within Computer Engineering. Skills covered include problem definition, design conceptualization, modeling, fabrication, and system integration in both software and hardware aspects. Students connect theoretical concepts learned in the program to practice through the development of their research proposals.
The core of the course is research. In this phase, students work on literature reviews and develop a proposal for the project they will work on in Capstone 2. This process involves integrating various engineering skills and knowledge acquired throughout the program. Students communicate their research process, challenges encountered, and project outcomes using presentations and detailed written reports.
Extending the course over two semesters gives students time to research the topic and develop a prototype. This leads to a well-rounded learning experience that encapsulates the realities of working on large-scale, complex engineering

projects.

CEN 452 - Computer Engineering Design Project II

Credit Hours: 2
Prerequisite: CEN451

"This course builds on the concepts, skills, and progress acquired and achieved in CEN451 Computer Engineering Design Project I. It continues to engage students in concepts, techniques, and applications of comprehensive project design and development within Computer and Electrical Engineering.
This course continues the topics covered in the first part, including advanced problem definition, design conceptualization, modeling, fabrication, and system integration in both software and hardware aspects. The centerpiece of the course remains the design project. Students continue their work from Computer Engineering Design Project I, utilizing various software tools and hardware components to refine, finalize, and optimize their operational engineering prototypes/ systems. This process may involve strict testing, troubleshooting, and iterative design improvements to ensure the prototype meets the project objectives and standards. Students will also gain experience in delivering professional presentations and composing detailed written reports, focusing on the design enhancements and challenges overcome during the project's second phase. Further, students will deepen their understanding of the societal, environmental, and economic implications of their engineering solutions, facilitating a comprehensive understanding of their role and responsibilities as computer engineers. The two-semester structure enables students to fully realize their projects, providing a unique opportunity to experience the complete life cycle of a complex engineering project, from initial conceptualization to final execution and evaluation."

EEN 210 - Digital Circuits

Credit Hours: 3
Prerequisite: ECS100

This course builds on the concepts and skills acquired in ECS100 Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of digital logic design. Topics covered include digital concepts, number systems, operations, codes, logic gates, logic simplification, combinational logic analysis, latches, flip-flops, counters, shift registers. The course has a project. In this project, students work teams using digital logic ICs to design a combinational and sequential logic circuits using k-maps and state machines and communicate their experience using presentations and reports.

EEN210L - Digital Circuits Lab

Credit Hours: 1
Co-Prerequisite: EEN210

This lab focuses on the practical applications of Digital Logic Circuit concepts, techniques, and designs. Lab equipment includes Measuring and Testing Instruments, Logic Gates, Combinational Logic Circuits, Sequential Logic Circuits, and Circuit Simulation. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering the use of Measuring and Testing Equipment, LabView Multisim and Data Acquisition, Logic Gates Verification, Combinational Logic Circuits including Multiplexers, Decoders, Adders, and Comparators, Sequential Logic Circuits including Flip-Flops and Latches, Introduction to VHDL on Quartus and the Altera DE2 Board, and Combinational and Sequential Circuits in VHDL.

EEN 365 - Control Systems

Credit Hours: 3
Prerequisite: MTT204 + CEN320

This course builds on the concepts and skills acquired in MTT204 Introduction to Linear Algebra and CEN320 Signals and Systems. It introduces students to concepts, techniques, and applications of Control Systems. Topics covered include Modeling in Frequency and Time domains, The Transfer Functions, Poles, Zeros, System Response, block diagrams, Signal-Flow Graphs, Stability, Steady-State Error, Root Locus, and PID Controllers. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering control systems analysis, PID controllers on Simulink, and PID controllers on Arduinos. The course has a project. In this project, students work teams using MATLAB to design a liquid level control system for a chemical processing facility and communicate their experience using presentations and reports.

CEN 466 - Advanced Digital System Design

Credit Hours: 3
Prerequisite: EEN210

This course builds on the concepts and skills acquired in EEN210 Digital Circuits. It provides students with an in-depth understanding of concepts, techniques, and applications of FPGAs and Digital Design. Topics covered include NMOS, CMOS, and FPGA Implementations, Arithmetic Circuits, Combinational Logic Blocks, Sequential Logic Blocks, Asynchronous Sequential Circuits in VHDL, Computer-Aided Design Tools, and Testing in VHDL. The course has a project. In this project, students work teams using VHDL to design a digital parking garage control system and communicate their experience using presentations and reports.

CEN 455 - Security Fundamentals for Computers and Embedded Systems

Credit Hours: 3
Prerequisite: CSC308 + CSC305 + CEN325

This course builds on the concepts and skills acquired in CSC308 Operating Systems, CSC305 Data Communications and Networks, and CEN325 Internet of Things: Foundations and Design. It provides students with an in-depth understanding of concepts, techniques, and applications of information security. Topics covered include Data security, Data integrity, Technical vulnerabilities, Human factor vulnerabilities, Resource protection models, Secret key cryptography, Public key cryptography, Message authentication codes, Network security. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Data protection techniques, Data encryption techniques, and Authentication techniques. The course includes a project where students work in teams using Python to design a Secure Communication System using Advanced Cryptography and communicate their experience through presentations and reports.

CEN368 - Computer Architecture and Organization

Credit Hours: 3
Prerequisite: EEN210 + CEN325

This course builds on the concepts and skills acquired in EEN210 Digital Circuits and CEN325 Internet of Things: Foundation and Design. It introduces students to concepts, techniques, and applications of computer architecture and organization. Topics covered include CPU basics and organization, instruction set architecture, Input/Output systems, hardware-software interface, pipelining, processor and memory architectures, specialized processor extensions, virtualization. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering VHDL memory, VHDL ALUs, and VHDL control logic. The course has a project. In this project, students work teams using VHDL to design a basic computer architecture systems and communicate their experience using presentations and reports.

Major Elective

CSC 302 - Database Management Systems

Credit Hours: 3
Prerequisite: CSC201, MTT202

This course is about databases, and in particular, relational databases and languages. The course introduces the concepts relating to creating, managing and querying database systems. It covers the fundamentals of databases, the process of database design, including data modelling, in particular with the Entity Relationship Model, and the relational data model. Students will gain a sound practical understanding of the SQL relational database query language. They will also develop skills related to normalization of relational tables.

CSC 307 - Web Design

Credit Hours: 3
Prerequisite: SWE201 or CSC201

The Internet and the Web have revolutionized the way people communicate and organizations do business. The business environment of today demands that ICT professionals know how to establish and maintain an interactive and dynamic Websites. In this course, students gain the knowledge needed to develop a well-designed Website. They learn the fundamentals of HTML syntax and layout, creating effective web pages, writing client-side JavaScript, integrate JavaScript into web pages and create an interactive and dynamic Website. Cascaded Style Sheets (CSS) are introduced to specify the presentation of elements on a Webpage, e.g., fonts, spacing, sizes, colors and positioning. JavaScript, which is the standard client-side scripting language for Web-based applications, is presented to add functionality to the web page.

SWE 401 - Software Engineering

Credit Hours: 3
Prerequisite: CSC 202

This course covers the principles of software engineering and object-oriented analysis and design. Topics include software development as an engineering discipline, modeling with UML, requirements elicitation, object-oriented analysis, architecture design, object design, implementation and testing, Software Development Lifecycle, Software Configuration Management, Requirements Engineering, Software Architecture, Use Cases, Object-Oriented Design, UML Diagrams, Software Measurement and Cyclomatic Complexity.

ITE 402 - Computer Networks: Design and Implementation

Credit Hours: 3
Prerequisite: CSC305

This course is designed to provide students with the knowledge required to create a logical network design and suggest alternative physical implementations of this design. Students will be made aware of the key factors and tradeoffs in network performance, security and traffic analysis. The course focuses on the issues and processes used to define and analyze the requirements behind network construction and configuration. The objective is to learn how to design local, campus, metropolitan, or wide area networks and the connection to the Internet.

The course addresses concepts like scalability, robustness, redundancy, reliability, remote access, ubiquitous availability, and security. Topics covered in this course include identifying customer's needs and goals, logical network design, physical network design, testing, optimizing, and documenting a network design, addressing and routing architecture, and network management architecture..

ITE 408 - Information Security

Credit Hours: 3
Prerequisite: CSC 305

This course builds on understanding of Data Communications and Networks and introduces students to information and computer security. It will cover theory and practice for the design of secure systems. It will also emphasize on each of these techniques. An important component of the course will be a survey of modern topics in computer security, including protection, access control, applied cryptography, Message Authentications, IDS and IPS, Hash Functions, network security, firewalls, cryptographic protocols, privacy and anonymity, and mobile code. Case studies from real-world systems will also be analyzed.

CEN 435 - Low Power Operation of Embedded Systems

Credit Hours: 3
Prerequisite: CEN425

This course builds on the concepts and skills acquired in CEN425 Internet of Things: Applications and Edge AI. It provides students with an in-depth understanding of concepts, techniques, and applications of Embedded Systems Operation Power. Topics covered include Power Saving approaches in embedded system design, Wakeup mechanisms, and Computing Battery Life. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Energy Consumption Analysis and Optimization, Power Saving Techniques Implementation, and Wakeup Mechanisms and Interrupt Handling. The course has a project. In this project, students work teams using PyCharm, Arduino, Raspberry Pi, Sensors, and Actuators to design a Energy-Efficient Embedded Systems: Optimizing I/O Power Consumption for Extended Battery Life and communicate their experience using presentations and reports.

CEN 445 - Securing the Internet of Things

Credit Hours: 3
Prerequisite: CEN 425

This course builds on the concepts and skills acquired in CEN425 Internet of Things: Applications and Edge AI. It provides students with an in-depth understanding of concepts, techniques, and applications of Internet of Things (IoT) Security. Topics covered include IoT, Connectivity, Network Protocols, Messaging, Data Accumulation, Vulnerabilities and Attacks, Secure Development Life Cycle, Secure Design of IoT Devices, Cryptographic Fundamentals for IoT, Security Engineering, Identity and Access, Management Solutions for the IoT, IoT Privacy Concerns and Compliance. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Kali Linux lab, Ethical hacking lab, IoT Encryption Lab. The course has a project. In this project, students work teams using PyCharm, Arduino, Raspberry Pi, sensors, and actuators to design a IoT-Based Environmental Monitoring System and communicate their experience using presentations and reports.

EEN 220 - Electric Circuits II

Credit Hours: 3
Prerequisite: CEN 201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of AC Electric Circuits. Topics covered include instantaneous Power, average power and RMS values, active and reactive Power, Three Phase Circuits and Power Distribution systems, Power factor Correction, Magnetically Coupled Circuits, Transformers, Frequency Response, Resonance Circuits, and Admittance Parameters. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering AC circuits, power transferred, frequency, and power factor corrections.. The course has a project. In this project, students work teams using Multisim and testing equipment to design a three-phase power system and explore its simulation and communicate their experience using presentations and reports.

EEN 337 - Analog and Digital Communication

Credit Hours: 3
Prerequisite: CEN 320

This course builds on the concepts and skills acquired in CEN 320 Signals and System. It introduces students to concepts, techniques, and applications of Analog and Digital Communication. Topics covered include basics of analog and digital communication, signals and spectra, analog modulation techniques (AM, FM, PM), the transition from analog to digital, baseband transmission using digital modulation techniques (PAM, PCM). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Analog and Digital Modulation Schemes. The course has a project. In this project, students work teams using MATLAB, electronic components, and testing and measuring equipment to design a FM transmitter circuit capable of wirelessly transmitting audio signals to an FM radio receiver and communicate their experience using presentations and reports.

CEN 490 - Special Topics in Computer Engineering

Credit Hours: 3
Prerequisite: Senior Level

This course will include advanced topics of contemporary interest in selected areas of Computer Engineering. Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor.

AI Concentration Core Courses

AIRE 310 - Machine Learning and Pattern Recognition

Credit Hours: 3

Prerequisite: CSC 201 + COE 101 + MTT 200

This course builds on the concepts and skills acquired in CSC201 Computer Programming I, COE101 Introductory to Artificial Intelligence, and MTT200 Calculus II. It introduces students to concepts, techniques, and applications of Machine Learning (ML). Topics covered include data structures, training and testing, performance assessment, classification, and regression. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Regression from scratch using numpy, Classification comparison using sklearn, Image classification using Keras and pytorch. The course has a project. In this project, students work teams using PyCharm, Scikit Libraries, and PyTorch to design a a deep learning image classifier and communicate their experience using presentations and reports.

AIRE 410 - Deep Learning

Credit Hours: 3
Prerequisite: AIRE 310

This course builds on the Concepts and skills acquired in AIRE310 Machine Learning. It provides students with an in-depth understanding of concepts, techniques, and applications of Artificial Intelligence (AI) and Deep Learning. Topics covered include Artificial Intelligence, Deep Neural Networks, Convolutional Neural Networks (CNN), Autoencoders, YOLO, Generative Adversarial Networks (GANs), and Deep Reinforcement Learning. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Implementing Backpropagation using Python, CIFAR10 Classification using Keras, and and Region-based Convolutional Neural Networks (RCNNs) for Stop Sign Detection. The course has a project. In this project, students work teams using PyCharm, Scikit Libraries, Keras, and Tensorflow to design a YOLO and RCNN Object Detection Networks and communicate their experience using presentations and reports.

AIRE430 - Generative AI

Credit Hours: 3
Prerequisite: AIRE 310

This course builds on the concepts and skills acquired in AIRE310 Machine Learning. It provides students with an in-depth understanding of concepts, techniques, and applications of generative modeling and deep learning. Topics covered include Generative Modeling, Variational Autoencoders, Generative Adversarial Networks, Text-to-Image Generation, and Autoregressive Models. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Generative Modeling Fundamentals, Image Generation with GANs, and Text Generation with Autoregressive Models. The course has a project. In this project, students work teams using MATLAB and PyCharm to design a Synthetic Data Generator and communicate their experience using presentations and reports.

AI Concentration Elective Courses

AIRE 475 - Self-Driving Cars

Credit Hours: 3
Prerequisite: CEN325 + AIRE310

This course builds on the concepts and skills acquired in CEN325, Internet of Things: Foundations and Design, and AIRE310, Machine Learning. It provides students with an in-depth understanding of concepts, techniques, and applications of Self-Driving Vehicles. Topics covered include Deep learning, Computer Vision, Behavior Cloning, Lane Assist, PID Control, and Internet of Things (IoT). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Lane Finding, Behavior Cloning on data collected using Unity Simulator, Autonomous indoor flight mission programming. The course has a project. In this project, students work teams using PyCharm, MATLAB, Arduino, Raspberry Pi, Actuators, and Sensors to design a Self-driving Robot with Lane Assist and PID Control System and communicate their experience using presentations and reports.

AIRE 325 - Ultra-low Power AI on Microcontrollers

Credit Hours: 3
Prerequisite: CEN325 + AIRE310

This course builds on the concepts and skills acquired in CEN325, Internet of Things: Foundations and Design, and AIRE310, Machine Learning. It introduces students to concepts, techniques, and applications of Machine Learning (ML), Deep Learning, and Internet of Things (IoT). Topics covered include Machine Learning, Deep Neural Networks, IoT, Microcontrollers, Embedded Systems, TinyML. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering TinyML Models Training and Testing, Deployment of TinyML Models to Microcontrollers, and Wake-Word Detection Application. The course has a project. In this project, students work teams using Arduino IDE , TensorFlow Lite, PyCharm, Arduino Nano 33 BLE Sense, Sensors, and Actuators to design a TinyML-based Model and Deployment and communicate their experience using presentations and reports.

Bachelor of Science in Electrical Engineering

Degree Requirements

ECS100 - Introduction to Engineering and Computing

Credit Hours: 3
Prerequisite: No Prerequisite

This course provides an introductory general overview of electrical engineering, biomedical engineering, computer engineering, and AI and robotics engineering fields, introducing students to concepts, techniques, and applications of Electrical, Computer, and Biomedical Engineering. Topics covered include an Introduction to Engineering, Roles, and Workplace of Engineers, Ethical Practices in Engineering, Design Process, Basic Circuit Concepts, Numeric Systems, and Teamwork. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Ohm's law, electronic simulations, programming, and debugging. The course has a project where students work in teams using Tinkercad, EasyEDA, ICs, PCBs, and testing and measuring equipment to design an electrocution protection system and communicate their experience using presentations and reports. Students will also analyze the impact of Electrical, Computer, and Biomedical Engineering on society, the environment, and the economy.

MTT 200 - Calculus II

Credit Hours: 3
Prerequisite: MTT 102

This Calculus II course builds upon Calculus I whose purpose was to establish a firm understanding of the foundations of calculus and their applications. It will start with some functions seen in Calculus I. Then, students will be introduced to the concepts of Transcendental Functions, Integration Technique, infinite Series and power Series.

Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world

application problems from text form into a mathematical equation.

MTT 201 - Calculus III

Credit Hours: 3
Prerequisite: MTT 200

This course is a continuation of the study of calculus II. The purpose was to establish a firm understanding of multi-dimensional aspects of calculus and its applications. The topics covered are: An introduction to vectors and geometry of space, partial derivatives, and multiple integrals.

Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from text form into a mathematical equation.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3
Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with

other topics such as; Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available.

MTT 205 - Differential Equations

Credit Hours: 3
Prerequisite: MTT 200
Co-requisite: MTT 204

The course aim is to provide engineering students with some standard methods to solve first order Separable, Exact, Linear and Bernoulli differential equations. Construct mathematical models of simple physical systems. Solve higher order linear ODE's with constant

coefficients. Solve ordinary linear differential equations using infinite series and Laplace transform. Solve systems of differential equations.

PHY 102 - Physics & Engineering Applications I

Credit Hours: 3
Prerequisite: MTT 102

The course aim is to provide computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Wave Motion, Sound Waves, and Superposition of Waves. Taken simultaneously with PHY 102L (1 credit hour) prerequisite MTT 102 + PHY 102 Co-requisite.

PHY 102L - Physics and Engineering Applications I Laboratory

Credit Hours: 1
Prerequisite: MTT 102
Co-requisite: PHY102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY 102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

PHY 201 - Physics and Engineering Applications II

Credit Hours: 3
Prerequisite: PHY 102

The course is intended to provide computer science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts; Electricity and Magnetism.

The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law, inductance, and alternating current circuits. Taken Simultaneously with PHY 201L (1credit hour) prerequisite PHY 102 + PHY 201 Co-requisite.

PHY 201L - Physics and Engineering Application II Laboratory

Credit Hour: 1
Prerequisite: PHY 102
Co-requisite: PHY 201

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.The student will be required to make extensive use of computer-generated graphs and tables for displaying and analyzing experimental data. This will be accomplished using Excel or other spreadsheet programs of comparable capability. To accomplish this, each laboratory station is equipped with a PC and required software.

Experiments will be performed as shown in the lab syllabus. All labs will include an introductory lecture followed by completion of the laboratory assignment. Before students leave the lab, they must request the instructor s review of their data and sign it. Signed raw data sheets must be attached to reports when they are submitted. Student cannot receive a lab report grade without an original raw data sheet signed by their instructor.

CSC 201 - Computer Programming I

Credit Hours: 3
Prerequisite: MTT 101 or Higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to Matlab Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

CHE 205 - General Chemistry I

Credit Hours: 3
Co-requisite: ENG 200 (Co)/ENG 100 (Co)

Chemistry is the study of matter and interactions. This course introduces the principles of chemistry including; elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and

laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L - Chemistry Lab

Credit Hour: 1
Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that

illustrate the principles and concepts for the course CHE 205.

COE 101 - Introductory Artificial Intelligence

Credit Hours: 3
Prerequisite: STT 100

This course builds on the concepts and skills acquired in STT100 General Statistics. It introduces students to concepts, techniques, and applications of Artificial Intelligence. Topics covered include Artificial Intelligence Termonologies, Data Preprocessing, Supervised Learning (e.g., Regression and Classification), AI Performance Evaluation and Bias, Neural Networks, Convolutional Neural Networks, Clustering, Reinforcement Learning, Ethics in AI and AI Strategy. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering data preprocessing, performance evaluation, cross-validation, and neural networks. The course has a project. In this project, students work teams using Excel and AI-Training Software to design a classification model and communicate their experience using presentations and reports.

COE 202 - Engineering Ethics, Economy, and Law

Credit Hours: 3
Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society. The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis."

Major Requirements

EEN 210 - Digital Circuits

Credit Hours: 3
Prerequisite: ECS100

This course builds on the concepts and skills acquired in ECS100 Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of digital logic design. Topics covered include digital concepts, number systems, operations, codes, logic gates, logic simplification, combinational logic analysis, latches, flip-flops, counters, shift registers. The course has a project. In this project, students work teams using digital logic ICs to design a combinational and sequential logic circuits using k-maps and state machines and communicate their experience using presentations and reports.

EEN210L - Digital Circuits Lab

Credit Hours: 1
Co-requisite: EEN210

This lab focuses on the practical applications of Digital Logic Circuit concepts, techniques, and designs. Lab equipment includes Measuring and Testing Instruments, Logic Gates, Combinational Logic Circuits, Sequential Logic Circuits, and Circuit Simulation. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering the use of Measuring and Testing Equipment, LabView Multisim and Data Acquisition, Logic Gates Verification, Combinational Logic Circuits including Multiplexers, Decoders, Adders, and Comparators, Sequential Logic Circuits including Flip-Flops and Latches, Introduction to VHDL on Quartus and the Altera DE2 Board, and Combinational and Sequential Circuits in VHDL.

CSC 305 - Data Communications and Network

Credit Hours: 3
Prerequisite: Junior Level

This course provides an introduction to modern data communications and computer networks. It presents data communications fundamentals and computer networking methods, using the ISO 7-layer reference model to organize the study.

Attention will focus on the protocols of the physical, data link control, network, and transport layers, for local and wide area networks. The course examines in detail analog and digital signaling, analog and digital conversions, data link control, detection & correction, multiplexing, local area networks (LANs), circuit switching, packet switching, network protocols & standards, and error.

CEN330 - Probability and Stochastic Processes

Credit Hours: 3
Prerequisite: CEN320 + STT100

This course builds on the concepts and skills acquired in STT100 General Statistics and CEN320 Signals and Systems. It introduces students to concepts, techniques, and applications of Random Signals and Noise. Topics covered include probability theory, discrete and continuous random variables and their distributions, the concept of mean and variance, functions of one and two random variables, central limit theorem, statistics, and random processes. In this project, students work teams using MATLAB to design a graphical user interface (GUI) for image processing and communicate their experience using presentations and reports.

CEN 333 - Cross-platform Mobile Application Development

Credit Hours: 3
Prerequisite: CSC 201

"This course builds on the concepts and skills acquired in CSC201 Computer Programming I. It introduces students to concepts, techniques, and applications of Cross-platform Mobile Applications. Topics covered include Ionic Apps, Angular, App navigation, Geolocation, Google Maps API, Google Fit, and Google Cloud Vision. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Experimenting with Local and Remote Persistence in Cross-Platform Mobile Applications: Implementation and Performance Analysis, Localization Strategies for Cross-Platform Mobile Applications: Testing and Evaluation of Multilingual Support, and Integrating Local and RESTful API Services in Cross-Platform Mobile Applications: Implementation, Benchmarking, and Optimization. The course has a project. In this project, students work teams using Visual Studio code, StackBlitz, and Ionic to design a Smart Autonomous Mobile Application: Combining Persistence, Navigation, Location, AI, and Native Services and communicate their experience using presentations and reports."

CEN 201 - Electric Circuits I

Credit Hours: 3
Prerequisite: ECS100 or PHY201 + EEN210L

This course builds on the concepts and skills acquired in ECS100 Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of Electric Circuits. Topics covered include Circuit Variables, Circuit Elements, Resistive Circuits, Voltage-Divider and Current-Divider Circuit Circuits, Circuit Analysis. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering voltage and current dividers, Star-Delta, and equivalent circuits. The course has a project. In this project, students work teams using Multisim and testing equipment to design a an RC high pass filter and communicate their experience using presentations and reports.

EEN 220 - Electric Circuits II

Credit Hours: 3
Prerequisite: CEN 201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of AC Electric Circuits. Topics covered include instantaneous Power, average power and RMS values, active and reactive Power, Three Phase Circuits and Power Distribution systems, Power factor Correction, Magnetically Coupled Circuits, Transformers, Frequency Response, Resonance Circuits, and Admittance Parameters. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering AC circuits, power transferred, frequency, and power factor corrections.. The course has a project. In this project, students work teams using Multisim and testing equipment to design a three-phase power system and explore its simulation and communicate their experience using presentations and reports.

CEN 304 - Electronic Devices and Circuits

Credit Hours: 3
Prerequisite: CEN 201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of Electronic Devices and Circuits. Topics covered include diodes, Bipolar Junction Transistors (BJTs), Field Effect Transistors (FETs), and Operational Amplifiers (Op Amps). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering BJTs, FETs, and OpAmps. The course has a project. In this project, students work teams using Multisim and testing equipment to design a common source amplifier and communicate

their experience using presentations and reports.

CEN 324 - Digital and Analog Electronics

Credit Hours: 3
Prerequisite: CEN 304

This course builds on the concepts and skills acquired in CEN304 Electronic Devices and Circuits. It provides students with an in-depth understanding of concepts, techniques, and applications of electronic circuits. Topics covered include amplifiers, building blocks, amplifier frequency response, ideal and non-ideal operational amplifiers and feedback, operational amplifier applications, differential amplifiers and operational amplifier design, analog integrated circuit design techniques. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering OpAmps applications. The course has a project. In this project, students work teams using electronic circuits to design a signal conditioning and filtering circuits and communicate their experience using presentations and reports.

CEN 325 - Internet of Things: Foundations and Design

Credit Hours: 3
Prerequisite: CSC 201 + EEN 210

This course builds on the concepts and skills acquired in CSC201 Computer Programming I and EEN210 Digital Circuits. It introduces students to concepts, techniques, and applications of Internet of Things and microcontroller interfacing. Topics covered include microcontroller fundamentals, digital and analog I/O, motor control, interfacing with sensors, registers, Timers, interrupts, and serial communication. The course has a project. In this project, students work teams using Arduino, sensors, and wireless communication to design a Sumo Robot and communicate their experience using presentations and reports.

CEN 425 - Internet of Things: Applications & Networking

Credit Hours: 3
Prerequisite: CEN 325

This course builds on the concepts and skills acquired in CEN325 Internet of Things: Applications and Networking. It provides students with an in-depth understanding of concepts, techniques, and applications of internet of things. Topics covered include microcontroller communication,RPi setup and IoT implementation, python basics, python lists and dictionaries , advanced python, computer vision with opencv, controlling hardware and motors, interfacing sensors and digital inputs , integrating microcontrollers and embedded linux boards, home automation, RPi hardware basics and interfacing techniques. The course has a project. In this project, students work teams using PyCharm, Linux OS, UMLETino, Rasberry Pi, Sesnors, Actuatos, and ICs to design a advanced IoT nodes and embedded systems with computer vision systems and communicate their experience using presentations and reports.

EEN 337 - Analog and Digital Communications

Credit Hours: 3
Prerequisite: CEN 320

This course builds on the concepts and skills acquired in CEN 320 Signals and System. It introduces students to concepts, techniques, and applications of Analog and Digital Communication. Topics covered include basics of analog and digital communication, signals and spectra, analog modulation techniques (AM, FM, PM), the transition from analog to digital, baseband transmission using digital modulation techniques (PAM, PCM). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Analog and Digital Modulation Schemes. The course has a project. In this project, students work teams using MATLAB, electronic components, and testing and measuring equipment to design a FM transmitter circuit capable of wirelessly transmitting audio signals to an FM radio receiver and communicate their experience using presentations and reports.

EEN 339 - Communication Systems

Credit Hours: 3
Prerequisite: CEN330 + EEN337

This course builds on the concepts and skills acquired in EEN 337 Digital and Analog Communications and CEN 330 Probability and Stochastic Processes. It introduces students to concepts, techniques, and applications of Communication Systems. Topics covered include digital modulation and demodulation techniques, optimum receiver design, coherent modulations, spread-spectrum techniques, informationy theory, error control coding techniques, and the effects of noise in communication systems. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering modulation techniques, synchronization methods, and spread spectrum coding techniques. The course has a project. In this project, students work teams using MATLAB and testing equipment to design a end-to-end digital communication system using binary phase shift keying and communicate their experience using presentations and reports.

CEN 320 - Signals and Systems

Credit Hours: 3
Prerequisite: MTT205 + CEN201

This course builds on the concepts and skills acquired in MTT205 Differential Equations and CEN201 Electric Circuits. It introduces

students to concepts, techniques, and applications of Signals and Systems. Topics covered include classification of systems, DT and CT systems, signal modeling and transformation, LTI systems, Frequency domain analysis and Fourier transform, Laplace transform, Z-Transform, and Discrete Fourier transform. The course has a project. In this project, students work teams using MATLAB to design a sound visualization interface and analyzer and communicate their experience using presentations and reports.

CEN401L - Embedded and IoT Lab

Credit Hours: 3
Prerequisite: EEN210L
Co-Prerequisite: CEN425

This lab focuses on the practical applications of embedded systems and internet of things concepts, techniques, and designs. Lab equipment includes Arduinos, Raspberry Pis, actuators, sensors, and the PyCharm software. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering Introduction to the Arduino and the Raspberry Pi, State Machines Implementations using Embedded C++ and Python, TinkerCAD and TkCircuit Simulators, Bash Programming and Linux, Digital Inputs and Outputs on Arduino, GPIO, Serial Communication, Interfacing Motors and Sensors, Web and Mobile Interfaces for IoT Nodes, and Back End Technologies.

CEN464 - Digital Signal Processing

Credit Hours: 3
Prerequisite: CEN320

This course builds on the concepts and skills acquired in CEN320 Signals and Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of digital signal processing. Topics covered include the z-transform and its application to the analysis of LTI systems, frequency analysis of signals, frequency-domain analysis of LTI systems, the properties and applications of discrete fourier transform, the design of digital filters, and the properties and applications of discrete fourier transform . The course has a project. In this project, students work teams using MATLAB to design a digital filters and communicate their experience using presentations and reports.

CEN464L - Signal Processing Lab

Credit Hours: 1
Co-Prerequisite: CEN464

This lab focuses on the practical applications of Digital Signal Processing concepts, techniques, and designs. Lab equipment includes a PC and Matlab software. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering signal operations, convolution, Fourier and Laplace transforms, Fourier domain representation, time domain sampling, aliasing, pre-filtering, filter design, random signals, probability, noise modeling and reduction, power spectral analysis, and 1D-3D signal processing for audio, sensor, image, and video signals.

EEN 338 - Electromagnetic Fields and Waves

Credit Hours: 3
Prerequisite: MTT 205
Co-requisite: MTT 201

This course builds on the concepts and skills acquired in MTT205 Differential Equations. It introduces students to concepts, techniques, and applications of Electromagnetic Fields and Waves. Topics covered include Static Electric and Magnetic Fields, Electromagnetic Waves, Propagation of EM Waves in Free Space, Wave Reflection at Normal Incidence, and Wave Polarization. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering electromagnetic principles. The course has a project. In this project, students work teams using MATLAB, electronic components, and testing and measuring equipment to design a antenna for wireless communication and communicate their experience using presentations and reports.

EEN 365 - Control System

Credit Hours: 3
Prerequisite: MTT 204 + CEN 320

This course builds on the concepts and skills acquired in MTT204 Introduction to Linear Algebra and CEN320 Signals and Systems. It introduces students to concepts, techniques, and applications of Control Systems. Topics covered include Modeling in Frequency and Time domains, The Transfer Functions, Poles, Zeros, System Response, block diagrams, Signal-Flow Graphs, Stability, Steady-State Error, Root Locus, and PID Controllers. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering control systems analysis, PID controllers on Simulink, and PID controllers on Arduinos. The course has a project. In this project, students work teams using MATLAB to design a liquid level control system for a chemical processing facility and communicate their experience using presentations and reports.

EEN 340 - Energy Conversion

Credit Hours: 3
Prerequisite: EEN 220 + EEN 338

"This course builds on the concepts and skills acquired in EEN220 Electric Circuits II and EEN338 Electromagnetic Fields and Waves. It introduces students to concepts, techniques, and applications of Electric Machines. Topics covered include electromagnetic induction,

transformers, alternating current (AC) machine fundamentals, polyphase synchronous generators/motors, induction motors, DC motors and generators, and single-phase induction and synchronous motors. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Transformers, DC motors, and Three-Phase Motors. The course has a project. In this project, students work teams using MATLAB and testing equipment to design a simulation for separately excited DC Shunt and a Series Motors and communicate their experience using presentations and reports."

EEN 345 - Power Systems

Credit Hours: 3
Prerequisite: EEN 220

This course builds on the concepts and skills acquired in EEN220 Electric Circuits II. It introduces students to concepts, techniques, and applications of Power Systems. Topics covered include PerUnit Quantities, Load Flow Study, Economic Dispatch, Symmetrical Components, Fault Study, System Protection, Stability, and transmission line protection. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering transformers, power systems simulation and load analysis. The course has a project. In this project, students work teams using DIgSILENT Power Factory to design a simulation for a 9-bus system to study its stability and load flow and communicate their experience using presentations and reports.

EEN 449 - Renewable Energy

Credit Hours: 3
Prerequisite: EEN 345

This course builds on the concepts and skills acquired in EEN345 Power Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of renewable energy. Topics covered include Introduction to Renewable Energy, Wind Energy, Hydro Power, Solar Energy and PV Systems, Geothermal Energy, Ocean Energy, Biomass Energy, Tidal Power, Economics of Renewable Energy, Energy and the Environment. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering harvesting wind and solar energy, and energy storage. The course has a project. In this project, students work teams using MATLAB Simulink to design a renewable energy resources utilization for power generation and communicate their experience using presentations and reports.

EEN 399i - Internship in Electrical Engineering I

Credit Hours: 2
Prerequisite: 90 Credit Hours

"Internship in Computer/Electrical Engineering I" is designed to expand on the knowledge and skills acquired in the first 90 credit hours of the Computer/Electrical Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the fields of computer and electrical engineering within a professional, industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of computer and electrical engineering such as hardware design, software development, network architecture, circuit analysis, control systems, and power distribution. In the course of their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature of computer and electrical engineering fields. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of computer and electrical engineering on society, the environment, and the economy, providing them with a more holistic understanding of their role as future engineers.

EEN 399ii - Internship in Electrical Engineering II

Credit Hour: 1
Prerequisite: EEN 399i

"Internship in Electrical Engineering II" is designed to expand on the knowledge and skills acquired EEN399i Internship in Electrical Engineering I, and in the Computer/Electrical Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the fields of computer and electrical engineering within a professional industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of computer and electrical engineering such as hardware design, software development, network architecture, circuit analysis, control systems, and power distribution. In the course of their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature of computer and electrical

engineering fields. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of computer and electrical engineering on society, the environment, and the economy, providing them with a more holistic understanding of their role as future engineers.

EEN448 - Electrical Installation and Design

Credit Hour: 3
Prerequisite: EEN345

This course builds on the concepts and skills acquired in EEN345 Power Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of electrical power distribution. Topics covered include final circuit design, power protection, lightning protection, power factor, cable sizing, UPS, and earthing. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Load Distribution Analysis and Optimization in Electrical Systems, Final Distribution Board Inspection, and Final Circuits Inspection. The course has a project. In this project, students work teams using DIGSI 5, Matlab Simulink, and Power Distribution Board to design a Residential/Commercial Building Electrical Systems and communicate their experience using presentations and reports.

EEN 451 - Electrical Engineering Design Project I

Credit Hour: 1
Prerequisite: Senior Level

"This course builds on the concepts and skills acquired in courses throughout the Electrical Engineering program. It is the first part of a two-part sequence and requires students to be at the senior level. It introduces students to concepts, techniques, and applications of comprehensive project design and development within Electrical Engineering. Skills covered include problem definition, design conceptualization, modeling, fabrication, and system integration in both software and hardware aspects. Students connect theoretical concepts learned in the program to practice through the development of their research proposals.
The core of the course is research. In this phase, students work on literature reviews and develop a proposal for the project they will work on in Capstone 2. This process involves integrating various engineering skills and knowledge acquired throughout the program. Students communicate their research process, challenges encountered, and project outcomes using presentations and detailed written reports.
Extending the course over two semesters gives students time to research the topic and develop a prototype. This leads to a well-rounded learning experience that encapsulates the realities of working on large-scale, complex engineering projects."

EEN 452 - Electrical Engineering Design Project II

Credit Hours: 2
Prerequisite: EEN 451

"This course builds on the concepts, skills, and progress acquired and achieved in EEN451 Electrical Engineering Design Project I. It continues to engage students in concepts, techniques, and applications of comprehensive project design and development within Computer and Electrical Engineering.
This course continues the topics covered in the first part, including advanced problem definition, design conceptualization, modeling, fabrication, and system integration in both software and hardware aspects. The centerpiece of the course remains the design project. Students continue their work from Electrical Engineering Design Project I and develop a prototype based on the research conducted in Capstone I, utilizing various software tools and hardware components to refine, finalize, and optimize their operational engineering prototypes/ systems. This process may involve strict testing, troubleshooting, and iterative design improvements to ensure the prototype meets the project objectives and standards. Students will also gain experience in delivering professional presentations and composing detailed written reports, focusing on the design enhancements and challenges overcome during the project's second phase. Further, students will deepen their understanding of the societal, environmental, and economic implications of their engineering solutions, facilitating a comprehensive understanding of their role and responsibilities as electrical engineers. The two-semester structure enables students to fully realize their projects, providing a unique opportunity to experience the complete life cycle of a complex engineering project, from initial conceptualization to final execution and evaluation."

Major Electives

Communications

EEN 430 - Radiowave Propagation

Credit Hours: 3
Prerequisite: EEN 337 + EEN 338

This course builds on the concepts and skills acquired in EEN337 Analog and Digital Communications and EEN338 Electromagnetic Fields and Waves. It provides students with an in-depth understanding of concepts, techniques, and applications of radio-wave propagation. Topics covered include Electromagnetic Waves Theory, Antennas for RF Radio Links, Microwave and millimeter-wave propagation, Atmospheric Effects in Radio Wave Propagation, Fluctuation Processes, RF-Link Stability Analysis and Radio Wave Reception. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering modeling and analyzing radio-wave communication systems . The course has a project. In this project, students work teams using MATLAB to design a designing radio-communication including noise effect systems and communicate their experience using presentations and reports.

EEN 444 - Optical Communication and Laser Technologies

Credit Hours: 3
Prerequisite: EEN 337 + EEN 338

This course builds on the concepts and skills acquired in EEN337 Analog and Digital Communications and EEN338 Electromagnetic Fields and Waves. It provides students with an in-depth understanding of concepts, techniques, and applications of optical communications. Topics covered include optical fibers, optical transmitters, optical receivers, lightwave systems, multichannel systems, loss management, dispersion management. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering optical properties, optical transmitter and receiver circuits, and laser diode characteristics. The course has a project. In this project, students work teams using optical-based circuits and laser technologies to design a optical systems and communicate their experience using presentations and reports.

EEN 435 - Wireless Communication

Credit Hours: 3
Prerequisite: EEN 337

This course builds on the concepts and skills acquired in EEN337 Analog and Digital Communications. It provides students with an in-depth understanding of concepts, techniques, and applications of wireless communication. Topics covered include applications and requirements of wireless services, technical challenges of wireless communications, wireless system design overview, propagation mechanisms, statistical description of the wireless channel, wideband and directional channel characterization, channel models, antennas, modulation formats and demodulation, diversity, channel coding and information theory, equalizers, and orthogonal frequency division multiplexing (ofdm). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering channel coding, signal propagation, antenna design techniques, and channel modelling. The course has a project. In this project, students work teams using MATLAB Simulink, testing, and measurement equipment to design a wireless communication solutions and communicate their experience using presentations and reports.

EEN 455 - Satellite and Space Communication Systems

Credit Hours: 3
Prerequisite: EEN 337+ EEN 338

This course builds on the concepts and skills acquired in EEN337 Analog and Digital Communications and EEN338 Electromagnetic Fields and Waves. It provides students with an in-depth understanding of concepts, techniques, and applications of communication systems. Topics covered include Orbits Perturbations, Digital Communications Techniques, Uplink, Downlink, and Link Performance, Multiple Access, and Satellite Networks. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Designing and Simulating a Satellite Communications System, Link Performance Analysis and Multiple Access Techniques, and Earth Station and Satellite Payload Simulation. The course has a project. In this project, students work teams using MATLAB Simulink to design a Advanced Satellite Communications System Design and Simulation and communicate their experience using presentations and reports.

Power Systems and Renewable Energy

EEN 447 - Batteries & Fuel Cells Fundamentals

Credit Hours: 3
Prerequisite: EEN 345 + EEN 340

This course builds on the concepts and skills acquired in EEN345 Power Systems and EEN340 Energy Conversion. It provides students with an in-depth understanding of concepts, techniques, and applications of Batteries and Fuel Cells. Topics covered include types of fuel cells, Cells thermodynamics, efficiency and open Circuit voltages, Operational Fuel Cell voltages, and Proton Exchange Membrane Fuel Cells. Students connect theoretical

concepts learned in the course to practice using hands-on laboratory experiences covering Lead Acid and Ni-MH Batteries Charging Fundamentals, Ni-MH Battery Capacity vs Discharge Rate, and Battery Charging Methods and Efficiency . The course has a project. In this project, students work teams using MaTLAB Simulink to design a Analysis Characterization and Performance Analysis of Batteries and Fuel Cells in Powering Various Energy Demanding Loads and communicate their experience using presentations and reports.

EEN 441 - Photovoltaics

Credit Hours: 3
Prerequisite: EEN 345

This course builds on the concepts and skills acquired in EEN345 Power Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of photovoltaics. Topics covered include solar energy technologies, fabrication of solar cell, solar cell properties and design, solar resources, solar system components, standalone, hybrid, and distributed pv systems. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering solar irradiance measurement and analysis, PV modules characterization and performance, and PV simulations using Simulink. The course has a project. In this project, students work teams using electric systems including PV cells to design a photovoltaic systems and communicate their experience using presentations and reports.

EEN 443 - Power Distribution

Credit Hours: 3
Prerequisite: EEN 345

"This course builds on the concepts and skills acquired in EEN345 Power Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of power distribution. Topics covered include Load Characteristics, Steady-state analysis, Distribution Transformers, Electrical energy utilization, Power Quality, Power factor improvement, and voltage regulation. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Measure the Power using Three Ammeter or Three Voltmeter Method, Measure the Power of an AC, 3-phase system using Two Wattmeter Method, and Power Factor Correction by using Capacitor Bank in parallel with Inductive Load. The course has a project. In this project, students work teams using MATLAB Simulink to design a Power Factor Correction in Three Phase Power Systems: Design, Implementation, and Analysis and communicate their experience using presentations and reports."

EEN 445 - Power System Protection

Credit Hours: 3
Prerequisite: EEN 345

This course builds on the concepts and skills acquired in EEN345 Power Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of power protection. Topics covered include Instrument Transformers, relays and circuit Breakers, Differential Protection, Busbar Protection, Transformer Protection, Generator Protection, Motor Protection, and Numerical Protection. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Overcurrent Protection of a Power Transformer using a Numerical Protective Relay, Overcurrent and Overload Protection of AC Machines and Power Transformers using a Numerical Protective Relay, and Differential Protection. The course has a project. In this project, students work teams using MATLAB Simulink and DIGSI 5 to design a Simulation and Analysis of Over-Current Protection in Three-Phase Power Systems using Matlab Simulink and communicate their experience using presentations and reports.

CEN 435 - Low Power Operation of Embedded Systems

Credit Hours: 3
Prerequisite: CEN 425

This course builds on the concepts and skills acquired in CEN425 Internet of Things: Applications and Edge AI. It provides students with an in-depth understanding of concepts, techniques, and applications of Embedded Systems Operation Power. Topics covered include Power Saving approaches in embedded system design, Wakeup mechanisms, and Computing Battery Life. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Energy Consumption Analysis and Optimization, Power Saving Techniques Implementation, and Wakeup Mechanisms and Interrupt Handling. The course has a project. In this project, students work teams using PyCharm, Arduino, Raspberry Pi, Sensors, and Actuators to design a Energy-Efficient Embedded Systems: Optimizing I/O Power Consumption for Extended Battery Life and communicate their experience using presentations and reports.

Robotics and Instrumentation

EEN 310 - Instrumentation and Measurement

Credit Hours: 3
Prerequisite: CEN 304

This course builds on the concepts and skills acquired in CEN304 Electronic Devices and Circuits. It introduces students to concepts, techniques, and applications of instrumentation and measurement. Topics covered include Analog and Digital Signal Conditioning, Mechanical Transducers, Electric Transducers, Measurements of basic electrical quantities, and Analog and Digital Oscilloscopes . Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Analog and Digital Signal Conditioning with Op-Amp Circuits, Measurement of Basic Electrical Quantities using Electromechanical and Electronic Multi-meters, and Oscilloscope Triggering, Timebase, and Measurement Techniques. The course has a project. In this project, students work teams using MATLAB, LabView, DAQ, and Electronics Components to design a Design and Implementation of an Integrated Measurement System for Basic Electrical Quantities and communicate their experience using presentations and reports.

EEN 413 - Sensors and Transducers

Credit Hours: 3
Prerequisite: EEN 310

This course builds on the concepts and skills acquired in EEN310 Instrumentation and Measurement. It provides students with an in-depth understanding of concepts, techniques, and applications of sensors. Topics covered include sensors, data collection, and data processing. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering various aspects of sensor technology and data acquisition. The course includes a project. In this project, students work in teams using MATLAB and sensors to design and develop sensor-based systems, communicating their experience through presentations and detailed reports.

CEN 454 - Computer Vision and Image Processing

Credit Hours: 3
Prerequisite: CEN464 + CEN464L

This course builds on the concepts and skills acquired in CEN464 Digital Signal Processing. It provides students with an in-depth understanding of concepts, techniques, and applications of image processing and computer vision. Topics covered include noise estimation, image filtering, image enhancement, image reconstruction, morphological operations, image segmentation, Convolutional Neural Networks (CNN), and object tracking. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Spatial and Frequency Domain Image Enhancement Pipelines on Matlab, Background Modeling and Foreground Segmentation using Gaussian Mixture Models and the EM Algorithm on Matlab, and Face Detection and Tracking using OpenCV. The course has a project. In this project, students work teams using MATLAB and PyCharm to design a Particle Filter-Based Object Tracking in Video Sequences and communicate their experience using presentations and reports.

EEN 366 - Introduction to Robotics

Credit Hours: 3
Prerequisite: EEN 365

This course builds on the concepts and skills acquired in EEN365 Control Systems. It introduces students to concepts, techniques, and applications of Robotics and Automation. Topics covered include robotics, sensors, actuators, Robotics Operating Systems (ROS), and PID Control. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Robotics Simulation on ROS, Gazebo, and RViz, Setting up ROS on Raspberry Pi and Controlling Actuators, and Reading Sensor Data and Controlling the Robot with ROS and OpenCV. The course has a project. In this project, students work teams using PyCharm, MATLAB, ROS, Raspberry Pi, Sensors, and Actuators to design a Autonomous Surveillance Robot using ROS and Computer Vision and communicate their experience using presentations and reports.

EEN 490 - Special Topics in Electrical Engineering

Credit Hours: 3
Prerequisite: Senior Level

This course will include advanced topics of contemporary interest in selected areas of Electrical Engineering. Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor.

Bachelor of Science in Information Technology

Degree Requirements

COE 102- Introductory Big Data Analytics

Credit Hours: 3

Prerequisite: STT100

This course provides a general introduction to Data Analytics. It provides an essential guide to understanding and using data analytics in real-life applications without the need for any previous familiarity with programming. The course starts by introducing the main concepts of Data Analytics to provide a solid understanding of the field, its subfields, and major application areas. Students will learn the different types of data, data sources and data use, and technologies for Big Data. Then, we move through the various types of analytics starting with basic univariate descriptive analytics and moving through multivariate until we reach predictive, model-based analytics. The course is designed in a way that balances theory and practice. Throughout the course, the students will follow the data-driven approach to solving real-life problems through a series of practical labs and class activities. They will learn how to explain and identify the elements of introductory to intermediate data-driven systems using Microsoft Power BI. The course concludes by introducing the students to a variety of special data analytics applications in engineering, health, business, and the web emphasizing social, security, and economic dimensions.

SWE 201 - Structured Programming

Credit Hours: 3
Prerequisite: MTT101 or Higher

The main objective of this course is to provide students with the logic and tools required to develop structured software programs in Java. Java is a challenging programming language that is based on object-oriented programming methodology. However, this course focuses on structured programming as the main objective of learning. It also serves as a preliminary foundation for learning the object-oriented programming methodology. The material for this course includes Introduction to Computers and Java Programming, Control Structures (loops and conditions), Functions, Arrays, and Strings and the notion of algorithms for solving problems

CSC 202 - Computer Programming II

Credit Hours: 3
Prerequisite: SWE 201 or CSC 201

Object-oriented programming offers greater reliability, maintainability and reusability than structured programming. This course follows on from Structured Programming and introduces the concepts of Object-Oriented Programming. It develops the basic skills necessary to develop software application programs in Java using objected oriented principles and concepts. The course presents the main principles of Objected Oriented Programming: data abstraction, objects and classes, inheritance, and polymorphism. It also covers Exception Handling, binary files, abstract classes, and interfaces. Graphical user interfaces and event-driven programming are also covered. Students should have a core foundation of structured programming principles in order to progress smoothly and effectively in this course.

CSC 301 - Data Structures and Algorithms

Credit Hours: 3
Prerequisite: MTT202, CSC202

This course builds on the pre-requisites programming courses and provides the students with an opportunity to further develop and refine their programming skills. In particular, the emphasis of this course is on the organization of information, the implementation of common data structures such as lists, stacks, queues, trees, and graphs, and techniques of data abstraction, including encapsulation and inheritance. We will also explore recursion, hashing, and the close relationship between data structures and algorithms. Operationally, applications of data structures to searching and sorting algorithms will be incorporated into programming assignments as will complexity analysis. Hands-on programming is a central component of this course.

CSC 302 - Database Management Systems

Credit Hours: 3
Prerequisite: MTT 202 + (SWE 201 or CSC 201)

This course is about databases, and in particular, relational databases and languages. The course introduces the concepts relating to creating, managing and querying database systems. It covers the fundamentals of databases, the process of database design, including data modelling, in particular using the Entity Relationship Data Model. Students will gain a sound practical understanding of the SQL relational database query language.

CSC 305 - Data Communications and Networks

Credit Hours: 3
Prerequisite: Junior Level

This course provides an introduction to modern data communications and computer networks. It presents

data communications fundamentals and computer networking methods, using the ISO 7-layer reference model to organize the study. Attention will focus on the protocols of the physical, data link control, network, and transport layers, for local and wide area networks. The course examines in detail analog and digital signaling, analog and digital conversions, data link control, detection & correction, multiplexing, local area networks (LANs), circuit switching, packet switching, network protocols & standards, and error

CSE 210 - Introduction to Cybersecurity Engineering

Credit Hours: 3
Prerequisite: ECT 200

Cyber security engineering aims at developing secure systems by combining various aspects of systems and software engineering, and operational security. It covers all processes from risk analysis, engineering security requirements, malware analysis to anticipate future vulnerabilities, and planning ongoing improvements. The course will initiate students to the basic concepts and terminology of cyber security, standards, DevOps, building organizational models, and how cyber security is commonly addressed after the design and implementation phases. It will help the students build up an understanding of how to integrate cyber security tools/techniques and best practices in the design processes of systems engineering. The course incorporates a capstone project where students are given the opportunity to practice cyber security engineering knowledge, skills, and best practices in a realistic development environment.

ECT 200 - Introduction to Computing

Credit Hours: 3
Prerequisite: No Prerequisite

This course is meant to be an introduction to a variety of topics in the fields of information technology, and computer science. The course demonstrates the importance of computers in our day-to-day life and the kind of challenges ahead. Topics that are covered include the computer systems components, the operating systems and applications software. The importance of networking, systems analysis, databases, and software development are highlighted.

I The students will also be introduced to different programming languages in general, with some emphasis on Python.

ITE 399A - Internship/Project in IT-Part A

Credit Hours: 1.5
Prerequisite: 60 Credit Hours

ITE 399B - Internship/Project in IT-Part B

Credit Hours: 1.5
Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of tasks during the period of training. The plan will be devised jointly by the site-supervisor and college- supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities. During the period of internship, students will develop their abilities and skills through performing required tasks.

ITE 390 - Computer Ethics

Credit Hours: 3
Prerequisite: CSC 202

A study of ethical and social issues related to computers and computer networks, big data, computer algorithms and Artificial intelligence. This course examines the ethical issues arising from advances in Information Technology and the responsibility that IT professionals and users have in regard to ethical computer usage. Topics covered are social impact of computing, computer crime, software theft, privacy, intellectual property rights, autonomy, technology at the workplace, technology and jobs, computer games, big data and AI, as well as new and emerging ethical issues related to technology and information

ITE 499A Capstone Design Project I

Credit Hour: 1
Prerequisite: Senior Level + SWE 401 + ITE 421

ITE 499B Capstone Design Project II

Credit Hours: 2
Prerequisite: ITE499A

The objective of this course is to provide guided experience in wide areas of Information Technology to student teams working on capstone projects. The projects will integrate various engineering skills into operational prototypes. The projects will emphasize problem definition, design conceptualization, modeling, development testing and system integration. The course is split into two parts and is taken over two semesters to allow students enough time to complete all the development phases starting from requirements, elicitation through development and testing. and improve the quality of their design project. ITE 499A is a pre- requisite to ITE 499B

MTT 202 - Discrete Structures and Applications

Credit Hours: 3
Prerequisite: STT 100

This course introduces the basic foundations of logic, structures, algorithms, number theory, induction, recursion and relations with applications in computer science and engineering. The course then introduces students to graphs and trees and their use in modeling and analyzing computer science and computer engineering problems. Finally, the course presents the basics of Boolean Algebra and Finite Automata with applications.

STT 201 - Intermediate Statistics and Research Methods

Credit Hours: 3
Prerequisite: STT 100

The science of data analysis is commonly called Statistics. Statistics and statistical analyses are fundamental tools for managerial decision-making. Statistical analysis provides many ways to deal with uncertainties and, hence, is useful both for descriptive and inferential tasks. This course presents statistical concepts and their applications for managerial decision-making. Computer based statistical analyses and the application of the insights gained through such statistical analyses for developing effective business decisions will be integrated into every aspect of the course. Topics addressed include Normal Distribution, sampling distributions, estimation techniques, hypothesis testing for one and more than one population, Goodness-of- Fit and Analysis of Variance.

Major Requirements

CSC 308 - Operating Systems

Credit Hour: 3
Prerequisite: CSC 301

This course introduces students to the concepts and principles of operating systems design and to the prevailing techniques for their Implementation. The course requires students to be already familiar with the structure of a user-program after it has been converted into an executable form and that they have some rudimentary understanding of the performance trade-offs inherent in the choice of algorithms and data structures. The course will cover operating systems concepts including process management, memory management, file and file system management, and introduce distributed operating systems. Two concrete examples of operating systems are used to illustrate how the principles and techniques are deployed in practice.

.SWE 401 - Software Engineering

Credit Hours: 3
Prerequisite: CSC 202

This course covers the principles of software engineering and object-oriented analysis and design. Topics include software development as an engineering discipline, requirements engineering, requirements elicitation, object- oriented analysis, object design, modeling with UML, architecture design, implementation and testing. This course provides a comprehensive overview of the Software Development Lifecycle, Methodologies, Requirements Engineering, and Object-Oriented Analysis and Design. The course will allow students to gain skills and knowledge needed to excel in today's dynamic software development field

CSC 406 - Artificial Intelligence

Credit Hours: 3

Prerequisite: STT 201 + CSC 301

This course provides a comprehensive introduction to Artificial Intelligence. It is intended to equip the students with theoretical and hands-on practical knowledge necessary to analyze and understand different aspects related to modern AI systems. Topics covered include intelligent agents, search and optimization algorithms, machine learning, deep learning, natural language processing, and personalized systems and recommender systems. The course utilizes a variety of learning and assessment tools. These include case studies of cutting-edge AI technologies, problem solving assignments, and practical projects related primarily to machine learning and natural language processing. In addition, this course is aligned with Oracle AiML certificate. The students will have the chance to attend training bytes on an Oracle training channel dedicated for this course. At the end of the course the students can set for the AiML final exam and earn a completion certificate issued by Oracle Academy.

CSC 408 - Distributed Information Systems

Credit Hours: 3
Prerequisite: CSC 202 + CSC 305

The study of distributed systems is exciting and interesting! In many respects, distributed systems are at the forefront of a revolution in the computer science discipline. In this course we will explore the principles and paradigms associated with distributed systems. During our exploration of principles, we will focus on developing a working understanding of the notions and concepts that are fundamental to all distributed systems: communication, coordination, fault-tolerance, transparency, self-organization,

and synchronization. During our investigation of paradigms, such as message passing, remote object invocation, distributed shared memory, or group communication, we will examine, in great depth, specific technologies for building distributed systems. To this end, we will focus on the implementation of distributed systems that utilize Java programming language. Main topics include inter-process communication, remote invocation, distributed operating systems, distributed file systems, coordination and agreement, and concurrency control

CSC 307 - Web Design

Credit Hours: 3
Prerequisite: SWE 201 or CSC 201

The Internet and the Web have revolutionized the way people communicate and organizations do business. The business environment of today demands that ICT professionals know how to establish and maintain interactive and dynamic Websites. In this course, students gain the knowledge needed to develop a well-designed Website. They learn the fundamentals of HTML syntax and layout, creating effective web pages, writing client-side JavaScript, integrating JavaScript into web pages and creating an interactive and dynamic Website. Cascaded Style Sheets (CSS) are introduced to specify the presentation of elements on a Webpage, e.g., fonts, spacing, sizes, colors, and positioning. JavaScript, which is the standard client-side scripting language for Web-based applications, is presented to add functionality to the web page.

CIS 404 - Data Warehousing and Data Mining

Credit Hours: 3
Prerequisite: CSC 302

Due to advances in technology and the availability of increasingly cheap storage devices, data in different domains has been accumulating at an impressively high rate in recent years, leading to very large databases. This course focuses on current advancements in Knowledge Discovery in Databases (KDD) dealing with the data preparation, integration, mining, online analytical processing, and extracting useful patterns in such databases. This course also focuses on machine learning, neural networks, clustering techniques, and classification using different algorithmic techniques. The techniques discussed have originated in the fields of artificial intelligence, information retrieval, data visualization, and statistics. Industrial and scientific applications will be given. In the process, the course will identify strengths and weaknesses of the studied technique

CSE 420 - Ethical Hacking

Credit Hours: 3
Prerequisite: CSC 305

This course introduces the fundamental concepts of ethical hacking methodology, practical techniques and ethics. The main focus of the course is to introduce students to the methodology and tools necessary in order to assess the security posture of the system under study. The course utilizes Kali-Linux and many other software tools that are usually used by a malicious hacker to study the weaknesses and vulnerabilities of a target systems. In this course the students study the main phases of ethical hacking, the phases include reconnaissance, gaining access, enumeration, maintaining access, and covering the tracks.

ITE 401 - IT Project Management

Credit Hours: 3
Prerequisite: SWE 401

This course deals with project management concepts and applications and stresses the importance of utilizing project management methodologies in planning modern information systems. The aim is to give students an understanding of how to manage information technology projects both for the individual managing their own development, and for the team leader managing a larger scale project. The emphasis will be on getting a quality product produced on time and within budget. Topics include Project Management and Information Technology Context, Project Management Process Groups, Project Integration Management, the Project Management Constraints (Scope, Time, and Cost), Project Quality Management, and Project Risk Management.

ITE 409 - Human Computer Interaction

Credit Hours: 3
Prerequisite: CSC 401 or SWE 401

Effective design of human computer interfaces is a major factor in developing user-friendly software. The course will provide the background theory, practical examples, and models and techniques that enable students to design good interfaces and to evaluate human computer interface functionality and usability. The course will examine the practical and theoretical issues of how people interact with computers and methods for developing software to improve usability. A principal goal is for students to develop an awareness and sensitivity for user needs and abilities as they interact with computer software.

ITE 408 - Information Security

Credit Hours: 3
Prerequisite: CSC 305

This course builds on understanding of Data Communications and Networks and introduces students to information and computer security. It will cover theory and practice for the design of secure systems. It will also emphasize on each of these techniques. An important component of the course will be a survey of

modern topics in computer security, including protection, access control, applied cryptography, Message Authentications, DoS, IDS and IPS, Hash Functions, network security, firewalls, secure coding practices, cryptographic protocols, privacy and anonymity, and mobile code. Case studies from real-world systems will also be analyzed.

ITE 414 - Introduction to E-commerce

Credit Hours: 3
Prerequisite: Junior Level

With the rapid growth of the Internet, commerce on the web has been a significant part of the revenue stream for companies. This course will develop a comprehensive understanding of the main business concepts and technical facets related to e-commerce. It starts by defining e-commerce and identifying its most prevalent features, then it moves to identify several e-commerce business models. Students will learn how to identify and analyze all the major elements of an e-commerce business model and will learn how to design a comprehensive e-commerce business plan. The course introduces the students to the IT infrastructure of e-commerce and helps the students understand the technical challenges involved in developing an e-commerce web presence. Finally, the students will learn the process of planning, designing, and developing an e-commerce web presence and will apply the learned concepts and technologies to design and develop a working prototype of an e-commerce website. The course also tackles topics related to online payment methods and security to enrich the learning experience.

ITE 402 - Computer Networks Design and Implementation

Credit Hours: 3
Prerequisite: CSC 305

This course is designed to provide students with the knowledge required to create a logical network design and suggest alternative physical implementations of this design. The objective is to learn how to design local, campus, metropolitan, or wide area networks and the connection to the Internet. Topics covered in this course include Identifying customer needs and goals, Logical network design, Addressing and routing architecture, Network management architecture, Physical network design, Testing, optimizing, and documenting network design.

ITE 422 - System and Network Administration

Credit Hours: 3
Prerequisite: CSC 305

This course delves into the intricate world of network and system administration, providing students with a comprehensive understanding of this crucial IT domain. It seamlessly intertwines theoretical concepts with hands-on practical skills, encompassing essential topics such as user management, network models, and fault management. The curriculum places a strong emphasis on ethical considerations, system maintenance models, and configuration strategies. Through engaging class sessions, hands-on laboratory exercises, assignments, and projects, the course fosters a dynamic and participatory learning environment. Ultimately, students emerge with the essential knowledge and skills to navigate diverse IT landscapes with confidence and expertise

ITE 421 - Native Mobile Application Development

Credit Hours: 3
Prerequisite: CSC 202

This course provides basic knowledge and understanding of mobile applications design and implementation. The course also examines the tools by which mobile applications are built in different mobile device environments. The aim of this subject is to enable students to understand the basic principles and architectures of native mobile application development. The course focuses on mobile application development using Android. The course also highlights the use of SQLite in android devices.

ITE 442 - Data Science and Big Data Analytics

Credit Hours: 3
Prerequisite: (SWE 201 or CSC 201) STT 201

The Big Data course focuses on managing and processing massively large, versatile, continuous, and heterogeneous data retrieved from different sources including, for instance, sensors, social media, web applications, ERP systems, mobile applications, transportation systems, and others. Acquiring, storing, processing, and visualizing this data encompass various methods/ techniques with many challenges to be considered. In this course, students will have a comprehensive overview of the Big Data ecosystem and its value chain. They will learn how to identify and evaluate different Big Data challenges. They will gain the essential theoretical and practical knowledge required to evaluate Big Data quality requirements and design and implement business solutions using Big Data methods and technologies. The course walks the students through the Big Data process starting from data acquisition and moving to storage, processing, analytics and visualization. Throughout the course

the students will learn the tools and frameworks required to handle Big Data. Finally, by completing this course, students will be able to develop a Big data strategy and implement a Big data business solution using the techniques, methods, and technologies introduced throughout the course.

IT Major Electives

ITE 410 - Web Programming

Credit Hours: 3
Prerequisite: CSC 307

This course is designed to provide students with the knowledge required to design, implement, and maintain MEAN Stack Internet applications and web architectures. It introduces the tools, protocols and languages used in the development of these applications. This course gives an understanding of web middleware and the programming technologies to build modern web applications using proper application programming interfaces and environments. This course reviews the basics of Web programming tools (HTML5 and JavaScript). It describes the features of HTTP protocol and its interaction features using the Ajax internet applications. The course aims to study the popular server-side web application scripting and programming languages (e.g., JSON and NodeJS). How to handle data input/ output and accessing files using NodeJS. Database oriented web applications are also introduced through the implementation of NoSQL and MongoDB.

CSC 404 - Computer Graphics and Animation

Credit Hours: 3
Prerequisite: CSC 301

This course is an introduction to the principles of interactive computer graphics. It provides an appreciation and understanding of the techniques available for representing 2D and 3D pictures of objects and scenes. Topics include fundamentals of vector and raster graphics, 2D and 3D transformations, projections, 3D modeling, hidden surface removal methods, ray tracing, and graphical user interfaces. The hardware of the graphic environment is defined and new development platforms for graphics in windows are investigated.

ITE 415 - Advanced E-commerce Applications Design

Credit Hours: 3
Prerequisite: ITE 414

This subject aims to provide students with an in-depth understanding of advanced e-commerce concepts and technologies in the context of today's global e-commerce environment. Today, most businesses compete in the global cyberspace necessitating the need for an efficient adoption and utilization of several advanced technologies supporting a successful online presence. The course starts by covering in depth the security dimensions of e-commerce and investigating the threats, security technologies, and related organizational and legal processes supporting a secure online presence for businesses. After forming a good understanding of the security dimensions of e-commerce, the course introduces several online payment methods and establishes a solid framework for evaluating online payment methods against several criteria including primarily security, ease of use and implementation, and cost. After that, students will learn several online market research methods and techniques and will explore available tools supporting advanced online market research. Students will then learn how to use market research outputs to plan, design, implement, and evaluate an effective online marketing campaign using several online marketing channels. The course concludes by introducing the students to the e-commerce supply chain, contemporary technologies supporting e-commerce, and ethical and legal aspects. The course combines theory, practical labs, and critical case study analysis sessions allowing for a rich learning experience. Topics include security methods and techniques for e-commerce, online payment methods, online market research concepts and tools, online marketing channels, online marketing campaigns, supply chain management, and ethical and legal aspects.

CSE 400 - Network Security and Forensics

Credit Hours: 3
Prerequisite: CSC 305

This course provides the students the opportunity to examine network-based attacks and whether originating from outside the enterprise (Internet) or from the local LAN. In addition, this course provides an introduction to the methodology and procedures associated with digital forensic analysis in a network environment. The course will provide the students with the methods and ways to protect, detect, and defend the enterprise network from such attacks. Students will also learn about the importance of network forensic principles, legal considerations, digital evidence controls, and documentation of forensic procedures. The practical component of this course will provide the students with the skills to install, troubleshoot and monitor network devices to maintain integrity, confidentiality and availability of data and. The course concludes upon the topic of legal and ethical aspects of computer security including cybercrime, intellectual property, privacy and ethical issues.

ITE 423 - Advanced Mobile Application Development

Credit Hours: 3
Prerequisite: ITE 421

The marketfor mobile applications is becoming very significant due to ever increasing number of smart phones and tablets. Nowadays smart devices are equipped with powerful processers, large memories and diverse array of sensors. These capabilities increased the importance of mobile applications in our daily lives. In this course students learn how to develop a variety of mobile applications that utilize the different sensors and capabilities of the mobile devices. Students will build mobile applications with special focus on media and sensors. The course teaches students how to build real-world mobile applications that utilize different and diverse capabilities of modern smart devices such as mobile phones and tablets. It introduces students to the mobile platform internals that include processes, threads, handlers, asynchronous tasks, notification managers, GPS sensor, Accelerometers, Near Field Communication, multimedia.

CSE 410 - Mobile Device Security

Credit Hours: 3
Prerequisite: CSC 305

This course focuses on how to secure mobile devices, i.e., any device that cannot be not classified as a desktop or a server, and the significant threats affecting the services delivered over the mobile infrastructure. The main security principles incorporated in the design of several generations of mobile networks is overviewed. Various security models will be explored including the main popular mobile device platforms such as: iOS, Android and Windows Phone. In addition, the course teaches students about the security of mobile services, such as VoIP, text messaging, WAP and mobile HTML. Students will become familiar with various tools that are used to recover cell phone data, and the type of extractions, and will be able to analyze the results by diving deep within the file systems of mobile devices. Students will engage in forensic acquisition and analysis of mobile computing devices, specifically iOS, Android, and Windows Phone devices.

ITE 430 - Mobile Game Development

Credit Hours: 3
Prerequisite: ITE 421

This course introduces the principles of game development design with focus on mobile games. The course includes mobile game development process, game platform and graphics. Students will design and implement a basic 2D game using Game Maker by YOYO Games. In this course students will learn the techniques of mobile game development including game content development, game programming, prototype development and game testing. At the end of the course, students will have designed a new mobile game and implemented a prototype.

ITE 432 - Multiplayer Game Design

Credit Hours: 3
Prerequisite: ITE 430

This course provides an overview of multiplayer game design strategies and programming in different networking environments such as the Internet and wireless networks. It considers different user interfaces using computers and hand-held devices such as mobile telephones both in single and multiplayer modes. It will also present design principles and techniques for on-line gaming. The course stresses on the use of C++ and Java as game programming languages. The course discusses the basics of transmitting data for games—how to prepare game data to be sent over the network, how to update game objects over the network, and how to organize the computers involved in the game. Topics include: Overview of multiplayer games, Network essentials and topology for games strategies, Data structures for multiplayer games, Latency and jitter. It also covers how to compensate for unreliability and lag on the Internet, and how to design game code to scale and be secure, Real-World Engines, Gamer Services, and Cloud Hosting Dedicated Servers.

ITE 490 - Selected Topics in IT

Credit Hours: 3
Prerequisite: Department Consent-Determined based on topics

Information Technology curriculum cover fundamental principles in different area such as database Networks design and administration, Mobile application development, Web design, Secure, Operating systems and many other areas. The main purpose of this course is to study Information Technology related topics that are not included in the current Information Technology curriculum. The content of the course and the subjects vary depending on the instructor's background and students ' interest in the subject.

Bachelor of Science in Interior Design

Major Requirements

IND 100 - Introduction to Interior Design

Credit Hours: 3
Prerequisite: No Prerequisite

This course introduces the profession of interior design, its history, and its related specialties and disciplines. The course introduces the basic elements of interior design. It will present and explain terminology that helps clarify and amplify architectural and interior design thought and introduce students to careers in interior design. This course explains the practical and conceptual concerns underpinning interior design are also emphasizes the interdisciplinary nature of the profession. The course provides an introduction to the practical and ethical dimension of the profession.

DES 100 - Graphic Thinking and Freehand Drawing

Credit Hours: 3.00 (1 Lecture + 4 Studio)
Prerequisite: No Prerequisite

Thinking in the field of design is greatly enhanced by the use of more than one sense. The long history of architectural design has produced a great wealth of graphic techniques and imagery in response to highly complex, comprehensive, quantitative-qualitative problems. The aim of the course is to introduce and train the students in free hand drawing. This course would then enable the students to become creative and imaginative while improving their sketching and conceptual skills. It would enable the students to respect and enjoy drawing as a method of creative problem solving and understand the role and need for drawing in the design disciplines.

DES 110 - Design Communication I

Credit Hours: 3 (1 lecture + 4 studio)
Prerequisite: No Prerequisite

This course aims at developing the visual skills used by professionals in the built environment. The course offers an introduction to basic drawing and graphic modeling skills for architecture, interior design civil engineers and Construction managers. Instruction on two-dimensional visualization of the built environment and space will be covered. This includes technical as well as freehand drawing and representations. Basic 2d image processing software as well as basic 2D vector drawing software are introduced. Topics include: basic freehand drawing and drafting skills, orthographic projection, shades and shadow, paraline drawing, sketching skills, drawing and projection composition, Drafted and freehand drawing of actual and proposed environments is considered including analysis of light, shade, materials, textures and various contextual elements. Basic linear multimedia software are also introduced to students as a presentation and design communication tool. Educational enrichment activities in this course will include field-trips to project exhibits as well as art museums and architectural offices.

DES 120 - Design Communication II

Credit Hours: 3 (1 lecture + 4 studio)
Prerequisite: DES 110

This course builds upon the drawing skills introduced in Design Communication I and introduces the students to three-dimensional visualization of the built environment focusing on perspective projections. The courses also introduces basic 3D sketching techniques using manual and digital means.

DES 130 - Design Foundation

Credit Hours: 3.00 (1 Lecture + 4 Studio)
Prerequisite: DES 100

This is a foundation class in principles relating to all areas of design of the built environment. The course is designed to introduce the students to the basic elements of design including vocabulary, configuration, form and order. The classes consist of both theoretical and practical studio which is based on assignments, field studies and contextual study. The studio assignments and exercises are aimed to demonstrate an understanding of the use of a model for structuring design information, design process, research and communication skills.

DES 210 - Computer Aided Design

Credit Hours: 3 (1 lecture+ 4 lab)
Prerequisite: DES 120

This course serves as an introduction to various electronic media employed within the practice of architecture and interior design. Creative and effective skills in the use of computers in architecture and interior design applications are consistently stressed. The course introduces the students to the concepts of building information modeling. Students completing this course will have a working knowledge of BIM software as well as advanced rendering software and nonlinear multimedia tools.

DES 220 - Architectural History I

Credit Hours: 3
Prerequisite: ENG 200

This course is a historical and conceptual survey of architecture and design from prehistory to Baroque and Rococo. The course will address questions of style and cover the major movements overtime. The course will focus on the way design

provides the physical, spatial, and temporal frameworks for human interaction with the surrounding environment, the context, and culture.

IND 280 - History of Interior Design

Credit Hours: 3
Prerequisite: DES 220

This course examines 20th and 21st-century Architecture and Interior Design, through lectures, reading assignments, research, and design assignments. The course focuses on issues concerning style, technology, urbanism, regionalism, function, and reform to address the diverse forces that have shaped modern architecture and Interior Design. This course deals with the theoretical concepts of Interior Design and Arts developed by contemporary movements. These movements led to contemporary features in interior spaces and furniture design. This course helps students enhance their knowledge of contemporary interior design, through the study and analysis of different styles and artistic movements.

IND 215 - Interior Design Studio I

Credit Hours: 3 (1 lecture + 4 studio)

Prerequisite: DES120 + DES130

This course is an introduction to basic design process requirements. Emphasis is placed on the predesign stage, design programming, design elements, and circulations. Through a small-scale residential project, design programming, analyzing, and understanding spatial relationships (space planning, furniture arrangements) will be conducted. It started with hand drawing and sketches of Space Planning and Elevations for each room in parallel with a digital mood board, color scheme, and furniture selection study in addition to the understanding of Topics as functional and aesthetic elements for residential interiors are covered and each room study is presented on a digital board. Students will be encouraged to learn basic manual rendering and digital project presenting techniques.

IND 235 - Building Technology I

Credit Hours: 3 (1 lecture+ 4 studio)
Prerequisite: DES 120 + DES 130

Discussion of various aspects of the construction industry including introduction of building technology, fundamentals of structures and building types, typical construction materials and methods. This course would assist the students in exploring the external and internal structures of buildings. Upon completion of this subject the student should be able to understand the different building technologies and materials, uses of building codes and standards & and building components, applied loads, and fundamentals of structural design principles. Demonstrate the basic building process from "need" to "completion " and explain various branches of construction technology and relationships to other industries

IND 240 - Color Theory in Design Applications

Credit Hours: 3
Prerequisite: No Prerequisite

This course will study color theory and its application relative to the interior environment. Emphasis will be placed on human response to color, the science of color/light and color/pigment, principles of color design, and implementation through design projects. The Students will be able to do a clear study for color scheme and apply it to different interior spaces.

IND 335 - Textiles

Credit Hours: 3 (2 lecture + 2 studio)
Prerequisite: IND 290

A study of fibers, yarns, fabric construction and finishes as related to selection use and care of fabrics. The purpose of this course is to introduce and familiarize the student with textiles and fabrics as they relate specifically to Interior Design. The student will gain knowledge of basic concepts of the characteristics of natural fibers, manufactured fibers, yarns, finishes, & fabric construction methods, fabric care and labeling information, Evaluate code requirements and test results; and select appropriate fabrics for specific interior design applications.

Additionally, students will develop an understanding of dyeing, printing, finishing processes and will be able to identify and classify textiles used by their yarns and weaves. Students will learn the terminology of textiles as used by the interior design industry and will understand the transformation raw fibers undergo before reaching the end user. Students will also research a current topic, such as Sustainability or green textiles, fibers yarns, woven& non-woven, Fabric , Fabric structure etc.

IND 255 Building Technology II

Credit Hour: 3 (2 lecture+ 2 studio)
Prerequisite: IND 235

This course would assist the students in exploring different advanced building systems and technologies as well as means of deploying them in buildings. It will emphasize the prefabrication of internal structures including internal finishing, stairs, and fittings. An overview of advanced concepts and properties of additional different systems will also be discussed, with emphasis on graphical communication.

IND 260 - Interior Construction

Credit Hours: 3 (1 lecture+ 4 studio)
Prerequisite: IND 235 + DES 120

This course will develop interior construction knowledge to solve interior architectural problems in new construction with an emphasis on high-rise structures.

This course is an introduction to construction and detail drawings. It enables students to gain knowledge in interior finishes and to implement that into their drawings.

The aim of this course is to increase the students' implementation of working drawings for any given project.

IND 350 - Materials and Specifications

Credit Hours: 3.00 (3+0)
Prerequisite: IND 255

This course examines various aspects of materials and finishes applicable to the interior environment and is delivered face-to-face through lectures, assignments, and project work. The course will focus on interior materials and specifications and will include their applications, performance, limitations, production methods, and environmental impacts. With an emphasis on commercial interiors, the course will enable students to consider and compare alternatives when selecting materials for an interior design project. The course will help students formulate specifications of the materials, take off quantities, and work out rough cost estimates for a project.

DES 410 - Research Methods and Programming

Credit Hours: 3
Prerequisite: IND 315

This course would provide an essential introduction to the process of research within architecture and Interior Design. Research in design provides a very rich domain of investigation and poses problems whose solution relies upon judgment, creativity, and integration of a multitude of skills. This course addresses design problems and revisits the architectural design process with emphasis on the study of methods for reformulating the design synthesis..

IND 290 - Furniture Design

Credit Hours: 3 (1 lecture+ 4 studio)
Prerequisite: DES210 or IND215

This course will study furniture through the Theory and application of furniture design and construction emphasizing the continuing development of three-dimensional design skills and attention to physical detail; aspects of structure, ergonomics, and aesthetics are addressed in the process of designing and constructing furniture pieces. This course focuses on the issues related to customized furniture design including construction, styles, function, and technical aspects.

Through the study of the human form and by researching appropriate materials and construction techniques, students develop a design for a furniture prototype from conception to construction. The student should be able to demonstrate his/her knowledge understanding and skills to develop and evaluate design prototypes for multiple projects, varying in scale. The student will have the necessary techniques to translate design concepts to finish prototypes. All projects will be submitted and evaluated face-to-face.

IND 275 - Interior Design Studio II

Credit Hours: 3 (1 lecture + 4 studio)
Prerequisite: IND 215 + IND 240

This course introduces advanced principles to initiate residential interior design projects on a large scale (apartment, villa, duplex), Depending on human needs to meet aesthetic and functional values. Emphasis is placed on: large housing needs and decisions, principles and elements of design, selection, and organization of furnishings, color theories, interior space treatment (floor and wall coverings, window treatments, lighting), and accessories. Design programming will be conducted to cover prospected residents' requirements client questionnaire and trend survey will be implemented, and advanced knowledge of building systems, codes, regulations, and building characteristics will be taken into consideration in the proposed design.

ARC 320 - Environmental Design I Lighting and Acoustics

Credit Hours: 3 (2 lecture + 2 studio)
Prerequisite: IND 260 or ARC 210

This course is a comprehensive overview of the luminous and sonic environment with consideration to energy conscious design. Content includes human physiological and psychological perceptions of light in the built environment, natural and electric light sources, day lighting design techniques, lighting measurements and controls, light and form, computations for quantity and quality light, and the use of illuminated models for day lighting and electric lighting design, the base principles of acoustics impacting room acoustics, mechanical system noise, sound absorption and isolation, and the basic principles of electrical systems.

IND 399 A - Internship

Credit Hours: 1.5
Prerequisite: 90 Credit Hours + IND 390

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern, and automated organization. The student will follow a well-planned course of action

during the period of training. The plan will be devised jointly by the site supervisor and college-supervisor. The course is intended to be a breakthrough experience in exposing students to the organizational work culture and the nature of business complexities

IND 399 B - Internship

Credit Hours: 1.5
Prerequisite: IND 399 A

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern, and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site supervisor and college-supervisor. The course is intended to be a breakthrough experience in exposing students to the organizational work culture and the nature of business complexities

IND 390 - Professional Practice and Ethics

Credit Hours: 3
Prerequisite: IND 315

This course introduces students to the profession of architecture and interior design. Students will gain knowledge of the profession, the benefits of joining professional organizations, career planning, and preparing for a job search. The course will make students aware of the ethical and legal responsibilities of design professionals. Students will learn of types of business formations, organization, and management required to efficiently run a design practice as well as types of personnel and project compensation. Further, the course will inform students of the requirements to successfully deliver a design project from concept to completion.

ARC 420 - Environmental Design II: Energy and Systems

Credit Hours: 3
Prerequisite: ARC 320 or (ARC 240 + ARC 270)

This course studies the influences of the climate, human comfort and the context on the design of buildings and sites. The design of passive and active systems is reviewed from an environmental perspective emphasizing on the essential building services and applications used in common buildings. Energy sources, strategies of sustainability and its basic principles are covered in accordance. This face-to-face course covers environmental design principles, site potentials, and climatic factors. It explores indoor air quality, thermal efficiency, and cooling systems, leading to a midterm exam. The latter part of the course addresses water conservation, waste management, and fire safety measures.

IND 430 - Graduation Project I

Credit Hours: 3 (2 lecture+ 2 studio)
Prerequisite: DES 410 + IND 280

The preliminary stage of the senior design project, IND 430, includes project research, data gathering, and analysis. Upon completion of this subject, the student should be able to define basic concepts of interior design facility programming. The students will reinforce their knowledge of how to collect, organize, interpret, communicate, and evaluate data. On weekly bases student will follow up their research progress with the specified instructor.

IND 315 - Interior Design Studio III

Credit Hours: 3 (1 lecture, 4 studio)
Prerequisite: IND 275 or ARC 250

This course will concentrate on the interior design of interior spaces for public areas such as; retail, cafés, restaurants, and beauty salons, where client/owner and client/user are significantly different. Design programming including several case studies, design principles, and human considerations will be implemented. Building codes, advanced technologies, and regulations will be considered. Emphasis is placed on advanced design thinking based on Needs analysis, space requirements, human behavior, and specified concepts. Lighting and acoustical solutions will be implemented to create an appropriate interior environment. Based on retail type; material selection will be made bearing in mind different material specs. Finally, students will produce functional solutions as project drawings. All projects will be submitted and evaluated face-to-face

IND 340 - Interior Design Studio IV

Credit Hours: 3.00 (1 lecture + 4 Studio)
Prerequisite: IND315 + IND 335

The aim of the course is to introduce the students to the design of office interiors. This course would enable the students to successfully design interior spaces for administrative buildings. Students will concentrate on incorporating sustainable design practices in the Interior design of the office environment. Focusing is placed on RCPs, lighting calculation, and acoustics solutions. Emphasis is on space planning, functional requirements, and new furnishing systems, particularly in office design. Study of the different space Facilities including financial institutions and institutional facilities. Students will generate a full design solution considering building codes and local regulations. All projects will be submitted and evaluated face-to-face.

IND 415 - Interior Design Studio V

Credit Hours: 3 (1 lecture + 4 studio)Prerequisite: IND 340+ Senior Status

This course focuses on the experiential forces of designing a large-scale hospitality project influenced by a specified theme either historical or contemporary.

Design programming as well as scheme will be conducted to develop the proposed design. Emphasis is placed on inspiration, style elements, and theme reflection in different project spaces and functions.

Students shall Develop design solutions showing the design concept, reflecting the design theme and inspiration process.

Focusing is placed on Codes and regulation as well as, five stars hotel regulations, and building construction /technologies. Approaching a healthy environment in design will be conducted and considered in the final evaluation. Students will work on the major final project as groups to achieve the teamwork experience and to satisfy assigned tasks. Students will be evaluated for being a successful team member and group harmony will be considered.

Teamwork Projects will be solved by the students in the context of hospitality projects. Working drawing for a specified spot will be fully generated in the working drawing course IND 460. All projects will be submitted and evaluated face-to-face.

IND 460 - Working Drawings

Credit Hours: 3 (1 lecture + 4 studio)
Prerequisite: IND 350 + ARC 420

This course concentrates on the Interior Design Construction Drawings and Details of a Hospitality Space/ Hotel. The students will complete a typical guest room in a hotel, interior design space project. Emphasis is on the working drawings and construction details. That process terminates with the completion of a very thorough series of verbal presentations and physical documentation of the construction drawings. All projects will be submitted and evaluated face-to-face.

IND 470 - Graduation Project II

Credit Hours: 6 (2 lecture + 8 studio)Prerequisite: IND 430 + IND 415

This course provides the students with an opportunity to successfully work on a real interior design project of their choice.

Students will complete a large-scale, interior design project that utilizes an existing building. The work is initiated in IND430. Emphasis is on the design process from schematic design through design development. That process terminates with the completion of a very thorough series of verbal presentations and physical documentation of the design solution. Facility types include but are not limited to Health Care or Recreation/ Hospitality/ Museum/ Theater, etc.

Each student, however, in IND430 selects a particular building typology (i.e., health care facility, recreation facility, etc.) for their particular IND470 project.

Completion of a large interior design project as initiated in IND 430. Emphasis is on the design process from schematic design through completion of presentation drawings.

The students are given the opportunity to develop their knowledge and ability to work on interior design projects.

The final graduation project is an individual project integrating all the previous knowledge and skills learned in a fully developed design solution.

Major Elective

IND 581 - Advanced Furniture Design and Detailing

Credit Hours: 3 (2 lecture + 2 studio)Prerequisite: IND 290

This course helps students understand the aesthetic and functional ergonomic aspects of furniture as well as develop their research, analysis, criticism and evaluation capabilities in the field of furniture design. The course will enhance students' ability to recognize and appreciate design programming and abstract design expressed in sketches, and presentation drawings. Students should be able to design furniture pieces, solve furniture design problems and produce a variety of technical drawings of furniture pieces. This course will emphasize the technological aspects of producing furniture, models, shop drawings and presentation drawings.

IND 582 - Islamic Interiors

Credit Hours: 3 (3 lecture)
Prerequisite: DES 220

The aim of the course is to allow the students to research and understand Islamic buildings and interiors, and to learn the decorative components of Islamic interiors such as patterns, colors, trims and accessories with emphasis on mosques, madras, palaces and fortifications.

DES 580 - Architectural Photography

Credit Hours: 3 (3 lecture)
Prerequisite: DES 220 or LAR 230

This course aims to introduce students to the basic skills and technology of digital and film photography, the principles of photography and their relationship to design. It will also teach students to analyze the elements of photographs, choose best shots in photographing

building exteriors and interiors and apply the different photography techniques in photographing students' projects.

ARC 540 - Sustainable Design

Credit Hours: 3 (2 Lecture + 2 Studio)
Prerequisite: ARC 420 or ARC 410

This course investigates the theory and practice of sustainability and the interrelated design methods and processes for achieving sustainability at the urban scale of reference. It examines how sustainable theory influences practice and informs design thinking. It raises the urge for forwarding a more sustainable way of designing, living and thinking, given the discourse on global warming and the UAE's intricate conditions that return us to local solutions, implemented in a contemporary way. The elements of the Arab city are revisited for this purpose. Hence, the Community part of the Estidama Pearl-rating system will be used to evaluate and enhance the sustainability of a given project. That Project is consisted of the analysis of an existing Emirati National Housing Project and the design of alternative conceptual proposals. Within this context, both an Environmental Impact Assessment and a more practical/business perspective of sustainability shall also become part of the process.

ARC 582 - 3D Modeling

Credit Hours: 3 (1 lecture + 4 Studio)
Prerequisite: DES 210 or ARC 280

This course is designed to teach an advanced level of 3D modeling and animation for architects. Emphasis will be placed on building 3D world space representing various aspects of the built environment. It will allow students to build upon concepts such as complex geometries, light effects, materials, camera settings, physical motion, and modeling techniques, rendering, and post production.

ARC 583 - Building Information Modeling

Credit Hours: 3 (1 lecture +4 Studio)
Prerequisite: DES 210 or ARC 280

This course explores Building Information Modeling (BIM) programs from Preliminary Design through Design Development, and into Construction Documents. It focuses on streamlining the design process with a central 3D model.

ARC 590 - Building Economics

Credit Hours: 3 (2 lecture+2 Studio)
Prerequisite: IND 460 or ARC 340

This course covers the principles of economics and its application in the construction and building industry. It conveys an appreciation of macroeconomics, business and fiscal aspects of engineering practice. Attention is given to essential topics such as Market demand, Competition and monopoly, Macroeconomics, Government and fiscal policies, Labour economics and Building obsolescence.

Bachelor of Science in Mechanical Engineering

Degree Requirements

MTT 200 - Calculus II

Credit Hours: 3
Prerequisite: MTT 102

This course is a continuation of Calculus I. The course will concentrate on integral calculus. A recurring theme throughout the semester will be the relationship between an approximation and the exact value. The topics covered are; The Fundamental Theorems of Calculus, Techniques of Integration, Numerical Integration, Improper Integrals, Area, Volumes, Arc Length, and Average Values, Infinite Sequences and Series, and Applications in the field of science and engineering.

MTT 201 - Calculus III

Credit Hours: 3
Prerequisite: MTT 200

This course is a continuation of the study of calculus. The course provides an introduction to the design analysis. The topics covered are: introduction to vectors, vector calculus, partial derivatives, and multiple integrals.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3
Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a

way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as; Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available

MTT 205 - Differential Equations

Credit Hours: 3
Prerequisite: MTT 200
Co-requisite: MTT 204

The course will demonstrate the usefulness of ordinary differential equations (O.D.E.) for modeling physical and other phenomena. The topics covered are first and higher orders O.D.E, Laplace transform, applications of Laplace transform to initial value problems of O.D.E, systems of O.D.E and some engineering applications. Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from a text form into a mathematical equation.

PHY 102 - Physics & Engineering Applications I

Credit Hours: 3
Prerequisite : MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Wave Motion, Sound Waves, and Superposition of Waves. Taken simultaneously with PHY 102L (1 credit hour).

PHY 102L - Physics and Engineering Applications I Lab

Credit Hours: 1
Prerequisite: MTT 102
Co-requisite: PHY 102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY 102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data

PHY 201 - Physics & Engineering Applications II

Credit Hours: 3
Prerequisite: PHY 102

The course is intended to provide engineering and computer science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts; Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law, inductance, and alternating current circuits. Taken simultaneously with PHY 201L (1 credit hour).

PHY 201L - Physics and Engineering Application II Lab

Credit Hour: 1
Prerequisite: PHY 102
Co requisite: PHY 201

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

CHE 205 - General Chemistry I

Credit Hours: 3
Pre or Co-requisites: ENG 200

Chemistry is the study of matter and interactions . This course introduces the principles of chemistry including; elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L - General Chemistry I Lab

Credit Hour: 1
Prerequisite: ENG 200
Co-requisite: CHE205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205

MEC 130 - Introduction to Mechanical & Industrial Engineering

Credit Hours: 2
Prerequisite: No Prerequisite

This course is intended to introduce students to the fields and disciplines of mechanical engineering, including: design, manufacturing, power, thermofluids, robotics, aerospace, mechatronics, biomechanics, renewable energy, and industrial engineering. The course also introduces students to the use of basic equipment in mechanical engineering workshop.

CSC 201 - Structured Programming I

Credit Hours: 3
Prerequisite: MTT 102 or MTT 102

The main objective of this course is to provide students with the logic and tools required to develop structured software programs in C++. C++ is a challenging programming language that is based on both structured programming and object-oriented programming methodologies. However, this course focuses on structured programming as the main learning objective. It also serves as a preliminary foundation for learning the object-oriented programming methodology.

COE 101 - Introductory Artificial Intelligence

Credit Hours: 3
Prerequisite: STT 100

This course introduces students to broad topics in artificial intelligence (AI) and machine learning without requiring them to have a computing or mathematical background. Students will have a closer look at the booming field of AI and develop insights on how it drives value for the society in virtually all sectors including business, healthcare, education, engineering, and governance. The course covers basic AI concepts and terminologies, applications, tools, and performance evaluation in an accessible way to a wide range of audiences.

Students are introduced to supervised learning including classification and regression, deep learning, unsupervised learning, and reinforcement learning. They are also trained on using simple yet powerful AI tools to empower their creativity and innovation in problem solving, AI strategy design, process automation, and cost reduction, and thus add value to their future employers. This is done through a practical course component designed to allow students to build simple data-driven AI using Excel. The data used in these laboratories is collected from different domains such as health, environmental science, business, and engineering.

COE 202 - Engineering Ethics, Economy and Law

Credit Hour: 3
Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society.

The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

COE 102 - Introductory Big Data Analytics

Credit Hour: 3

Prerequisite: STT 100

This course provides a general introduction to Data Analytics. It provides an essential guide to understanding and using data analytics in real-life applications without the need for any previous familiarity with programming. The course starts by introducing the main concepts of Data Analytics to provide a solid understanding of the field, its subfields, and major application areas. Students will learn the different types of data, data sources and data uses, and technologies for Big Data. Then, we move through the various types of analytics starting with basic univariate descriptive analytics and moving through multivariate until we reach predictive, model-based analytics. The course is designed in a way that balances between theory and practice. Throughout the course, the students will follow the data-driven approach to solving real-life problems through a series of practical labs and class activities. They will learn how to explain and identify the elements of introductory to intermediate data-driven systems using Microsoft Power BI. The course concludes by introducing the students to a variety of special data analytics applications in engineering, health, business, and the web emphasizing social, security, and economic dimensions.

Major Requirements

CIV 201 - Statics

Credit Hours: 3
Prerequisite: MTT 102 + PHY 102

Basic force concepts and equilibrium analysis; distributed forces; centroids; moments of inertia; application to structural elements.

MEC 300 - Materials Science

Credit Hours: 3
Prerequisite: CHE 205

An introduction to the structure and properties of materials and the processing routes utilized to optimize properties. All major classes of materials are covered, including metals, ceramics, composites, and polymers. Emphasis on the relationships between chemical bonding, crystal structure, phase equilibria, microstructure, and properties including electrical band structures, electron excitation events and semiconductors. Diffusion, kinetics of phase transformations, and microstructure development during basic processes.

MEC 301 - Manufacturing Processes

Credit Hours: 3

Prerequisite: MEC 300

This course aims at studying basic manufacturing processes such as casting, forging, rolling, drawing, extrusion, press tool work, plastic molding, powder metallurgy, welding, brazing, turning, shaping, drilling, milling and grinding. Metal and non-metal fabrication processes are included. Topics covered include mold design, casting and welding processes, theory of metal cutting, tooling features, mechanics of selected bulk deformation and sheet metalworking processes and manufacturing process selection and design for production of a given product.

MEC 302 - Mechanics of Materials

Credit Hours: 3
Prerequisite: CIV 201

Stress and strain; Material behavior; Hooke's law; Axial loading; Safety factors; Shear force and bending moment diagrams; Bending stresses and deflections; Shear stresses in beams; Torsion of circular members; Combined stresses; Mohr's circle; Buckling of columns; Engineering applications.

MEC 310 - Dynamics

Credit Hours: 3
Prerequisite: CIV 201 + MTT 204

Kinematics and kinetics of particles in plane, rectilinear and curvilinear motion; work and energy of particles; particle impulse and momentum; kinematics and kinetics of rigid bodies..

MEC 320 - Thermodynamics I

Credit Hours: 3
Prerequisite: PHY 102

System and control volume concepts. Properties of a pure substance. Work and heat. The first law of Thermodynamics as applied to a system and a control volume, internal energy, enthalpy. The second law of Thermodynamics. Carnot cycle, entropy, reversible and irreversible processes. Applications of steady-state steady-flow, uniform-state uniform-flow, and other processes.

MEC 321 - Thermodynamics II

Credit Hours: 3
Prerequisite: MEC 320

This course is designed to teach junior mechanical engineering students the application of thermodynamic principles to the design and optimization of engineering systems. Specifically, students will have the ability to apply the first and second law of thermodynamics to (1) vapor power and refrigeration systems, (2) gas power systems, (3) applications concerning humidification, dehumidification, evaporative cooling, and (4) thermodynamics of combustion systems such as furnaces, flow reactors etc.)

MEC 330 - Computer Aided Drawing

Credit Hours: 2
Co-requisite: MEC 130

This course aims at introducing geometric modeling techniques. Topics covered will include Freehand sketching, Orthographic and Isometric Projections, Sectional Views, Dimensioning. Introduction to Geometric modeling and representation, Solid Modeling, Parametric and Feature-Based Modeling. Students will use a modern mechanical engineering package (SolidWorks) throughout to apply the concepts learnt during this course.

MEC 340 - Machanical Engineering Design

Credit Hours: 3
Prerequisite: MEC 330, MEC 390

This course introduces the students to modern engineering design methodologies and conceptual mechanical engineering designs. It promotes their creative thinking, project planning and teamwork. The course covers introduction to manufacturing processes and presents concepts of design for manufacturability, assembly, cost, and design optimization. It also gives an introduction to risk and reliability in design and addresses the ethical issues in engineering design. The course requires students to demonstrate an ability to design and conduct simple experiments and to analyze and interpret data. This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will collaborate on a project to apply engineering design steps

MEC 350 - Fluid Mechanics

Credit Hours: 3
Prerequisite: CIV 201 + MTT 205

This course aims at providing students with essential concepts of fluid mechanics. Topics covered include; Fluid properties, similitude, fluid statics, Bernoulli's equation, applications of the mass, momentum and energy equations, viscous flow in pipes, flow over immersed bodies, introduction to turbo machinery.

MEC 351 - Fluid Mechanics Lab

Credit Hour: 1
Co-requisites: MEC 350

This lab aims to provide students with in-depth understanding of theoretical concepts in the fluid mechanics course. Students are required to use data acquisition system to acquire, analyze and interpret results. Experiments include: Measurement of pressures, pressure loss in pipes, impact of jet, hydrostatic forces, viscosity, fluid flow rate, lift and drag, boundary layer, flow visualization, shock wave, velocity profiles in laminar and turbulent flows, performance of turbo machines.

MEC 390 - Electromechanical Devices

Credit Hours: 3
Prerequisite: PHY 201

This course aims to provide mechanical engineering students with fundamental knowledge of electric circuits and machine theory. Topics include: AC circuit analysis; phases steady state power analysis, and polyphase circuits; basics of electrical machines construction, machine theory of operation, modeling and analysis of machines, equivalent circuit and its governing equations of DC machines, 3-phase synchronous generations, single phase transformers, and 3-phase induction motors, power semiconductor devices and their application in machine control.

MEC 398i - Internship

Credit Hours: 1.5
Prerequisite: 60 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college-supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

MEC 399i - Internship

Credit Hours: 1.5
Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college-supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

MEC 410 - Control Systems

Credit Hours: 3
Prerequisite: MEC 310 + MEC 390

This course aims to introduce students to the fundamentals knowledge of control system theories and applications. Topics include: mathematical modeling, dynamic system responses, feedback control characteristics, stability of feedback systems, feedback control design, design steps of PID controller, and control design using root locus method. The course includes project work where students formed in teams perform design; analyze laboratory implementation of control systems for applications for their choices.

MEC 411 - Kinematic and Dynamics of Machinery

Credit Hours: 3
Prerequisite: MEC 310

Kinematics of mechanisms; Vector methods of analysis of plane mechanisms; Force analysis in mechanisms; Static and dynamic balancing of machines; Analysis and synthesis of cams; Introduction to kinematics of robotic manipulators.

MEC 412 - Dynamics and Control Systems Lab

Credit Hours: 1
Co-requisites: MEC 410

This lab aims to provide students with a full understanding and detailed hands-on skills of dynamic systems analysis and control implementation. Students will be engaged in projects that incorporate the three main areas of mechanical engineering, thermo- fluid, dynamics and design. For each project the students will select a process, model it, simulate it, design a controller for it, and implement the final control system on a microcontroller. The students will use components from a large assortments of dynamic systems and mechatronics components provided in the lab. The course also aims to familiarize students with entrepreneurial opportunities related to mechatronics, dynamics and control, as well as to increase their commitment to ethical practices and to social and environmental issues relevant to mechatronics, dynamics and control.

MEC 420 - Heat Transfer

Credit Hours: 3
Prerequisite: MEC 320 + MEC 350

This course aims at providing students with essential concepts of Heat Transfer. Topics covered include: Steady and transient heat conduction, forced and natural convection, internal and external flows, principles of engineering thermal radiation, heat exchanger, boiling and condensation. The course

also aims at inspiring the student as well as at enhancing his/her entrepreneurial skills, as related to the heat transfer area.

MEC 421 - Thermal Engineering Lab

Credit Hour: 1
Co-requisites: MEC 420

This lab aims to provide students with in-depth understanding of theoretical phenomena studied in the thermodynamics and heat transfer courses. Students are required to use data acquisition system to acquire, analyze, and interpret results. Experiments include: Psychometric processes; performance of refrigeration cycles and components; thermodynamic properties and equations of state; convective heat transfer; combustion engines; heat exchangers. The lab aims at inspiring the student and at enhancing his/her entrepreneurial skills as relevant to the area of thermal engineering.

MEC 430 - Machine Design

Credit Hours: 3
Prerequisite: MEC 302, MEC 340

This course aims at introducing fundamental skills and concepts of machine design with applications to simple elements. The course covers different theories of failure, and their application for static and dynamic loading. Topics covered include considerations affecting design, fits and tolerances, design of screws, fasteners and connections, welded joints, shafts, and flexible mechanical elements (springs, belts, ropes, flexible shafts, etc). This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will collaborate on a project to apply theoretical Machine Design concepts using ANSYS.

MEC 332 - Design and Manufacturing Lab

Credit Hours: 3
Co-requisites MEC 301

This lab aims to integrate theoretical and practical knowledge gained from previous design, materials, manufacturing, dynamics and some aspects of thermofluid courses. Students design and realize typical mechanical engineering systems or components through a series of projects and experiments. Students are required to use conventional and modern engineering tools as well as to develop commitment to ethical, environmental, social and global issues, and to be aware of entrepreneurial opportunities relevant to design and manufacturing.

MEC 463 - Turbomachinery

Credit Hours: 3
Prerequisite: MEC 420

An introduction to the fundamentals of modern turbomachinery. Emphasis will be placed on gas (combustion), steam, wind and hydraulic turbomachinery. Applications of the principles of fluid mechanics, thermodynamics and aerodynamics to the design and analysis of turbines and compressors are incorporated. Students are expected to have a solid background in undergraduate fluid mechanics and thermodynamics.

MEC 465 - Numerical and Finite Element Simulation of Engineering Problems

Credit Hours: 3
Prerequisites: MEC 302 + MTT 204
Co-Requisite: MEC 420

This is a foundation course in the area of numerical and finite element analysis in solids mechanics and thermo fluids. The course provides a unified theoretical treatment for the formulation of the finite element, finite volume and finite difference methods in engineering applications. The formulation is presented for general engineering problems in linear static, conduction heat transfer and incompressible fluid mechanics analyses. The course is aimed at giving students an overview of the use, limitations and applications of the methods in solids and thermo fluids. The use of a commercial program in a project type of work will provide the students with an overview of the capabilities and limitations of such programs available in the market. Ethical and autonomous learning techniques will be employed throughout the course where relevant.

MEC 480 - Mechanical Vibration

Credit Hours: 3
Prerequisite: MEC 310 + MEC 410

This course aims at providing students with knowledge in the area of mechanical vibrations. Topics include: free and forced vibration of one-degree-of-freedom systems; free and forced vibrations of multi-degrees-of-freedom systems; natural frequencies and mode shapes; vibration control; vibration measurement methods; and vibration of continuous systems.

MEC 482 - Introduction to Mechatronics

Credit Hours: 3
Prerequisite: MEC 390 + MEC 410

This course aims to provide students with an introduction to, and hands-on skills for, mechatronics elements. Topics include: statics, dynamics and statistical characteristics of measurement systems, measuring fundamental properties; transducers for measuring position, velocity and acceleration, fluid flow, temperature, pressure and strain, signal conditioning and problems, operational amplifiers, integrators, differentiators, diode circuits and applications, bipolar junction transistors and field-effect transistors theory and applications, analog to digital/digital to analog conversions,

and microprocessor applications. The course also includes weekly lab sessions which focus on gaining hands-on skills with mechatronics components and devices. The course also aims to familiarize students with entrepreneurial opportunities related to mechatronics, as well as to increase their commitment to ethical practices and to social and environmental issues.

MEC 498 - Capstone Design Project-I

Credit Hour: 1
Prerequisite: MEC 465 (co) + Senior Status (108 credits)

This course is a capstone project for mechanical engineering students. The project typically involves the design of mechanical engineering system or a device. Each group of mechanical engineering seniors may address one or more mechanical engineering aspects such as thermos-fluid systems, aerodynamics and aircraft design, dynamics & control systems, renewable energy systems and design & manufacturing aspects.

MEC 499 - Capstone Design Project – II

Credit Hours: 3
Prerequisite: MEC 498 + Senior Status (120 credits)

This course is the second and major part of the capstone project for mechanical engineering students. The project typically involves the design of mechanical engineering system or a device. Each group of mechanical engineering seniors may address one or more mechanical engineering aspects such as thermos-fluid systems, aerodynamics and aircraft design, dynamics & control systems, renewable energy systems and design & manufacturing aspects. Projects with interdisciplinary nature between various fields are encouraged and preferred.

Major Elective Courses

Energy Systems

MEC 460 - Air-Conditioning Systems

Credit Hours: 3

Prerequisite: MEC 420, MEC 321

This course aims to provide students with in-depth understanding of Types of air-conditioning systems, cooling load calculations, A/C cycles and control, air distribution systems: ducting design and air supply, air distribution fans design. Chilled water systems: water chillers, design of water distribution systems. Matching of different components of the system, vibration and noise problems in the air conditioning systems.

MEC 461 - Internal Combustion Engines

Credit Hours: 3
Prerequisite: MEC 321

This course aims to provide students with in-depth understanding of engines, fuels and exhaust emissions. Topics include introduction and classifications of engines, fuel air and actual cycles, thermo-chemistry of combustion processes, flame types, chemical kinetics, normal and abnormal combustion in spark ignition and compression ignition engines, air pollution from combustion systems, engine performance and testing, non-conventional engines.

MEC 462 - Energy Management

Credit Hours: 3
Prerequisite: MEC 420

Energy management principle, Energy auditing process, utility rate structures, economic principles and life cycle cost. Energy management applications in buildings, boilers and thermal systems, waste heat recovery, electrical systems, motors and insulation material. Impact of controllers and simulation programs on overall energy management.

MEC 464 - Power Plants

Credit Hours: 3
Prerequisite: MEC 321 + MEC 420

Forms of energy, oil, gas and coal. Combustion processes, energy cycles. Steam generators and their component design. Turbines. Load curves. Field trips to power plants and other energy installations.

Materials and Manufacturing

MEC 431 - Computer Aided Machine Design

Credit Hours: 3
Prerequisite: MEC 430

This course aims at covering the theory and application of design methods for complicated machine components. Computers will be used to help design integrated systems. The course also focuses on gaining skills in self research, critical thinking and working within design groups. Topics covered include design of journal and rolling-element bearings, gears and gear boxes, clutches, couplings, and brakes. Ethical issues and Entrepreneurial opportunities and case studies will be explored throughout the course.

MEC 470 - Manufacturing of composites Materials

Credit Hours: 3
Prerequisite: MEC 300 + MEC 302

This course aims to provide students with the knowledge of composite materials. The curriculum encompasses a range of essential topics including fiber reinforcements, thermoset and thermoplastic matrices, mechanics of composite materials, performance evaluation, manufacturing processes, and failure modes. By exploring these concepts, students will develop a deep understanding of the mechanics and properties of composite materials, enabling them to analyze, design, and engineer composite structures

effectively. This course equips students with the knowledge and skills necessary to tackle complex challenges and excel in the realm of advanced composite materials. This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will collaborate on a project to apply theoretical concepts.

MEC 471 - Introduction to Computer Aided Manufacturing

Credit Hours: 3
Prerequisite: MEC 301

This course aims to provide students with the fundamentals of computer-aided manufacturing. Topics include: Computer numerical control, application of geometrical modeling, part programming, and introduction to computer integrated manufacturing. Students gain hands-on skills in using a computer aided manufacturing package and computer numerical control machine tools. The course also provides students with the awareness of entrepreneurial activities in manufacturing.

MEC 472 - Mechanics of Materials II

Credit Hours: 3
Prerequisite: MEC 302

Advanced topics in solid mechanics including energy methods, the principle of virtual work, pressure vessels, buckling, aspects of elasticity, curved beams, fracture mechanics, and their software assisted application to the reliable design of structures. The three fundamental aspects of these problems include equilibrium, geometric compatibility, and material constitutive laws.

MEC 473 - Non-Conventional Machining

Credit Hours: 3
Prerequisite: MEC 301

Principle and working and applications of non-conventional machining in modern manufacturing systems such as Electro-Discharge machining, Electrochemical machining, ultrasonic machining, Abrasive jet machining. This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will collaborate on a project to simulate non-conventional machining using ANSYS.

MEC 474 - Fracture & Fatigue Control in Design

Credit Hours: 3

Prerequisite: MEC 430
Co Requisite: MEC 465

This is a foundation course in the area of fracture and fatigue considerations in mechanical design. The course provides unified treatment for the failure analysis of mechanical components subjected to monotonic and cyclic loading. Design based on fracture mechanics is introduced and various fracture mechanics measures are discussed. Fatigue crack initiation (FCI) and fatigue crack propagation (FCP) are discussed. The course highlights practical and analytical aspects of fatigue failure in mechanical components and the concept of remaining life of mechanical components. The course is aimed at giving student the basic techniques for designing mechanical components based on fracture and fatigue considerations and for developing expertise in the area of enhancing fatigue life of engineering components. The use of commercial program in a project type of work will be employed and ethical and autonomous learning techniques will be considered throughout the course where relevant.

Mechatronics

MEC 481 - Introduction to Robotics

Credit Hours: 3
Prerequisite: CSC 201

Mathematical modeling of robots with an emphasis on planning algorithms. Fundamentals of robot sensors and sensor processing algorithms. Robot control architectures and programming. Selected topics in mobile robotics.

MEC 483 - Mechatronic System Design

Credit Hours: 3

Prerequisite: MEC 482

This course is an introduction to Mechatronics, or the interfacing of mechanical and electrical systems. Focus is on embedded controllers and their programming, power and interfacing electronics, actuators, sensors, and integration of these components to create a complete functional mechatronic system.

MEC486 - Smart Material Systems and MEMS

Credit Hours: 3

Prerequisite: MEC 482

The objective of this course is to make students to gain basic knowledge on overview of smart systems, MEMS (Micro electro Mechanical System) and various fabrication techniques. This enables them to design, analysis, fabrication and testing the MEMS based components. It also includes analysis of micromachined capacitive, piezoresistive and thermal smart sensors/actuators and applications. Computer- aided design for MEMS layout, fabrication and analysis.

Aerospace

MEC 490 - Compressible Fluid Mechanics

Credit Hours: 3
Prerequisite: MEC 350

Integral form of conservation laws. One dimensional compressible flow with friction and heat. Normal and oblique shock waves. Prandtl-Meyer expansion. Differential form of conservation laws. Unsteady wave motion. 2-D subsonic, supersonic, and hypersonic flow.

MEC 491 - Aerodynamics

Credit Hours: 3
Prerequisite: MEC 350

Introduction to the basic principles and properties of fluid flow around immersed bodies. Topics include the kinematics and dynamics of fluid fields, the thin airfoil, finite wing theory, and one-dimensional compressible flow.

MEC 492 - Aerospace Propulsion

Credit Hours: 3
Prerequisite: MEC 350

Basic one-dimensional flows: isentropic, area change, heat addition. Overall performance characteristics of propellers, ramjets, turbojets, turbofans, rockets. Performance analysis of inlets, exhaust nozzles, compressors, burners, and turbines. Rocket flight performance, single-/multi-stage chemical rockets, liquid/solid propellants.

MEC 493 - Aerospace Structures

Credit Hours: 3
Prerequisite: MEC 350 + MEC 302

Advanced strength of materials analysis of elastic structures with aerospace applications. Failure modes and criteria, buckling, matrix methods for analysis, plane truss design. Energy and Castigliano methods for statically determinate and indeterminate structures.

Industrial Mechatronics Concentration

MEC 450 - Hydraulic & Pneumatic systems

Credit Hours: 3

Prerequisite: MEC 350

The purpose of this course is to familiarize students with fundamental concepts and working of hydraulics and pneumatics. The students will explore the working principle of various systems operated by hydraulics and pneumatics through studying different system components as directional, pressure and process control valves, cylinders, rotary actuators, time and event-based sequencing, and simulation of hydraulic and pneumatic systems. The course will provide students with comprehensive understanding of the industrial applications of hydraulics and pneumatics

MEC 451 - PLC and Industrial Automation

Credit Hours: 3

Prerequisite: MEC 450

The purpose of this course is to familiarize students with Industrial Automation and Programmable Logic Controllers (PLC) systems for Process control. The course will provide comprehensive and accessible coverage of the basic automation elements, hardware components for automation and process control, the latch principle, industrial automation synthesis, logical design for automation, electropneumatic automation, industrial networks, basic programming in PLC, and PID in the industry

MEC 483 - Mechatronic System Design

Credit Hours: 3

Prerequisite: MEC 482

This course is an introduction to Mechatronics, or the interfacing of mechanical and electrical systems. Focus is on embedded controllers and their programming, power and interfacing electronics, actuators, sensors, and integration of these components to create a complete functional mechatronic system.

MEC 484 - Artificial Intelligence in Mechatronics

Credit Hours: 3

Prerequisite: MEC 482, CSC 201, GEN 101

This course aims to provide students with the theory and applications of AI in Mechatronics and robotics. The course covers intelligent mechatronic system requirements ad locomotion, sensing, navigation and motion planning. Students will learn to select parameters and strategies to design intelligent controllers based on application requirement. Students will learn to apply basic search algorithms.

MEC 485 - DCS and SCADA

Credit Hours: 3

Prerequisite: MEC 482

Co-requisite: MEC 451

This course DCS (Distributed Control Systems) and SCADA (Supervisory Control and Data Acquisition) focus on understanding and implementing industrial networks in process automation. This includes industrial control networks, instrumentation and process control bus and network standards, SCADA and DCS, and essentials of human-machine interface (HMI) panels connection, programming, and modification of programs and features.

Metallurgy Concentration

MEC 474 - Fracture & Fatigue Control in Design
Credit Hours: 3
Prerequisite: MEC 430
Co-requisite: MEC 430, MEC 465

This is a foundation course in the area of fracture and fatigue considerations in mechanical design. The course provides unified treatment for the failure analysis of mechanical components subjected to monotonic and cyclic loading. Design based on fracture mechanics is introduced and various fracture mechanics measures are discussed. Fatigue crack initiation (FCI) and fatigue crack propagation (FCP) are discussed. The course highlights practical and analytical aspects of fatigue failure in mechanical components and the concept of remaining life of mechanical components. The course is aimed at giving student the basic techniques for designing mechanical components based on fracture and fatigue considerations and for developing expertise in the area of enhancing fatigue life of engineering components. The use of commercial program in a project type of work will be employed and ethical and autonomous learning techniques will be considered throughout the course where relevant.

MEC 475 - Microstructure Engineering

Credit Hours: 3

Prerequisite: MEC 300, MEC 301

This course introduces the students to differentiate between different material classes based on their structural and mechanical properties. The course will also introduce students to the production of metallurgical products, focusing on process design models used to describe solidification, recrystallization, and precipitation. The metallurgy basics including: phase equilibria, kinetics of phase transformations and crystallography, will be discussed to design the microstructures of metals. The effect of different parameters and processes on the resulted microstructure will be introduced, including heat treatment and material strengthening processes.

MEC 476 - Heat Treatment and Surface Hardening

Credit Hours: 3

Prerequisite: MEC301, MEC475

This course introduces the students to the basic heat treatment processes for metals and alloys. The course includes the time-temperature sequence and with applying mechanical forces to generate the application oriented micro-structure of the alloys. The control of the microstructure enables the generation of the desired properties. This principle lies strongly on the basics of thermodynamics and kinetics of phase transformations in metals and alloys, which is the guiding factor for deciding process schedule in Industry

MEC 477 - Corrosion and Degradation of Materials

Credit Hours: 3

Prerequisite: MEC301, MEC320

This course introduces the students to differentiate between different material classes based on their structural and mechanical properties. The course will also introduce students to the production of metallurgical products, focusing on process design models used to describe solidification, recrystallization, and precipitation. The metallurgy basics including: phase equilibria, kinetics of phase transformations and crystallography, will be discussed to design the microstructures of metals. The effect of different parameters and processes on the resulted microstructure will be introduced, including heat treatment and material strengthening processes.

MEC 478 - Phase Transformations in Metals and Alloys

Credit Hours: 3
Prerequisite: MEC300, MEC320, MEC475

This course aims to provide students with understanding of the thermodynamics of phase transformations, mechanisms and kinetics of phase transformations and its use to control microstructure, solidification; nucleation and growth; microstructural changes in the solid state and atom diffusion in solids. The course formulates the effects of temperature and diffusion on the transformation and its impact on the resulting microstructure of metals and alloys.

Bachelor of Science in Biomedical Engineering

Degree Requirements

ECS 200 - Introduction to Engineering and Computing

Credit Hours: 3
Prerequisite: No Prerequisite

This course provides an introductory general overview of electrical engineering, biomedical engineering, ,computer engineering, AI and robotics engineering fields. The course aims to introduce students to: these fields as professions, IEEE codes of ethics, engineering design concepts, project management, challenges in teamwork, laboratory health and safety procedures, data analysis and report writing. The course also introduces software tools used in later courses. Upon successful completion of this course, students will have a good foundation of knowledge which helps them in their later courses.

MTT 200 - Calculus II

Credit Hours: 3

Prerequisite: MTT 102

This Calculus II course builds upon Calculus I whose purpose was to establish a firm understanding of the foundations of calculus and their applications. It will start with some functions seen in Calculus I. Then, students will be introduced to the concepts of Transcendental Functions, Integration Technique, infinite Series and power Series.

Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from text form into a mathematical equation.

CSC 201 - Computer Programming I

Credit Hours: 3

Prerequisite: MTT 101 or Higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix-based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to MATLAB Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

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PHY 102 - Physics and Engineering Applications I

Credit Hours: 3

Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Waves Motion, Sound Waves and Superposition of Waves. Taken simultaneously with PHY 102L (1credit hour) prerequisite MTT 102 + PHY 102 Co-requisite.

PHY 102L - Physics and Engineering Applications I Laboratory

Credit Hour: 1

Prerequisite: MTT 102

Co-requisite: PHY 102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

MTT 205 - Differential Equations

Credit Hours: 3
Prerequisite: MTT 200
Co-requisite: MTT 204

The course aims to provide engineering students with some standard methods to solve first order Separable, Exact, Linear and Bernoulli differential equations. Construct mathematical models of simple physical systems. Solve higher order linear ODE's with constant coefficients. Solve ordinary linear differential equations using infinite series and Laplace transform. Solve systems of differential equations.

CHE 205 - General Chemistry I

Credit Hours: 3

Co-requisite: ENG102 (Co)/ENG200 (Co)

Chemistry is the study of matter and interactions. This course introduces the principles of chemistry including; elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L - Chemistry Laboratory

Credit Hour: 1

Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205 including density measurements, separation of mixtures, spectrophotometry, titration, flame test, etc.

BME 301 - Applied Molecular and Cellular Biology for Engineers

Credit Hours: 3

Prerequisite: BIO 205

This course aims at familiarizing biomedical engineering students with the basics of molecular and cellular biology principles and concepts, and to apply biomedical and engineering principles to the understanding of biological systems. The course aims at bridging the gap between biology and engineering.

BIO 205 - General Biology I

Credit Hours: 3

Prerequisite: FWS 100

This course introduces the principles and concepts of biology with the emphasis on the cell and its metabolic activity, genetics and inheritance in living organism. This course attempts to offer an introduction to biology. It presents the chemical basis of life, the living cell as a structural unit of the living organism, photosynthesis, aerobic and anaerobic respiration, cell division, genetics and biotechnology. In addition, this course will cover topics in the mechanisms of evolutions such as the Darwinian view of life and the history of life on earth.

BIO 205L - General Biology I Laboratory

Credit Hour: 1

Co-requisite: BIO 205

This course introduces the principles and concepts of biology with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course BIO 205.

COE 101 - Introductory Artificial Intelligence

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to broad topics in artificial intelligence (AI) and machine learning without requiring them to have a computing or mathematical background. Students will have a closer look at the booming field of AI and develop insights into how it drives value for society in virtually all sectors including business, healthcare, education, engineering, and governance. The course covers basic AI concepts and terminologies, applications, tools, and performance evaluation in an accessible way to a wide range of audiences. Students are introduced to supervised learning including classification and regression, deep learning, unsupervised learning, and reinforcement learning. They are also trained in using simple yet powerful AI tools to empower their creativity and innovation in problem-solving, AI strategy design, process automation, and cost reduction, and thus add value to their future employers. This is done through a practical course component designed to allow students to build simple data-driven AI using Excel. The data used in these laboratories is collected from different domains such as health, environmental science, business, and engineering.

COE 202 Engineering Ethics, Economy and Law

Credit Hours: 3

Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing

engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society. The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3

Prerequisite: MTT 200

The course aim is to provide engineering students with some standard methods to solve first order Separable, Exact, Linear and Bernoulli differential equations. Construct mathematical models of simple physical systems. Solve higher order linear ODE's with constant coefficients. Solve ordinary linear differential equations using infinite series and Laplace transform. Solve systems of differential equations.

Major Requirements

CEN 201 - Electric Circuits

Credit Hours: 3

Prerequisite: ECS 200 or PHY 201

This is the first course in the Computer and Electrical Engineering Program on electric circuits. It teaches the fundamentals of electrical circuit theory and its application to practical direct and alternating current circuits. Whilst MTT 102 is the formal pre-requisite to this course, general knowledge of personal computers and operating systems will be beneficial.

EEN 210 - Digital Circuits

Credit Hours: 3

Prerequisite: ECS 200

This course introduces theory and design of digital logic circuits, including number systems, Boolean algebra, logic gates, combinational and sequential circuit design and analysis, Kamaugh maps, truth tables, logic optimization, arithmetic circuits, flip-flops, counters, memory and storage, synchronous and asynchronous state machines, and introduction to programmable logic. It also introduces students to a systematic design methodology.

CEN 304 - Electronic Devices and Circuits

Credit Hours: 3

Prerequisite: CEN 201

This course introduces the fundamentals and essential topics for the study of electronic circuits. Topics covered include: diodes, Bipolar Junction Transistors (BJTs), Field Effect Transistors (FETs), and Operational Amplifiers (Op Amps). Firstly, students will be introduced to the basics of Semiconductor materials, mass-action law, formation of p-n junctions, and flow of diffusion and drift current within the junction. The diode concept will be introduced subsequently, starting with mathematical model of diode current and then moving towards the diode applications (rectification, clipping, and damper). The topics of half-wave, full-wave rectification, clipping and clamping circuits will be discussed in details. The types of didoes such as Zener and LEDs will be discussed briefly. The device structure for the formation of BJT and FET and their physical operation leading to their terminal characteristics will be covered. The DC and AC analysis of different types of BJT and FETs will be covered. The course will also treat the use of equivalent circuit models that describe the operation of these devices and how they can be used to design circuits that provide important electronic functions.

CEN 330 - Probability and Stochastic Processes

Credit Hours: 3

Prerequisite: MTT 200 + STT 100

This course covers probability theory, discrete and continuous random variables and their distributions, the concept of mean and variance, functions of one and two random variables, central limit theorem, statistics, and random processes. Emphasis is given to applications to signal processing and communications.

CEN 324 - Analog and Digital Electronics

Credit Hours: 3

Prerequisite: CEN 304

The course covers the analysis and design of digital and analog circuits. Analog-to-digital and digital-to-analog conversion circuits. Fundamental concepts in digital electronics: VTC curve, Fan-out, Propagation delay and static/dynamic power dissipation. NMOS/CMOS inverters, CMOS NOR/NAND gates. Operational amplifiers. Low, medium, and high frequency models for transistors. Small-signal analysis

(Hybrid-π model) and design of single-stage MOSFET/BJT circuits. Frequency response characteristics of single/multi-stage amplifiers. Power amplifiers: class A and B. Feedback topologies and stability. Wave shaping: Multi-vibrators (Mono-stable, quasi-stable, and Bi-stable) and oscillators.

BME 310 - Biomedical Instrumentation

Credit Hours: 3

Prerequisite: BME 380

Co-requisite: CEN 324

Instrumentation concepts, analogue and digital circuits design, filters, measurement of temperature, force, blood flow, and respiratory system, vital signals: ECG, EEG, EMG, Medical imaging lasers, therapeutic devices, safety in medical devices.

BME 310L - Biomedical Instrumentation Laboratory

Credit Hour: 1

Prerequisite: BME 310

Measurements errors and noise; Safety devices; signal conditioning, amplification, filtration, processing, A/D and D/A converters, interfacing with digital computers, Biomedical measurement devices (ECG, EMG and EEG); Respiratory measurements; Devices for measuring flow, pressure, biopotentials.

BME 320 - Biosystems and Signals

Credit Hours: 3

Prerequisite: MTT 205 + CEN 201

This course will provide a foundation to other courses that deal with signals and systems concepts directly or indirectly such as communication, control, instrumentation, etc. The course covers the following topics classification of systems DT and CT systems, signal modeling and transformation, LTI systems, Frequency domain analysis and Fourier transform, Laplace transform, Z-Transform, and Discrete Fourier transform.

BME 330 - Physiological Modeling

Credit Hours: 3

Prerequisite: BME 380 + BME 320

Mathematical modeling principles; modeling techniques: compartmental and distributed modeling; design of system elements, case studies of medical system examples, computer-aided design methods, design of subsystems. Dynamic modeling and control of selected biological and physiological processes.

BME 325 - IoT for Bioengineers: Foundations and Design

Credit Hours: 3

Prerequisite: CSC 201+ EEN 210

This course will introduce 8-bit microcontrollers, their RISC architecture, and how they are used to build embedded systems and Internet of Things applications by interfacing sensors and actuators. During this course, students will develop a basic understanding of embedded systems and how to program them using assembly and embedded C. They also learn how systems can be controlled and/or monitored by these microcontrollers. Lectures and labs will be used to ensure that the concepts of IoT are understood. Topics covered include instruction cycle, registers, memory, IO, ADC, DAC, Timers, interrupts, and serial communication.

BME 380 - Human Biology I

Credit Hours: 3

Prerequisite: CHE 205 + BIO 205

Anatomy and Physiology I is the first of a two-course sequence examining the terminology, structure, function, and interdependence of the human body systems. This course includes a study of the cells, chemistry, tissues, integumentary, skeletal, muscular, nervous, and special senses.

BME 381 - Human Biology II

Credit Hours: 3

Prerequisite: BME 380

Human Biology II is the second course that describes the general principles of human physiology and anatomy II. It focuses on the physiology of the cardiovascular system, blood function and composition. This course introduces students to the players of the immune system, endocrine, renal and respiratory and digestive systems. Special emphasis is placed on diseases related to homeostasis imbalances related to the above systems.

EEN 365 - Control Systems

Credit Housr: 3

Prerequisite: BME 320 + MTT 204

This course is intended to introduce students to concepts and techniques of classical control and to briefly introduce some concepts of modern control and discrete-time. The main goal is to enable students to analyze, design, and synthesize linear control systems. Students will become familiar with analytical methods and will be exposed extensively to the use of computers for analysis and design of control systems.

BME 401 - Introduction to Biotechnology

Credit Hours: 3

Prerequisite: BME 301

An introduction to biotechnology course including DNA/RNA molecular biology, bioinformatics, basic techniques in biotechnology, production of biological molecules, electrophoresis, PCR, DNA extraction and bioethics, Biotechnology Ethics and Regulations.

BME 413 - Biomedical Sensors and Transducers

Credit Hours: 3
Prerequisite: BME 310

This course includes introduction to biosensors: definition, classification, calibration, errors and uncertainty, design requirements, and signal conditioning circuits. Sensors included: Temperature, pressure, ISE sensors, Ion-sensitive field effect chemo-sensors, optical sensors, Ultrasound transducers.

CEN 454 - Computer Vision and Machine Learning

Credit Hours: 3

Prerequisite: BME 320 + CEN 320

This course will introduce concepts of computer vision including image representation and enhancement, edge detection, image segmentation, feature extraction and object recognition. It is focused on the application of machine learning, especially deep learning, to images, video, or 3D signals. It explores both raw input and feature-space (e.g., shape, appearance, spatial, etc.), imaging data as input to machine learning for segmentation, object recognition, object detection, and scene understanding. Students will learn to use Matlab's Image Processing and Computer Vision toolboxes and Python's OpenCV in labs and projects to design image and video processing and understanding pipelines.

BME 425 - IoT for Bioengineers: Applications and Security

Credit Hours: 3

Prerequisite: BME 325

This course builds upon the concepts and skills developed in BME325 and BME333. It enforces covered concepts and introduces new ones for distributed embedded systems design. The course uses 8-bit microcontrollers and Linux-based 32-bit microprocessors and their integration running Linux design scalable applications in the context of Internet of Things. Students are also introduced to state charts (with concurrency and composite states) for modeling and design of IoT applications. The course discusses advanced interfacing techniques to many sensors and actuators. At the end of the course students will gain theoretic and practical experiences that they can immediately utilize to design and implement real-life IoT projects for remote monitoring and control using mobile applications. The course uses both the Arduino and Raspberry Pi and their integration using PyFirmata. Especially emphasis is given to using operating system (Linux) capabilities to expand what can be done compared to BME325. For example, integrating simple computer vision and mobile applications in embedded control.

BME 464 - Digital Bio-Signal Processing

Credit Hours: 3

Prerequisite: BME 320

This course is concerned with processing of discrete bio signals and systems, specifically, processing signals using linear time invariant systems. The design and the implementation of DSP are introduced via a biomedical engineering project to provide hands on experience. This course builds upon concepts that students have learned in calculus, linear algebra and bio systems and signals and competency of MATLAB. It is the student's responsibility to come to class equipped with the knowledge provided in those courses.

BME 441 - Medical Imaging Systems

Credit Hours: 3

Prerequisite: BME 320

This course introduces the physics, instrumentation, diagnostic methods of the different imaging modalities including X-ray computed tomography, nuclear medicine (SPECT/PET), and ultrasound imaging,. Image reconstruction and processing techniques of the above mentioned modalities are also introduced.

BME 399i - Internship in Biomedical Engineering I

Credit Hours: 2

Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The course of action is designed and approved before the start of the internship through a formal exchange between the site supervisor and assigned faculty supervisor culminating in the signing of the internship agreement. The plan will be devised jointly by the site-supervisor and college-supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

BME 399ii - Internship in Biomedical Engineering II

Credit Hour: 1

Prerequisite: BME 399i

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The course of action is designed and approved before the start of the internship through a formal exchange between the site supervisor and assigned faculty supervisor culminating in the signing of the internship agreement. The plan will be devised jointly by the site-supervisor and college-supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities.

BME 312 - Medical Device Design

Credit Hours: 3

Prerequisite: BME 380

This is a project based course for the design of medical instruments to fulfill the needs of a predefined clinical case. It includes problem definition, concept generation, design requirements, design specifications, evaluation, design validation, medical equipment regulations, liability, and safety. The implementation of the project is based on the design principles in solving biomedical problems using the student's background in engineering and biomedicine with an emphasis on biomedical instrumentation circuit design to solve presented problems.

BME 491 - Biomedical Engineering Design Project I

Credit Hour: 1

Prerequisite: Senior Level + BME 312 + BME 425

The objective of this course is to provide guided experience in wide areas of biomedical engineering to student teams working on design projects. The projects will integrate various engineering skills into operational engineering prototypes. The projects will emphasize problem definition, design conceptualization, modeling, fabrication and system integration in software and hardware aspects. The course is split into two and is taken over two semesters to allow students enough time and improve the quality of their design project. BME491 is a pre-requisite to BME492. In this course students identify a problem and propose a computer engineering solution to it.

BME 492 - Biomedical Engineering Design Project II

Credit Hours: 2

Prerequisite: BME 491

The objective of this course is to provide guided experience in wide areas of biomedical engineering to student teams working on design projects. The projects will integrate various engineering skills into operational engineering prototypes. The projects will emphasize problem definition, design conceptualization, modeling, fabrication and system integration in software and hardware aspects. The course is split into two and is taken over two semesters to allow students enough time and improve the quality of their design project. BME491 is a pre-requisite to BME492. In this course students design, implement, and test the solution they proposed in BME 491.

Major Elective

BME 445 - Biomedical Ultrasound

Credit Hours: 3

Prerequisite: BME 310

Fundamentals of acoustic propagation, plane wave and acoustic impedance, wave propagation in oblique and normal cases, Doppler effect circular piston and near and far field approximation, imaging modes, US transducers and their different types, The design of imaging and therapeutic transducers.

BME 420 - Medical Image Processing

Credit Hours: 3

Prerequisite: BME 320 + CEN 330

This course introduces digital image processing techniques as they apply to medical images. Topics covered include two-dimensional discrete systems, two-dimensional Fourier transform, design of two-dimensional filters, human perception of images, color models, corner and line detection, segmentation, enhancement, restoration, object detection, and the 2D wavelet transform.

BME 431 - Bioinformatics

Credit Hours: 3

Prerequisite: CSC 201 + BME 301

The course introduces the most important and basic methods, tools and concepts used in Bioinformatics. The covered topics include bioinformatics databases, sequence and structure alignment, protein folding, protein-protein interaction, protein structure prediction, Monte Carlo simulation, and molecular dynamics. Emphasis will be put on the understanding and utilization of these concepts and algorithms. To solve the problems on their own research.

BME 432 - Healthcare Management Systems

Credit Hours: 3

Prerequisite: CSC 201

This course covers key principles, practices, and personalities of healthcare management including leadership, organizational behavior, strategic planning, quality control, marketing, hospital information systems. The content is broadly applicable to healthcare facilities of every kind.

BME 433 - Medical Mobile Applications

Credit Hours: 3

Prerequisite: CSC 201

This course teaches students cross-platform mobile application development with a focus on advanced topics including navigation, persistence both remote (Firebase & Google Cloud Storage) and local, RESTful API integration, localization, reverse-geocoding, and geofencing

services on Google Maps API, device sensors for orientation, motion, and light, hardware control over the cloud using the mobile app as an interface, and camera integration. It also provides students with an advanced hands-on experience of recent advancement in AI and Computer Vision powered mobile and Internet computing technologies and their applications. Application uses cases covered include facial detection, visual tracking, segmentation, object detection, text recognition, and landmark identification. It also gives a brief introduction to mobile game development.

BME 440 - Magnetic Resonance Imaging

Credit Hours: 3

Prerequisite: BME 310

Introduces physics of magnetic resonance. Covers magnetic field modalities, relaxation times, gradient and RF coils, pulse sequences, functional MRI, contrast agents, hardware, imaging techniques, artifacts, and applications.

BME 460 - Therapeutic Devices

Credit Hours: 3

Prerequisite: BME 310

Invasive and non-invasive therapeutic devices used in medical applications including: Artificial Kidney, artificial oxygenators (heart lung machine), artificial liver, pacemakers, syringe pumps and infusion bumps, ventilators and bio-artificial organs such as bio-artificial pancreases.

BME 490 - Special Topics in Biomedical Engineering

Credit Hours: 3

Prerequisite: BME 325 + Department Approval

The course will introduce a selected special topic in the Biomedical Engineering area, includes any specialized topic in BME chosen by a faculty who has experienced in that particular area, but the topic is not covered by other courses in the curriculum.

Bachelor of Science in Cybersecurity Engineering

Degree Requirements

SWE 201 - Structured Programming

Credit Hours: 3

Prerequisite: MTT101 or higher

The main objective of this course is to provide students with the logic and tools required to develop structured software programs in Java. Java is a challenging programming language that is based on the object-oriented programming methodology. However, this course focuses on structured programming as the main learning objective. It also serves as a preliminary foundation for learning the object-oriented programming methodology. The material for this course includes: Introduction to Computers and Java Programming, Control Structures (loops and conditions), Functions, Arrays, and Strings and the notion of algorithms for solving problems.

COE 102- Introductory Big Data Analytics

Credit Hours: 3

Prerequisite: STT100

This course provides a general introduction to Data Analytics. It provides an essential guide to understanding and using data analytics in real-life applications without the need for any previous familiarity with programming. The course starts by introducing the main concepts of Data Analytics to provide a solid understanding of the field,

its subfields, and major application areas. Students will learn the different types of data, data sources and data uses, and technologies for Big Data. Then, we move through the various types of analytics starting with basic univariate descriptive analytics and moving through multivariate until we reach predictive, model-based analytics. The course is designed in a way that balances between theory and practice. Throughout the course, the students will follow the data-driven approach to solving real-life problems through a series of practical labs and class activities. They will learn how to explain and identify the elements of introductory to intermediate data-driven systems using Microsoft Power BI. The course concludes by introducing the students to a variety of special data analytics applications in engineering, health, business, and the web emphasizing social, security, and economic dimensions.

CSC 202 - Computer Programming II

Credit Hours: 3

Prerequisite: SWE 201 or CSC 201

Object-oriented programming offers greater reliability, maintainability and reusability than structured programming. This course follows on from Structured Programming and introduces the concepts of Object-Oriented Programming. It develops the basic skills necessary to develop software application programs in Java using objected oriented principles and concepts. The course presents the main principles of Objected Oriented Programming: data abstraction, objects and classes, inheritance, and polymorphism. Students should have a core foundation of structured programming principles in order to progress smoothly and effectively in this course.

CSC 301 - Data Structures and Algorithms

Credit Hours: 3

Prerequisite: MTT202, CSC202

This course builds on the pre-requisites programming courses and provides the students with an opportunity to further develop and refine their programming skills. In particular, the emphasis of this course is on the organization of information, the implementation of common data structures such as lists, stacks, queues, trees, and graphs, and techniques of data abstraction, including encapsulation and inheritance. We will also explore recursion, hashing, and the close relationship between data structures and algorithms. Operationally, applications of data structures to searching and sorting algorithms will be incorporated into programming assignments as will complexity analysis. Hands-on programming is a central component of this course.

CSC 305 - Data Communications and Networks

Credit Hours: 3

Prerequisite: Junior Level

This course provides an introduction to modern data communications and computer networks. It presents data communications fundamentals and computer networking methods, using the ISO 7-layer reference model to organize the study. Attention will be focused on the protocols of the physical, data link control, network, and transport layers, for local and wide area networks. The course examines in detail analog and digital signaling, analog and digital conversions, data link control, detection & correction, multiplexing, local area networks (LANs), circuit switching, packet switching, network protocols & standards, and error.

CSC 308 - Operating Systems

Credit Hours: 3

Prerequisite: CSC 301

This course introduces students to the concepts and principles of operating systems design and to the prevailing techniques for their implementation. The course requires students to be already familiar with the structure of a user-program after it has been converted into an executable form and that they have some rudimentary understanding of the performance trade-offs inherent in the choice of algorithms and data structures. The course will cover operating systems concepts including process management, memory management, file and file system management, and introduces distributed operating systems. Two concrete examples of operating systems are used to illustrate how the principles and techniques are deployed in practice.

CSE 210 - Introduction to Cybersecurity Engineering

Credit Hours: 3

Prerequisite: ECT 200

Cyber security engineering aims at developing secure systems by combining various aspects of systems and software engineering, and operational security. It covers all processes from risk analysis, engineering security requirements, malware analysis to anticipate future vulnerabilities, and planning ongoing improvements. The course will initiate students to the basic concepts and terminology of cyber security, standards, DevOps, building organizational models, and how cyber security is commonly addressed after the design and implementation phases. It will help the students build up an understanding of how to integrate cyber security tools/techniques and best practices in the design processes of systems engineering. The course incorporates a capstone project where students are given

the opportunity to practice cyber security engineering knowledge, skills, and best practices in a realistic development environment.

ECT 200 - Introduction to Computing

Credit Hours: 3

This course is meant to be an introduction to a variety of topics in the fields of information technology, computer and electrical engineering. The course demonstrates the importance of computers in our day-to-day life and the kind of challenges ahead. Topics that are covered include the computer systems components, the operating systems and applications software. The importance of networking, systems analysis, databases, and software development are highlighted. In addition to that students are introduced to the principle of electricity and circuit. The students will also be introduced to different programming languages in general, with some emphasis on a Python.

CSE 399A - Internship/Project in Cybersecurity -Part A

Credit Hours: 1.5

Prerequisite: 60 Credit Hours

CSE 399B - Internship/Project in Cybersecurity -Part B

Credit Hours: 1.5

Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college- supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities. During the period of internship, students will develop their abilities and skills through performing required tasks.

CSE 499 - Capstone Project in Cybersecurity Engineering I/II

Credit Hours: 3

Prerequisite: Senior Level + CSC406 + ITE408

The objective of this course is to provide guided experience in wide areas of Cybersecurity engineering to student teams working on capstone projects. The projects will integrate various engineering skills into operational engineering prototypes. The projects will emphasize problem definition, design conceptualization, modeling, testing and system integration.

The course is split into two parts and is taken over two semesters to allow students enough time and improve the quality of their design project. CSE 499A is a pre-requisite to CSE 499B2.

ITE 390 - Computer Ethics

Credit Hours: 3

Prerequisite: CSC 202

A study of the ethical and social issues related to computers and computer networks, big data, computer algorithms and Artificial intelligence. This course examines the ethical issues arising from advances in Information Technology and the responsibility that IT professionals and users have in regard to ethical computer usage. Topics covered are social impact of computing, computer crime, software theft, privacy, intellectual property rights, autonomy, technology at the work place, technology and jobs, and computer games, big data and AI, as well as new and emerging ethical issues related to technology and information.

ITE 421 - Native Mobile Application Development

Credit Hours: 3

Prerequisite: CSC 202

This course provides basic knowledge and understanding of mobile applications design and implementation. The course also examines the tools by which mobile applications are built in different mobile device environments. The aim of this subject is to enable students to understand the basic principles and architectures of native mobile application development. The course focuses on mobile application development using Android. In addition, the course introduces cloud-based servers and cloud functions using firebase.

MTT 200 - Calculus II

Credit Hours: 3

Prerequisite: MTT 102

This Calculus II course builds upon Calculus I whose purpose was to establish a firm understanding of the foundations of calculus and their applications. It will start with some functions seen in Calculus I. Then, students will be introduced to the concepts of Transcendental Functions, Integration Technique, infinite Series and power Series.

Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from text form into a mathematical equation.

MTT 202 - Discrete Structures and Applications

Credit Hours: 3

Prerequisite: STT 100

This course introduces the basic foundations of logic, structures, algorithms, number theory, induction, recursion and relations with application in computer science and engineering. The course then introduces students to graphs and trees and their use in modeling and analyzing computer science and computer engineering problems. Finally, the course presents the basics of Boolean Algebra and Finite Automata with applications.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3

Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as: Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available.

PHY 102 - Physics and Engineering Applications I

Credit Hours: 3

Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, vectors product, motion in one and two dimensions, Newton's laws of Motion, Circular motion, Work and Energy, Conservation of Energy and Oscillatory Motion.

PHY 102L - Physics and Engineering Applications I Lab

Credit Hours: 3

Prerequisite: MTT 102 + PHY 102 (co-requisite)

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

PHY 201 - Physics and Engineering Applications II

Credit Hours: 3

Prerequisite: PHY 102

The course is intended to provide engineering and science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts: Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law and inductance.

PHY 201L - Physics and Engineering Applications II Lab

Credit Hours: 3

Prerequisite: PHY 102 + PHY 201 (co-req)

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

CHE 205 General Chemistry I

Credit Hours: 3

Prerequisite: (Co) ENG 102/ENG 200

This course introduces the principles of chemistry including: elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L Chemistry Lab

Credit Hours: 3

Prerequisite: CHE 205 (co-req)

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205.

STT 201 Intermediate Statistics and Research Methods

Credit Hours: 3

Prerequisite: STT 100

The science of data analysis is commonly called Statistics. Statistics and statistical analyses are fundamental tools for managerial decision-making. Statistical analysis provides many ways to deal with uncertainties and, hence, is useful both for descriptive and for inferential tasks. This course presents statistical concepts and their applications for managerial decision-making. Computer based statistical analyses and the application of the insights gained through such statistical analyses for developing effective business decisions will be integrated into every aspect of the course. Topics addressed include Normal Distribution, sampling distributions, estimation techniques, hypothesis testing for one and more than one populations, Goodness-of-Fit and Analysis of Variance.

Major Requirements

CEN 325 - Internet of Things: Foundation and Design

Credit Hours: 3

Prerequisite: (SWE 201 or CSC 201) + CSC 303

This course will introduce microcontrollers and how they are used to build Internet of Things applications. During this course, students will develop a basic understanding of embedded and networked systems and how to program them using assembly and embedded C. They also learn how simple I/O devices are controlled by these microcontrollers and how to connect them to the cloud using Wi-Fi. Lectures and labs will be used to ensure that the concepts of IoT are understood.

CEN 425 - Internet of Things: Applications and Networking

Credit Hours: 3

Prerequisite: CEN 325 + (CEN 333 or ITE 421) + (CSC 305 as co-req)

This course builds upon the concepts and skills developed in CEN325 and CEN333. It enforces covered concepts and introduces new ones for distributed embedded systems design. The course uses 8-bit microcontrollers and Linux-based 32-bit microprocessors and their integration running Linux design scalable applications in the context of Internet of Things. Students are also introduced to state charts (with concurrency and composite states) for modeling and design of IoT applications. The course discusses advanced interfacing techniques to many sensors and actuators. At the end of the course students will gain theoretic and practical experiences that they can immediately utilize to design and implement real-life IoT projects for remote monitoring and control using mobile applications. The course uses both the Arduino and Raspberry Pi and their integration using PyFirmata. Especially emphasis is given to using operating system (Linux) capabilities to expand what can be done compared to CEN325. For example, integrating simple computer vision and mobile applications in embedded control.

SWE 401 - Software Engineering

Credit Hours: 3

Prerequisite: CSC 202

This course covers the principles of software engineering and object-oriented analysis and design. Topics include software development as an engineering discipline, requirements engineering, requirements elicitation, object- oriented analysis, object design, modeling with UML, architecture design, implementation and testing. This course provides a comprehensive overview of the Software Development Lifecycle, Methodologies, Requirements Engineering, and Object-Oriented Analysis and Design. The course will allow students to gain skills and knowledge needed to excel in today's dynamic software development field

CSC 302 - Database Management Systems

Credit Hours: 3

Prerequisite: MTT 202, SWE 201 or CSC 201

This course is about databases, and in particular, relational databases and languages. The course introduces the concepts relating to creating, managing and querying database systems. It covers the fundamentals of databases, the process of database design, including data modelling, in particular with the Entity Relationship Model, and the relational data model. Students will gain a sound practical understanding of the SQL relational database query language.

CSC 303 Digital Logic Design

Credit Hours: 3

Prerequisite: ECT 200

This course discusses the theory, operation, and applications of digital logic devices and systems and introduces students to a systematic design methodology.

CSC 307 Web Design

Credit Hours: 3

Prerequisite: SWE 201 or CSC 201

The Internet and the Web have revolutionized the way people communication and organizations do business. The business environment of today demands that ICT professionals know how to establish and maintain an interactive and dynamic Websites. In this course, students gain the knowledge needed to develop a well-designed Website. They learn the fundamentals of HTML syntax and layout, creating effective web pages, configuring web server (FireBase cloud server), writing client-side JavaScript, integrate JavaScript into web pages and create an interactive and dynamic Website. Cascaded Style Sheets (CSS) are introduced to specify the presentation of elements on a Webpage, e.g., fonts, spacing, sizes, colors and positioning. JavaScript, which is the standard client-side scripting language for Web-based applications, is presented to add functionality to the web page. JavaScript Object Notation (JSON), used for data interchange, is also briefly covered. AngularJS, an open source JavaScript framework developed by Google, is shown as an example of a single-page Web application.

CSC 406 - Artificial Intelligence

Credit Hours: 3

Prerequisite: STT 201 + CSC 301

This course provides a solid theoretical framework for addressing complex problems in navigation, planning, strategy,

pattern recognition, and knowledge management. It also introduces basic concepts of AI in the gaming context such as planning and search. Emphasis will be place on applications of AI in various genres of computer games. Students will work with implementations of common game AI algorithms for behaviors such as path finding, and behavior selection.

CSC 408 - Distributed Information Systems

Credit Hours: 3

Prerequisite: CSC 202, CSC 305

The study of distributed systems is exciting and interesting! In many respects, distributed systems are at the forefront of a revolution in the computer science discipline. In this course we will explore the principles and paradigms that are associated with distributed systems. During our exploration of principles, we will focus on developing a working understanding of the notions and concepts that are fundamental to all distributed systems: communication, coordination, fault-tolerance, transparency, self-organization, and synchronization. During our investigation of paradigms, such as message passing, remote object invocation, distributed shared memory, or group communication, we will examine, in great depth, specific technologies for building distributed systems. To this end, we will focus on the implementation of distributed systems that utilize the Java programming language. Main topics include: interprocess communication, remote invocation, distributed operating systems, distributed file systems, coordination and agreement, and concurrency control.

CSE 300 - Introduction to Digital Forensics

Credit Hours: 3

Prerequisite: SWE 201 or CSC 201

Digital Forensics Investigations introduces the newest technologies along with detailed information on how the evidence contained on these devices should be analyzed. Packed with practical, hands-on activities, students will learn unique subjects from chapters including handling computer hardware, capturing online communications, network, mobile, and MAC forensics, as well as photograph forensics. This course will prepare students for the rapidly-growing field of computer forensics for a career with law enforcement, accounting firms, banks and credit card companies, private investigation companies, or government agencies.

CSE 310 - Introduction to Cryptography

Credit Hours: 3

Prerequisite: STT 201 + MTT 202

The main objective of this course is unveiling some of the fascinating magic of cryptography, and to provide students with understanding to the tools of cryptography. Students will discover how cryptography ensures privacy, authenticity, and integrity to both data and systems in this modern digital age. Cryptography tools, includes both symmetric and asymmetric encryptions, practical usage of these tools including digital signature, message authentication, digital envelops, message authentications hash functions more.

Modern Cryptography uses mathematical language to precisely pin down elusive security goals, design primitives and protocols to achieve these goals, and validate the security of designed primitives and protocols using mathematical proofs based on clearly stated hardness assumptions. Therefore, to learn cryptography, it is essential to understand its mathematical underpinning. In this class, we will see the inner-working of cryptography for several core cryptographic tools, from encryption, to message authentication codes, to hash functions, to digital signatures, etc.

The course provides an intermediate level of cryptography methods used in modern systems. This course will highlight the important of such methods on the confidentiality, integrity, and authenticity of the information in this digital age.

CSE 400 - Network Security and Forensics

Credit Hours: 3

Prerequisite: CSC 305

This course provides the students the opportunity to examine network-based attacks and whether originating from outside the enterprise (Internet) or from the local LAN. In addition, this course provides an introduction to the methodology and procedures associated with digital forensic analysis in a network environment. The course will provide the students with the methods and ways to protect, detect, and defend the enterprise network from such attacks. Students will also learn about the importance of network forensic principles, legal considerations, digital evidence controls, and documentation of forensic procedures. The practical component of this course will provide the students with the skills to install, troubleshoot and monitor network devices to maintain integrity, confidentiality and availability of data and. The course concludes upon the topic of legal and ethical aspects of computer security including cybercrime, intellectual property, privacy and ethical issues.

CSE 410 - Mobile Device Security

Credit Hours: 3

Prerequisite: CSC 305

This course focuses on how to secure mobile devices, i.e., any device that cannot be not classified as a desktop or a server, and the significant threats affecting the services delivered over the mobile infrastructure. The main

security principles incorporated in the design of several generations of mobile networks is overviewed. Various security models will be explored including the main popular mobile device platforms such as: iOS, Android and Windows Phone. In addition, the course teaches students about the security of mobile services, such as VoIP, text messaging, WAP and mobile HTML. Students will become familiar with various tools that are used to recover cell phone data, and the type of extractions, and will be able to analyze the results by diving deep within the file systems of mobile devices. Students will engage in forensic acquisition and analysis of mobile computing devices, specifically iOS, Android, and Windows Phone devices.

CSE 420 - Ethical Hacking

Credit Hours: 3

Prerequisite: CSC 305

This course introduces the fundamental concepts of ethical hacking methodology, practical techniques and ethics. The main focus of the course is to introduce students to the methodology and tools necessary in order to assess the security posture of the system under study. The course utilizes Kali-Linux and many other software tools that are usually used by a malicious hacker to study the weaknesses and vulnerabilities of a target systems. In this course the students study the main phases of ethical hacking, the phases include reconnaissance, gaining access, enumeration, maintaining access, and covering the tracks.

ITE 408 - Information Security

Credit Hours: 3

Prerequisite: CSC 305 as co-req

This course builds on understanding of Data Communications and Networks and introduces students to information and computer security. It will cover theory and practice for the design of secure systems. It will also emphasize on each of these techniques. An important component of the course will be a survey of modern topics in computer security, including protection, access control, applied cryptography, Message Authentications, DoS, IDS and IPS, Hash Functions, network security, firewalls, secure coding practices, cryptographic protocols, privacy and anonymity, and mobile code. Case studies from real-world systems will also be analyzed.

Major Electives

CSE 490 - Selected Topics in Cybersecurity

Credit Hours: 3

Prerequisite: Determined based on topics

Cybersecurity Engineering curriculum covers fundamental principles in different area such as database security, network security, Secure Programming, Operating systems security, and many other areas. The main purpose of this course is to study Cybersecurity related topic that are not included in the current Cybersecurity Engineering curriculum. The content of the course and the subjects vary depending on the instructor background and students' interest in the subject.

ITE 422 - System and Network Administration

Credit Hours: 3

Prerequisite: CSC 305

This course is designed to provide students with the knowledge required to administer and suggest alternative strategies for the configuration, operation and monitoring of networks. Students will be made aware of the key factors that have impacts on system and network administration. The course will introduce the concepts, techniques and tools essential for system and network administrators including tasks for the planning, design and installation, of workstations, servers and data centers and developing disaster recovery plans, name spaces polices, customer care process and troubleshooting of networks.

ITE 442 - Data Science and Big Data Analytics

Credit Hours: 3

Prerequisite: SWE 201 or CSC 201, STT 201

This course provides practical foundation level training that enable immediate and effective participation in big data and other analytics projects. It includes an introduction to big data and the Data Analytics Lifecycle to address business challenges that leverage big data. The course provides grounding in basic and advanced analytic methods and an introduction to big data analytics technology and tools, including MapReduce and Hadoop. Labs offer opportunities for students to understand how these methods and tools may be applied to real-world business challenges as a practicing data scientist. The course takes an "Open", or technology-neutral approach, and includes a final lab in which students address a big data analytics challenge by applying the concepts taught in the course in the context of the Data Analytics Lifecycle. The course prepares the student for the Proven™ Professional Data Scientist Associate (EMCDSA) certification exam.

SWE 370 - Object Oriented Design Patterns

Credit Hours: 3

Prerequisite: CSC 202

Software can be built utilizing proven solutions to common problems, called design patterns. Reapplying design pattern solutions to new applications reduces the development cost and lends itself to extensibility. This course is about object-oriented design patterns. How design patterns solve design

problems? How to select a design pattern? How to use a design pattern? Detailed study of creational patterns, structural patterns, and behavioral patterns in included.

SWE 371 - Software Requirements and Specification

Credit Hours: 3

Prerequisite: CSC 202

The course describes the requirements development including the business requirements, functional and non-functional requirements, and data requirements. The course also covers the study of methods, tools, notations, verification, and validation to techniques for the analysis and specification of software requirements.

SWE 471 - Software Design and Architecture

Credit Hours: 3

Prerequisite: CSC 401

This course presents concepts and methods for the design of software systems. Fundamental design concepts using notation of Unified Modeling Language (UML). Designing for qualities such as performance, security, reusability, reliability. Metrics and measurement. Survey of software design methods; Object-oriented analysis and modeling; Software architecture design.

CIS 404 - Data Warehousing and Data Mining

Credit Hours: 3

Prerequisite: CSC 302

This course focuses on current advancements in data warehouses and data mining dealing with the data preparation, online analytical processing, and mining useful patterns in databases using different algorithmic techniques. Machine learning, neural networks, clustering techniques are also introduced and applied in classification.

ITE 401 - IT Project Management

Credit Hours: 3

Prerequisite: SWE 401

This course deals with project management concepts and applications and stresses the importance of utilizing project management methodologies in planning modern information systems. The aim is to give students an understanding of how to manage information technology projects both for the individual managing their own development, and for the team leader managing a larger scale project. The emphasis will be on getting a quality product produced on time and within budget.

ITE 402 - Computer Networks: Design and Implementation

Credit Hours: 3

Prerequisite: CSC305

This course is designed to provide students with the knowledge required to create a logical network design and suggest alternative physical implementations of this design. Students will be made aware of the key factors and tradeoffs in network performance, security and traffic analysis. The course focuses on the issues and processes used to define and analyze the requirements behind network construction and configuration. The objective is to learn how to design local, campus metropolitan, or wide area networks and the connection to the Internet. The course addresses concepts like scalability, robustness, redundancy, reliability, remote access, ubiquitous availability, and security. Topics covered in this course include identifying customer's needs and goals, logical network design, physical network design, testing, optimizing, and documenting a network design, addressing and routing architecture, and network management architecture.

ITE 409 - Human Computer Interaction

Credit Hours: 3

Prerequisite: CSC 401 or SWE 401

Effective design of human computer interfaces is a major factor in developing user-friendly software. The course will provide the background theory, practical examples, and models and techniques that enable students to design good interfaces and to evaluate human computer interface functionality and usability. The course will examine the practical and theoretical issues of how people interact with computers and methods for developing software to improve usability. A principal goal is for students to develop an awareness and sensitivity for user needs and abilities as they interact with computer software.

ITE 410 - Web Programming

Credit Hours: 3

Prerequisite: CSC 307

This course is designed to provide students with the knowledge required to design, implement, and maintain web-based applications. It introduces the tools, protocols and languages used in the development of these applications. This course gives an understanding of web middleware and the programming technologies to build modern web applications using proper Application programming interfaces and environments. This course aims at the study of Internet Protocols and utility programs used in popular Internet applications. It describes the features of HTTP protocol and its interaction features. It also presents specific elements of Java used in web programming. Popular server- side web application scripting and programming languages are described (e.g. Java script and NodeJs). Database oriented web applications are also introduced.

ITE 414 - Introduction to E-commerce

Credit Hours: 3

Prerequisite: Junior Level

With the rapid growth of the Internet, commerce on the web has been a significant part of the revenue stream for companies. This subject will develop an appreciation for all the issues involved in developing an ecommerce site, ranging from the business case to the technology involved. This subject will cover a range of business and technical concepts, which are required to understand e-commerce and e-business applications. These include supply chain management, systems analysis and development, ecommerce models, website analysis, legal and ethical issues, and building ecommerce web site.

Bachelor of Science in Industrial Engineering

Degree Requirements

MTT 200 - Calculus II

Credit Hours: 3

Prerequisite: MTT 102

This course is a continuation of Calculus I. The course will concentrate on integral calculus. A recurring theme throughout the semester will be the relationship between an approximation and the exact value. The topics covered are; The Fundamental Theorems of Calculus, Techniques of Integration, Numerical Integration, Improper Integrals, Area, Volumes, Arc Length, and Average Values, Infinite Sequences and Series, and Applications in the field of science and engineering.

MTT 201 - Calculus III

Credit Hours: 3

Prerequisite: MTT 200

This course is a continuation of the study of calculus. The course provides an introduction to the design, analysis. The topics covered are: introduction to vectors, vector calculus, partial derivatives, and multiple integrals.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3

Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as; Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available

MTT 205 - Differential Equations

Credit Hours: 3

Prerequisite: MTT 200

Co-requisite: MTT 204

The course will demonstrate the usefulness of ordinary differential equations (O.D.E.) for modeling physical and other phenomena. The topics covered are first and higher orders O.D.E, Laplace transform, applications of Laplace transform to initial value problems of O.D.E, systems of O.D.E and some engineering applications. Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from a text form into a mathematical equation.

PHY 102 - Physics & Engineering Applications I

Credit Hours: 3

Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, Kinematics, Newton's laws of Motion, Work and Energy, Oscillatory Motion, Wave Motion, Sound Waves, and Superposition of Waves. Taken simultaneously with PHY 102L (1 credit hour).

PHY 102L - Physics and Engineering Applications I Lab

Credit Hour: 1

Prerequisite: MTT 102

Co-requisite: PHY 102

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY 102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data

PHY 201 - Physics & Engineering Applications II

Credit Hours: 3

Prerequisite: PHY 102

The course is intended to provide engineering and computer science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts; Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law, inductance, and alternating current circuits. Taken simultaneously with PHY 201L (1 credit hour).

PHY 201L - Physics and Engineering Application II Lab

Credit Hour: 1

Prerequisite: PHY 102

Co requisite: PHY 201

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

CHE 205 - General Chemistry I

Credit Hours: 3

Pre or Co-requisites: ENG 200

Chemistry is the study of matter and interactions. This course introduces the principles of chemistry including; elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry, chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L - General Chemistry I Lab

Credit Hour: 1

Prerequisite: ENG 200

Co-requisite: CHE205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205

MEC 130 - Introduction to Mechanical & Industrial Engineering

Credit Hours: 2

Prerequisite: No Prerequisite

This course is intended to introduce students to the fields, disciplines and applications of mechanical and Industrial engineering, including: design, manufacturing, power, thermo fluids, robotics, aerospace, mechatronics, production systems, quality analysis and ergonomics. The course also introduces students to the use of basic equipment in mechanical engineering workshop and to familiarize students with industrial engineering aspects

CSC 201 - Structured Programming I

Credit Hours: 3

Prerequisite: MTT 102 or MTT 102

The main objective of this course is to provide students with the logic and tools required to develop structured software programs in C++. C++ is a challenging programming language that is based on both structured programming and object-oriented programming methodologies.

However, this course focuses on structured programming as the main learning objective. It also serves as a preliminary foundation for learning the object-oriented programming methodology.

COE 202 - Engineering Ethics, Economy and Law

Credit Hour: 3

Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society.

The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money

relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

COE 101 - Introductory Artificial Intelligence

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to broad topics in artificial intelligence (AI) and machine learning without requiring them to have a computing or mathematical background. Students will have a closer look at the booming field of AI and develop insights on how it drives value for the society in virtually all sectors including business, healthcare, education, engineering, and governance. The course covers basic AI concepts and terminologies, applications, tools, and performance evaluation in an accessible way to a wide range of audiences. Students are introduced to supervised learning including classification and regression, deep learning, unsupervised learning, and reinforcement learning. They are also trained on using simple yet powerful AI tools to empower their creativity and innovation in problem solving, AI strategy design, process automation, and cost reduction, and thus add value to their future employers. This is done through a practical course component designed to allow students to build simple data-driven AI using Excel. The data used in these laboratories is collected from different domains such as health, environmental science, business, and engineering.

Major Requirements

CIV 201 - Statics

Credit Hours: 3

Prerequisite: MTT 102 + PHY 102

Basic force concepts and equilibrium analysis; distributed forces; centroids; moments of inertia; application to structural elements.

MIS 200 - Introduction to Management Information Systems

Credit Hours: 3

Prerequisite: ENG 200 + ITD 100 or equivalent

This course focuses on the fundamental issues in using information technologies to manage and organize business processes. The premise of the course is that compared to traditional firms, digital firms heavily rely on a set of information technologies to organize and manage their businesses in a sustainable and ethical environment. Managers of digital firms need to identify the challenges facing their firms; discover the technologies that will help them meet these challenges; design business processes to take advantage of the technology; and create management procedures and policies to implement the required changes. Topics include, role of information technology in business, IT infrastructure, enterprise applications, e-business, the role of technology in sustainable development and ethical issues raised by the use of information technology. Please note that as an introduction course to the field of management information systems (MIS), this course provide an overview of wide range of topics in MIS. For each topic discussed in this course, there will be more advanced courses for in-depth discussion.

MEC 300 - Materials Science

Credit Hours: 3

An introduction to the structure and properties of materials and the processing routes utilized to optimize properties. All major classes of materials are covered, including metals, ceramics, composites, and polymers. Emphasis on the relationships between chemical bonding, crystal structure, phase equilibria, microstructure, and properties including electrical band structures, electron excitation events and semiconductors. Diffusion, kinetics of phase transformations, and microstructure development during basic processes.

MEC 301 - Manufacturing Processes

Credit Hours: 3

Prerequisite: MEC 300

This course aims at studying basic manufacturing processes such as casting, forging, rolling, drawing, extrusion, press tool work, plastic molding, powder metallurgy, welding, brazing, turning, shaping, drilling, milling and grinding. Metal and non-metal fabrication processes are included. Topics covered include mold design, casting and welding processes, theory of metal cutting, tooling features, mechanics of selected bulk deformation and sheet metalworking processes and manufacturing process selection and design for production of a given product.

IEN 220 - Probability and Statistics

Credit Hours: 3

Prerequisite: STT 100

Students are introduced to Theory of Probability and Mathematical Statistics at a fundamental level. The topics covered in probability include: mathematical treatment of chance, binomial, Poisson, and Gaussian distributions; normal approximation; application to coin-tossing,

radioactive decay, etc. Students will also learn about statistical subjects including: sampling; normal and other distributions; testing of hypotheses; confidence intervals; correlation and regression; applications to industrial data.

IEN 310 - Ergonomics & Work Measurement

Credit Hours: 3

Prerequisite: IEN 220 + MTT 204

This course covers introduction to work analysis and ergonomics, problem solving tools, operations analysis, design of manual work, design of the workplace, equipment and tools, design of work environment, time study and predetermined time systems

MEC 310 - Dynamics

Credit Hours: 3

Prerequisite: CIV 201 + MTT 204

Kinematics and kinetics of particles in plane, rectilinear and curvilinear motion; work and energy of particles; particle impulse and momentum; kinematics and kinetics of rigid bodies.

IEN 311 - Ergonomics & Work Measurement lab

Credit Hours: 1

Prerequisite: IEN 310 (co-requisite)

This lab aims to integrate theoretical and practical knowledge related to work analysis and ergonomics, problem solving tools, design of manual work, design of the workplace, equipment and tools, design of work environment, time study. Students are required to use conventional and modern engineering tools.

IEN 320 - Engineering Data Analysis

Credit Hours: 2

Prerequisite: STT 100

Students will be introduced to methods to analyze and interpret data within the context of problems that are relevant to engineering and research. This course will specifically focus on topics that include probability distributions and modeling, statistical inference, design of experiments, and regression analysis. Students will also learn to use statistical tools in Excel® to provide practical training in analyzing data from real engineering problems.

MEC 320 - Thermodynamics I

Credit Hours: 3

Prerequisite: PHY 102

System and control volume concepts. Properties of a pure substance. Work and heat. The first law of Thermodynamics as applied to a system and a control volume, internal energy, enthalpy. The second law of Thermodynamics. Carnot cycle, entropy, reversible and irreversible processes. Applications of steady-state steady-flow, uniform-state uniform- flow, and other processes.

IEN 330 - Operations Research I

Credit Hours: 3

Co-requisite: IEN 220 + MTT 204

The students will be introduced to the techniques that can be used to solve engineering problems in different environments that needs optimal decision. The objective of this course is to enable the students to formulate, analyze, and solve mathematical models that represent real-world problems. This course will cover essentially deterministic models in OR and the mathematical foundation of the solution techniques for OR models will be emphasized. The course will also address the basic principles and models associated with queuing systems.

MEC 330 - Computer Aided Drawing

Credit Hours: 2
Co-requisite: MEC 130

This course aims at introducing geometric modeling techniques. Topics covered will include Freehand sketching, Orthographic and Isometric Projections, Sectional Views, Dimensioning. Introduction to Geometric modeling and representation, Solid Modeling, Parametric and Feature-Based Modeling. Students will use a modern Industrial engineering package (SolidWorks) throughout to apply the concepts learnt during this course.

IEN 340 - Quality Engineering

Credit Hours: 3

Prerequisite: IEN 220

This course covers a variety of topics including quality improvement and productivity; quality costs, total quality management; statistical process control; control of incoming material, control charts for attribute and variable data, process capability. Process optimization and design of experiments; screening methods, fractional factorial experiments, Taguchi methods, empirical regression models, acceptance sampling.

MEC 340 - Machine Design I
Credit Hours: 3
Prerequisite: MEC 330+ MEC 300

This course introduces the students to modern engineering design methodologies and conceptual mechanical engineering designs. It promotes their creative thinking, project planning and teamwork. The course covers introduction to manufacturing processes and presents concepts of design for manufacturability, assembly, cost, and design optimization. It also gives an introduction to risk and reliability in design and addresses the ethical issues in engineering design. The course requires students to demonstrate an ability to design and conduct simple experiments and to analyze and interpret data

IEN 350 - Facilities Planning and Asset Management
Credit Hours: 3
Prerequisite: MEC 330

The course is concerned with finding the most efficient facility layout, including equipment layout for operating and service facilities, whether in manufacturing and/or assembly plants, warehouses or other industrial applications. Emphasis is placed on an integrated system approach, i.e. the coordination between material handling, production and inventory control, methods and process engineering, work standards and manpower allocation, and other related functions into a practical and efficient design of facility.

MEC 350 - Fluid Mechanics
Credit Hours: 3
Prerequisite: CIV 201 + MTT 205

This course aims at providing students with essential concepts of fluid mechanics. Topics covered include; Fluid properties, similitude, fluid statics, Bernoulli's equation, applications of the mass, momentum and energy equations, viscous flow in pipes, flow over immersed bodies, introduction to turbo machinery.

IEN 360 - Production Planning & Inventory Control
Credit Hours: 3
Co-requisites: IEN 330

The systematic design, direction, and control of processes that transform inputs into services, products, to satisfy customers is an ultimate goal of most, if not all, organizations. Generally, this involves dealing with a sophisticated chain of value and processes that include the transformation of inputs (raw materials, human resources, capital, etc.) into (more valuable) outputs that are finished products and services. This course focuses on the systematic study of the design, planning, and operations of such value chains. It spans all the value-adding activities of a production/service organization, such as product and process design, inventory management, material requirement planning, and scheduling etc.

IEN 398i - Internship
Credit Hours: 1.5
Prerequisite: 60 Credit Hours

The Bachelor of Science in Industrial Engineering (BSIE) is designed to prepare students for a successful career in industry, particularly the sector dealing with infrastructures. Students are exposed to a wide range of theories and practices of Industrial engineering through a series of dynamic curricula. This is done through the selection of elective courses in various topics. The Industrial Internship course is specifically designed to assimilate students into the industrial culture before they graduate. By spending the summer within the industry, engineering students should gather invaluable experience linking their theoretical knowledge to real world situations. At the same time, students will have the opportunity of impressing their employers and possibly securing future employment. The potential employers will have the opportunity to benefit from the service provided by engineering students who are at the peak of their creativity. For employers this program can be cost effective in terms of selection and training future employees.

IEN 399i - Internship
Credit Hours: 1.5
Prerequisite: 90 Credit Hours

The Bachelor of Science in Industrial Engineering (BSIE) is designed to prepare students for a successful career in industry, particularly the sector dealing with infrastructures. Students are exposed to a wide range of theories and practices of Industrial engineering through a series of dynamic curricula. This is done through the selection of elective courses in various topics. The Industrial Internship course is specifically designed to assimilate students into the industrial culture before they graduate. By spending the summer within the industry, engineering students should gather invaluable experience linking their theoretical knowledge to real world situations. At the same time, students will have the opportunity of impressing their employers and possibly securing future employment. The potential employers will have the opportunity to benefit from the service provided by engineering students who are at the peak of their creativity. For employers this program can be cost effective in terms of selection and training future employees.

IEN 400 - Modelling & Simulation
Credit Hours: 2
Prerequisite: IEN 330 + MIS 200

This introduces the students to the basic techniques for modeling and simulating the industrial systems in the presence of uncertainty. Fundamentally the course will enable the students to solve different engineering problem electronically by building computer-based models for real systems and performing simulation experiments to evaluate the behavior of a system under different sets of conditions. Moreover, students are required to do a term project that will enhance the students modeling skills.

IEN 401 - Modelling & Simulation Lab
Credit Hours: 1
Prerequisite: IEN 400 (co-requisite)

Simulation models of systems in terms of procedural behaviors, discrete and continuous, deterministic and stochastic will be studied. These include formulating and implementing simulation models, analysis of input and output data, statistical techniques for models of single systems and competing alternative systems. A computer program such as ARENA or Pro Model

will be introduced.

IEN 402 - 3D Printing and Additive Manufacturing
Credit Hours: 3
Prerequisite: MEC 301

The course aims to develop an understanding of the principles of 3D printing and additive manufacturing processes; including the materials used, CAD/CAE/modelling and path planning for additive manufacturing processes. Students will have an opportunity to design and fabricate using 3D printing machines. The course also discusses the applications of Additive Manufacturing in many technical domains such as biomedical, aerospace, biotechnology industries.

IEN 420 - Environmental & Safety Engineering
Credit Hours: 3
Prerequisite: IEN 310

This course introduces the students to the fundamentals of occupational environmental covers a variety of topics including occupational environmental safety engineering and how to management with emphasis on control of hazardous materials, safety considerations in production facility design and maintenance, operation of effective safety programs, and system safety analysis techniques.

MEC 432 - Design and Manufacturing Lab
Credit Hours: 3
Co-requisites MEC 301

This lab aims to integrate theoretical and practical knowledge gained from previous design, materials, manufacturing, dynamics and some aspects of thermo fluid courses.

Students design and realize typical mechanical engineering systems or components through a series of projects and experiments. Students are required to use conventional and modern engineering tools as well as to develop commitment to ethical, environmental, social and global issues, and to be aware of entrepreneurial opportunities relevant to design and manufacturing.

IEN 440 - Operations Research II
Credit Hours: 3
Prerequisite: IEN 330

This course provides an introduction to stochastic (probabilistic) Operations Research models. Topics include decision analysis, discrete and continuous random processes, Markov chains, and queuing models. Students will learn to develop and analyze models that incorporate the effects of randomness and uncertainty. Applications of these models to problems in manufacturing, health care, management, and other domains will be presented.

IEN498 - Capstone Design Project I
Credit Hours: 1
Prerequisite: Senior Level + MEC 340

This course is a capstone project for industrial engineering students. The project typically involves the analysis and design of industrial/mechanical engineering system or a product. Each group of industrial engineering seniors may address one or more industrial engineering aspects such as production planning, asset management, operation research, environmental & safety engineering, renewable energy systems and design & manufacturing aspects.

IEN499 - Capstone Design Project I
Credit Hours: 3
Prerequisite: IEN 498

This course is the second and major part of the capstone project for industrial engineering students. The project typically involves the design of industrial/mechanical engineering system or a device. Each group of industrial engineering seniors may address one or more industrial engineering aspects such as production planning, asset management, operation research, environmental & safety engineering, renewable energy systems and design & manufacturing aspects. Projects with interdisciplinary nature between various fields are encouraged and preferred aspects.

Major Electives

IEN 450 - Maintenance Management
Credit Hours: 3
Prerequisite: IEN 350+ IEN 320

The course includes maintenance operation and control, preventive maintenance: concepts, modeling, and analysis, maintenance planning and scheduling, maintenance material control, and computerized maintenance management systems. It also includes replacement studies and case studies.

MGT 411 - Project Management
Credit Hours: 3
Prerequisite: IEN 330 or BUS 306

This course is an examination of the knowledge sets, skills, tools and techniques of project management, with an emphasis on how project management contributes to the strategic goals of the organization. The course focuses on four of the knowledge areas of project management (Scope management, time management, cost management, risk management and marketing feasibility). Tools for resources estimation and scheduling will be applied in this course. MS Project software will be used extensively during this course to apply project management skills and concepts acquired.

MEC 471 - Introduction to Computer Aided Manufacturing
Credit Hours: 3
Prerequisite: MEC 301

This course aims to provide students with the fundamentals of computer-aided manufacturing.

Topics include: Computer numerical control, application of geometrical modeling, part programming, and introduction to computer integrated manufacturing. Students gain hands-on skills in using a computer aided manufacturing package and computer numerical control machine tools. The course also provides students with the awareness of entrepreneurial activities in manufacturing.

IEN 470 - Supply Chain Management
Credit Hours: 3
Prerequisite: IEN 330

This course studies supply chain systems that support the physical supply of raw and semi-finished materials to a firm, the planning and control of operations, and the delivery of the products or services up to the final customers, with the objective of achieving a sustainable competitive advantage and optimizing the value and the long-term performance of the firm and the supply chain as a whole. Using a strategic framework, students are guided through all of the key drivers of supply chain performance, including facilities, inventory, transportation, information, sourcing, and pricing.

IEN 480 - Special Topic in Industrial Engineering
Credit Hours: 3
Prerequisite: Senior Status

This course will include advanced topics of contemporary interest in selected areas of Industrial engineering. Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor.

Business Electives

ACC 200 - Principles of Financial Accounting
Credit Hours: 3
Prerequisite: Eng 200 + ITE 100 or equivalent

Financial accounting and reporting are the primary medium by which organizations provide information to their external stakeholders (e.g., shareholders, creditors, governmental agencies, customers and alike). This course presents financial accounting as an essential part of the decision-making process by both the external users and the management. The course involve the study of foundations of accounting methods and systems, including transaction analysis, the accrual system of accounting, the process of income measurement, and understanding of financial statements. The focus in the course will be on users – and not the preparers -- of accounting information. This course assumes no prior accounting knowledge.

MKT 200 - Principles of Marketing
Credit Hours: 3
Prerequisite: ENG 200

This course is designed to introduce students to the fundamental concepts of marketing and how they are currently applied in the marketplace. It should provide a stimulating environment for each participant in which they can explore the central tasks of marketing and build on previous experiences. The module enables participants to gain familiarity with the tools/processes currently used by practicing marketing professionals in analyzing market opportunities and to apply these in different contexts.

MIS 304 - Business System Analysis and Design
Credit Hours: 3
Prerequisite: MIS 200

This course focuses on evaluating existing business processes and choosing a system development methodology to improve upon it. Emphasis will be on analyzing, modeling and designing efficient business processes. It will also emphasize the factors for effective communication and integration with end-users. It encourages interpersonal skill development with clients, end-users, team members and others associated with development, operation, and maintenance of systems.

MGT 255 - Management and Organizational Behavior
Credit Hours: 3
Prerequisite: EBG 200

This course provides an understanding of the discipline of organizational behavior within a management perspective. OB is considered at an individual, group and organization level. Job Attitude, perception, values and personality attributes are viewed from a management viewpoint with a consideration of motivation theories, decision making and the notion of ethics as applied to the workplace. Issues of trust, leadership and the conflict management process are reviewed.

Organizations are examined as hierarchies and matrix structures and the concept of organizational culture is reviewed in terms of its impact upon performance. OB and the contribution it has made to HRM is examined. The course concludes with a consideration of organizational change and how best to optimize the change process.

MGT 314 - Entrepreneurship Management
Credit Hours: 3
Prerequisite: MGT 255

This course is designed to give students the opportunity to investigate the context and nature of entrepreneurship. It exposes students to detailed descriptions and analytical study of the internal and external business environment. Actual case studies and entrepreneurial profiles are utilized to help illustrate the elements of successful and not-so-successful ventures. This subject offers the rules, the roadmap, and the reasoning how to bring creative business ideas out of mind into being.

HRM 422 - Management & Leadership Development
Credit Hours: 3
Prerequisite: MEC 255 or MGT 301

This course provides the student with a detailed overview of contemporary leadership theory and practice and considers the nature of leadership in today's organizational context. Leadership is compared to management and the theories of leadership are considered as an evolutionary process from trait theory to contingency approaches. Leadership is examined as both a relationship process and as an opportunity to shape an organization that is capable of dealing with the growing public interest in sustainability.

The course also offers students a potential for self-assessment and leadership development. The essence of leadership development is self-awareness and a number of opportunities are made available to review values, competencies and skills that will contribute to the leadership development process.

BUS 102 - Introduction to Business
Credit Hours: 3
Prerequisite: ENG 200 + FWS 211

This course is an introduction to business with the aim to give students a good understanding on the important role business organizations play in today's world. The emphasis is on understanding various business functions and activities and recognizing their significance in the successful operation of business organizations. The course also aims to provide students a good understanding on the role of technology in improving business functions. Furthermore, the course addresses various career opportunities in various functional areas of business management. The project in the course in requires students to develop a business plan which will help the students to have hands-on experience in various functional areas of business management.

BUS 204 - Business Research Methods
Credit Hours: 3
Prerequisite: STT100 + BUS102

The purpose of this course is to enable students to acquire the skills necessary to undertake an ethical business research project. It covers the basics of business research concepts and how these concepts relate to decisions about conducting specific business research projects. Topics include an overview of how to conduct ethical research, collecting primary and secondary data collection, questionnaire design, sampling, and data analysis, presentation.

ECO 201 - Principles of Microeconomics
Credit Hours: 3
Prerequisite: ENG200+(MTG100/ MTT101/MTT102)

Principles of Microeconomics are an introductory course in microeconomics theory and applications. The course is designed to introduce undergraduate students to the fundamental concepts and theories of microeconomics with the primary focus being the application of principles and practices of microeconomics to business, finance and managerial economics. The first part of the course will involve discussing the problem of scarcity, demand, supply, equilibrium prices, and the use of prices as guide for production and consumption. Concepts including; marginal analysis, opportunity cost, production possibilities frontier and elasticity. In the second part of the course, the discussion will center on consumer choice; the behavioral and firm's production decisions and on the short-run and long-run costs and output decisions. The theory of firm in perfect competition, monopolistic competition, monopoly, and oligopoly markets are fully examined in the third part. In each of these market models, equilibrium price, output and profits are reviewed.

Throughout the course, particular emphasis is placed on the use of microeconomic analysis to explain contemporary economic issues and subjects influencing individual, business and government decisions.

Bachelor of Science in Software Engineering

Degree Requirements

SWE 201 - Structured Programming
Credit Hours: 3
Prerequisite: MTT101 or higher

The main objective of this course is to provide students with the logic and tools required to develop structured software programs in Java. Java is a challenging programming language that is based on the object-oriented programming methodology. However, this course focuses on structured programming as the main learning objective. It also serves as a preliminary foundation for learning the object-oriented programming methodology.

The material for this course includes: Introduction to Computers and Java Programming, Control Structures (loops and conditions), Functions, Arrays, and Strings and the notion of algorithms for solving problems.

COE 102- Introductory Big Data Analytics

Credit Hours: 3

Prerequisite: STT100

This course provides a general introduction to Data Analytics. It provides an essential guide to understanding and using data analytics in real-life applications without the need for any previous familiarity with programming. The course starts by introducing the main concepts of Data Analytics to provide a solid understanding of the field, its subfields, and major application areas. Students will learn the different types of data, data sources and data uses, and technologies for Big Data. Then, we move through the various types of analytics starting with basic univariate descriptive analytics and moving through multivariate until we reach predictive, model-based analytics. The course is designed in a way that balances between theory and practice. Throughout the course, the students will follow the data-driven approach to solving real-life problems through a series of practical labs and class activities. They will learn how to explain and identify the elements of introductory to intermediate data-driven systems using Microsoft Power BI. The course concludes by introducing the students to a variety of special data analytics applications in engineering, health, business, and the web emphasizing social, security, and economic dimensions.

CSC 202 - Computer Programming II

Credit Hours: 3
Prerequisite: SWE 201 or CSC 201

Computer Programming II offers greater reliability, maintainability and reusability than Structured Programming. This course follows on from Computer Programming I which covers the structured programming concepts. The current course introduces the students to the concepts of Object Orientated Programming. It develops the basic skills necessary to develop software application programs in Java using objected oriented principles and concepts.

The course presents the main principles of Objected Oriented Programming: data abstraction, objects and classes, inheritance, and polymorphism, exception handling, abstract classes and interfaces. Students should have a core foundation of structured programming principles in order to progress smoothly and effectively in this course.

CSC 301 - Data Structures and Algorithms

Credit Hours: 3
Prerequisite: MTT202, CSC202

This course builds on the pre-requisites programming courses and provides the students with an opportunity to further develop and refine their programming skills. In particular, the emphasis of this course is on the organization of information, the implementation of common data structures such as lists, stacks, queues, trees, and graphs, and techniques of data abstraction, including encapsulation and inheritance. We will also explore recursion, hashing, and the close relationship between data structures and algorithms. Operationally, applications of data structures to searching and sorting algorithms will be incorporated into programming assignments as will complexity analysis. Hands-on programming is a central component of this course.

CSC 305 - Data Communications and Networks

Credit Hour: 3
Prerequisite: Junior Level

This course provides an introduction to modern data communications and computer networks from the physical to the transport layers. The course will present data communications fundamentals and computer networking methods, using the ISO 7-layer reference model to organize the study. Attention will be focused on the protocols of the physical, data link control, network, and transport layers, for local and wide area networks. The course examines in detail analog and digital signaling, analog and digital conversions, network protocols & topologies, and error detection & correction. It also discusses well-known standards such as Ethernet, DSL, Frame Relay, ATM, and TCP/IP. Topics on wireless communications

will be covered as well.

CSC 308 - Operating Systems

Credit Hour: 3
Prerequisite: CSC 301

This course introduces students to the concepts and principles of operating systems design and to the prevailing techniques for their implementation. The course requires students to be already familiar with the structure of a user-program after it has been converted into an executable form and that they have some rudimentary understanding of the performance trade-offs inherent in the choice of algorithms and data structures. The course will cover operating systems concepts including process management, memory management, file and file system management, and introduces distributed operating systems. Two concrete examples of operating systems are used to illustrate how the principles and techniques are deployed in practice.

COE 202 - Engineering Ethics, Economy and Law

Credit Hour: 3
Prerequisite: ENG 200 + MTT 102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society.

The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), cost-benefit analysis and breakeven and payback analysis. Other topics include replacement analysis, inflation and depreciation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

SWE 399A - Internship/Project in Software Engineering-Part A

Credit Hours: 1.5
Prerequisite: 60 Credit Hours

SWE 399B - Internship/Project in Software Engineering-Part B

Credit Hours: 1.5
Prerequisite: 90 Credit Hours

This course focuses on getting the student practically involved in the day-to-day business events in a relevant, modern and automated organization. The student will follow a well-planned course of action during the period of training. The plan will be devised jointly by the site-supervisor and college- supervisor. The course will be a breakthrough in exposing the students to the professional work culture and conduct of business complexities. During the period of internship, students will develop their abilities and skills through performing required tasks.

ITE 390 - Computer Ethics

Credit Hours: 3
Prerequisite: CSC 202

A study of the ethical and social issues related to computers and computer networks, big data, computer algorithms and Artificial intelligence. This course examines the ethical issues arising from advances in Information Technology and the responsibility that IT professionals and users have in regard to ethical computer usage. Topics covered are social impact of computing, computer crime, software theft, privacy, intellectual property rights, autonomy, technology at the work place, technology and jobs, and computer games, big data and AI, as well as new and emerging ethical issues related to technology and information.

ITE 422 - System and Network Administration

Credit Hours: 3
Prerequisite: CSC 305

This course is designed to provide students with the knowledge required to administer and suggest alternative strategies for the configuration, operation and monitoring of networks. Students will be made aware of the key factors that have impacts on system and network administration.

The course will introduce the concepts, techniques and tools essential for system and network administrators including tasks for the planning, design and installation, of workstations, servers and data centers and developing disaster recovery plans, name spaces polices, customer care process and troubleshooting of networks.

SWE 499A - Capstone Design Project in Software Engineering -Part A

Credit Hour: 1
Prerequisite: 90 Credit Hours + SWE 471 + ITE 421

SWE 499B - Capstone Design Project in Software Engineering -Part B

Credit Hours: 2
Prerequisite: SWE 499A

The objective of this course is to provide a guided experience in wide areas of Software Engineering to student teams working on capstone projects. The projects will integrate computer science theory and software development

fundamentals to produce computing-based solutions. The projects will emphasize problem definition, requirement engineering, design conceptualization, modeling, development, testing, and system integration. As such, students will go through the full system development life cycle generating working prototypes with all necessary artifacts.

The course is split into two parts and is taken over two semesters to give students enough time to complete all the phases starting from requirement elicitation through development and testing and improving the quality of their design projects. SWE 499A is a pre-requisite to SWE 499B.

MTT 200 - Calculus II

Credit Hours: 3
Prerequisite: MTT 102

This Calculus II course builds upon Calculus I whose purpose was to establish a firm understanding of the foundations of calculus and their applications. It will start with some functions seen in Calculus I. Then, students will be introduced to the concepts of Transcendental Functions, Integration Technique, infinite Series and power Series.

Through the process of working through application problems, the student will develop the ability to interpret and evaluate real world application problems from text form into a mathematical equation.

MTT 202 - Discrete Structures and Applications

Credit Hours: 3
Prerequisite: STT 100

This course introduces the basic foundations of logic, structures, algorithms, number theory, induction, recursion and relations with application in computer science and engineering. The course then introduces students to graphs and trees and their use in modeling and analyzing computer science and computer engineering problems. Finally, the course presents the basics of Boolean Algebra and Finite Automata with applications.

MTT 204 - Introduction to Linear Algebra

Credit Hours: 3
Prerequisite: MTT 200

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to engineering applications. An Introduction to Matrices and Systems of Linear Equations are given with other topics such as: Determinants, Linear Transformations, Eigenvectors and Eigenvalues and Diagonalizing Matrices. Engineering applications of linear algebra are incorporated using Math software available.

PHY 102 - Physics and Engineering Applications I

Credit Hours: 3
Prerequisite: MTT 102

The course aim is to provide engineering and computer science students with clear understanding of the basic concepts of physics. The course is divided into two parts: Mechanics, and Waves. The topics covered are; Units, Vectors and Scalars, vectors product, motion in one and two dimensions, Newton's laws of Motion, Circular motion, Work and Energy, Conservation of Energy and Oscillatory Motion.

PHY 102L - Physics and Engineering Applications I Lab

Credit Hours: 3
Prerequisite: MTT 102 + PHY 102 (co-requisite)

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical concepts presented in Physics I course (PHY102) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

PHY 201 - Physics and Engineering Applications II

Credit Hours: 3
Prerequisite: PHY 102

The course is intended to provide engineering and science students with sufficient understanding and knowledge of physics concepts in Electricity and Magnetism that can be relevant to their field of study. The course is divided into two parts: Electricity and Magnetism. The topics covered are; electric field, Gauss's law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of magnetic field, Faraday's law and inductance.

PHY 201L - Physics and Engineering Applications II Lab

Credit Hours: 3
Prerequisite: PHY 102 + PHY 201 (co-req)

This course is designed to help students develop the ability to perform scientific experiments and to enhance their understanding of theoretical material presented in Phy201 (Electricity and Magnetism) by performing landmark experiments with emphasis on the presentation and interpretation of experimental data.

CHE 205 - General Chemistry I

Credit Hours: 3
Prerequisite: (Co) ENG 102/ENG 200

This course introduces the principles of chemistry including: elements and their symbols, the periodic table, names and formulas of compounds, chemical reactions, balancing chemical equations, stoichiometry, and other major principles of organic and in-organic substances. Laws and applications will also be described in this course. This course gives the students a full idea about the basic definitions of chemistry,

chemical interactions and laws, and characteristics of mater. Also, it reviews important algebraic concepts and introduces the use of these concepts in chemistry.

CHE 201L - Chemistry Lab

Credit Hours: 3
Prerequisite: CHE 205 (co-req)

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205.

STT 201 - Intermediate Statistics and Research Methods

Credit Hours: 3
Prerequisite: STT 100

The science of data analysis is commonly called Statistics. Statistics and statistical analyses are fundamental tools for managerial decision-making. Statistical analysis provides many ways to deal with uncertainties and, hence, is useful both for descriptive and for inferential tasks. This course presents statistical concepts and their applications for managerial decision-making. Computer based statistical analyses and the application of the insights gained through such statistical analyses for developing effective business decisions will be integrated into every aspect of the course. Topics addressed include Normal Distribution, sampling distributions, estimation techniques, hypothesis testing for one and more than one populations, Goodness-of-Fit and Analysis of Variance.

SWE 302 - Formal Methods in Software Engineering

Credit Hour: 3
Prerequisite: MTT 202 + SWE 401

The focus of this course is to introduce a mathematical approach for the specification, verification, and testing of software systems. It introduces the following topics: propositional logic and predicate logic; unordered structures and ordered structures; relations and functions; type declarations property-based such as algebraic and axiomatic; model-based such as visual and abstract and formalisms; temporal logic, contracts, and assertions; algebraic specifications and formalisms; Object-Z specification and Z languages; automata; extended finite state machines and finite state machines [also known UML State Diagrams.

SWE 401 - Software Engineering

Credit Hours: 3
Prerequisite: CSC 202

This course covers the principles of software engineering and object-oriented analysis and design. Topics include software development as an engineering discipline, modeling with UML, requirements elicitation, object-oriented analysis, architecture design, object design, implementation and testing, Software Development Lifecycle, Software Configuration Management, Requirements Engineering, Software Architecture, Use Cases, Object-Oriented Design, UML Diagrams, Software Measurement and Cyclomatic Complexity.

Major Requirements

CSC 302 - Database Management Systems

Credit Hours: 3
Prerequisite: MTT 202 + (SWE 201 or CSC 201)

This course is about databases, and in particular, relational databases and languages. The course introduces the concepts relating to creating, managing and querying database systems. It covers the fundamentals of databases, the process of database design, including data modelling, in particular with the Entity Relationship Model, and the relational data model. Students will gain a sound practical understanding of the SQL relational database query language. They will also develop skills related to normalization of relational tables, transaction management, professional, legal, and ethical issues in data management, security and administration, and networked databases.

CSC 307 - Web Design

Credit Hours: 3
Prerequisite: SWE 201 or CSC 201

The Internet and the Web have revolutionized the way people communicate and organizations do business. The business environment of today demands that ICT professionals know how to establish and maintain an interactive and dynamic Websites. In this course, students gain the knowledge needed to develop a well-designed Website. They learn the fundamentals of HTML syntax and layout, creating effective web pages, writing client-side JavaScript, integrate JavaScript into web pages and create an interactive and dynamic Website. Cascaded Style Sheets (CSS) are introduced to specify the presentation of elements on a Webpage, e.g., fonts, spacing, sizes, colors and positioning. JavaScript, which is the standard client-side scripting language for Web-based applications, is presented to add functionality to the web page.

CSC 406 - Artificial Intelligence

Credit Hours: 3

Prerequisite: STT 201 + CSC 301

This course provides a comprehensive introduction to Artificial Intelligence. It is intended to equip the students with theoretical and hands-on practical knowledge necessary to analyze and understand different aspects related to modern AI systems. Topics

covered include intelligent agents, search and optimization algorithms, machine learning, deep learning, natural language processing, and personalized systems and recommender systems. The course utilizes a variety of learning and assessment tools. These include case studies of cutting-edge AI technologies, problem solving assignments, and practical projects related primarily to machine learning and natural language processing. In addition, this course is aligned with Oracle AiML certificate. The students will have the chance to attend training bytes on an Oracle training channel dedicated for this course. At the end of the course the students can set for the AiML final exam and earn a completion certificate issued by Oracle Academy

CSC 408 - Distributed Information Systems

Credit Hours: 3
Prerequisite: CSC 202 + CSC 305

The study of distributed systems is exciting and interesting! In many respects, distributed systems are at the forefront of a revolution in the computer science discipline. In this course we will explore the principles and paradigms that are associated with distributed systems. During our exploration of principles, we will focus on developing a working understanding of the notions and concepts that are fundamental to all distributed systems: communication, coordination, fault-tolerance, transparency, self-organization, and synchronization. During our investigation of paradigms, such as message passing, remote object invocation, distributed shared memory, or group communication, we will examine, in great depth, specific technologies for building distributed systems. To this end, we will focus on the implementation of distributed systems that utilize the Java programming language. Main topics include: interprocess communication, remote invocation, distributed operating systems, distributed file systems, coordination and agreement, and concurrency control.

ITE 409 - Human Computer Interaction

Credit Hours: 3
Prerequisite: CSC 401 or SWE 401

Effective design of human-computer interfaces is a major factor in developing user-friendly software. The course will provide the background theory, practical examples, and models and techniques that enable students to design good interfaces and to evaluate human-computer interface functionality and usability. Several UX techniques and tools will be explored and used to understand user's needs, and systems' features, and evaluate the usability of software systems. The course will examine the practical and theoretical issues of how people interact with computers and methods for developing usable software. By completing this course students will be able to design and conduct a systematic usability evaluation of real-life user interfaces, recommend improvements to enhance the user experience, and prototype these recommendations utilizing several prototyping techniques.

ITE 408 - Information Security

Credit Hours: 3
Prerequisite: CSC 305

This course builds on understanding of Data Communications and Networks and introduces students to information and computer security. It will cover theory and practice for the design of secure systems. It will also emphasize on each of these techniques. An important component of the course will be a survey of modern topics in computer security, including protection, access control, applied cryptography, Message Authentications, DoS, IDS and IPS, Hash Functions, network security, firewalls, secure coding practices, cryptographic protocols, privacy and anonymity, and mobile code. Case studies from real-world systems will also be analyzed.

SWE 370 - Object Oriented Design Patterns

Credit Hours: 3
Prerequisite: CSC 202

Software can be built utilizing proven solutions to common problems, called design patterns. Reapplying design pattern solutions to new applications reduces the development cost and lends itself to extensibility. This course is about object-oriented design patterns. How design patterns solve design problems? How to select a design pattern? How to use a design pattern? Detailed study of creational patterns, structural patterns, and behavioral patterns in included.

SWE 371 - Software Requirements and Specification

Credit Hours: 3
Prerequisite: CSC 202

The course describes the requirements development including the business requirements, functional and non-functional requirements, and data requirements. The course also covers the study of methods, tools, notations, verification, and validation to techniques for the analysis and specification of software requirements.

SWE 471 - Software Design and Architecture

Credit Hours: 3
Prerequisite: CSC 401

This course presents concepts and methods for the design of software systems. Fundamental design concepts using notation of Unified Modeling Language (UML). Designing for qualities such as performance, security, reusability, reliability. Metrics and measurement. Survey of software design methods; Object-oriented analysis and modeling; Software architecture design.

SWE 472 - Software Testing and Quality Assurance

Credit Hours: 3
Prerequisite: SWE 471

Concepts and techniques for testing software. Topics include software testing at the unit, module, subsystem, and system levels; developer testing; automatic and manual techniques for generating test data; testing concurrent and distributed software; designing and implementing software to increase maintainability and reuse.

SWE 473 - Software Maintenance and Evolution

Credit Hours: 3
Prerequisite: SWE 401

The main objective of the course is to cover the principles of software maintenance and evolution. Software maintenance and evolution comes with many issues and challenges. Without proper maintenance and evolution strategy, the software will eventually become costly, difficult to maintain, evolve and comprehend. This course introduces different techniques, strategies and concepts to help software engineers design a usable and maintainable software. Course topics include software quality, software refactoring, software change management, regression testing, software re-engineering and software ruse.

ITE 421 - Native Mobile Application Development

Credit Hours: 3
Prerequisite: CSC 202

This course provides basic knowledge and understanding of mobile applications design and implementation. The course also examines the tools by which mobile applications are built in different mobile device environments. The aim of this subject is to enable students to understand the basic principles and architectures of native mobile application development. The course focuses on mobile application development using Android. The course also highlights the use of SQLite in android devices. In addition, the course introduces cloud-based servers and cloud functions as well databases such as firebase, and cloud database.

Major Electives

CEN 325 - Internet of Things: Foundation and Design

Credit Hours: 3
Prerequisite: CSC 201, CSC 303

This course will introduce microcontrollers and how they are used to build Internet of Things applications. During this course, students will develop a basic understanding of embedded and networked systems and how to program them using assembly and embedded C. They also learn how simple I/O devices are controlled by these microcontrollers and how to connect them to the cloud using Wi-Fi. Lectures and labs will be used to ensure that the concepts of IoT are understood.

CSC 303 - Digital Logic Design

Credit Hours: 3
Prerequisite: ECS 200

This course discusses the theory, operation, and applications of digital logic devices and systems and introduces students to a systematic design methodology.

CSE 300 - Introduction to Digital Forensics

Credit Hours: 3
Prerequisite: SWE 201 or CSC 201

Digital Forensics Investigations introduces the newest technologies along with detailed information on how the evidence contained on these devices should be analyzed. Packed with practical, hands-on activities, students will learn unique subjects from chapters including handling computer hardware, capturing online communications, network, mobile, and Modified Accessed Changed (MAC) times in computer forensics, as well as photograph forensics. This course will prepare students for the rapidly growing field of computer forensics for a career with law enforcement, accounting firms, banks and credit card companies, private investigation companies, or government agencies. The course emphasizes the fundamentals and importance of digital forensics. Students will learn different procedures and techniques that will enable them to perform a digital investigation. Students will develop an understanding of the fundamentals associated with the topologies, protocols, and applications required to conduct forensic analysis in a network environment. Students will learn about the importance of computer and network forensic principles, legal considerations, digital evidence controls, and documentation of forensic procedures. This course will incorporate demonstrations and laboratory exercises to reinforce practical applications of course.

CSE 310 - Introduction to Cryptography

Credit Hours: 3
Prerequisite: STT 201 + MTT 202

The main objective of this course is unveiling some of the fascinating magic of cryptography, and to provide students with understanding to the tools of cryptography. Students will discover how cryptography ensures privacy, authenticity, and integrity to both data and systems in this modern digital age. Cryptography tools, includes both symmetric and asymmetric encryptions, practical usage of these tools including digital signature, message authentication, digital envelops, message authentications hash functions more. Modern Cryptography uses mathematical language to precisely

pin down elusive security goals, design primitives and protocols to achieve these goals, and validate the security of designed primitives and protocols using mathematical proofs based on clearly stated hardness assumptions. Therefore, to learn cryptography, it is essential to understand its mathematical underpinning. In this class, we will see the inner-working of cryptography for several core cryptographic tools, from encryption, to message authentication codes, to hash functions, to digital signatures, etc.

The course provides an intermediate level of cryptography methods used in modern systems. This course will highlight the important of such methods on the confidentiality, integrity, and authenticity of the information in this digital age.

ITE 410 - Web Programming

Credit Hours: 3
Prerequisite: CSC 307

This course is designed to provide students with the knowledge required to design, implement, and maintain MEAN Stack Internet applications and web architectures. It introduces the tools, protocols and languages used in the development of these applications. This course gives an understanding of web middleware and the programming technologies to build modern web applications using proper application programming interfaces and environments. This course reviews the basics of Web programming tools (HTML5 and JavaScript). It describes the features of HTTP protocol and its interaction features using the Ajax internet applications. The course aims to study the popular server-side web application scripting and programming languages (e.g., JSON and NodeJS). How to handle data input/ output and accessing files using NodeJS. Database oriented web applications are also introduced through the implementation of NoSQL and MongoDB.

ITE 414 - Introduction to E-commerce

Credit Hours: 3
Prerequisite: Junior Level

With the rapid growth of the Internet, commerce on the web has been a significant part of the revenue stream for companies. This course will develop a comprehensive understanding of the main business concepts and technical facets related to e-commerce. It starts by defining e-commerce and identifying its most prevalent features, then it moves to identify several e-commerce business models. Students will learn how to identify and analyze all the major elements of an e-commerce business model and will learn how to design a comprehensive e-commerce business plan. The course introduces the students to the IT infrastructure of e-commerce and helps the students understand the technical challenges involved in developing an e-commerce web presence. Finally, the students will learn the process of planning, designing, and developing an e-commerce web presence and will apply the learned concepts and technologies to design and develop a working prototype of an e-commerce website. The course also tackles topics related to online payment methods and security to enrich the learning experience.

ITE 442 - Data Science and Big Data Analytics

Credit Hours: 3
Prerequisite: (SWE 201 or CSC 201) + STT 201

The Big Data course focuses on managing and processing massively large, versatile, continuous, and heterogeneous data retrieved from different sources including, for instance, sensors, social media, web applications, ERP systems, mobile applications, transportation systems, and others. Acquiring, storing, processing, and visualizing this data encompass various methods/ techniques with many challenges to be considered. In this course students will have a comprehensive overview of the Big Data ecosystem and its value chain. They will learn how to identify and evaluate different Big Data challenges. They will gain the essential theoretical and practical knowledge required to evaluate Big Data quality requirements and design and implement business solutions using Big Data methods and technologies. The course walks the students through the Big Data process starting from data acquisition, and moving to storage, processing, analytics and visualization. Throughout the course the students will learn the tools and frameworks required to handle Big Data. Finally, by completing this course, students will be able to develop a Big data strategy and implement a Big data business solution using the techniques, methods, and technologies introduced throughout the course.

CSE 400 - Network Security and Forensics

Credit Hours: 3
Prerequisite: CSC 305

This course provides the students the opportunity to examine network-based attacks and whether originating from outside the enterprise (Internet) or from the local LAN. In addition, this course provides an introduction to the methodology and procedures associated with digital forensic analysis in a network environment. The course will provide the students with the methods and ways to protect, detect, and defend the enterprise network from such attacks. Students will also learn about the importance of network forensic principles, legal considerations, digital evidence controls, and documentation of forensic procedures. The practical component of this course will provide the students with the skills to install, troubleshoot and monitor network devices to maintain integrity, confidentiality and availability of data and. The course concludes upon the topic of legal and ethical aspects of computer security including cybercrime, intellectual property, privacy and ethical issues.

CSE 410 - Mobile Device Security

Credit Hours: 3
Prerequisite: CSC 305

This course focuses on how to secure mobile devices, i.e., any device that cannot be not classified as a desktop or a server, and the significant threats affecting the services delivered over the mobile infrastructure. The main security principles incorporated in the design of several generations of mobile networks is overviewed. Various security models will be explored including the main popular mobile device platforms such as: iOS, Android and Windows Phone. In addition, the course teaches students about the security of mobile services, such as VoIP, text messaging, WAP and mobile HTML. Students will become familiar with various tools that are used to recover cell phone data, and the type of extractions, and will be able to analyze the results by diving deep within the file systems of mobile devices. Students will engage in forensic acquisition and analysis of mobile computing devices, specifically iOS, Android, and Windows Phone devices.

SWE 490 - Selected Topics in Software Engineering

Credit Hours: 3
Prerequisite: 90 Credit Hours

Software Engineering curriculum cover fundamental principles in different area such as Software development life cycle, Object Oriented design patterns, Software requirements and specification and many other areas.

The main purpose of this course is to study Software Engineering related topic that are not included in the current Software Engineering curriculum such as Software Testing, Software Maintenance, Software quality and Software Measurement. Selected Topics in Software Engineering covers the update to date and key research areas of selected topics in software engineering. It provides many methods and practices used in the different phases of Software Development Life Cycle, comprising requirements analysis, requirements specification, software design, implementation, maintenance, and process. The course topics contain state of the art research articles from the software engineering discipline. The course will equip students with the necessary skill to conduct pioneer research in software engineering and apply these skills in their future research activities.

The course emphases on traditional and evolving methods and paradigms of software engineering and helps students to understand and use research skills in the software engineering area.

Bachelor of Science in Artificial Intelligence Engineering

AIN310 - Machine Learning and Pattern Recognition

Credit Hours: 3
Prerequisite: CSC201 + COE101 + MTT200

This course builds on the concepts and skills acquired in CSC201 Computer Programming I, COE101 Introductory to Artificial Intelligence, and MTT200 Calculus II. It introduces students to concepts, techniques, and applications of Machine Learning (ML). Topics covered include data structures, training and testing, performance assessment, classification, and regression. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Regression from scratch using numpy, Classification comparison using sklearn, Image classification using Keras and pytorch. The course has a project. In this project, students work teams using PyCharm, Scikit Libraries, and PyTorch to design a deep learning image classifier and communicate their experience using presentations and reports.

AIN325 - Edge AI

Credit Hours: 3
Prerequisite: CSC201 + COE101

This course builds on the concepts and skills acquired in CSC201, and COE101. It introduces students to concepts, techniques, and applications of Machine Learning (ML), Deep Learning, and Internet of Things (IoT). Topics covered include

Machine Learning, Deep Neural Networks, IoT, Microcontrollers, Embedded Systems, TinyML. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering TinyML Models Training and Testing, Deployment of TinyML Models to Microcontrollers, and Wake-Word Detection Application. The course has a project.

In this project, students work teams using Arduino IDE , TensorFlow Lite, PyCharm, Arduino Nano 33 BLE Sense, Sensors, and Actuators to design a TinyML-based Model and Deployment and communicate their experience using presentations and reports.

AIN410 - Deep Learning

Credit Hours: 3
Prerequisite: AIN310

This course builds on the concepts and skills acquired in AIN310 Machine Learning and Pattern Recognition. It provides students with an in-depth understanding of concepts, techniques, and applications of Artificial Intelligence (AI) and Deep Learning. Topics covered include Artificial Intelligence, Deep Neural Networks, Convolutional Neural Networks (CNN), Autoencoders, YOLO, Generative Adversarial Networks (GANs), and Deep Reinforcement Learning. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Implementing Backpropagation using Python, CIFAR10 Classification using Keras, and and Region-based Convolutional Neural Networks (RCNNs) for Stop Sign Detection. The course has a project. In this project, students work teams using PyCharm, Scikit Libraries, Keras, and Tensorflow to design a YOLO and RCNN Object Detection Networks and communicate their experience using presentations and reports.

AIN475 - Self-Driving Cars

Credit Hours: 3
Prerequisite: AIN325 + AIN310

This course builds on the concepts and skills acquired in AIN325, Edge AI, and AIN310, Machine Learning. It provides students with an in-depth understanding of concepts, techniques, and applications of Self-Driving Vehicles. Topics covered include Deep learning, Computer Vision, Behavior Cloning, Lane Assist, PID Control, and Internet of Things (IoT). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Lane Finding, Behavior Cloning on data collected using Unity Simulator, Autonomous indoor flight mission programming. The course has a project. In this project, students work teams using PyCharm, MATLAB, Arduino, Raspberry Pi, Actuators, and Sensors to design a Self-driving Robot with Lane Assist and PID Control System and communicate their experience using presentations and reports.

ECS100 - Introduction to Engineering and Computing

Credit Hours: 3
Prerequisite: -

This course provides an introductory general overview of electrical engineering, biomedical engineering, computer engineering, and AI and robotics engineering fields, introducing students to concepts, techniques, and applications of Electrical, Computer, and Biomedical Engineering. Topics covered include an Introduction to Engineering, Roles, and Workplace of Engineers, Ethical Practices in Engineering, Design Process, Basic Circuit Concepts, Numeric Systems, and Teamwork. Students connect theoretical concepts learned in the course to practice using hands- on laboratory experiences covering Ohm's law, electronic simulations, programming, and debugging. The course has a project where students work in teams using Tinkercad, EasyEDA, ICs, PCBs, and testing and measuring equipment to design an electrocution protection system and communicate their experience using presentations and reports. Students will also analyze the impact of Electrical, Computer, and Biomedical Engineering on society, the environment, and the economy.

CSC202L - Programming Lab

Credit Hours: 1
Prerequisite: CSC201

This lab focuses on the practical applications of computer programming concepts, techniques, and designs. Lab equipment includes a PC and programming IDE. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering Introduction to Integrated Development Environments (IDEs), Data Input and Output, Selection Structures, Repetition Structures, Debugging Techniques, Classes and Object-Oriented Programming, Decomposition and Modular Programming, Inheritance in Object-Oriented Programming, Polymorphism, Multithreading, Application Programming Interfaces (APIs), Profiling and Unit Testing, and Version Control Systems.

COE202 - Engineering Ethics, Economy and Law

Credit Hours: 3
Prerequisite: ENG200 + MTT102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The

case studies also show the effects of engineering decisions on society. The second part of the course gives students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), and cost-benefit analysis. Other topics include replacement analysis, and inflation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

CSC202 - Computer Programming II

Credit Hours: 3
Prerequisite: CSC201

Computer Programming II offers greater reliability, maintainability and reusability than Structured Programming. This course follows on from Computer Programming I which covers the structured programming concepts. The current course introduces the students to the concepts of Object Orientated Programming. It develops the basic skills necessary to develop software application programs in Java using objected oriented principles and concepts.

The course presents the main principles of Objected Oriented Programming: data abstraction, objects and classes, inheritance, and polymorphism, exception handling, abstract classes and interfaces. Students should have a core foundation of structured programming principles in order to progress smoothly and effectively in this course.

CSC201 - Computer Programming I

Credit Hours: 3
Prerequisite: MTT101 or higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to Matlab Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

COE101 - Introductory Artificial Intelligence

Credit Hours: 3
Prerequisite: STT101

This course builds on the concepts and skills acquired in STT100 General Statistics. It introduces students to concepts, techniques, and applications of Artificial Intelligence. Topics covered include Artificial Intelligence Termonologies, Data Preprocessing, Supervised Learning (e.g., Regression and Classification), AI Performance Evaluation and Bias, Neural Networks, Convolutional Neural Networks, Clustering, Ethics in AI and AI Strategy. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering data preprocessing, performance evaluation, cross-validation, and neural networks. The course has a project. In this project, students work teams using Excel and AI-Training Software to design a classification model and communicate their experience using presentations and reports.

CSC301 - Data Structures and Algorithms

Credit Hours: 3
Prerequisite: MTT202, CSC202

This course builds on the pre-requisites programming courses and provides the students with an opportunity to further develop and refine their programming skills. In particular, the emphasis of this course is on the organization of information, the implementation of common data structures such as lists, stacks, queues, trees, and graphs, and techniques of data abstraction, including encapsulation and inheritance. We will also explore recursion, hashing, and the close relationship between data structures and algorithms. Operationally, applications of data structures to searching and sorting algorithms will be incorporated into programming assignments as will complexity analysis. Hands-on programming is a central component of this course.

EEN210 - Digital Circuits

Credit Hours: 3
Prerequisite: ECS100

This course builds on the concepts and skills acquired in ECS100 Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of digital logic design. Topics covered include digital concepts, number systems, operations, codes, logic gates, logic simplification, combinational logic analysis, latches, flip-flops, counters, shift registers. The course has a project. In this project, students work teams using digital logic ICs to design a combinational and sequential logic circuits using k-maps and state machines and communicate their experience using presentations and reports.

CSC305 - Data Communications and Networks

Credit Hours: 3
Prerequisite: Junior Level

This course provides an introduction to modern data communications and computer networks from the physical to the transport layers. The course will present data communications fundamentals and computer networking methods, using the ISO 7-layer reference model to organize the study. Attention will be focused on the protocols of the physical, data link control, network, and transport layers, for local and wide area networks. The course examines in detail analog and digital signaling, analog and digital conversions, network protocols & topologies, and error detection & correction. It also discusses well-known standards such as Ethernet, DSL, Frame Relay, ATM, and TCP/IP. Topics on wireless communications will be covered as well.

CEN330 - Probability and Stochastic Processes

Credit Hours: 3
Prerequisite: CEN320 + STT100

This course builds on the concepts and skills acquired in STT100 General Statistics and CEN320 Signals and Systems. It introduces students to concepts, techniques, and applications of Random Signals and Noise. Topics covered include probability theory, discrete and continuous random variables and their distributions, the concept of mean and variance, functions of one and two random variables, central limit theorem, statistics, and random processes. In this project, students work teams using MATLAB to design a graphical user interface (GUI) for image processing and communicate their experience using presentations and reports.

CEN201 - Electric Circuits I

Credit Hours: 3
Prerequisite: ECS100 or PHY201 + EEN210L

This course builds on the concepts and skills acquired in ECS100 Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of Electric Circuits. Topics covered include Circuit Variables, Circuit Elements, Resistive Circuits, Voltage-Divider and Current-Divider Circuit Circuits, Circuit Analysis. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering voltage and current dividers, Star-Delta, and equivalent circuits. The course has a project. In this project, students work teams using Multisim and testing equipment to design a an RC high pass filter and communicate their experience using presentations and reports.

CEN320 - Signals and Systems

Credit Hours: 3
Prerequisite: MTT205 + CEN201

This course builds on the concepts and skills acquired in MTT205 Differential Equations and CEN201 Electric Circuits. It introduces students to concepts, techniques, and applications of Signals and Systems. Topics covered include classification of systems, DT and CT systems, signal modeling and transformation, LTI systems, Frequency domain analysis and Fourier transform, Laplace transform, Z-Transform, and Discrete Fourier transform. The course has a project. In this project, students work teams using MATLAB to design a sound visualization interface and analyzer and communicate their experience using presentations and reports.

CEN304 - Electronic Devices and Circuits

Credit Hours: 3
Prerequisite: CEN201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of Electronic Devices and Circuits. Topics covered include diodes, Bipolar Junction Transistors (BJTs), Field Effect Transistors (FETs), and Operational Amplifiers (Op Amps). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering BJTs, FETs, and OpAmps. The course has a project. In this project, students work teams using Multisim and testing equipment to design a common source amplifier and communicate their experience using presentations and reports.

EEN365 - Control Systems

Credit Hours: 3
Prerequisite: MTT204 + CEN320

This course builds on the concepts and skills acquired in MTT204 Introduction to Linear Algebra and CEN320 Signals and Systems. It introduces students to concepts, techniques, and applications of Control Systems. Topics covered include Modeling in Frequency and Time domains, The Transfer Functions, Poles, Zeros, System Response, block diagrams, Signal-Flow Graphs, Stability, Steady-State Error, Root Locus, and PID Controllers. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering control systems analysis, PID controllers on Simulink, and PID controllers on Arduinos. The course has a project. In this project, students work teams using MATLAB to design a liquid level control system for a chemical processing facility and communicate their experience using presentations and reports.

CEN464 - Digital Signal Processing

Credit Hours: 3
Prerequisite: CEN320

This course builds on the concepts and skills acquired in CEN320 Signals and Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of digital signal processing. Topics covered include the z-transform and its application to the analysis of LTI systems, frequency analysis of signals, frequency-domain analysis of LTI systems, the properties and applications of discrete fourier transform, the design of digital filters, and the properties and applications of discrete fourier transform .
The course has a project. In this project, students work teams using MATLAB to design a digital filters and communicate their experience using presentations and reports.

CEN454 - Computer Vision and Image Processing

Credit Hours: 3
Prerequisite: CEN464 + CEN464L

This course builds on the concepts and skills acquired in CEN464 Digital Signal Processing. It provides students with an in-depth understanding of concepts, techniques, and applications of image processing and computer vision. Topics covered include noise estimation, image filtering, image enhancement, image reconstruction, morphological operations, image segmentation, Convolutional Neural Networks (CNN), and object tracking. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Spatial and Frequency Domain Image Enhancement Pipelines on Matlab, Background Modeling and Foreground Segmentation using Gaussian Mixture Models and the EM Algorithm on Matlab, and Face Detection and Tracking using OpenCV. The course has a project. In this project, students work teams using MATLAB and PyCharm to design a Particle Filter-Based Object Tracking in Video Sequences and communicate their experience using presentations and reports.

CEN401L - Embedded and IoT Lab

Credit Hours: 1
Prerequisite: EEN210L

This lab focuses on the practical applications of embedded systems and internet of things concepts, techniques, and designs. Lab equipment includes Arduinos, Raspberry Pis, actuators, sensors, and the PyCharm software.
Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiments covering Introduction to the Arduino and the Raspberry Pi, State Machines Implementations using Embedded C++ and Python, TinkerCAD and TkCircuit Simulators, Bash Programming and Linux, Digital Inputs and Outputs on Arduino, GPIO, Serial Communication, Interfacing Motors and Sensors, Web and Mobile Interfaces for IoT Nodes, and Back End Technologies.

AIN399i - Internship in Artificial Intelligence Engineering I

Credit Hours: 2
Prerequisite: 90 credit hours

"Internship in Artificial Intelligence Engineering I" is designed to expand on the knowledge and skills acquired in the first 90 credit hours of the Artificial Intelligence Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the fields of artificial intelligence and machine learning within a professional, industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of artificial intelligence engineering such as machine learning model development, data analysis, natural language processing, computer vision, AI systems integration, and deployment. During their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature of the artificial intelligence engineering field. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of artificial intelligence on society, the environment, and the economy, providing them with a more holistic understanding of their role as future AI engineers.

AIN399ii - Internship in Artificial Intelligence Engineering II

Credit Hours: 1
Prerequisite: AIN399i

"Internship in Artificial Intelligence Engineering II" is designed to expand on the knowledge and skills acquired in AIEN399i Internship in Artificial Intelligence Engineering I and in the Artificial Intelligence Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the field of artificial intelligence within a professional industry setting.
The topics covered are dictated by the nature of the organization and the specific work assigned to the

students. This hands-on experience can encompass various aspects of AI engineering such as machine learning model development, data engineering, natural language processing, computer vision, AI system integration, and deployment. During their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature of the artificial intelligence engineering field. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of artificial intelligence solutions on society, the environment, and the economy, providing them with a more holistic understanding of their role as future AI engineers.

AIN451 - Artificial Intelligence Engineering Design Project I

Credit Hours: 1
Prerequisite: Senior Level

This course builds on the concepts and skills acquired in courses throughout the Artificial Intelligence Engineering program. It is the first part of a two-part sequence and requires students to be at the senior level. It introduces students to concepts, techniques, and applications of comprehensive project design and development within Artificial Intelligence Engineering. Skills covered include problem definition, AI system design, data preparation, model development, performance evaluation, and system integration in various AI domains such as machine learning, natural language processing, and computer vision. Students connect theoretical concepts learned in the program to practice through the development of their research proposals. The core of the course is research. In this phase, students work on literature reviews and develop a proposal for the AI project they will work on in Capstone 2. This process involves integrating various AI engineering skills and knowledge acquired throughout the program. Students communicate their research process, challenges encountered, and project outcomes using presentations and detailed written reports. Extending the course over two semesters gives students time to research the topic, explore innovative AI methodologies, and develop a prototype. This leads to a well-rounded learning experience that encapsulates the complexities and ethical considerations of working on large-scale, real-world AI projects.

AIN452 - Artificial Intelligence Engineering Design Project II

Credit Hours: 2
Prerequisite: AIN451

This course builds on the concepts, skills, and progress acquired and achieved in AIEN451 Artificial Intelligence Engineering Design Project I. It continues to engage students in concepts, techniques, and applications of comprehensive project design and development within Artificial Intelligence Engineering. This course extends the topics covered in the first part, including advanced problem definition, AI system design, data modeling, algorithm development, performance evaluation, and system integration. The centerpiece of the course remains the design project. Students continue their work from Artificial Intelligence Engineering Design Project I, utilizing various AI frameworks, software tools, and development environments to refine, finalize, and optimize their AI models and systems. This process may involve rigorous testing, hyperparameter tuning, troubleshooting, and iterative improvements to ensure the project meets the defined objectives and adheres to ethical and performance standards. Students will also gain experience in delivering professional presentations and composing detailed written reports, focusing on the design enhancements, ethical considerations, and challenges overcome during the project's second phase. Furthermore, students will deepen their understanding of the societal, environmental, and economic implications of their AI solutions, facilitating a comprehensive understanding of their role and responsibilities as AI engineers. The two-semester structure enables students to fully realize their projects, providing a unique opportunity to experience the complete life cycle of a complex AI engineering project, from initial conceptualization to final implementation and evaluation.

EEN366 - Introduction to Robotics

Credit Hours: 3
Prerequisite: EEN365

This course builds on the concepts and skills acquired in EEN365 Control Systems. It introduces students to concepts, techniques, and applications of Robotics and Automation. Topics covered include robotics, sensors, actuators, Robotics Operating Systems (ROS), and PID Control. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Robotics Simulation on ROS, Gazebo, and RViz, Setting up ROS on Raspberry Pi and Controlling Actuators, and Reading Sensor Data and Controlling the Robot with ROS and OpenCV. The course has a project. In this project, students work teams using PyCharm, MATLAB, ROS, Raspberry Pi, Sensors, and Actuators to design a Autonomous Surveillance Robot using ROS and Computer Vision and communicate their experience using presentations and reports.

AIN442 - Time Series Analysis

Credit Hours: 3
Prerequisite: CEN320, AIN310

As the big data ecosystem there are unprecedented amounts of high-quality time series data available. Time series are uniquely interesting because they can address questions of causality trends and the likelihood of future outcomes. In this course the students learn tackle problems relating to obtaining cleaning simulating and storing time series data. The students will explore variety of modeling techniques that can be used for time series analysis. Python language will be used int his course to cover various concepts. The course further covers how to apply more recently developed methods such as machine learning and neural network to time series data highlighting the challenges of data processing and data layout when time series data is used for fitting models that are not inherently time aware such as decision trees. Furthermore, accuracy metrics and performance considerations are discussed. Some case studies from healthcare and finance will be included towards the end.

AIN483 - Audio Processing for AI Applications

Credit Hours: 3
Prerequisite: CEN320, AIN310

This course introduces students to audio signal processing and its applications. Audio processing is important in many AI and Machine Learning applications. Topics covered include audio signals, transforms, audio feature extraction, audio signal classification and segmentation, denoising, and temporal modeling.

AIN430 - Machine Learning in Medicine

Credit Hours: 3
Prerequisite: CSC201, CEN320

This course studies medical imaging and how it is used to build computer-aided diagnosis systems. It introduces students to functional feature extraction, connectivity feature extraction, shape feature extraction, and appearance feature extractions. Students work on a project to use the extracted features with classifiers and develop a automatic diagnosis system.

AIN443 - Generative Deep Learning

Credit Hours: 3
Prerequisite: AIN310

This course builds on the concepts and skills acquired in AIN310 Machine Learning and Pattern Recognition. It introduces students to concepts, techniques, and applications of generative modeling and deep learning. Topics covered include Generative Modeling, Variational Autoencoders, Generative Adversarial Networks, Text-to-Image Generation, and Autoregressive Models. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Generative Modeling Fundamentals, Image Generation with GANs, and Text Generation with Autoregressive Models. The course has a project. In this project, students work teams using MATLAB and PyCharm to design a Synthetic Data Generator and communicate their experience using presentations and reports. Students will also analyze the impact of deep learning and generative AI on society, the environment, and the economy.

AIN482 - Natural Language Processing

Credit Hours: 3
Prerequisite: AIN410

This course builds on the concepts and skills acquired in AIN410 Deep Learning. It introduces students to concepts, techniques, and applications of Machine Learning (ML) and Natural Language Processing (NLP). Topics covered include NLP, text vectorization, text, context, and sentiment analysis . Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Language Identification using SkLearn, Command Line Utility for Positive or Negative Text Classification , and Sentiment Analysis from Movie Reviews using SkLearn. The course has a project. In this project, students work teams using PyCharm and TensorFlow to design a New Articles Topics Classification Model and communicate their experience using presentations and reports. Students will also analyze the impact of Machine Learning (ML) and Natural Language Processing (NLP) on society, the environment, and the economy.

AIN305 - Artificial Intelligence for Engineers

Credit Hours: 3
Prerequisite: CSC201, COE101

This course builds on the concepts and skills acquired in CSC201 Computer Programming I and COE101 Introductory to Artificial Intelligence. It introduces students to concepts, techniques, and applications of Artificial Intelligence (AI). Topics covered include Artificial Intelligence, Problem- solving, Deep Learning, Reinforcement Learning, and Natural Language Processing. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Integration of Player vs. Player GUI and Unbeatable Tic Tac Toe using Minimax Algorithm,

GUI Implementation of Connect 4 Game with Difficulty Levels, and Family Tree Representation and Querying using Prolog. The course has a project. In this project, students work teams using PyCharm, MATLAB, and Prolog to design a AI-based Solution to the Knight Tour Problem and communicate their experience using presentations and reports. Students will also analyze the impact of Artificial Intelligence (AI) on society, the environment, and the economy.

AIN425 - Internet of AI-powered Things

Credit Hours: 3
Prerequisite: AIN325

This course builds on topics covered in AIN325 in porting AI an ML on resource limited devices. It continues to use 8-bit microcontrollers in addition to Linux-based 32-bit microprocessors to design and implement various AI and computer-vision powered embedded Linux applications. During this course, students will get introduced to Python programming, OpenCV, state charts (with concurrency and composite states) for modeling and design of IoT applications, as well as machine learning and computer vision implementations running on the Raspberry Pi such as Scikit Learn, Yolo, and TensorFlow Lite. They also learn how to integrate the Arduino and Raspberry Pi using the Firmata protocol. Advanced interfacing techniques are discussed theoretically in lectures and implemented practically in the labs and the project. At the end of the course, students are required to design and build AI embedded system with optimized latency and power by applying the knowledge gained throughout the course.

CEN333 - Cross-platform Mobile Application Development

Credit Hours: 3
Prerequisite: CSC201

This course builds on the concepts and skills acquired in CSC201 Computer Programming I. It introduces students to concepts, techniques, and applications of Cross-platform Mobile Applications. Topics covered include Ionic Apps, Angular, App navigation, Geolocation, Google Maps API, Google Fit, and Google Cloud Vision. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Experimenting with Local and Remote Persistence in Cross-Platform Mobile Applications: Implementation and Performance Analysis, Localization Strategies for Cross-Platform Mobile Applications: Testing and Evaluation of Multilingual Support, and Integrating Local and RESTful API Services in Cross- Platform Mobile Applications: Implementation, Benchmarking, and Optimization. The course has a project. In this project, students work teams using Visual Studio code, StackBlitz, and Ionic to design a Smart Autonomous Mobile Application: Combining Persistence, Navigation, Location, AI, and Native Services and communicate their experience using presentations and reports.

CEN464L - Signal Processing Lab

Credit Hours: 1
Prerequisite:

This course introduces students to the concepts, techniques, and applications of digital signal processing. Topics covered include discrete-time signals and systems, transforms, sampling, filter design, and signal processing in different dimensions. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering MATLAB, signal operations, convolution, Fourier and Laplace transforms, Fourier domain representation, time domain sampling, aliasing, pre-filtering, filter design and implementation on Arduino, random signals, probability, noise modeling and reduction, power spectral analysis, and 1D-3D signal processing for audio, sensor, image, and video signals. Students will also analyze the impact of digital signal processing on society, the environment, and the economy.

AIN333 - Mobile Computer Vision and Machine Learning

Credit Hours: 3
Prerequisite: CEN333

This course provides students with hands-on experience in building AI-powered mobile applications using advanced cross-platform development tools. The course covers TypeScript frameworks (Angular, Ionic, Capacitor), asynchronous programming, cloud integration, and backend services, focusing on real-time data processing and ofloading to cloud servers. Students will implement mobile AI and vision services, including object detection, image classification, and text recognition, using TensorFlow Lite and Firebase. Throughout the course, students apply these skills in practical lab sessions and work in teams on a project to design and present a complete AI-based mobile application that addresses a real-world problems.

Bachelor of Science in Renewable and Sustainable Energy Engineering

MEC320 - Thermodynamics I

Credit Hours: 3
Pre-requisite: PHY102

This course introduces the student to the basic knowledge of energy production, conversion and utilization from natural resources. Development and application of the basic principles of thermodynamics to systems and control volumes are illustrated and emphasized. Topics include properties of a simple pure compressible substance, equations of state, the first law of thermodynamics, internal energy, specific heats, enthalpy, and the application of the first law to a system or a control volume. The study of the second law of thermodynamics is also discussed leading to the discovery of entropy as a property and its ramifications. This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will collaborate on a project to apply theoretical concepts of thermodynamics.

MEC350 - Fluid Mechanics

Credit Hours: 3
Pre-requisite: (RSN215 or CIV201) + MTT205

This course aims at providing students with essential concepts of fluid mechanics dealing mainly with incompressible flows. Topics covered include; Fluid properties, similitude, fluid statics, Bernoulli's equation, applications of the mass, momentum and energy equations, viscous flow in pipes, flow over immersed bodies, open channel flow and introduction to turbomachinery. The Navier-Stokes equations are derived from the basic principles of continuity of mass, conservation of momentum, and conservation of energy. This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will engage in practical labs and collaborate on a project to apply theoretical concepts of hydrostatic forces and dimensional similarity and pump selection.

MEC410 - Control Systems

Credit Hours: 3
Pre-requisite: RSN215 or (MEC310 + MEC390)

This course aims to introduce students to the fundamentals knowledge of control system theories and applications. Topics include: mathematical modelling, dynamic system responses, feedback control characteristics, stability of feedback systems, feedback control design, design steps of PID controller, and control design using root locus method. The course includes project work where students formed in teams perform design, analyze laboratory implementation of control systems for applications for their choices. This course primarily relies on face-to-face lectures as the main mode of content delivery. Several assignments and exams will be conducted. Additionally, students will engage in practical labs and collaborate on a project to apply control theory.

MEC420 - Heat Transfer

Credit Hours: 3
Pre-requisite: MEC320 + MEC350

This course aims at providing students with essential concepts of Heat Transfer. Topics covered include: Steady and transient heat conduction, forced and natural convection, internal and external flows, principles of engineering thermal radiation, heat exchanger, boiling and condensation. The course also aims at inspiring the student as well as at enhancing his/her entrepreneurial skills, as related to the field of heat transfer.

RSN385 - Energy Sustainability

Credit Hours: 3
Pre-requisite: MEC320

The course is intended to give the student an overview on energy sustainability in both directions: production and utilization and how they are linked to sustainable development. Students, also, will learn how energy systems are designed, analyzed, assessed and evaluated in accordance to sustainable tools for more sustainable future. The course also covers aspects of energy planning, environmental impacts, and socio-economic issues on regional and global levels with case studies.

RSN421 - Tidal Energy Systems

Credit Hours: 3
Pre-requisite: MEC350

The course is intended to provide students with overview of concepts, technologies and the control of tidal energy systems and tidal power plants. The course covers the fundamentals of tidal energy, including the structure of tidal currents and turbulence. The course also introduces feasibility analysis methods of tidal power plants, maintenance and power generation.

RSN423 - Feasibility Analysis of Renewable Energy

Credit Hours: 3
Pre-requisite: RSN323

The course is intended to give the student an overview on performing a feasibility analysis for sustainable technologies that will result in energy efficiency estimations. The student will learn to apply basic analysis on sustainable technologies in terms of capacity, efficiency, constraints, and dependability. The course will provide students with methods to estimate

the revenues or expenses avoided by using the technology. Cases studies of different sustainable technologies will be considered.

RSN426 - Future Sustainable Energy

Credit Hours: 3
Pre-requisite: RSN323

The course is intended to give the student an overview on the key aspects that will define future sustainable energy systems: energy supply, energy storage, economics and limited environmental impacts. The course will help students to realize the current and future trends in energy source investments. The course also include implementing fuzzy models to study the decision making for the selection of the best renewable energy scenario.

RSN200 - Intro. to Renewable and Sustainable Energy Engineering

Credit Hours: 3
Pre-requisite: 0

This is an engineering introduction to renewable energy technologies and potentials. The course aims to introduce a general engineering/ science audience to the basic concepts of renewable energy. The course will highlight the basics and potentials of various types of renewable energies, e.g., solar energy, photovoltaic, wind power, hydropower, biomass and waste energy, geothermal energy, and tidal energy. The course will compare the characteristics of various types of renewable energy, their potential, limitations, cost, and use. Lectures will be embedded with examples from real world applications and in-progress industrial developments.

RSN215 - Engineering Mechanics

Credit Hours: 3
Pre-requisite: PHY102

This is a foundation course in engineering mechanics. The course starts by introducing vectors, analytical and graphical methods of vector analysis, properties of areas, and various application in engineering. Then two main modules are introduced. The first module includes: equilibrium of rigid bodies, free body diagram, friction, energy conservation and virtual work principle in rigid bodies analyses. The second module includes: kinetics and dynamics of particles, kinematics and dynamics of rigid bodies, and energy and momentum methods.

RSN301 - Energy Materials

Credit Hours: 3
Pre-requisite: CHE205

An introduction to the structure and properties of engineering materials and the processing routes utilized to optimize properties. All major classes of engineering materials are covered, including metals, ceramics, composites, and polymers. Emphasis on the relationships between chemical bonding, crystal structure, phase equilibria, microstructure, and properties including electrical band structures, electron excitation events and semiconductors. The course is intended to give the student an overview on selecting and using materials for energy engineering applications. The course covers materials for energy-efficient technologies, materials selection, materials processing, use and recycling, materials for energy harvesting, transformation and storage, phase change materials, and advanced materials for energy engineering.

RSN323 - Modeling and Simulation of Energy Systems

Credit Hours: 3
Pre-requisite: EEN220, MEC350

This course introduces Simulink ®, a companion application to MATLAB ®, to perform graphical computations and programming of various renewable engineering applications. The students will apply Simulink as a tool to analyze and model fuel cells, fuel stacks, photovoltaic cells, photovoltaic modules, photovoltaic systems, wind turbines, and wind farms. It introduces the students to demonstrate the mathematical models for energy systems and investigates the ambient conditions on the performance of the systems. This includes partial shading, wind speed, operating temperature, air density and more.

RSN404 - UAE Energy Regulations and Standards

Credit Hours: 3
Pre-requisite: EEN345

This course introduces students to the United Arab Emirates standards and regulations governing the production of electrical energy from renewable energy resources as well as the standards and regulations governing the integration of those renewable energy resources with grid. Furthermore the UAE standards and regulations governing the design of power distribution systems in residential and commercial buildings as well as the design of proper protection and backup power generation systems for emergencies are also discussed in details.

RSN352 - Thermal Energy

Credit Hours: 3
Pre-requisite: MEC320

The course covers thermal energy generation in solar thermal and geothermal applications. The course builds up in parallel: i) the theoretical knowledge of heat transfer and its three mechanisms (conduction, convection and radiation) ii) its application in the form of set-ups for thermal energy conversion (boilers, heat exchangers, solar panels), energy storage tanks iii) the system integration of such set-ups as elements in thermal energy conversion processes (heat plants, district heating systems, solar power systems).

RSN480A - Energy-Efficient Green Building Design I

Credit Hours: 4
Pre-requisite: Senior Level, RSN301

Green buildings operate at a very high level of efficiency. Sustainable construction has gone mainstream, and will one day be the industry norm. This course introduces students to the design, construction, and operation of high-performance green buildings covering a breadth and depth of all aspects of the green building process, from materials selection to building systems and more. The course features the latest codes and standards, including LEED v4, and carbon accounting. It exposes students to the current thinking on economics, climate change, net zero buildings, and more, with contributions by leaders in the field that illustrate the most recent shifts in thinking and practice. The course is delivered over two terms with each part as a 2-credit hours course. The course is delivered from a civil and chemical engineering perspectives. Students will design a green building in a competitive setting for the course project and defend their designs at the end of the second course.

RSN480B - Energy-Efficient Green Building Design II

Credit Hours: 4
Pre-requisite: RSN480A

Green buildings operate at a very high level of efficiency. Sustainable construction has gone mainstream, and will one day be the industry norm. This course introduces students to advanced design, construction, and operation of high-performance green buildings covering a breadth and depth of all aspects of the green building process, from materials selection to building systems and more. The course features the latest codes and standards, including LEED v4, and carbon accounting. It exposes students to the current thinking on economics, climate change, net zero buildings, and more, with contributions by leaders in the field that illustrate the most recent shifts in thinking and practice. The course is delivered over two terms with each part as a 2-credit hours course. The course is delivered from a civil and chemical engineering perspectives. Students will design a green building in a competitive setting for the course project and defend their designs at the end of the second course.

RSN455 - Wind Energy

Credit Hours: 3
Pre-requisite: MEC350

This course applies the principles of fluid mechanics and mechanical systems to design wind turbine systems. Principles of horizontal-axis wind turbines and vertical-axis wind turbines will be introduced from the fundamentals to the design procedure. The course also will consider studying the available wind resources and link them to the design procedures to localize the designed systems. The installation and operation of the wind farms will also be covered. Team- based projects are considered as an essential activity on the application of the design procedures, installation, and operation of the wind turbine systems.

CSC201 - Computer Programming I

Credit Hours: 3
Pre-requisite: MTT101 or higher

The main objective of this course is to provide students with the logic and tools required to develop scientific software programs in MATLAB. MATLAB is a matrix based language that is commonly used for scientific and engineering computing. MATLAB has a rich set of toolboxes for a wide range of applications in science and engineering. The material for this course includes: Introduction to Matlab Programming concepts, Control Structures (loops and conditions), Functions, Arrays and Object-Oriented programming.

COE101 - Introductory Artificial Intelligence

Credit Hours: 3
Pre-requisite: STT101

This course builds on the concepts and skills acquired in STT100 General Statistics. It introduces students to concepts, techniques, and applications of Artificial Intelligence. Topics covered include Artificial Intelligence Termonologies, Data Preprocessing, Supervised Learning (e.g., Regression and Classification), AI Performance Evaluation and Bias, Neural Networks, Convolutional Neural Networks, Clustering, Ethics in AI and AI Strategy. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering data preprocessing, performance evaluation, cross-validation, and neural networks. The course has a project. In this project, students work teams using Excel and AI-Training Software to design a classification model and communicate their experience using presentations and reports.

COE202 - Engineering Ethics, Economy and Law

Credit Hours: 3
Pre-requisite: ENG200 + MTT102

This course integrates two interrelated general engineering disciplines, namely: ethics and economy. In the first part of the course, the students are introduced to ethical issues that practicing engineers may face in their professional practice. This includes a discussion of the code of ethics and responsibility of engineers, ethical theories, ethical problems-solving methods, and case studies based on real events that illustrate the problems faced by engineers. The case studies also show the effects of engineering decisions on society.

The second part of the course gives

students a working knowledge on making economic comparison of investment alternatives in engineering project environment. This includes description of the interest and time value of money relationships, methods of comparing alternatives using economic concepts such as: the rate-of return (ROR), the present worth (PW), the future worth (FW), the annual equivalent (AE), and cost-benefit analysis. Other topics include replacement analysis, and inflation. The course enables students to make suitable decisions in their professional life when they have to make a decision on ethical and economical basis.

CEN201 - Electric Circuits I

Credit Hours: 3
Pre-requisite: ECS100 or PHY201 + EEN210L

This course builds on the concepts and skills acquired in ECS100 Introduction to Engineering and Computing. It introduces students to concepts, techniques, and applications of Electric Circuits. Topics covered include Circuit Variables, Circuit Elements, Resistive Circuits, Voltage-Divider and Current-Divider Circuit Circuits, Circuit Analysis. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering voltage and current dividers, Star-Delta, and equivalent circuits. The course has a project. In this project, students work teams using Multisim and testing equipment to design a an RC high pass filter and communicate their experience using presentations and reports.

EEN220 - Electric Circuits II

Credit Hours: 3
Pre-requisite: CEN201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of AC Electric Circuits. Topics covered include Instantaneous Power, average power and RMS values, active and reactive Power, Three Phase Circuits and Power Distribution systems, Power factor Correction, Magnetically Coupled Circuits, Transformers, Frequency Response, Resonance Circuits, and Admittance Parameters. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering AC circuits, power transferred, frequency, and power factor corrections. The course has a project. In this project, students work teams using Multisim and testing equipment to design a three-phase power system and explore its simulation and communicate their experience using presentations and reports.

CEN304 - Electronic Devices and Circuits

Credit Hours: 3
Pre-requisite: CEN201

This course builds on the concepts and skills acquired in CEN201 Electric Circuits I. It introduces students to concepts, techniques, and applications of Electronic Devices and Circuits. Topics covered include diodes, Bipolar Junction Transistors (BJTs), Field Effect Transistors (FETs), and Operational Amplifiers (Op Amps). Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering BJTs, FETs, and OpAmps. The course has a project. In this project, students work teams using Multisim and testing equipment to design a common source amplifier and communicate their experience using presentations and reports.

CEN320 - Signals and Systems

Credit Hours: 3
Pre-requisite: MTT205 + CEN201

This course builds on the concepts and skills acquired in MTT205 Differential Equations and CEN201 Electric Circuits. It introduces students to concepts, techniques, and applications of Signals and Systems. Topics covered include classification of systems, DT and CT systems, signal modeling and transformation, LTI systems, Frequency domain analysis and Fourier transform, Laplace transform, Z-Transform, and Discrete Fourier transform. The course has a project. In this project, students work teams using MATLAB to design a sound visualization interface and analyzer and communicate their experience using presentations and reports.

EEN441 - Photovoltaics and Solar Energy

Credit Hours: 3
Pre-requisite: EEN345

This course builds on the concepts and skills acquired in EEN345 Power Systems. It provides students with an in-depth understanding of concepts, techniques, and applications of photovoltaics. Topics covered include solar energy technologies, fabrication of solar cell, solar cell properties and design, solar resources, solar system components, standalone, hybrid, and distributed pv systems. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering solar irradiance measurement and analysis, PV modules characterization and performance, and PV simulations using Simulink. The course has a project. In this project, students work teams using electric systems including PV cells to design a photovoltaic systems and communicate their experience using presentations and reports.

EEN345 - Power Systems

Credit Hours: 3
Pre-requisite: EEN220

This course builds on the concepts and skills acquired in EEN220 Electric Circuits II. It introduces students to concepts, techniques, and applications of Power Systems. Topics covered include PerUnit Quantities, Load Flow Study, Economic Dispatch,

Symmetrical Components, Fault Study, System Protection, Stability, and transmission line protection. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering transformers, power systems simulation and load analysis. The course has a project. In this project, students work teams using DIgSILENT Power Factory to design a simulation for a 9-bus system to study its stability and load flow and communicate their experience using presentations and reports.

EEN340 - Energy Conversion

Credit Hours: 3
Pre-requisite: EEN220 + EEN338

This course builds on the concepts and skills acquired in EEN220 Electric Circuits II and EEN338 Electromagnetic Fields and Waves. It introduces students to concepts, techniques, and applications of Electric Machines. Topics covered include electromagnetic induction, transformers, alternating current (AC) machine fundamentals, polyphase synchronous generators/motors, induction motors, DC motors and generators, and single-phase induction and synchronous motors. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Transformers, DC motors, and Three-Phase Motors. The course has a project. In this project, students work teams using MATLAB and testing equipment to design a simulation for separately excited DC Shunt and a Series Motors and communicate their experience using presentations and reports.

EEN447 - Batteries & Fuel Cells Fundamentals

Credit Hours: 3
Pre-requisite: EEN345 + EEN340

This course builds on the concepts and skills acquired in EEN345 Power Systems and EEN340 Energy Conversion. It provides students with an in-depth understanding of concepts, techniques, and applications of Batteries and Fuel Cells. Topics covered include types of fuel cells, Cells thermodynamics, efficiency and open Circuit voltages, Operational Fuel Cell voltages, and Proton Exchange Membrane Fuel Cells. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering Lead Acid and Ni-MH Batteries Charging Fundamentals, Ni-MH Battery Capacity vs Discharge Rate, and Battery Charging Methods and Efficiency . The course has a project. In this project, students work teams using MaTLAB Simulink to design a Analysis Characterization and Performance Analysis of Batteries and Fuel Cells in Powering Various Energy Demanding Loads and communicate their experience using presentations and reports.

RSN490 - Special Topic in Renewable Energy

Credit Hours: 3
Pre-requisite: Senior Level

This course will include advanced topics of contemporary interest in selected areas of Renewable Energy Engineering. Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor.

RSN325 - Internet of Energy Efficient Things

Credit Hours: 3
Pre-requisite: CSC201

This course builds on the concepts and skills acquired in CSC201, Computer Programming I. It introduces students to concepts, techniques, and applications of Machine Learning (ML), Deep Learning, and Internet of Things (IoT). Topics covered include Machine Learning, Deep Neural Networks, IoT, Microcontrollers, Embedded Systems, TinyML. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering TinyML Models Training and Testing, Deployment of TinyML Models to Microcontrollers, and Wake-Word Detection Application. The course has a project. In this project, students work teams using Arduino IDE , TensorFlow Lite, PyCharm, Arduino Nano 33 BLE Sense, Sensors, and Actuators to design a TinyML-based Model and Deployment and communicate their experience using presentations and reports.

RSN399i - Internship in Renewable & Sustainable Energy Engineering I

Credit Hours: 2
Pre-requisite: 90 credit hours

"Internship in Renewable & Sustainable Energy Engineering I" is designed to expand on the knowledge and skills acquired in the first 90 credit hours of the Renewable & Sustainable Energy Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the field of renewable & sustainable energy engineering within a professional, industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of renewable & sustainable energy engineering such as hardware design, software development, network architecture, circuit analysis, control systems, and power distribution. In the course of their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature ofrenewable & sustainable energy engineering field. A significant part of this course is the internship report and presentation that students are

required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of renewable & sustainable energyl engineering on society, the environment, and the economy, providing them with a more holistic understanding of their role as future engineers.

RSN399ii - Internship in Renewable & Sustainable Energy Engineering II

Credit Hours: 1
Pre-requisite: RSN399i

"Internship in Renewable & Sustainable Energy Engineering II" is designed to expand on the knowledge and skills acquired RSN399i Internship in Renewable & Sustainable Energy Engineering I, and in the Renewable & Sustainable Energy Engineering program. This course provides students with an opportunity to practically apply their theoretical concepts in the field of renewable & sustainable energy engineering within a professional industry setting. The topics covered are dictated by the nature of the organization and the specific work assigned to the students. This hands-on experience can encompass various aspects of renewable & sustainable energy engineering such as hardware design, software development, network architecture, circuit analysis, control systems, and power distribution. In the course of their internship, students will embark on a well-planned course of action jointly devised by the site-supervisor and the college-supervisor. This plan is intended to expose the students to a broad range of practical experiences that reflect the diverse nature ofrenewable & sustainable energy engineering field. A significant part of this course is the internship report and presentation that students are required to prepare. In this report and presentation, students will detail their experiences, learning outcomes, challenges faced, and solutions devised. They will communicate their findings and reflections in a comprehensive report and present their experiences in presentations. This enhances their communication and analytical skills and helps them introspect and understand their strengths, weaknesses, and areas of interest in the field. Additionally, students will analyze the impact of renewable & sustainable energyl engineering on society, the environment, and the economy, providing them with a more holistic understanding of their role as future engineers.

RSN460A - Hybrid Smart Vehicles – Materials and Energy

Credit Hours: 2
Pre-requisite: RSN301

The objective of this project-based course is to provide students with a guided experience on designing hybrid smart vehicles. It is part of a three-course series starting with RSN460A where students need to design and develop their hybrid vehicles. The course focuses on selecting and investigating materials and power sources. The course integrates various engineering skills into an operational engineering prototype. Developing the hybrid smart vehicle at the end of the three-course series will emphasize problem definition, design conceptualization, modeling, fabrication and system integration. A combination of 1 hour of lecturing and 1 hour of laboratory experiments in each course are used to teach the students the knowledge and skills needed to design and build their vehicles. Topics covered include history of hybrid cars, environmental issues, materials, fuels, and structure. Students also explore alternative chemical reactions for powering cars in a competitive setting in a mini-project.

RSN460B - Hybrid Smart Vehicles – MEC Design

Credit Hours: 2
Pre-requisite: RSN460A

The objective of this project-based course is to provide students with a guided experience on designing hybrid smart vehicles. It is part of a three-course series starting with RSN460A where students have selected their major hybrid vehicles materials, fuel and battery systems. In this course, students will design, manufacture and assemble the mechanical parts in the car. Student will select appropriate engine to operate the vehicle. The projects integrate various engineering skills into operational engineering prototypes. The projects will emphasize problem definition, design conceptualization, modeling, fabrication and system integration. A combination of 1 hour of lecturing and 1 hour of laboratory experiments are used to teach the students the knowledge and skills needed to build their vehicles. Topics covered include chassis manufacturing, body manufacturing, gearbox, engine and braking assemblies.

RSN460C - Hybrid Smart Vehicles – AI Design

Credit Hours: 2
Pre-requisite: RSN460B

The objective of this project-based course is to provide students with a guided experience on designing hybrid smart vehicles. It is part of a three-course series starting with RSN460A and RSN460B where students have designed and developed their hybrid vehicles and ending with this course to add AI and Computer Vision powered autonomous driving capabilities. The projects integrate various

engineering skills into operational engineering prototypes. The projects will emphasize problem definition, design conceptualization, modeling, fabrication and system integration. A combination of 1 hour of lecturing and 1 hour of laboratory experiments are used to teach the students the knowledge and skills needed to build their vehicles. Topics covered include lane finding, behavior cloning, object detection, and PID control. Students use Matlab for the lab and project components of the course.

RSN450A - Renewable & Sustainable Energy Engineering Design Project I

Credit Hours: 1
Pre-requisite: Senior Level

This course builds on the concepts and skills acquired in courses throughout the Renewable & Sustainable Energy Engineering program. It is the first part of a two-part sequence and requires students to be at the senior level. It introduces students to concepts, techniques, and applications of comprehensive project design and development within Renewable & Sustainable Energy Engineering. Skills covered include problem definition, design conceptualization, modeling, fabrication, and system integration in both software and hardware aspects. Students connect theoretical concepts learned in the program to practice through the development of their research proposals. The core of the course is research. In this phase, students work on literature reviews and develop a proposal for the project they will work on in Capstone 2. This process involves integrating various engineering skills and knowledge acquired throughout the program. Students communicate their research process, challenges encountered, and project outcomes using presentations and detailed written reports. Extending the course over two semesters gives students time to research the topic and develop a prototype. This leads to a well-rounded learning experience that encapsulates the realities of working on large-scale, complex engineering projects.

RSN450B - Renewable & Sustainable Energy Engineering Design Project II

Credit Hours: 2
Pre-requisite: RSN450A

This course builds on the concepts, skills, and progress acquired and achieved in RSN450A Renewable & Sustainable Energy Engineering Design Project I. It continues to engage students in concepts, techniques, and applications of comprehensive project design and development within Renewable & Sustainable Energy Engineering. This course continues the topics covered in the first part, including advanced problem definition, design conceptualization, modeling, fabrication, and system integration in both software and hardware aspects. The centerpiece of the course remains the design project. Students continue their work from Renewable & Sustainable Energy Engineering Design Project I and develop a prototype based on the research conducted in Capstone I, utilizing various software tools and hardware components to refine, finalize, and optimize their operational engineering prototypes/ systems. This process may involve strict testing, troubleshooting, and iterative design improvements to ensure the prototype meets the project objectives and standards. Students will also gain experience in delivering professional presentations and composing detailed written reports, focusing on the design enhancements and challenges overcome during the project's second phase. Further, students will deepen their understanding of the societal, environmental, and economic implications of their engineering solutions, facilitating a comprehensive understanding of their role and responsibilities as electrical engineers. The two-semester structure enables students to fully realize their projects, providing a unique opportunity to experience the complete life cycle of a complex engineering project, from initial conceptualization to final execution and evaluation.

COE203 - Project Quality Engineering

Credit Hours: 3
Pre-requisite: STT 100

This course covers a variety of topics related to project quality engineering including quality improvement and productivity; quality costs total quality management; statistical process control; control of incoming material control charts for attribute and variable data process capability. Process optimization and design of experiments; screening methods fractional factorial experiments Taguchi methods empirical regression models acceptance sampling.

COE205 - Engineering Project Management

Credit Hours: 3
Pre-requisite: STT100

This course introduces students to basic concepts of engineering project management which are critical to the success of engineering projects. Many topics are covered including scope management, schedule management, cost management, quality management, communication management, and risk management. MS project is used to apply project management concepts to an engineering case study where analytical and leadership skills are developed.

COE210 - Engineering Lean Start-Up in the UAE

Credit Hours: 3
Pre-requisite: Junior Status

This experiential course teaches students how to turn an engineering idea developed in the lab, through

research, or in course projects into a successful business by designing a model canvas, learning how to develop customers and run experiments while engaged in agile engineering. The course also features successful startups in the UAE to inspire and teach students how to analyze their success stories and draw conclusions and experience. Students also work in agile teams to develop prototypes and minimal viable products or services to present them in front of investors. Topics covered are inspired by the Lean Startup Theory and include lean strategy, new product process, engineering, financial planning, accepting failure, and leveraging speed. Additionally, students are introduced to the entrepreneurship and innovation UAE ecosystems including services available to support their journey towards a successful startup.

COE220 - Sales and Marketing for Engineers and IT Professionals

Credit Hours: 3
Pre-requisite: STT100

This course prepares engineering students with sales and marketing skills to promote their innovations products or services to technical audiences. The course highlights the steps from start to finish to use an inbound marketing methodology to generate awareness and demand in B2B technical markets. It features data showing engineers online content and browsing behavior and preferences with lists templates and examples from B2B engineering and scientific companies in industries including automotive military/ aerospace consumer electronics manufacturing IT and oil/gas. It is designed for engineers or technical business leaders and offers them a research-based guide to modern marketing. The course equips professional marketer with the knowledge and skills to succeed in targeting technical audiences.

COE230 - Engineering Customer Relationship Management

Credit Hours: 3
Pre-requisite: STT100

This course provides engineering students with a comprehensive and balanced review of customer relationship management (CRM) and procurement which are essential skills for practicing engineers in the UAE. The course defines what CRM is, the benefits it delivers, the contexts in which it is used, the technologies that are deployed, and how it can be implemented throughout the customer life cycle stages of an engineering or IT firm: customer acquisition, retention, and development. This focus of the course is on engineering firms providing B2B and B2C engineering services in the technology, construction, energy, healthcare, education, governance, and manufacturing sectors.

COE240 - Environmental and Safety Engineering

Credit Hours: 3
Pre-requisite: STT100

This course introduces the students to the fundamentals of occupational environmental covers a variety of topics including occupational environmental safety engineering and how to management with emphasis on control of hazardous materials safety considerations in production facility design and maintenance operation of effective safety programs and system safety analysis techniques.

COE270 - Procurement and Supply Chain Engineering

Credit Hours: 3
Pre-requisite: STT100

This course studies procurement engineering and supply chain systems that support the physical supply of raw and semi-finished materials to a firm, the planning and control of operations, and the delivery of the products or services up to the final customers, with the objective of achieving a sustainable competitive advantage and optimizing the value and the long-term performance of the firm and the supply chain as a whole. Using a strategic framework, students are guided through all of the key drivers of procurement and supply chain performance, including: bidding process, standards, technical specifications, facilities, inventory, transportation, information, sourcing, and pricing.

COE250 - Engineering Systems Modeling and Simulation

Credit Hours: 3
Pre-requisite: CSC201

This course introduces undergraduate engineering students to measurement principles and the range of sensors and instruments used for measuring physical variables in a wide variety of domestic and industrial activities. The course starts with an introduction to measurement units and systems. Students learn about the instrument types, their performance characteristics, and identification/mitigation of measurement process errors. They also learn how to calculate different sensors output with the variable conversion methods. The course features data acquisition techniques, signal processing (analog, digital, and their interconversion), and post-processing of LabView's instruments' gathered data. Covered topics include displaying, analyzing, and presenting recorded data from the instruments is discussed in detail. Students build their knowledge about intelligent sensors' working and operation, numerous sensor technologies, and principles and techniques of measurements of physical quantities such as temperature, pressure, flow, mass, force, and torque using various instruments for practical applications. Lectures and labs are used to ensure that the concepts of instrumentation and sensor systems are understood.

COE260 - Engineering Measurement and Instrumentation

Credit Hours: 3
Pre-requisite: PHY201

This course builds on the concepts and skills acquired in STT100 General Statistics. It introduces students to concepts, techniques, and applications of Artificial Intelligence. Topics covered include Artificial Intelligence Termonologies, Data Preprocessing, Supervised Learning (e.g., Regression and Classification), AI Performance Evaluation and Bias, Neural Networks, Convolutional Neural Networks, Clustering, Ethics in AI and AI Strategy. Students connect theoretical concepts learned in the course to practice using hands-on laboratory experiences covering data preprocessing, performance evaluation, cross-validation, and neural networks. The course has a project. In this project, students work teams using Excel and AI-Training Software to design a classification model and communicate their experience using presentations and reports.

RSN477 - Nuclear Energy

Credit Hours: 3
Pre-requisite: MEC420

The course aims to provide students with basic knowledge of nuclear energy systems for the sustainable global environment. The purpose of this course is to study the fundamentals of heat generation, cooling, energy transport and energy conversion in various kinds of fission and fusion reactors, and to understand nuclear energy systems.

RSN411 - Grid Integration of Renewable Energy

Credit Hours: 3
Pre-requisite: EEN441

This course introduces the students to large-scale integration of renewable generation in electricity grids. It demonstrates the influence of integrating renewable energy sources, mainly wind and solar technologies, on grid operation and control. The course covers electric power grids, load models, converters, smart power grid systems, power grid modeling, photovoltaic, thermal, and wind power plants, and the load flow analysis of power grids and microgrids. It also addresses the microgrid faults studies and the use of energy storage for offsetting variability. The course also considers the design of renewable-based micro-grid energy systems using Simulink.

RSN485 - Energy Storage

Credit Hours: 3
Pre-requisite: EEN441

The majority of renewable energy resources are intermittent in nature, and therefore, in order to ensure reliability and continuity of supply for those renewable energy systems, the use of energy storage devices is essential. This course discusses the different energy storage techniques involving electrochemical, mechanical and other emerging options, as well as the integration of those energy storage systems with the different renewable energy resources and their effect on the bulk power system, and design trade-offs. Furthermore, the environmental impacts, cost, reliabilities, and efficiencies for commercialization of bulk energy storage are also analysed.

COLLEGE OF HEALTH SCIENCES

Bachelor of Science in Biomedical Sciences (Laboratory)

Degree Requirements

BIO 205 - General Biology I
Credit Hours: 3
Prerequisite(s): (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of biology with the emphasis on the cell and its metabolic activity, genetics, and inheritance in living organism.

BIO 205L - General Biology I Laboratory
Credit Hour: 1
Pre or Co-requisite: Bio 205

This course introduces the principles and concepts of biology with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations, and group activities for the students that illustrate the principles and concepts for the course BIO 205.

CHE 205 - General Chemistry I
Credit Hours: 3
Prerequisite(s): (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of chemistry with emphasis on atoms, molecules, nomenclature, bonding, stoichiometry, electronic structure, and molecular structures. This course contains a laboratory component to reinforce the chemical concepts.

CHE201L - General Chemistry I Laboratory
Credit Hour: 1
Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations, and group activities for the students that illustrate the principles and concepts for the course CHE 205.

BME 380 - Human Biology I
Credits Hours: 3
Prerequisite: BIO 205

Throughout this course, students will be introduced to the core principles of biological system. They will learn more about the complex interactions that occur within the human body. Human Biology I is the first of a two-course sequence, examining the terminology, structure, function, crosstalk's, and interdependence of the human body systems. This course includes a study of cell structure function, and body systems from genetic, cellular, and physiological level. By understanding the human body functions, students will gain a greater understanding of how to prevent diseases and maintain a healthy life.

BME 381 - Human Biology II
Credits Hours: 3
Prerequisite: BME 380

Throughout this course, students will be introduced to the core principles of biological system. They will learn more about the complex interactions that occur within the human body. Human Biology II is the second of a two courses sequence, examining structure, function, and interdependence of the human body systems. This course includes the study of normal and disturbed homeostasis of human body. By understanding the human body functions, students will gain a greater understanding of how to prevent diseases and maintain a healthy life.

BMS 23110A - Protein Structure & Function
Credits Hours: 3

Prerequisite: CHE 205

This course will be describing protein structure and function, protein synthesis, processing, regulation, interactions, and turnover. It aims, primarily, to provide in-depth knowledge of protein structures, as well as how they are constructed, how they function, and how they are stabilized. Students will also be introduced briefly to protein databases and to some laboratory experiments that deal with protein detection and protein interactions.

BMS 23110B - Protein Activity & Regulation
Credit Hours: 3
Prerequisite: BMS 23110A

This course provides an overview of the main aspects of biochemistry by tackling different metabolic pathways by which all cells synthesize and degrade carbohydrates, lipids, amino acids and nitrogenous compounds. Specifically, the course will discuss the chemistry of the reactions that constitute these pathways and how energy is derived from the breakdown of nutrients. It will also cover how metabolic pathways are regulated by effector molecules and hormones in living systems.

BMS 23110C - Enzymology
Credit Hours: 3
Prerequisites: BMS 23110A

This course allows students to understand the main aspects of the study of enzymes. It will develop the structures, kinetics, catalysis and inhibition of enzymes as well as the mechanisms of enzyme regulation in the cell.

PBH 405 - Chronic and Infectious Diseases
Credit Hours: 3
Prerequisite: PBH 300

This course is designed to provide an overview of the epidemiologic aspects and prevention approaches for major chronic diseases and conditions as well as infectious diseases that face populations. Concepts and methods emphasizing disease epidemiology and prevention strategies will be discussed.

PBH 101 - Introduction to Public Health
Credit Hours: 3
Prerequisite: (Co) ENG 102/ENG 200+ (Co) FWS 100

This course addresses a variety of themes in public health which serve as a base for an introductory-level understanding of the field. This course emphasizes the diverse, multidisciplinary perspectives on public health. It introduces core disciplines of public health: prevention, protection and assurance.

BMS 302 - Professional Practice Skills
Credit Hours: 3
Prerequisite: BMS 34010A

The ultimate professional responsibility of a scientist performing diagnostic testing in a clinical laboratory is to provide accurate results. Thus, the graduate must mitigate for pre-analytical, analytical and post analytical errors. They must demonstrate how these errors have been mitigated and monitored. Having followed procedures, the graduate must act on these results, deciding whether to release a result or not. Responsibility and professional ethics are a key part of this course along with effective reporting.

BMS 23010B - Gene Expression
Credit Hours: 3
Co-requisite: BMS 34010A

This course will introduce DNA replication, repair, and recombination. Two types of cell division will be reviewed as examples of processes that naturally follow DNA replication. Gene structure and transcription in prokaryotic and eukaryotic cells will be explained along with epigenetic mechanisms involved in the regulation of gene expression. The role of genetic input in different ontogenetic stages will be illustrated. Modern tools of systemic biology, such as genomics and proteomics, will be covered along with their potential applications and ethical consideration.

BMS 23010C - Molecular Genetic and Molecular Processes
Credits Hours: 3
Prerequisite: BMS 23010B

In order to diagnose genetic disorders, micro-organisms such as viruses, and specific cancers, molecular genetic techniques can be applied to medicine. With a focus on PCR and sequencing, as well as RNA and DNA hybridization, this course will explore how these techniques have been applied and are changing healthcare.

Major Requirements

BMS 34010B - Quantitative Analysis
Credit Hours: 3
Prerequisites: BIO 205

This course aims to provide students with a secure grounding in the core skills of understanding scientifically valid experiments (analytical procedures) and analytical systems' management. In this sequential course, students will be exposed to variety of experimental approaches commonly used in the biomedical sciences relevant to their vocational degree, with quantitative measures. The course will cover the major practical principles related to DNA and gene expression, such as western blotting and electrophoresis. The students will gain experience in techniques related to topics ranging from microbiology plating of bacteria to immunoassay, spectrophotometry and HPLC.

BMS 400 - Clinical Laboratory Management
Credits Hours: 3
Prerequisite: BMS 302

The course covers the strategies employed by the biomedical sector to maintain quality assurance and ensure safe practice. This includes accreditation schemes, hazard analysis critical control (HACCP) and legislative requirements. Effective management in staffing and scheduling and structuring staff activity. Budget planning and management are also areas addressed by the course.

Laboratory environments are not static, demands and methodologies are constantly changing. Innovations and modifications need to be constantly considered. The student will undertake an independent and critical evaluation of individual

practice and reflect on the practices of others.

BMS 34010A - Biotechniques

Credit Hours: 3

Prerequisites: BIO 205 + CHE 205

Biotechniques will teach common laboratory techniques that are frequently used in research, medical/clinical, and bioindustry fields. In this course, 50% of contact hours are laboratory-based, exposing students to techniques commonly performed in a biological laboratory, such as microscopic methods, micro pipetting, isolation and quantification of nucleic acids and proteins, Polymerase Chain Reaction (PCR), immunodetection, and gel electrophoresis, etc. Students will also become familiar with the underlying theoretical principles of these biotechniques as well as data analysis, interpretation and reporting biological results.

BMS 34010C - Bioinformatics

Credits Hours: 3

Prerequisite: BMS 23010C

Bioinformatics is an interdisciplinary field of study, which aims at finding new links and associations between the structural and functional hierarchies of biomolecules and enhances students' understanding of health and disease. This course will expose the students to using high throughput methods requiring standalone, public domain software and cloud computing. This will allow them to retrieve and analyze biological data from different bioinformatics repositories to produce new meaningful information. In this course the students would learn how to work on genomics, proteomics data and determine the role of genetic variabilities in evolution of biomolecules and organisms. The knowledge and skills gained in this course would help students in providing insight in their research and health management.

BMS 34210A - Immunology I

Credit Hours: 3

Prerequisites: BMS 23010C

The Immunology I course is a major course for Biomedical Sciences (BMS) and Molecular & Medical Genetics (MMG) programs. This course includes a comprehensive description of some basic aspects of immunology from defining the various cell types involved in immune responses, the molecular pathways of humoral and cell-mediated adaptive responses, to the interaction between the immune system and pathogens. The abnormal functioning of the immune system including some autoimmune diseases will also be covered. Some commonly used techniques in immunology will be explored in this course.

BMS 3470A - Basic Medical Microbiology

Credit Hours: 3

Co-requisite: PBH 405

The course provides an overview of microorganisms and aseptic methods of controlling microbial growth. It covers the biology of bacteria, viruses, fungi, and parasites and their clinical impact on human health. A practical lab experience is provided for the students so they can become familiar with bacteria handling and characterization. In addition to the clinical aspects of multiple infections, the procedures that assist in identifying and diagnosing the diseases is also examined.

BMS 3470B - Clinical Biochemistry I

Credit Hours: 3

Prerequisite: BMS 23110B

The Clinical Biochemistry I is a major course for Biomedical Sciences (BMS) and Molecular & Medical Genetics (MMG) programs to prepare students for future careers in their fields. This course encompasses the study of fundamental disease processes, diagnostic tools, and management plans.

BMS3470B provides comprehensive coverage of the metabolic and clinical aspects of biochemistry. It includes topics related to the following: clinical laboratory tests, various human homeostasis systems, pregnancy, and tumor markers. Several conditions ranging from diabetes, disorders of calcium and iron metabolisms, disorders of hypothalamus and pituitary gland, abnormalities of thyroid function, to renal disease, liver disease, and cardiovascular disorders are explored in this course. Students will be trained to critically assess case studies related to each disorder using the method of Team Based Learning (TBL).

BMS 34110B - Metabolic Disease I

Credit Hours: 3

Prerequisite: BMS 23110C

This course introduces metabolic diseases, ranging from inborn errors of metabolism in newborns to other diseases linked with altered metabolism in adults. The course discusses deficiencies in enzymes involved in the metabolism of carbohydrates, proteins and amino acids, lipid, fatty acids, and cholesterol, and their association with the state of the disease. Etiology, prevention and treatments of metabolic disorders such as diabetes mellitus, metabolic syndrome and obesity will be discussed. The course also will examine the screening and diagnostic procedures used in assessing these disorders, including basal metabolic and functional investigations, next-generation sequencing (NGS), and post-mortem analysis.

BMS 44210A - Immunology II

Credit Hours: 3

Prerequisite: BMS 34210A

This course examines the genetics and immunology of neural

diseases and provides analysis of immunotherapies. The course introduces immunotherapeutic strategies and the potential adverse effects of long-term immune-modulation. Concepts detailed include current strategies for preventing organ transplant rejection, focusing on the mechanism of action of the potent immunosuppressant's rapamycin and Cyclosporin A. Also examined are infectious disease vaccines and adjuvants - innate immune activators, current vaccination strategies, vaccine subtypes, adjuvant requirements, vaccine benefits versus risks, and vaccine safety.

BMS 301 - Systematic and Cellular Pathology

Credit Hours: 3

Prerequisite: BME 381

The course is designed to provide information on the cellular changes that occur in the pathology of major systems and how the disease state may affect structure and function of the different systems. Information will include: a) An appreciation of changes in the cellular, tissue and organ morphology due to disease processes; b) Details of alterations in cellular, tissue and organ function due to disease; c) Cellular pathology techniques e.g. microtomy, microscopy, staining, immunocytochemistry and immunofluorescence. A lab report, MCQ examination and data analysis will assess recall.

BMS 4470A - Histopathology

Credit Hours: 3

Prerequisite: BMS 301

This course is both classroom and laboratory based. The classroom sessions include: an introduction to histology and the role of histopathology in diagnosis of disease; using a light microscope and understanding the potentials and limits of the instrument; how histological slides are produced, stained and interpreted; identifying cell types and tissues from their histological appearance; the structures of a number of tissues with relationship to their functions; major pathological changes and their histological appearance; and identifying histopathological changes and their relationship to underlying disease processes.

The laboratory sessions will teach skills in preservation/fixation, wax embedding, sectioning, staining and mounting slides and finally, microscope skills.

BMS 4470B - Hematology I

Credit Hours: 3

Prerequisite: BMS 23010C

The practice of laboratory hematology varies from microscopy to advanced genetic analysis. This course is both laboratory and classroom based. The classroom component will cover the composition of blood myeloid and lymphoid cellular origins or blood cells; transfusion and red cell antigens; anaemia and haemoglobinopathies; coagulations and haemolysis disorders; and leukaemia and lymphoma. The laboratory sessions will cover blood smear preparations; Coulter counters and cell flowcytometry; ABO Rhesus testing; anaemia and haemoglobinopathy testing; clotting and haemolysis analysis

BMS 34130A - Cancer Biology I

Credit Hours: 3

Prerequisite: BMS 23010C

The Cancer Biology course is a major course for Biomedical Sciences (BMS) and Molecular & Medical Genetics (MMG) programs designed to prepare students in their premedical studies for future careers in these fields. This course includes a comprehensive description of all aspects of cancer biology from the causes, and mechanistic view of dysregulation of cellular processes, to the diagnosis, and treatment of cancer patients. The course summarizes the latest knowledge to date about cancer and how the field is evolving.

BMS 402 - Hematology II

Credit Hours: 3

Prerequisite: BMS 4470B

This hematology II course is directed towards the learning and understanding of pathological disorders of the hematology system, including benign and malignant conditions. It aims at aFebruary 2023 multidisciplinary approach involving hematopathology, pediatric and adult hematology/oncology, pharmacology, and immunology to attain the maximum benefit of integration. The course will cover concepts of blood cell development and abnormal blood cell morphology in all types of hematologic diseases and anemia. The students will gain knowledge about the methods of microscopic analysis of hemoglobinopathies, blood grouping and blood transfusion, and its complications. The course will give an overall view of bone marrow failure, stem cell transplantation, and hematological malignancies. It will also cover topics of coagulation factor deficiencies, platelets, and common thrombotic disorders.

BMS 44110B - Metabolic Disease II

Credit Hours: 3

Prerequisite: BMS 34110B

Disruption of metabolic and energy homeostasis plays key roles leading to metabolic disorders. Metabolism includes various pathways of chemical reactions; understanding these pathways leads to an improved knowledge of the causes, prevention, and cures for human diseases. This course provides a concise yet thorough explanation of human metabolism and its role in health and diseases. Focusing on the physiological context of human

metabolic process, this course will help understand and appreciate the functions, constituent reactions, and regulatory aspects of the core pathways that constitute human metabolism and are responsible for maintaining homeostasis and well-being in humans.

BMS 401 - Clinical Biochemistry II

Credit Hours: 3

Prerequisite: BMS 400

This module focuses on selected biochemical tests and their limitations on the differential diagnosis of disease states. Coverage includes tests grouped together for the assessment of disorders of the liver, gastro-intestinal tract, and myocardium, and extends to the application and interpretation of advanced analytical tests used in paediatric biochemistry and for the assessment of single-gene and polygenic disorders.

BMS 44130A - Cancer Biology II

Credit Hours: 3

Prerequisite: BMS 34130A

This course explores metastasis and cancer treatments. Examined are the means used by cancer cells to physically move from the primary tumor (e.g. epithelial-mesenchymal transition) and how the immune system promotes this process. Breast cancer will be used as a model of how cancer cells choose secondary sites for proliferation, especially the bone marrow. The course will also explore colon cancer, genetics and epigenetics; stem cell theories of cancer and the importance of the intestinal stem cells to cancer development and treatment; cancer treatment including classical anti-cancer drugs such as antimetabolites, alkylating agents and antimitotic agents and newer 'magic bullet' treatments; cellular and humoral immune responses to tumors; and tumor immunotherapy.

HSC 205 - Biostatistics

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to population health statistics. The course covers sources and types of data, measures of central tendency, measures of dispersion, confidence intervals, correlations and regressions used in public health and environmental health and safety.

Research, Placements and Electives

BMS 3401 - Biomedical Science Placement 1

Credit Hours: 3

Prerequisite: Completion of 60 Credit Hours

Central to the Biomedical Sciences: Laboratory Medicine program is the acquisition of technical laboratory skills for Future Medical Laboratory Sciences (MLS) professionals. In the Biomedical Sciences Placement I, students will be introduced to the basic principles and techniques in clinical biochemistry, bacteriology, and hematology & phlebotomy. They will develop basic competences in planning, performing experiments, and analyzing results, as well as the writing of reports. The duration of the internship is six weeks with a laboratory rotation every two weeks, to maximize students' learning and practice. Students' performance will be assessed via end of rotation reports, end of placement oral presentation, along with clinical preceptor and placement coordinator evaluations. Students will have an orientation workshop prior to the placement covering the manual, the learning objectives, the code of conduct, the rotation plan and the methods of assessment.

BMS 4401 Biomedical Science Placemen- t 2

Credit Hours: 3

Prerequisites: Completion of 90 Credit Hours

Central to the Biomedical Sciences: Laboratory Medicine program is the acquisition of technical laboratory skills for Future Medical Laboratory Sciences (MLS) professionals.

In the Biomedical Sciences Placement II, students will be introduced to the basic principles and techniques in immunology, histopathology and molecular diagnostics, they will develop basic competencies in planning, performing experiments, and analyzing results, as well as writing of reports. The duration of the internship is six weeks with a laboratory rotation every two weeks, to maximize students' learning and practice. Students' performance will be assessed via end of rotation reports, end of placement oral presentation, along with clinical preceptor and placement coordinator evaluations. Students will have an orientation workshop prior to the placement covering the manual, the learning objectives, the code of conduct, the rotation plan and the methods of assessment

HSC 410 - Healthcare Research Methodology

Credit Hours: 3

Prerequisite: Completion of 80 Credit Hours + HSC 205

This course is involved with understanding basic principles of research techniques and methodologies as applied to healthcare professions. The purpose of this course is to further develop research, critical analysis, and communication skills. The major components of this course are understanding research purpose and methodology; developing a research proposal; critical review of the literature and information

resources; comprehending the role of ethics in health sciences research; and introducing different quantitative and qualitative healthcare research methods. The course will also enable the students to develop different data collection tools and different sampling designs and techniques.

BMS 44911 - Biomedical Science Research Report (BMS)

Credit Hours: 3

Prerequisite: BMS 44910 (BMS)

The course comprises an original research project in healthcare science and a research project report.

Training in knowledge and practical skills are a fundamental in all science education, however, effective writing in medical science is the foundation method by which such efforts are recorded and needs to be delivered alongside knowledge and practical skills in healthcare. Furthermore, research activities are key in judging the success of a degree program, as it is not merely a regurgitation of didactic learning but a demonstration of synthesis and application of that knowledge. Negative results are as useful as positive, and the ability to reflect and show learning from failed experiments will be a major bench mark outcome in the report.

Bachelor of Science in Environmental Health and Safety

College Requirements

ASC 301 - Research Report Writing

Credit Hours: 3

Prerequisite: ENG 200

This course will focus on research writing skills, which include locating, gathering, and evaluating source materials; formulating a thesis statement from a topic and/or a hypothesis; developing arguments based on solid research methods; and documenting sources in the text, in notes, and in the bibliography. Students will also work extensively on their academic and argumentative writing skills to produce high quality research papers.

Major Requirements

BIO 205 - General Biology I

Credit Hours: 3

Prerequisite(s): (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of biology with the emphasis on the cell and its metabolic activity, genetics, and inheritance in living organism.

BIO 205L General Biology I Laboratory

Credit Hour: 1

Pre or Co-requisite: BIO 205

This course introduces the principles and concepts of biology with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations, and group activities for the students that illustrate the principles and concepts for the course BIO 205.

CHE 205 - General Chemistry I

Credit Hours: 3

Prerequisite(s): (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of chemistry with emphasis on atoms, molecules, nomenclature, bonding, stoichiometry, electronic structure, and molecular structures. This course contains a laboratory component to reinforce the chemical concepts.

CHE201L - General Chemistry I Laboratory

Credit Hour: 1

Pre or Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations, and group activities for the students that illustrate the principles and concepts for the course CHE 205.

EHS 205 - Introduction to Environmental Health and Safety

Credit Hours: 3

Prerequisite(s): (Co) ENG 102 / ENG 200 + (Co) FWS 100

This course will introduce students to Environmental Health and Safety, its definitions its concepts, issues and

attributes. The course introduces students to core environmental Health and Safety topics including world population, air and water quality, water conservation, community health and safety, occupational health and safety, and environmental health and safety statistics.

EHS 300 - Housing and Sustainable Communities

Credit Hours: 3

Prerequisite: ENS 210

This course introduces students to the theory and practice of developing sustainable communities, including elements such as housing, transportation systems, landscape design, community services, and resource conservation.

It also discusses the economic and social impacts of sustainability initiatives including case studies of sustainable communities. In addition, it covers the environment of UAE, the climatic conditions of the Arabian Gulf region. The specific conditions of UAE will be related to water limitations and the threats of water resources contamination. In addition, the course presents the most recent approaches and technologies in liquid and solid waste disposal and utilization. Examples of initiatives taken by UAE government agencies and best practices will also be presented. Finally, the course addresses issues of sustainable architecture and green building technologies.

EHS 310 - Food Safety & Management

Credit Hours: 3

Prerequisite: HSC 210

The Food Safety and Management course is intended to give a broad overview of the principles of food sanitation and management. It covers various sources of food contamination highlighting the relationship of microorganisms to food sanitation. It addresses valuable knowledge about food preparation/handling starting with food storage, cooking, serving, cleaning of kitchen premises, and ending with waste disposal and pest control. The course provides updated information about food safety practices from preparation and processing to consumption. It emphasizes on the development, implementation, and appraisal of national and international food safety management systems such as GMP, HACCP, and ISO 22000.

EHS 400 - Toxicology

Credit Hours: 3

Prerequisite: BIO 205

This course examines basic concepts as they apply to environmental toxicology. Discusses distribution, cellular penetration, metabolic conversion, and elimination of toxic agents, as well as the fundamental laws governing the interaction of foreign chemicals with biological systems. Focuses on the application of these concepts to the understanding and prevention of mortality and morbidity resulting from environmental exposure to toxic substances.

EHS 320 - Waste Management

Credit Hours: 3

Prerequisite: ENS 210

The Waste Management course introduces students to the fundamentals of waste management with a focus on municipal solid waste. It covers the technical, regulatory, economic, environmental, and public health aspects of waste handling, collection, transportation, separation, recycling, composting, and incineration. It also discusses the design, construction, and management of landfills and the creation of energy and high-value materials from waste.

EHS 410 - Impact Assessment

Credit Hours: 3

Prerequisite: EHS 320

The objective of this course is to expose the students to the need for environmental impact assessments and how to prepare the various documents required by state and federal regulations. In addition, this course examines principles, procedures, methods, and various applications of environmental impact assessment. The ultimate goal of the course is to promote an understanding of how environmental impact assessment is conducted and used as a valuable tool in the project management decision-making process.

EHS 415 - Environmental Health Regulation & Compliance

Credit Hours: 3

Prerequisites: ENS 220 + HSC 315

The Environmental Health Regulation and Compliance course discusses the importance of environmental law for the protection of natural systems. It describes in detail the evolution of environmental laws on the national and international levels and provides the students with an understanding of the regulatory and enforcement processes and the knowledge of the most important environmental regulations in the UAE and internationally. It then examines how government and non-government institutions and businesses comply with these regulations and address air and water pollution, waste management, and food safety.

EHS 420 - Hazardous Materials

Credit Hours: 3

Prerequisite: HSC 305

This course is designed to equip students with the knowledge to recognize and safely handle hazardous substances, whether in controlled (laboratory) settings, or as the result of an accident or unforeseen incident. It includes a

discussion of hazardous materials commonly found in industrial, medical, and common urban settings. Through an in-depth discussion of risk management and planning, students will learn to critically analyze and develop procedures to minimize health risks associated with exposure to hazardous materials.

EHS 425 - Pollution Monitoring and Control

Credit Hours: 3

Prerequisites: EHS 320 + CHE 205

This course is designed to provide an overview of the various sample collection, analytical, and data analysis techniques as they are related to detection and control of pollution. The technical and regulatory aspects of the handling, control, and management of hazardous and nonhazardous wastes will be covered.

Pollution and monitoring provide a rigorous academic treatment of the fundamental scientific principles and practice of assessing and controlling the extent of environmental damage. The course emphasizes the technology and principles behind the processes and techniques related to the reduction of emissions to air, land and water and the effects of pollution.

The course develops understanding of the complex interactions of societies and their environments, and a critical awareness of how these interactions are unevenly experienced. The course seeks to raise student abilities to understand the influence of human activities on ecological system including the relationship between hazard and risk.

EHS 425L - Pollution Monitoring and Control Laboratory

Credit Hour: 1

Prerequisites: CHE 201L

Co-requisites: EHS 425

This course introduces the principles and concepts of subject with the emphasis on laboratory skills and practical hands-on experiences for the students. This course is designed to provide an overview of the various sample collection, analytical, and data analysis techniques related to the detection and control of pollution. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course Pollution Monitoring & Control.

EHS 430 - Health Risk Management

Credit Hours: 3

Prerequisite: HSC 315

This course introduces students to Health Risk Assessment and Management. It covers relevant topics such as definitions and related concepts, principles of management, assessment procedures, risk factors, risk analyses, and the management of health risk. It also highlights issues related to risk management standards, risk management strategies at workplace, communication and its impact on malpractice litigation, injury reduction, equitable transfer of risk, risk retention, ethical guidelines for risk managers, techniques for managing safety and security risk, recognition of potential environmental hazards, risk management processes, and tools.

ENS 205 - Introduction to Environmental Science

Credit Hours: 3

Prerequisites: (Co) ENG 102 / ENG 200 + (Co) FWS 100

This course introduces students to the principles of Environmental Science.

It presents the different ecosystems, the biogeochemical cycles of some elements like oxygen, carbon, and nitrogen, biomes, biodiversity, and how species interaction. It discusses water and air pollution as well as environmental geology and earth resources. This course also presents environmental issues, discusses solutions that help reduce such issues and provide sustainable development, and emphasizes on the importance of maintaining a healthy environment.

ENS 210 - Natural Resource Conservation

Credit Hours: 3

Prerequisite: ENS 205

The Natural Resources Conservation course introduces students to world's natural resources including water, forest, agricultural, wildlife, marine, and energy resources. Each resource will be discussed in terms of its importance, availability, usage, management, and effect on human and environment. Conservation methods and sustainability strategies will be explored and the need for using recyclable resources will be highlighted. It also introduces the students to the available natural resources in the UAE in addition to current opportunities and challenges.

ENS 220 - Environmental Policy

Credit Hours: 3

Prerequisite: ENS 205

This course will give the students a background in the policy process and the environmental rules and regulations. It introduces students to the fundamentals of public policy, the participants and their roles. It provides the students with the major environmental policies regarding air, water, toxic materials and hazardous wastes. This course will stress the importance of changing human performance in ways which don't generate environmental problems.

HSC 200 - Introduction to Health Management

Credit Hours: 3

Prerequisite: EHS 205

This course will introduce

students to management in the health environment, covering definitions, concepts, issues, and the basic dimensions of health care management. The course also introduces students to core challenges, responsibilities, and professional ethics in healthcare management as well as planning and decision making in healthcare sector.

HSC 201 - Determinants of Public Health

Credit Hours: 3

Prerequisite: ENS 205

This course will introduce students to different public health paradigms, including the biomedical, behavioral, and holistic, ecological, salutogenic paradigms. Various models of public health determinants within the holistic, ecological, salutogenic paradigm and the One Health approach are explored. The course then examines specific determinants of public health including biological factors, socioeconomic factors, cognitive and affective factors, health behaviors, and conditions within social, economic, political, natural and built environments and their interactions.

HSC 205 - Biostatistics

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to population health statistics. The course covers sources and types of data, measures of central tendency, measures of dispersion, confidence intervals, correlations and regressions used in public health and environmental health and safety.

HSC 210 - Epidemiology and Population Health

Credit Hours: 3

Prerequisite: HSC 205

This course introduces students to the scientific discipline of epidemiology. It covers definitions and concepts of epidemiology together with the principles and tools of epidemiology. The course includes measuring the frequency of health issues, measuring risk and the burden of disease. Epidemiological study designs are explored, including descriptive, analytical and intervention studies. Survey research, as a methodology that can be used across many study designs, is addressed. Issues related to weighing up the evidence from such studies and ethical issues in epidemiology are explored.

HSC 305 - Occupational Health and Safety

Credit Hours: 3

Prerequisite: HSC 200

The Occupational Health and Safety course describes the importance of health and safety at work place and its socio-economic impact on work place and workers. It gives students the tools and skills to ensure health and safety measures within a working environment including hazard identification and control, accident prevention and investigation, conducting safety trainings, and emergency planning. It also provides students with an in-depth idea about the national and international occupational health and safety organizations.

HSC 315 - Global Issues in Environmental Health

Credit Hours: 3

Prerequisite: EHS 205

This course is an introduction to the global applications of environmental health and safety theory. It covers a wide range of globally-relevant environmental health issues, including access to water, clean air, and energy. It also covers the globally-relevant theoretical issues of environmental health ethics and environmental justice. Through the analysis of theory and practice, this course looks at the global impacts of environmental health and safety particularly in crisis situations, whether these are man-made crises (pollution of food & water sources) or natural disasters.

Research, Placements and Electives

HSC 410 - Healthcare Research Methodology

Credit Hours: 3

Prerequisite: HSC 205

This course is involved with understanding basic principles of research techniques and methodologies as applied to healthcare professions. The purpose of this course is to further develop research, critical analysis, and communication skills.The major components of this course are understanding research purpose and methodology; developing a research proposal; critical review of the literature and information resources; comprehending the role of ethics in health sciences research; and introducing different quantitative and qualitative healthcare research methods. The course will also enable the students to develop different data collection tools and different sampling designs and techniques.

EHS 499 - Undergraduate Research

Credit Hours: 4

Prerequisite: 90 Credit Hours

The Undergraduate Research course is a senior level component of the EHS program that gives students the opportunity to participate in real-life EHS topics/issues. It is a research-directed work intended to advance a student's interest in a topic or issue related to EHS.

Under the supervision of a faculty member, students will be engaged in specific tasks revolving around a research question and focusing on applying research methodology/ design to problems in EHS via data and information collection,

determining and reviewing relevant sources, conducting logical, critical, and statistical analyses, and arriving to conclusions. The topic will be chosen by students and will be written and presented in a concise way and scholarly format in the form of a presentation in front of a committee. Students will gain research experience to apply technical and communication skills learned in specific settings (ministries, industries, companies, businesses, environmental protection and health agencies, hospitals, professional associations, research centers/laboratories, national and international NGOs etc.).

Students will have a supervisor/ mentor from the faculty to facilitate the course (content, process, and assessment) and may have a second mentor who is an expert in the chosen area of EHS, external to ADU.

EHS 399 - Internship

Credit Hours: 3

Prerequisite: 90 Credit Hours

The internship is a junior-senior level component of the EHS program that provides students with real-life experiential learning supplementing their theoretical and laboratory class learning. This course is a requirement for graduation from the BSc in EHS program at the College of Health Sciences.

Students are required to complete a minimum of 240 working hours over a period of six weeks in approved work settings in public and private sectors (ministries, industries, companies, consultancy firms, environmental protection and occupational health agencies, academic centers, research centers/ laboratories, international and national NGOs, UN agencies, etc.). Under the supervision of faculty and internship site supervisors, students will be engaged in specific tasks, duties, and assignments addressing current environmental issues on-site. In addition to the experience gained in the observation and application of public environmental/health practices, environmental control, environmental and health program planning and training in community resources utilization, students will gain professional and personal skills and competencies needed to prepare them for real-life situations and job market.

Bachelor of Science in Human Nutrition and Dietetics

Degree Requirements

CHE 205 - General Chemistry I

Credit Hours: 3

Pre-requisite: (Co) ENG102/ ENG200

Chemistry is the study of matter and its interactions. This course is an introduction to chemistry, providing sufficient information for a student to continue chemistry instruction at the college level. It provides an understanding of chemical kinetics, equilibria, acid-base chemistry, and chemical thermodynamics. Throughout the course, emphasis will be placed upon problem solving.

CHE201L - General Chemistry I Laboratory

Credit Hour: 1

Pre or Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205.

CHE 207 - Organic Chemistry

Credit Hours: 3

Prerequisites: CHE 205 + CHE 201L

This is an introductory course that focuses on the basic aspects of Organic Chemistry. This course helps the students to promote an understanding of the importance of Organic Chemistry and its relevance

in Health Science and Nutrition. Laboratory experiments related to various functional groups and Qualitative analysis are included in the course which can contribute towards the development of Scientific Skills.

BIO 205 - General Biology I

Credit Hours: 3

Prerequisite: (Co) ENG102/ ENG200

This course introduces the principles and concepts of biology with emphasis on the cell and its metabolic activity, genetics, and inheritance in living organism. It presents the chemical basis of life, the living cell as a structural unit of the living organism, photosynthesis, aerobic and anaerobic respiration, cell division, genetics and biotechnology. In addition, this course will cover topics in the mechanisms of evolutions such as the Darwinian view of life and the history of life on earth.

BIO 205L - General Biology I Laboratory

Credit Hour: 1

Pre or Co-requisite: BIO 205

This course introduces the principles and concepts of biology with emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course BIO 205.

HMG 380 - Human Anatomy and Physiology I

Credit Hours: 3

Prerequisite: BIO 205

The course covers human anatomy and physiology in a two-course series. It provides an overview of the human body, cells and tissues, embryology, skin and body membranes, and the skeletal, muscular, nervous, and sensory systems.

HMG 381 - Human Anatomy and Physiology II

Credit Hours: 3

Prerequisite: HMG 380

Continues HMG 380 and covers the physiology and anatomy of the vascular, lymphatic, endocrine, respiratory, and urinary systems.

BMS 247 - Basic Biochemistry

Credit Hours: 3

Prerequisite: (Co) HMG 380 + (Pre) CHE 205

The course focuses on an introduction to biochemistry on study of the chemistry of biological compounds, their enzymatic degradation and intermediary metabolism.

HSC 205 - Biostatistics

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to population health statistics. The course covers sources and types of data, measures of central tendency, measures of dispersion, confidence intervals, correlations and regressions used in public health and environmental health and safety.

HND 228 - Introduction to Counselling Theory and Skills

Credit Hours: 3

Prerequisite: ENG 200 + Completion of 45 Credit Hours

Basic counselling skills are required for nutritional professionals and in most healthcare professions. Students will learn the role of the counsellors in facilitating a client/ patient's resolution of complex issues, whilst respect their values, personal resources, culture and capacity for choice. Students will learn different techniques for the counselling process and evaluation of non-verbal responses and minimal responses to give insight into the client's feelings and behavior and help the client change their behavior and facilitate change and action. They are introduced to the code of ethics developed for the Registered Dietitian Nutritionist.

PBH 320 - Community and Public Health Nutrition

Credit Hours: 3

Prerequisite: PBH 300

This course aims to introduce students to key concepts and current topics in community nutrition. The course will focus on the role of nutrition in improving the health and well-being of communities and will familiarize students with population nutritional status assessment, principles of nutrition research, and factors involved in planning, implementing and evaluating community nutrition programs and policies. The course combines theory and practice where students will discuss, analyze, and experiment with the theories of behavioral change and will apply the principles of nutrition education as part of the course nutrition project tackling a specific nutritional problem.

Major Requirements

HND 220 - A, B Foundations of Dietetic Practice

Credit Hours: 0

Prerequisite: Completion of 30 Credit Hours + (Co) HND 220A

Introduction to the profession of dietetics and responsibilities associated with dietetic professional practice in all disciplines of nutrition: medical nutrition therapy, community nutrition and foodservice management. Emphasis is on exploring career options in dietetics and preparation for the dietetic Practicum. Professional issues related to dietetic practice include Code of Ethics, legal credentialing and standards of professional practice, leadership and future trends in the profession will be addressed.

HND 221 - Principles of Human Nutrition

Credit Hours: 3

Prerequisite: None

This course is an introduction to human nutrition and its relationship to health. The basics of human nutrition are covered including: proteins and amino acids, carbohydrates, simple and complex sugars, dietary fat and fatty acids, starches and fiber, vitamins, minerals and trace elements, and fluid intake including water and caffeine. It provides an overview of the dietary sources of the nutrients, process of digestion and metabolism of nutrients, essentials of an adequate diet and how to meet the nutritional needs of various age groups. Additional topics such as analysis of food labelling, nutrition and health claims and special diets are included.

HND 222 - Assessment of Nutritional Status

Credit Hours: 3

Prerequisite: HND 221

Students will be subject to practical techniques in evaluation of nutritional status for individuals and groups. This includes the four types of assessment (ABCD): anthropometrics measurements, biochemical indicators of deficiencies, excesses and storage of nutrients in the human body, clinical assessment and evaluation methods of dietary intakes and consumption. Modern techniques for body composition measurements (BIA, DXA, CT, MRI, NAA) will be covered. The sensitivity, reliability and reproducibility of each technique will be discussed. Interpretation of results will also be covered as well as Dietary Reference Intakes (RDA, EAR, AI, and UL).

HND 223 - Menu Planning and Evaluation

Credit Hours: 2

Prerequisite: (Co) HND 224

This course aims to introduce students to the principles and techniques of planning menus for nutritional care, including dietary modifications, for both healthy and non-healthy individuals. Topics include nutrients needs for optimum health, dietary guidelines, food groups, food portion sizes, and the use of exchange lists for meal planning. They will learn approaches to applying diet-planning guides in meal planning and methods of meal evaluation for client nutrition counseling and education in both the English and Arabic languages. They will master the process of translating the nutrition needs of individuals and groups into food choices and selected menus composed of local, Middle Eastern and international foods.

HND 224 - Nutritional Metabolism

Credit Hours: 3

Prerequisite: BMS 247

This course covers the digestion and absorption of macronutrients. Concepts of balance, flux, turnover and metabolic pools as well as energy metabolism at the cellular level. Metabolic pathways of synthesis and degradation of lipids, carbohydrates, proteins and amino acids. Macronutrient metabolism in major organs and tissues. Substrate flux in long term and short term fasting. The role of vitamins and minerals in the metabolic processes and the consequences of deficiencies.

HND 225 - Management of Foodservices

Credit Hours: 3

Prerequisite: HND 221

The course purpose is to introduce management theories and principles, and the effective use of resources in the design and administration of food service facilities. Principles of food service management used in selecting, storing, preparing and serving food in quantity for various foodservice operations. Emphasis is on menu planning, quality control, purchasing, equipment and layout/ design. Consideration is given to operating environmentally safe and efficient facilities with emphasis on sanitation and safety. Administrative and leadership responsibilities of the food service manager are emphasized, including financial planning and personnel issues.

HND 226 - Food Chemistry

Credit Hours: 3

Prerequisite: CHE 207

This course covers the basic chemical structures and properties of moisture, protein, carbohydrate, lipids, minerals and vitamins and their roles in food systems. Also covered will be the principles of chemical and instrumental methods for the qualitative and quantitative analyses of moisture, protein, carbohydrate, lipids, minerals and vitamins. Chemistry of food minor components (e.g. minerals, vitamins, nutraceuticals, colors, flavors), direct food additives (e.g. preservatives, texture modifiers and stabilizers, colors, flavors), incidental food additives (e.g. processing aids, chemical toxins), intentional adulterants, allergens, etc.

HND 226L - Food Chemistry and Analysis Laboratory

Credit Hours: 2

Prerequisite: (Co) HND 226

This course is focused on the application of qualitative and quantitative techniques used in the physical, chemical, sensory and instrumental examination of food products. The lectures will cover the basic principles of analytical procedures and techniques commonly used to determine the chemical composition,

physical properties and sensory characteristics of foods. The aim of the laboratory sessions is to give students experience in performing food analysis experiments, analyzing data and reporting their findings. In addition, students are expected to work in teams in the lab to prepare their lab reports where they will learn how to identify and critically assess the most appropriate analytical methods for analyzing the properties of a particular food product.

HND 339 - Nutrition Through the Lifecycle

Credit Hours: 3

Prerequisite: HND 224

This course is designed to provide students with an analysis of nutrition through stages of the lifecycle, with each life cycle stage supported by the nutrition that is essential for proper development. The biochemical, physiological, and anthropometric aspects of nutrition are presented, whereby students will learn how nutritional management changes as a function of age.

HND 331 - Food Microbiology and Sanitation

Credit Hours: 3

Prerequisite: HND 226

The course is a survey of microorganisms and their role in causing food spoilage and food poisoning, and the control of microbial spoilage and pathogenic microorganisms in foods.
Topics relevant to alimentary (gastrointestinal) microbiology will be discussed including: the "normal" intestinal microbiota, probiotic and prebiotic nutritional supplements, and fermented products as functional foods.

HND 333 - Food Processing

Credit Hours: 3

Prerequisite: HND 226

This course will include: Processing methods of a variety of foods, basic principles underlying selection, preparation and preservation of food in relation to quality standards, acceptability and aesthetics. Introduction to composition, nutritive value, chemical and physical properties of foods; introduction to experimental study of foods. Methods include: Freezing; freezing of meat and fish products, pastries, fruits and vegetables. Physical-chemical changes during freezing, drying and dehydration of food products. Milling of cereals, food fermentation and canning methods and their applications.

HND 333L - Food Processing Laboratory

Credit Hour: 1

Prerequisite: (Co) HND 333

The course involves students in laboratory exercises in the Pilot Plant in food preservation, preparation and processing. Food Processing Laboratory exercises provide practical application of the theoretical concepts acquired in the associated lecture course, HND 333 Food Processing.

HND 332 - Medical Nutrition Therapy I

Credit Hours: 3

Prerequisite: HND 222, HND 224

Co-requisite: HND 339

The course teaches students on the role of the nutrition care process in the prevention and treatment of different nutrition-related diseases. The conditions cover obesity, diabetes, dyslipidaemia, hypertension, diseases of the digestive system, renal diseases, osteoporosis, and food allergies and intolerances. Course content includes evidence-based practice in prevention and nutritional management of diseases.

HND 332L - Medical Nutrition Therapy I Laboratory

Credit Hour: 1

Prerequisite: (Co) HND 332

The course is a third year level laboratory course designed to help students learn and practice the application of evidence-based medical nutrition therapy utilizing the nutrition care process for diseases and disorders reviewed in HND 332. It serves as an introduction to medical terminology, medical ethics, medical documentation, and nutritional intervention. The teaching methodologies are through the use of self-study modules, case studies, simulation, reports and discussions.

HND 334 - Medical Nutrition Therapy II

Credit Hours: 3

Prerequisite: HND 332

The course teaches students on the role of the nutrition care process in the prevention and treatment of different nutrition-related diseases. The conditions cover metabolic diseases like inborn errors of metabolism, cancer, HIV, surgery, enteral and parenteral nutrition support. Course content includes evidence-based practice in prevention and nutritional management of diseases.

HND 334L - Medical Nutrition Therapy II Laboratory

Credit Hour: 1

Prerequisite: (Co) HND 334

The course is a third year level laboratory course designed to help students learn and practice the application of evidence-based medical nutrition therapy utilizing the nutrition care process for diseases and disorders reviewed in HND 334. Mock patient case studies are examined, including taking diet histories from peers acting as patients with common chronic diseases; practicing behavior change skills through role play;

and formulating and documenting evidence-based nutrition care plans. In addition, ethical, legal and consent considerations related to dietetic practice and patient care are emphasized.

HND 335 - Quantity Foods

Credit Hours: 3

Prerequisite: HND 225

Students will learn the basic culinary techniques as they apply to: stocks, sauces, soups, sandwiches, short order cooking, deep fat frying, grilling, meat cutting, vegetable and salad preparation, and basic principles and techniques of baking. Students will have an understanding of food and kitchen safety and sanitation practices, nutrition and healthy menus and recipes, portion control, yield tests, recipe conversion and costing, principles underlying safe operation and cleaning of commercial food equipment, elements of food preservation and food quality. Principles of quantity food production and presentation for various quantity facilities will be examined.

HND 436 - Sports Nutrition

Credit Hours: 3

Prerequisite: HND 224

The course describes exercise physiology and nutrient requirements in sports and exercise. This includes macronutrient, micronutrient and fluid needs of athletes engaged in specific sports, pre/post exercise meals, gender specific requirements, role of ergogenic aids, eating disorders, and role of exercise in weight management and chronic disease. Emphasis on the role of diet on exercise and performance will be provided.

RESEARCH STUDY/SEMINARS AND PROFESSIONAL PRACTICE:

HND 437 - Seminar: Current Research in Nutrition

Credit Hour: 1

Prerequisite: Completion of 90 Credit Hours

The purpose of this course is to develop advanced research, critical analysis, and communication skills. Students are required to research a current topic in nutrition and prepare an oral presentation on the subject. The aim is to develop effective scientific communication. This is essential in professional life for effectiveness in a multidisciplinary healthcare teams, reporting to government and policy makers, and in communication to the public, students, and patients.

HND 438 - Human Nutrition Research Tutorial

Credit Hours: 2

Prerequisite: Completion of 90 Credit Hours

This is a directed study on a selected problem in the area of nutrition. The purpose of this course is to further develop research, critical analysis, and communication skills. In this respect, the student will not only conduct a meta-analysis of published research and a statistical analysis, but present the data in a concise way in the form of a poster or presentation. A key component is to test the students' ability to understand, apply, and report on statistical analysis correctly.

HND 321 - Seminar in Foodservice Systems

Credit Hour: 1

Prerequisite: (Co) HND 340I

This course focuses on developing the communication and research skills as well as on strengthening the critical thinking capacities of students undergoing an intensive Practicum program by providing them the opportunity to present and discuss all interesting nutritional issues arising during their Practicum. It is divided into two components in the fourth year covering the Medical Nutrition Therapy and the Food Service rotations. In foodservice, students are required to complete studies or projects and to present the methods, data, results, discussions and conclusions on the foodservice management topic of interest.

HND 421 - Seminar in Clinical Dietetics

Credit Hour: 1

Prerequisite: (Co) HND 440II

This course focuses on developing the communication and research skills as well as on strengthening the critical thinking capacities of students undergoing an intensive Practicum program by providing them the opportunity to present and discuss all interesting nutritional issues arising during their Practicum. It is divided into two components in the fourth year covering the Medical Nutrition Therapy and the Food Service rotations. In this course, students need to present in-depth case studies within their clinical rotations based on the Nutrition Care Process. Students are also required to submit their case studies in the form of written reports.

HND 340 (I), HND 440 (II, III, IV) Dietetics Practicum

Practicum Rotations:

HND 340I – 4 Cr. (Junior Winter Session); Pre-requisite: Completed 75 credits

HND 440II – 6 Cr. (Senior Fall Session); Pre-requisite: HND 332

HND 440III– 8 Cr. (Senior Fall Session); Co-requisite: HND 440II

HND 440IV– 8 Cr. (Senior Spring Session); Pre-requisite: PBH 320

Students must complete a minimum of 1200 hours of supervised practice

at affiliated medical facilities. The interdisciplinary practicum will prepare dietetic interns to attain entry-level competencies in nutrition therapy, food service systems management, and community nutrition. The Practicum offers a concentration in medical nutrition therapy to reflect the needs of the UAE job market for dietetics practice.

Students will start their Practicum in their 3rd year after completing the core courses required for their practicum. The supervised practice component is comprised of 22 weeks of Medical Nutrition therapy, 8 weeks of Foodservice management and 8 weeks of community nutrition that will be start as basic to more advanced practice to demonstrate a defined set of competencies. Each subsequent Practicum is a prerequisite to the next.

Bachelor of Science in Molecular and Medical Genetics

Degree Requirements

BIO 205 - General Biology I

Credit Hours: 3

Prerequisite(s): (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of biology with the emphasis on the cell and its metabolic activity, genetics, and inheritance in living organism.

BIO 205L - General Biology I Laboratory

Credit Hour: 1

Pre or Co-requisite: BIO 205

This course introduces the principles and concepts of biology with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations, and group activities for the students that illustrate the principles and concepts for the course BIO 205.

CHE 205 - General Chemistry I

Credit Hours: 3

Prerequisite(s): (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of chemistry with emphasis on atoms, molecules, nomenclature, bonding, stoichiometry, electronic structure, and molecular structures. This course contains a laboratory component to reinforce the chemical concepts.

CHE201L - General Chemistry I Laboratory

Credit Hours: 1

Co-requisite: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations, and group activities for the students that illustrate the principles and concepts for the course CHE 205.

HMG 380 - Human Anatomy & Physiology I

Credits Hours: 3

Prerequisite: BIO 205

Anatomy and Physiology, I, is the first of a two-course sequence examining the terminology, structure, function, and interdependence of the human body systems. This includes a familiarity with the basic anatomical and histological organization of the human body and its physiology. Students will learn how the various organs of the body interact with one another and how they contribute to the overall physiology of the body. Pathology is also studied as examples of disruption to normal body homeostasis. This course includes a study of the cells, chemistry, tissues, skeletal, muscular, digestive, respiratory, cardiovascular, urinary, integumentary, nervous, endocrine systems as well as sensory organs, lymph & immunity, and reproduction integumentary, skeletal, muscular, nervous, and special senses. In conjunction with classroom instruction, the anatomy and physiology practical lab component for this course requires students to apply knowledge from the classroom to online laboratory experiments and critical thinking application exercises.

HMG 381 - Human Anatomy & Physiology II

Credits Hours: 3

Pre-requisite: HMG 380

Introduction to Anatomy and Physiology I and II are designed to provide a foundation in human body. This includes a familiarity with the anatomical and histological organization of the human body and its physiology. Students will learn how the various organs of the body interact with one another and how they contribute to the overall physiology of the body. The course is focused on nervous system as well as on various pathologies and anatomical variations. They are studied as example of disruption to normal body homeostasis. It also includes practical classes devoted to comparative anatomy and modern technology and tools used to study anatomy.

BMS 23110A - Protein Structure & Function

Credit Hours: 3

Prerequisite: CHE 205

This course will be describing protein structure and function, protein synthesis, processing, regulation, interactions, and turnover. It aims, primarily, to provide in-depth knowledge of protein structures, as well as how they are constructed, how they function, and how they are stabilized. Students will also be introduced briefly to protein databases and to some laboratory experiments that deal with protein detection and protein interactions.

BMS 23110B - Protein Activity & Regulation

Credit Hours: 3

Prerequisites: BMS 23110A

This course provides an overview of the main aspects of biochemistry by tackling different metabolic pathways by which all cells synthesize and degrade carbohydrates, lipids, amino acids and nitrogenous compounds. Specifically, the course will discuss the chemistry of the reactions that constitute these pathways and how energy is derived from the breakdown of nutrients. It will also cover how metabolic pathways are regulated by effector molecules and hormones in living systems.

BMS 23110C - Enzymology

Credit hours: 3

Prerequisites: BMS 23110A

This course allows students to understand the main aspects of the study of enzymes. It will develop the structures, kinetics, catalysis and inhibition of enzymes as well as the mechanisms of enzyme regulation in the cell.

HSC 210 - Epidemiology & Population Health

Credit Hours: 3

Prerequisite: HSC 205

This course introduces students to the scientific discipline of epidemiology. It covers definitions and concepts of epidemiology together with the principles and tools of epidemiology. The course includes measuring the frequency of health issues, measuring risk and the burden of disease. Epidemiological study designs are explored, including descriptive, analytical and intervention studies. Survey research, as a methodology that can be used across many study designs, is addressed. Issues related to weighing up the evidence from such studies and ethical issues in epidemiology are explored.

BMS 302 - Professional Practice Skills

Credit Hours: 3

Prerequisite: BMS 34010A

The ultimate professional responsibility of a scientist performing diagnostic testing in a clinical laboratory is to provide accurate results. Thus the graduate must mitigate for pre-analytical, analytical and post analytical errors. They must demonstrate how these errors have been mitigated and monitored. Having followed procedures, the graduate must act on these results, deciding whether to release a result or not. Responsibility and professional ethics are a key part of this course along with effective reporting.

Responsibility and professional ethics are a key part of this course along with effective reporting. The course is guided by the framework proposed by the Institute of Medicine (IoM), which centers on the six aims for the health care system:

- Safety: Minimizing and avoiding harm to patients from the care intended to help them.
- Effectiveness: Provision of services based on scientific knowledge to all who may benefit, while refraining from providing the services to subjects who are not likely to benefit.
- Patient-centered: Providing care that is respectful of, and responsive to, patient preferences, needs, and values, and also ensuring that all clinical decisions are guided by patient values.
- Timely: Reducing waits, and harmful delays for those who receive and those who give care.
- Efficient: Avoiding waste, including waste of equipment, supplies, ideas, and energy.
- Equitable: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

PBH 101 - Introduction to Public Health

Credit Hours: 3

Prerequisite: (Co) ENG 102/ENG 200+ FWS 100 (Co)

This course addresses a variety of themes in public health which serve as a base for an introductory-level understanding of the field. This course emphasizes the diverse, multidisciplinary perspectives on public health. It introduces core disciplines of public health: prevention, protection and assurance.

BMS 23010A - Genome Biology

Credits Hours: 3

Prerequisite: BMS 23010B

Genetic errors and human disease are not just a matter of a base pair change in a protein but also how and when a gene is expressed. This course covers the structure and function of nucleic acids and the molecular basis of gene regulation, including DNA replication and repair, transcription and translation. As well as lectures, the course includes a set of linked virtual practical sessions which will involve at least two mini projects: (i) characterizing a genetic testing strategy and (ii) sequence identification of a disease state.

BMS 23010B - Gene Expression

Credit Hours: 3

Co-requisite: BIO 205 + CHE 205

This course will introduce DNA replication, repair, and recombination. Two types of cell division will be reviewed as examples of processes that naturally follow DNA replication. Gene structure and transcription in prokaryotic and eukaryotic cells will be explained along with epigenetic mechanisms involved in the regulation of gene expression. The role of genetic input in different ontogenetic stages will be illustrated. Modern tools of systemic biology, such as genomics and proteomics, will be covered along with their potential applications and ethical consideration.

BMS 23010C - Molecular Genetic and Molecular Processes

Credit Hours: 3

Prerequisite: BMS 23010B

In order to diagnose genetic disorders, micro-organisms such as viruses, and specific cancers, molecular genetic techniques can be applied to medicine. With a focus on PCR and sequencing, as well as RNA and DNA hybridization, this course will explore how these techniques have been applied and are changing healthcare.

BMS 34120 - Human and Evolutionary Genetics

Credits Hours: 3

Prerequisite: HMG 35110B

The study of human genetic complexity and disease is a rapidly expanding field driven by technological advancements that enable extensive efforts to catalog human genetic variation. These extensive sequencing initiatives have provided evidence that supports the theory of human evolution and population movements based on the fossil record. These studies have also demonstrated the extent of variations in the human genome sequence. In this course, students will gain knowledge about fundamentals of evolutionary biology to provide a deep understanding of the mechanisms underlying the evolution of biological systems. Students will also investigate evolutionary mechanisms of selection, adaptability, and the genesis of species as well as examine evolutionary trends from past to present. This course will also introduce the students to the significant gains of researching human genome sequences for understanding genetic diseases and evolution.

Major Requirements

BMS 34010B - Quantitative Analysis

Credit Hours: 3

Prerequisite: BIO 205

This course aims to provide students with a secure grounding in the core skills of understanding scientifically valid experiments (analytical procedures) and analytical systems' management. In this sequential course, students will be exposed to variety of experimental approaches commonly used in the biomedical sciences relevant to their vocational degree, with quantitative measures. The course will cover the major practical principles related to DNA and gene expression, such as western blotting and electrophoresis. The students will gain experience in techniques related to topics ranging from microbiology plating of bacteria to immunoassay, spectrophotometry and HPLC.

BMS 34010A - Biotechniques

Credit Hours: 3

Prerequisites: BIO 205 + CHE 205

Biotechniques will teach common laboratory techniques that are frequently used in research, medical/clinical, and bioindustry fields. In this course, 50% of contact hours are laboratory-based, exposing students to techniques commonly performed in a biological laboratory, such as microscopic methods, micro pipetting, isolation and quantification of nucleic acids and proteins, Polymerase Chain Reaction (PCR), immunodetection, and gel electrophoresis, etc. Students will also become familiar with the underlying theoretical principles of these biotechniques as well as data analysis, interpretation and reporting biological results.

BMS 34010C - Bioinformatics

Credits Hours: 3

Prerequisite: BMS 23010C

Bioinformatics is an interdisciplinary field of study, which aims at finding new links and associations between the structural and functional hierarchies of biomolecules and enhances students' understanding of health and disease. This course will expose the students to using high throughput methods requiring standalone, public domain software and cloud computing. This will allow them to retrieve and analyze biological data from different bioinformatics repositories to produce new meaningful information. In this course the students would learn how to work on genomics, proteomics data and determine the role of genetic variabilities in evolution of biomolecules and organisms. The knowledge and skills gained in this course would help students in providing insight in their research and health management.

HMG 399 - Epidemiology and Public Health Genetics

Credit Hours: 3

Prerequisite: HSC 210

The course examines how genes and environmental factors interact to influence health and disease in human populations. Training in genetic epidemiology focuses on methods to identify genetic diseases and their interactions with environmental exposures in populations. For example, the increase in incidence of total versus specific cancers within a geographical area can be due to infectious agents (i.e. virus), environmental toxins and/or familial predisposition.

HSC 205 - Biostatistics

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to population health statistics. The course covers sources and types of data, measures of central tendency, measures of dispersion, confidence intervals, correlations and regressions used in public health and environmental health and safety.

BMS 3470B - Clinical Biochemistry I

Credit Hours: 3

Prerequisite: BMS 23110B

The Clinical Biochemistry I is a major course for Biomedical Sciences (BMS) and Molecular & Medical Genetics (MMG) programs to prepare students for future careers in their fields. This course encompasses the study of fundamental disease processes, diagnostic tools, and management plans.

BMS3470B provides comprehensive coverage of the metabolic and clinical aspects of biochemistry. It includes topics related to the following: clinical laboratory tests, various human homeostasis systems, pregnancy, and tumor markers. Several conditions ranging from diabetes, disorders of calcium and iron metabolisms, disorders of hypothalamus and pituitary gland, abnormalities of thyroid function, to renal disease, liver disease, and cardiovascular disorders are explored in this course. Students will be trained to critically assess case studies related to each disorder using the method of Team Based Learning (TBL).

BMS 34110B - Metabolic Disease I

Credit Hours: 3

Prerequisite: BMS 23110C

This course introduces metabolic diseases, ranging from inborn errors of metabolism in newborns to other diseases linked with altered metabolism in adults. The course discusses deficiencies in enzymes involved in the metabolism of carbohydrates, proteins and amino acids, lipid, fatty acids, and cholesterol, and their association with the state of the disease. Etiology, prevention and treatments of metabolic disorders such as diabetes mellitus, metabolic syndrome and obesity will be discussed. The course also will examine the screening and diagnostic procedures used in assessing these disorders, including basal metabolic and functional investigations, next-generation sequencing (NGS), and post-mortem analysis.

BMS 34210A - Immunology I

Credit hours: 3

Prerequisites: BMS 23010C

The Immunology I course is a major course for Biomedical Sciences (BMS) and Molecular & Medical Genetics (MMG) programs. This course includes a comprehensive description of some basic aspects of immunology from defining the various cell types involved in immune responses, the molecular pathways of humoral and cell-mediated adaptive responses, to the interaction between the immune system and pathogens. The abnormal functioning of the immune system including some autoimmune diseases will also be covered. Some commonly used techniques in immunology will be explored in this course.

BMS 34110A - Neurobiology I

Credit Hours: 3

Prerequisite: BMS 302

The course introduces the

fundamentals of neuronal architecture, neuronal excitability and synaptic functions, sensory systems, circadian rhythms, perception and learning. This course demonstrates in-depth understanding of the major stages, structures and the processes underlying the development of the human nervous system, illustrating the consequences of the disruption of these processes. The course also considers the principles and applications of genetic analysis in diagnosing neural diseases including behavioral dysfunctions and cognitive diseases.

BMS 34130A - Cancer Biology I

Credit hours: 3

Prerequisite: BMS 34210A

The Cancer Biology course is a major course for Biomedical Sciences (BMS) and Molecular & Medical Genetics (MMG) programs designed to prepare students in their premedical studies for future careers in these fields. This course includes a comprehensive description of all aspects of cancer biology from the causes, and mechanistic view of dysregulation of cellular processes, to the diagnosis, and treatment of cancer patients. The course summarizes the latest knowledge to date about cancer and how the field is evolving.

HMG 44130A - Inherited Cancer Genetics

Credit Hours: 3

Prerequisites: BMS 34130A + HMG 442

Although cancer is largely a somatic genetic disease, several predisposition mutations in key proto-oncogenes and in particular tumour suppressor genes are inherited. Thus, the importance of predisposition will be covered in depth. The course will also explore cancer, genetics and epigenetics; stem cell theories of cancer and the importance of the intestinal stem cells to cancer development and treatment; cancer treatment including classical anti-cancer drugs such as antimetabolites, alkylating agents and antimitotic agents and newer 'magic bullet' treatments; cellular and humoral immune responses to tumors; and tumor immunotherapy.

HMG 35110B - Principles of Medical Genetics

Credit Hours: 3

Co-requisite: BMS 34110B

The course introduces the genetics of human disease, from simple Mendelian traits to complex multigenic diseases and gene/drug interactions. Topics include the development of medical genetics; the spectrum of human autosomal recessive diseases; localization and isolation of the Huntington disease gene; congenital diseases caused by chromosomal imbalance; diseases involving repeat expansions; developments and setbacks in the use of gene and molecular therapies for treatment of hereditary diseases; and pharmacogenomics (interaction of genetic background with drug response). The course also covers analysis of quantitative traits: complex human diseases such as type 2 diabetes and approaches to mapping genetic variants responsible for complex traits; heritability; and genome wide association mapping. Finally, the course explores transgenic animals and gene therapy, stem cell biology and human evolutionary genetics.

HMG 442 - Inherited Immunodeficiencies

Credit Hours: 3

Prerequisite: BMS 34210A

The course is designed to provide information on the genetic cause and cellular changes that occur in Primary immunodeficiencies. These can arise during development and others are inherited with a tendency towards "genetic anticipations". This course will explore the molecular genetic basis of the various phenotypes and a molecular genetic approach to their diagnosis and management.

HMG 44110A - Inherited Neurological Disorders

Credit Hours: 3

Prerequisite: BMS 34110A

This course will provide the students with an in-depth understanding of the molecular mechanisms underlying inherited neurological disorders, their diverse clinical presentations, diagnostic methodologies, and available treatment options. The course will also cover the biochemistry of genetic deficiency disorders and metabolic diseases affecting cognitive function. This involves neurotransmitters' structure, function, and pharmacology, neuron-glia interactions, intra-neuronal signaling, and the neurobiology of behavior and neurodegenerative disorders.

HMG 2201 - Introduction to Counselling Theory and Skills

Credit Hours: 3

Prerequisite: ENG200 + Completion of 45 Credit Hours

Student are provided with foundational philosophy and practice information concerning counselling/ support work and professional ethics. They are introduced to the code of ethics developed for health providers, with discussion on how to use this code as a guide to providing client services. Applied exercises will help trainees practice identifying potential ethical issues. Using theoretical principles and skills, making ethical reflections around guidance, and searching evidence-based information concerning medical testing and counselling guidance are covered. This will include identifying possible psychological reactions in connection with health guidance.

HMG 2301 - Medical Genetic Counselling

Credit Hours: 3

Prerequisite: HMG 2201

This course will be simulation focused, with students demonstrating knowledge of different heredity patterns and family history importance for heredity risks. Students will be proficient in: making risk assessments based on different inheritance patterns, taking information about the family history and being able to draw a pedigree. The limitations and ethical, legal, and social aspects of genetic testing and results of these tests will be explored.

Research, Placements and Electives

HSC 410 - Healthcare Research Methodology

Credit Hours: 3

Prerequisite: Completion of 80 Credit Hours + HSC 205

This course is involved with understanding basic principles of research techniques and methodologies as applied to healthcare professions. The purpose of this course is to further develop research, critical analysis, and communication skills.The major components of this course are understanding research purpose and methodology; developing a research proposal; critical review of the literature and information resources; comprehending the role of ethics in health sciences research; and introducing different quantitative and qualitative healthcare research methods. The course will also enable the students to develop different data collection tools and different sampling designs and techniques.

MMG 3401 - Molecular and Medical Genetics Placement 1

Credit Hours: 3

Prerequisite: Completion of 70 Credit Hours

The practicum is an essential component of the B.Sc. in Molecular and Medical Genetics program, which enables students to develop the competencies required for a medical genetics' scientist via experiential learning. Students will be assigned to research labs, clinics or hospital with whom CoHS has signed MOUs. During their placement, students will be introduced to the basic principles and techniques in molecular biology and genetics. They will develop basic competences in planning, performing experiments and analyzing results, as well as the writing of reports. The duration of the internship is 6 weeks with a lab rotation every 2 weeks to maximize students' learning and practice. A central part of this course is the placement portfolio, which must be completed and approved by the training institution preceptor and the lab placement coordinator at ADU. Students' performance will be assessed via end of rotation reports, end of placement oral presentation, along with clinical preceptor and placement coordinator evaluations. Students will have full orientation prior to the placement about the manual, the learning objectives, the code of conduct, the rotations plan and the modes of assessment.

MMG 4401 - Molecular and Medical Genetics Placement 2

Credit Hours: 3

Prerequisite: Completion of 102 Credit Hours

This practicum is the second of a two-practicum sequence internships. It enables students to incorporate and apply the theoretical concepts and skills they acquired via coursework in a professional setting and maintain confidentiality. During their practicum, students will be assigned hands-on rotations with specific assays and techniques in research facilities, medical facilities, or clinics for diagnosing inherited and acquired disorders. Working with a host organization all through the practicum exposes the students to professionals who compromise the field relevant to their profession, and offers students supervised experience in this field to develop practical skills in a professional setting. The duration of the internship is 6 weeks with a lab rotation every 2 weeks to maximize students' learning and technical skills in clinical setting related to molecular and medical genetics. A central part of this course is the placement portfolio, which must be completed and approved by the training institution preceptor and the lab placement coordinator at ADU. Students' performance will be assessed via end-of-rotation reports, end-of-placement oral presentation, along with clinical preceptor and placement coordinator evaluations. Students will have full orientation prior to the placement about the manual, the learning objectives, the code of conduct, the rotations' plan, and the modes of assessment.

HMG 44911 - Human Genetics Research Report

Credit Hours: 3

Prerequisite: HMG 44910

The course comprises an original research project in biomedical science and a research project report. Training in knowledge and practical skills are a fundamental in biomedical and health sciences, however, effective writing in medical science is the foundation method by which such efforts are recorded and needs to be delivered alongside knowledge and practical skills in healthcare education. Furthermore, research activities are key in judging the success of a degree program, as it is not merely a regurgitation of didactic learning but a demonstration of synthesis and application of that knowledge. Negative results are as useful as positive, and the ability to reflect and show learning from failed experiments will be a major benchmark outcome in the report

Bachelor of Science in Public Health

Degree Requirements

ASC 301 - Research Report Writing

Credit Hours: 3

Prerequisite: ENG 200

This course will focus on research writing skills, which include locating, gathering, and evaluating source materials; formulating a thesis statement from a topic and/or a hypothesis; developing arguments based on solid research methods; and documenting sources in the text, in notes, and in the bibliography. Students will also work extensively on their academic and argumentative writing skills to produce high quality research papers.

Major Requirements

BIO 205 - General Biology I

Credit Hours: 3

Pre or Co-requisites: (Co) ENG 102/ ENG 200

This course introduces the principles and concepts of biology with the emphasis on the cell and its metabolic activity, genetics and inheritance in living organism.

BIO 205L - General Biology I Laboratory

Credit Hours: 3

Pre or Co-requisites: BIO 205

This course introduces the principles and concepts of biology with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course BIO 205.

CHE 205 - General Chemistry I

Credit Hours: 3

Pre or Co-requisites: (Co) ENG 102 / ENG 200

This course introduces the principles and concepts of chemistry with emphasis on atoms, molecules, nomenclature, bonding, stoichiometry, electronic structure and molecular structures. This course contains a laboratory component to reinforce the chemical concepts.

CHE201L - General Chemistry I Laboratory

Credit Hours: 3

Pre or Co-requisites: CHE 205

This course introduces the principles and concepts of chemistry with the emphasis on laboratory skills and practical hands-on experiences for the students. This course will have laboratory experiments, simulated experiments, demonstrations and group activities for the students that illustrate the principles and concepts for the course CHE 205.

EHS 205 - Introduction to Environmental Health & Safety

Credit Hours: 3

Co-requisites: (Co) ENG 102/ENG 200 + (Co) FWS 100

This course will introduce students to Environmental Health and Safety, its definitions its concepts, issues and attributes. The course introduces students to core environmental Health and Safety topics including world population, air and water quality, water conservation, community health and safety, occupational health and safety, and environmental health and safety statistics.

ENS 205 - Introduction to Environmental Science

Credit Hours: 3

Pre or Co-requisites: (Co) ENG 102 / ENG 200 + (Co) FWS 100

This course introduces students to the principles of Environmental Science. It presents the different ecosystems, the biogeochemical cycles of some elements like oxygen, carbon, and nitrogen, biomes, biodiversity, and how species interaction. It discusses water and air pollution as well as environmental geology and earth resources. This course also presents environmental issues, discusses solutions that help reduce such issues and provide sustainable development, and emphasizes on the importance of maintaining a healthy environment.

HSC 305 - Occupational Health and Safety

Credit Hours: 3

Prerequisite: HSC 200

The Occupational Health and Safety course describes the importance of health and safety at work place and its socio-economic impact on work place and workers. It gives students the tools and skills to ensure health and safety measures within a working environment including hazard identification and control, accident prevention and investigation, conducting safety trainings, and emergency planning. It also provides students with an in-depth idea about the national and international occupational health and safety organizations.

PBH 101 - Introduction to Public Health

Credit Hours: 3

Prerequisite: (Co) ENG 102/ENG 200 + (Co) FWS 100

This course addresses a variety of themes in public health which serve as a base for an introductory-level understanding of the field. This course emphasizes the diverse, multidisciplinary perspectives on public health. It introduces core disciplines of public health: prevention, protection and assurance.

HSC 210 - Epidemiology & Population Health

Credit Hours: 3

Prerequisite: HSC 205

This course introduces students to the scientific discipline of epidemiology. It covers definitions and concepts of epidemiology together with the principles and tools of epidemiology. The course includes measuring the frequency of health issues, measuring risk and the burden of disease. Epidemiological study designs are explored, including descriptive, analytical and intervention studies. Survey research, as a methodology that can be used across many study designs, is addressed. Issues related to weighing up the evidence from such studies and ethical issues in epidemiology are explored.

HSC 205 - Biostatistics

Credit Hours: 3

Prerequisite: STT 100

This course introduces students to population health statistics. The course covers sources and types of data, measures of central tendency, measures of dispersion, confidence intervals, correlations and regressions used in public health and environmental health and safety.

HSC 200 - Introduction to Health Management

Credit Hours: 3

Prerequisites: EHS 205

This course will introduce students to management in the health environment, covering definitions, concepts, issues, and the basic dimensions of health care management. The course also introduces students to core challenges, responsibilities, and professional ethics in healthcare management as well as planning and decision making in healthcare sector.

HSC 201 - Determinants of Public Health

Credit Hours: 3

Prerequisites: ENS 205

This course will introduce students to different public health paradigms, including the biomedical, behavioral, and holistic, ecological, salutogenic paradigms. Various models of public health determinants within the holistic, ecological, salutogenic paradigm and the One Health Approach are explored. The course then examines specific determinants of public health including biological factors, socioeconomic factors, cognitive and affective factors, health behaviors, and conditions within social, economic, political, natural and built environments and their interactions.

PBH 300 - Health Sociology

Credit Hours: 3

Prerequisite: HSC 201

Co-requisite: PBH 310

This course focuses on the contribution of social and behavioral sciences to the understanding of the distribution, etiology, and solution of public health problems. The theoretical underpinnings of the most relevant explanation, planning, change, and evaluation theories will be reviewed in depth and illustrated with examples of the application of these models to health promotion and disease prevention with individuals, groups, and communities.

PBH 310 - Principles of Health Promotion

Credit Hours: 3

Prerequisite: HSC 201

This course provides students with an understanding of the history, approaches, values, and principles of health promotion.

PBH 320 - Community and Public Health Nutrition

Credit Hours: 3

Prerequisite: PBH 300

This course aims to introduce students to key concepts and current topics in community nutrition. The course will focus on the role of nutrition in improving the health and well-being of communities and will familiarize students with population nutritional status assessment, principles of nutrition research, and factors involved in planning, implementing and evaluating community nutrition programs and policies. The course combines theory and practice where students will discuss, analyze, and experiment with the theories of behavioral change and will apply the principles of nutrition education as part of the course nutrition project tackling a specific nutritional problem.

PBH 420 - Practice of Health Promotion

Credit Hours: 3

Prerequisite: PBH 310

This course provides students with the knowledge and skills required to identify health needs and assets, and plan, implement and evaluate health promotion initiatives addressing such health needs and assets. The course will explore needs assessment and planning models, theories that inform strategy development, and evaluation

methods used in critical health promotion practice. The critical health promotion values and principles relevant to these processes will be explored. The course will develop skills in critical reflection to enhance health promotion practice.

PBH 425 - Maternal and Child Health

Credit Hours: 3

Prerequisite: PBH 420

This course will focus on critical public health issues for women and children in varying social, economic, and cultural contexts within local, national, regional and global environments. Practical approaches to developing maternal and child health (MCH) public health programs are explored.

PBH 405 - Chronic and Infectious Diseases

Credit Hours: 3

Prerequisite: PBH 300

This course is designed to provide an overview of the epidemiologic aspects and prevention approaches for major chronic diseases and conditions as well as infectious diseases that face populations. Concepts and methods emphasizing disease epidemiology and prevention strategies will be discussed.

HSC 315 - Global Issues in Environmental Health

Credit Hours: 3

Prerequisites: EHS 205

This course is an introduction to the global applications of environmental health and safety theory. It covers a wide range of globally-relevant environmental health issues, including access to water, clean air, and energy. It also covers the globally-relevant theoretical issues of environmental health ethics and environmental justice. Through the analysis of theory and practice, this course looks at the global impacts of environmental health and safety particularly in crisis situations, whether these are man-made crises (pollution of food & water sources) or natural disasters.

PBH 110 - Introduction to Happiness and Positive Psychology

Credit Hour: 3

Pre or Co-requisites: (Co)ENG102/ ENG200 + (Co) FWS100

This course is about positive psychology, which encompasses the study of positive experiences, positive character strengths, positive relationships, and the institutions and practices that facilitate their development. Positive experiences include mental states of flow and mindfulness and emotions about the present (pleasure, contentment, laughter), past (e.g. nostalgia, satisfaction, pride), and future (e.g. hope, optimism). The distinction between the pleasant life, the good life, and the meaningful life will be drawn. The classification of character strengths and the strengths themselves will be explored.

This course also reviews the history of positive psychology and the contributions this new field has made to traditional mainstream psychology.

The course is largely experiential and will include classroom activities, discussions as well as practical exercises to increase wellbeing, which will supplement our theoretical and empirical understanding of important questions in positive psychology.

Research, Placements and Electives

HSC 410 - Healthcare Research Methodology

Credit Hours: 3

Prerequisite: HSC 205

This course is involved with understanding basic principles of research techniques and methodologies as applied to healthcare professions. The purpose of this course is to further develop research, critical analysis, and communication skills.The major components of this course are understanding research purpose and methodology; developing a research proposal; critical review of the literature and information resources; comprehending the role of ethics in health sciences research; and introducing different quantitative and qualitative healthcare research methods. The course will also enable the students to develop different data collection tools and different sampling designs and techniques.

PBH 399 - Public Health Research Seminar

Credit Hour: 1

Prerequisite: PBH 101 + ASC 301

Students will attend mandatory seminars where the principles and practices of public health research are examined. Through the analysis of public health research articles and media stories on public health research, students will develop skills in critically reviewing articles and

stories and identifying their strengths and weaknesses. Students will present their findings in both oral and written formats.

PBH 499 - Undergraduate Research

Credit Hours: 3

Prerequisite: PBH 410 + 90 Credit Hours

The Undergraduate Research course is a senior level component of the PBH program that gives students the opportunity to participate in real-life PBH topics/issues. It is a research-directed work intended to advance a student's interest in a topic or issue related to PBH.

Under the supervision of a faculty member, students will be engaged in specific tasks revolving around a research question and focusing on applying research methodology/ design to problems in PBH via data and information collection, determining and reviewing relevant sources, conducting logical, critical, and statistical analyses, and arriving to conclusions. The topic will be chosen by students and will be written and presented in a concise way and scholarly format in the form of a presentation in front of a committee. Students will gain research experience to apply technical and communication skills learned in specific settings (ministries, industries, companies, businesses, environmental protection and health agencies, hospitals, professional associations, research centers/laboratories, national and international NGOs etc.).

Students will have a supervisor/ mentor from the faculty to facilitate the course (content, process, and assessment) and may have a second mentor who is an expert in the chosen area of PBH, external to ADU.

PBH 400 - Internship*

Credit Hours: 3

Prerequisite: 90 Credit Hours

The internship is a junior-senior level component of the Public Health program that provides students with real-life experiential learning supplementing their theoretical and laboratory class learning. This course is a requirement for graduation from the Bachelor of Public Health program at the College of Health Sciences (CoHS).

Students are required to complete a minimum of 240 working hours over a period of six weeks in approved work settings in public and private sectors (ministries, industries, companies, consultancy firms, environmental protection and occupational health agencies, academic centers, research centers/ laboratories, international and national NGOs, UN agencies, etc.). Under the supervision of faculty and internship site supervisors, students will be engaged in specific tasks, duties, and assignments addressing current public health issues on-site. In addition to the experience gained in the observation and application of public health practices, students will gain professional and personal skills and competencies needed to prepare them for real-life situations and job market.

Bachelor of Science in Clinical Psychology and Mental Health

CLP101- Fundamentals of Clinical Psychology

This introductory course provides a comprehensive overview of the field of clinical psychology, its historical development, and its core theoretical foundations. Students will learn about the main psychological approaches, principles of assessment, and the process of diagnosis. The course also introduces key concepts in psychological testing, interviewing techniques, and the role of clinical psychologists in research and practice.

CLP102 - Foundations of Biological Psychology and Physiological Psychology

Biological Psychology is the study of the brain, behavioral neuroscience, and psycho-physiological underpinnings to human existence. During this course, students will be introduced to this dynamic field, which investigates the brain, its structure and function, and the ways in which the brain drives behaviors. Students will also learn about the nervous system, endocrine system and other physiological process in the body that lead to the mind-body dynamics.

CLP103 - Positive Mental Health and Wellbeing

The course equips with theoretical and practical understanding of positive psychology and the science of wellbeing. It encourages students to learn the concepts of happiness and wellbeing from empirical research, and acclaimed academic theories in the field of positive psychology, and behavior change, which the students will be able to apply towards a happier

and fulfilling life. The course also explores the concepts of mental health and wellbeing, and how to attain it.

CLP104 - Introduction to Cognitive Psychology

This course will address questions in the field cognitive psychology, which involves foundational level understanding of mental and psychological processes responsible for thinking reasoning memory, perception, logic, mental representations, decision making, and analysis of various phenomenon. Students will also cover topics around information processing, judgements, language, attention, and consciousness. Various theories and selected lab experiments will be described and discussed.

CLP105 - Introduction to Developmental Psychology

This course focuses on foundational theoretical concepts of development of a human being from infancy to adolescence. This would require the understanding of concepts through empirical research and establish theoretical concepts that would involve psychological, biological, conceptual, and behavioral development of the brain, cognition, mind, and body. The course would also dive into fundamentals of social, biological, physiological, and cognitive developments and changes that occur during the course of human growth process.

CLP106 - Introduction to Social Psychology

This course dives into the foundational concepts of social psychology. Students would explore interesting concepts like social perceptions, individual and group behavior. Further students would get an opportunity to debate on how are personalities formed, and how people perceive themselves as per the social psychological views.

CLP206 - Clinical Psychology and Mental Health

Introduction to Clinical Psychology is an experiential course to explore the fundamental concepts in the field of clinical psychology, which includes, history and evolution of the field, ethical practices, clinical assessments, diagnosis, and treatments of clinical conditions. Students will explore the clinical psychologist's role in mental health care, from early identification of psychological distress to evidence-based intervention and rehabilitation. Students will explore the history and evolution of mental health concepts, the distinction between mental health and mental illness, and the classification frameworks of DSM and ICD.

CLP207 - Community Mental Health

This course explores the promotion of mental health and the prevention and management of mental illness at the community level. It emphasizes understanding mental health needs, reducing stigma, enhancing community-based care models, and engaging stakeholders in mental health promotion. Students will examine local and global practices, mental health systems, and culturally sensitive interventions within community contexts.

CLP208 - Inter-cultural Psychology

This course is an in-depth introduction to the key theories and methodologies related to cultural psychology and diversity. Students will explore the psychological and social underpinnings of these concepts, with a strong focus on social, group and inter-cultural dynamics. A primary goal of the course is to enhance critical thinking skills in identity-based research. The course begins with an overarching understanding of cultural psychology, dives into psychological theories that connect culture to psychological processes such as emotion, cognition, behaviour, and attitudes. Students would also be encouraged to link cultural psychology with core concepts of multiculturalism, ethical foundations, including group and identity formation, migration, stereotyping, prejudice, discrimination, and intergroup dynamics. The course concludes with an analysis of multiculturalism, diversity, equity and inclusion through a psychological lens.

CLP209 - Technology and AI in Psychology

This course dives into the foundations of the study of psychological science and its impact in the digital age. Students would discover introductory concepts in the area of cyber psychology, technology used to understand psychology, technology used to interact and interpret the behavior and functioning of the human mind.

CLP210 Abnormal Psychology and Mental Health Disorders

This is a foundational course to study the basics of mental disorders, its origins, diagnosis, and possible treatments. The course will cover introductory level definitions, historical course of development of the field, basics of psychopathology, and its theoretical models. Students would also discuss diagnosis and possible intervention plans of various psychological disorders.

CLP211 - Foundations of Health Psychology

This is an introductory course to the basic principles and applications of Health Psychology. Health psychology is an inter-disciplinary field that studies the interaction of the mind and the body. Students would learn important concepts in the space of psychological science and how it effects the physical body and vice vera.

HSC205 - Biostatistics

This is a foundational course to statistical analysis in the field of behavioral and psychological sciences. The course would Provide basic concepts of statistics, and covers basic topics such as probability and distributions, testing of hypothesis, variability and central tendency, regression and correlation, t-tests, Chi-square and analysis of variance. The course would also discuss about computer software such as SPSS and others used for statistical analysis.

CLP312 - Clinical Counselling and Psychotherapy

This is an introductory course to clinical counselling and psychotherapy. This course will give students a glimpse of history, and evolution of psychological interventions. Further the course will take the students through various approaches of counselling and psychotherapy, their practice and research.

HSC410 - Healthcare Research Methodology

Psychological research methods are fundamental to answer questions about our lives, and people around us. Research has been the basis of psychological and behavioral sciences, with behavioral and psychological scientists pursuing in-depth research to understand behavioral and clinical trends eventual to establish statistical significance for theoretical formulations. This is an introductory course that would take the students through the foundational understandings of how to carry out research in a systematic way.

CLP313 - Psychodiagnostics and Psychometric assessments

This foundational level course in psychological assessments and psychometry aims to discuss theories, strategies, and techniques in psychological assessment. The course also focuses on empirical research, evidence-based practice and utilizations of these assessments in clinical practice. The students would gain insights into the interview process, conducting psychometric assessments, ethical restraints and interpretation of results. The course also has a practice lab component attached to it.

CLP314 - Advance clinical research methods (qualitative and quantitative)

This is an advanced level course in qualitative and quantitative research methods in psychology. The course would discuss various forms of qualitative and quantitative research methods and data analysis in used in psychological research. The course would also equip students to identify the appropriate methodology that they would select for their research projects.

CLP315 - Clinical Cognitive Behavioral Interventions

This a foundational course in clinical cognitive behavioral interventions, where students would get to know the history and evolution of evidence-based interventions, types of cognitive behvaioral interventions, their uses, and criticisms. The students would also dive into the basic theoretical concepts of the link between cognition and behavior. Eventually the students would get to experience and practice

CLP390 - Designing and Submission of Clinical Research Project Proposal

This course is a prerequisite course to the main project. Here the students are supervised to decide on a research project topic, followed by understanding of the basics of carrying out research, eventually leading to an ethics application and project proposal development

CLP340 - Internship 1: Application of Social-Clinical Psychology

The Internship is an introductory field course that provides experiential learning towards psychological applications in the community. During this course, students are required to complete 200 hours of supervised field experience.

CLP460 - Internship 2: application of physical and mental health psychology

The Internship is an introductory clinical applied training in a hospital/clinical settings for students to gain first hand exposure to real world clinical issues and disorders. During this course, students are required to complete 200 hours of supervised clinical training with in-person patient/client contact hours

CLP480 - Internship 3: Field Internship Project

The Internship is an introductory clinical applied training in designing psychological treatment plans, and conducting various forms of clinical psychotherapy in a hospital/clinical settings. During this course, students are required to complete 200 hours of supervised clinical training with in-person patient/client contact hours

CLP499 - Clinical Research Project

This course requires the completion of a clinical research project, which the student submits carrying out clinical research, and its data analysis, eventually completing the writing a in-depth report.

ARABIC COURSE
DESCRIPTIONS

COLLEGE OF ARTS, EDUCATION, AND SOCIAL SCIENCES
BACHELOR IN MASS COMMUNICATION (ARABIC)

COLLEGE OF LAW
BACHELOR OF LAW IN ARABIC

توصيف المساقات لتخصصي

بكالوريوس في الإعلام باللغة العربية
بكالوريوس في القانون باللغة العربية

كلية الآداب والتربية والعلوم الاجتماعية

بكالوريوس في الإعلام باللغة العربية

متطلبات البرنامج الإجبارية

مدخل إلى الإتصال الجماهيري MMC201 (MA)

الساعات المعتمدة: 3

المتطلب السابق: لا يوجد متطلب سابق

هذه المادة ستوفر لمحة عامة عن مجال الاتصال الجماهيري؛ المفاهيم، النطاق، التطور وعملية الاتصال؛ الوظائف؛ كما لمجالات المختلفة للاتصال (وسائل الإعلام المطبوعة والإلكترونية، العلاقات العامة والإعلانات)؛ اختيار وتنظيم المواد؛ وأخيرًا، مصادر المعلومات لوسائل الإعلام الجماهيري

كتابة تقرير البحث ASC301 (MA)

الساعات المعتمدة: 3

المتطلب السابق: ENG200 (AA)

في هذا المساق، سيتم التركيز على مهارات كتابة البحث، والتي تشمل تحديد مواقع المواد المصدر وجمعها وتقييمها، وصياغة بيان أطروحة من موضوع و/أو فرضية، وتطوير الحجج القائمة على أساليب البحث الفعالة، وتوثيق المصادر في النص، وفي الهوامش، وفي الببليوغرافيا. وسيعمل الطلاب أيضًا بشكل مكثف على اكتساب مهارات الكتابة الأكاديمية و القدرة على الإقناع؛ لإنتاج أوراق بحثية عالية الجودة

التصوير الصحفي MAC308 (MA) (مساق عملي)

الساعات المعتمدة: 3

المتطلب السابق: MMC201 (MA)

يقدم هذا المساق دراسة للتقنيات الفوتوغرافية الأساسية من منظور عملي وفني ، سيحظى الطلاب بفرصة تطوير مهاراتهم الجمالية والتكوينية أثناء بناء ملف أعمال يضم صوراً مميزة. سيقوم كل طالب بالتقاط صور لمهام تتعلق بالآخبار ، المواضيع الخاصة ، والرياضة ، والبورتريه ، ويركز المساق على استخدام الكاميرا كأداة للتغطية الصحفي

مبادئ التسويق MKT200 (MA)

الساعات المعتمدة: 3

المتطلب السابق: ARL 101 (A)

يهدف هذا المساق على تعريف الطلاب بالمفاهيم الأساسية للتسويق وكيفية تطبيقها حاليًا في السوق. يوفر المساق بيئة محفزة لكل مشارك يمكنه فيها استكشاف المهام الرئيسية للتسويق والاستفادة من الخبرات السابقة. يمكّن هذا المساق المشاركين من التعرف على الأدوات والعمليات المستخدمة حاليًا من قِبل المتخصصين في التسويق في تحليل فرص السوق وتطبيقها في سياقات مختلفة.

أخلاقيات ومسؤوليات وسائل الإعلام MAC310 (MA)

الساعات المعتمدة: 3

المتطلب السابق: MMC201 (MA)

يُساعد المساق الطلاب على التفكير من خلال تحديات أخلاقية معقدة التي من الممكن أن تواجههم في مهنة الاتصال الجماهيري والإعلام حيث يحاول المساق الإجابة على الأسئلة المعقدة التي ستواجههم في أماكن العمل ضمن مجالات الإعلام بشكل حتميّ. وسيحاول المساق الإجابة على السؤال المعقد ، حول الصواب أو الخطأ ، الأخلاقي أو غير الأخلاقي الذي ينشأ حتماً في أماكن العمل الإعلامي. وسيوضح العديد من مشكلات وأمور الحياة الواقعية المرتبطة بالأخلاق والمسؤولية الاجتماعية بمجال الإعلام باعتبار أنها تعتمد بشكل رئيسي على مناقشة وتقييم بعض دراسات الحالة

الكتابة لوسائل الإعلام الجماهيرية MMC203 (MA)

الساعات المعتمدة: 3

المتطلب السابق: MMC201 (MA)

يعرف هذا المساق بمهارات الكتابة اللازمة لمختلف المجالات الإعلامية، بما في ذلك - على سبيل المثال لا الحصر - الصحافة المطبوعة والإلكترونية ومجال العلاقات العامة والإعلان . سيتعلم الطالب أساسيات الكتابة الإعلامية، وأهمها كتابة العناوين والقصص الإخبارية والمحتوى الإخباري، بالإضافة إلى كتابة الإعلانات و البيانات الصحفية

التواصل بين الثقافات MAC201 (MA)

الساعات المعتمدة: 3

المتطلب السابق: MMC201 (MA)

يركز هذا المساق على العلاقة التفاعلية بين الثقافة والاعلام واللغة. يدرس الطلاب العادات والمعتقدات والقيم لمختلف الثقافات حول العالم ويعملون على تنمية قدراتهم على تفهم العوامل التي تؤثر على التواصل بين الحضارات والثقافات المختلفة

مقدمة في التصميم الجرافيكي MAC207 (MA)

(مساق عملي)

الساعات المعتمدة: 3

المتطلب السابق: ITD100 (AA)

يوفر هذا المساق للطلاب مفاهيم ومبادئ التصميم الجرافيكي، بالإضافة إلى المهارات والتقنيات المطلوبة لممارسة التصميم الجرافيكي بشكل احترافي. سيستخدم الطلاب تطبيقات التصميم الجرافيكي مثل Adobe Illustrator وPhotoshop وInDesign لإنشاء مواد ترويجية مثل إعلانات المجلات، والملصقات، والشعارات، والكتيبات، وغيرها. يُعد هذا المساق عمليًا بدرجة كبيرة ويركز على تطوير كفاءة الطلاب في مجال التصميم الجرافيكي.

الخطابة العامة MAC317 (MA)

الساعات المعتمدة: 3

المتطلب السابق: ARL101 (A)

يركز المساق على معايير التواصل الشفهي والمشاكل والمسؤوليات في البيئة المؤسسية

والأعمال. سيلقي الطلاب خطابات ويشتركون في حل المشكلات من خلال الخطاب الاستقصائي والإعلامي من أجل التأييد واستراتيجيات المناظرة

التذوق والنقد في الإعلام MAC402 (MA)

الساعات المعتمدة: 3

المتطلب السابق: MMC201 (MA)

تم تصميم هذا المساق لتحليل محتوى البرامج السينمائية والتلفزيونية من منظور الناقد الإعلامي وتقديره. دراسة القضايا النظرية وعناصر الإنتاج من حيث تأثيرها على نوع البرمجة. كما يزود الطلاب بالمهارات والمعرفة اللازمة لتحليل الأفلام كشكل من أشكال الفن

إدارة وسائل التواصل الإجتماعي MAC404 (MA)

الساعات المعتمدة: 3

المتطلب السابق: إكمال 90 ساعة معتمدة على الأقل

يغطي هذا المقرر الخصائص والميزات الرئيسية لإدارة وسائل التواصل الاجتماعي. تتناول الأقسام الرئيسية للمادة المواضيع التالية: أشكال ومحتوى وسائل التواصل الاجتماعي؛ التأثير والمستخدمين؛ التسويق عبر وسائل التواصل الاجتماعي، وتطبيقات الهاتف المحمول ووسائل التواصل الاجتماعي، والمحتوى الذي ينشئه المستخدم، والعلامات التجارية العالمية لوسائل التواصل الاجتماعي، والنمو الهائل وتدفق البيانات والمعلومات العالمية، ومستقبل إدارة وسائل التواصل الاجتماعي - التكنولوجيا القابلة للارتداء، وإنترنت الأشياء، ونماذج أعمال عن البيانات الضخمة ووسائل التواصل الاجتماعي، المنصات والنظم البيئية

نظريات الإعلام MAC205 (MA)

الساعات المعتمدة: 3

المتطلب السابق: MMC201 (MA)

يتناول هذا المساق بالدرس نظريات وواضعي نظريات الاتصال الجماهيري. وسيزود المساق الطلاب بفهم أساسي لطبيعة الاتصال الجماهيري. كما سيتعلمون ويبحثون ويناقشون عدداً من المقاربات النظرية المتعلقة بتأثير الاتصال عبر الإعلام على الأفراد والثقافة. وسيناقش المساق – أيضاً - طبيعة عملية التواصل فيما بين الجماعات ووسائل الإعلام والجمهور

تصميم مشروع التخرج (مساق التخرج) MAC490 (MA)

الساعات المعتمدة: 3

المتطلب السابق :إكمال 100 ساعة معتمدة

يهدف مساق مشروع التخرج، إلى تأهيل الطلاب لاعتماد المنهج الموضوعي لحل المشكلات، وتحديات التواصل الإعلامي الإستراتيجي والصحافة الإذاعية، وذلك عن طريق إنشاء مشاريعهم وأعمالهم الخاصة ، ضمن جهد تعاوني كفريق

التدريب الميداني MAC499 (MA)

الساعات المعتمدة: 3

المتطلب السابق : إكمال 80 ساعة معتمدة

يهدف برنامج التدريب الميداني إلى تزويد الطلاب بالمهارات العملية وبالاطلاع على ثقافة بيئة العمل، في مرحلة ما قبل التخرج، وذلك يعد فرصة ذهبية لإكساب الطلبة الخبرة العملية، وبالتالي اعتبارهم خياراً أفضل لأصحاب العمل في حال تقدمهم لمنصب ما. وفي هذا المساق، سيتم تكليف الطلاب المؤهلين بأعمال ومشاريع عملية في مجالات مختلفة كالإعلان والصحافة والبث الإذاعي والعلاقات العامة، وذلك من خلال إشراف منسق التدريب العملي في الكلية للعمل على التخطيط والإجراءات والجدول الزمني والأنشطة

متطلبات البرنامج الاختيارية

إدارة الوسائل الاعلامية MAC412 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MMC201 (MA)

سيدرس الطلاب في هذا المساق مبادئ إدارة وسائل الإعلام بما في ذلك عناصر إدارة العلاقات العامة ، وإدارة البث، وإدارة الصحف ، وتحديد واختيار الأهداف والغايات، ووضع الميزانية واتخاذ القرار. كما سيتناول إدارة صناعة الإعلام بما في ذلك العلاقات الإعلامية والمستهلكين، وعلاقات الموظفين والأعضاء، والعلاقات المجتمعية والحكومية

الاتصال الدولي MAC403 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MMC201 (MA)

المساق عبارة عن مقدمة لعولمة أسواق الإعلام ونماذج وسائل الإعلام في الأخبار والترفيه. كما سيتم مناقشة التحديث والتطوير والتبعية والهيمنة والتدفق الحر للمعلومات والاقتصاد السياسي ووجهات النظر التاريخية والإدارية والنقدية الأخرى

مقدمة في الصحافة MAC206 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MMC201 (MA)

"يهدف هذا المساق إلى إكساب الطالب بعض المهارات الأساسية والعملية التي يحتاجها في مجال الصحافة باعتبارها من أكثر العناصر تأثيراً على الصعيد الفردي والمجتمعي، حيث يمتد هذا التأثير العميق إلى عدة مجالات إنسانية السياسي منها والاقتصادي والاجتماعي وغيرها. وسوف يختبر الطالب، في هذا المساق أيضا، كيف أن الصحافة تجعلنا نرى أنفسنا في محيط أوسع، وكيف نتبادل هذا التأثير مع الآخرين ومع المحيط، باعتبار هذا المساق مقدمةً في مجال الصحافة"

الاتصال الشخصي MAC204 (MA)

الساعات المعتمدة: 3

المتطلب السابق : ARL 101 (A)

يعرّف هذا المساق الطلاب على ممارسة التواصل الثنائي الفعال في بيئات الأسرة والمجتمع والعمل. ويستكشف موضوعات مثل تطوير مفهوم الذات والإدراك واللغة والتواصل غير اللفظي وإدارة الصراع. كما يشجع هذه المساق الطلاب على قضاء بعض الوقت في دراسة الاتصال بين الأشخاص بوعي بشكل عام، وعلى وجه خاص أيضا

الاتصال والدبلوماسية MAC316 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MMC201 (MA)

يهدف هذا المساق إلى إكساب الطالب مهارات متقدمة في التواصل، بالإضافة إلى التعرف على مبادئ العلاقات العامة بصورة أكثر عمقاً، وذلك بهدف إعداد الطالب لمواجهة التحديات في مجالات التواصل المؤسسي، ضمن التغيير المتسارع في البيئة العالمية الحديثة

إدارة الفعاليات MAC328 (MA)

الساعات المعتمدة: 3

المتطلب السابق : FWS310 (AA)

"يعتبر مجال إدارة الفعاليات المعاصرة، مجالاً متنوعا ومليئا بالتحديات، لذا يهدف هذا المساق إلى استكشاف طبيعة إدارة الفعاليات على اختلاف مجالاتها، وتزويد الطالب بجميع المهارات العملية ومبادئ المعرفة المهنية التي يحتاجها، وذلك بهدف تحقيق النجاح في مجال صناعة الحدث.
ومن خلال إعداد وتجهيز الفعاليات المختلفة على مستوى الشركات والأحداث الثقافية وغيرها، يقدم هذا المساق جميع المجالات الوظيفية والمهارات اللازمة لإدارة الفعاليات، مثل: التسويق، التمويل، إدارة المشاريع، المهارات العملية والاستراتيجية، تصميم الفعاليات وإدارة الموارد البشرية"

متطلبات التخصص الدقيق في العلاقات العامة والإعلان

الاتصال التنظيمي MAC303 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MAC201 (MA)

يقدم هذا المساق مفاهيم الاتصال التنظيمي ضمن النهج القائم على الكفاءة، والذي يتضمن المعرفة الشخصية، والحساسية الشخصية، ومهارات الاتصال، والقيم الأخلاقية. يجمع المساق بين الجانب النظري والعملي والتحليل مع التركيز على المعرفة والمهارات والقيم كمكونات ضرورية للاتصال التنظيمي الفعال. يدرس التواصل الفردي والجماعي في المنظمات مع التركيز على القيادة وإدارة المشكلات

مبادئ العلاقات العامة الاستراتيجية MAC313 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MAC205 (MA)

يقدم هذا المساق دراسة تخصص العلاقات العامة بما يشمل أصولها ومفاهيمها ونطاقها وتطورها ونظرياتها ووظائفها ووسائل الإعلام والجمهور. كما يوضح أهم الفروق بين وظائف العلاقات العامة والدعاية والتسويق وبعض المجالات الأخرى ذات الصلة

إستراتيجية الاتصال في الإعلان (مساق عملي) MAC314 (MA)

الساعات المعتمدة: 3

المتطلب السابق :(MAC 205 (MA co- أو MKT 200 (MA)

يتيح هذا المساق الفرصة للطلاب للتعرف على أسلوب الكتابة المكثفة وتطبيق مبادئ ونظريات الاتصال الإستراتيجي وممارسة مهارات التخطيط الإستراتيجي والتكتيكي في بيئة العمل الجماعي. حيث يركز المساق على العملية الإبداعية والتواصل المرئي وأهمية البحث من خلال عمل الطلاب مع متعاملين حقيقيين أثناء الفصل الدراسي

الكتابة للعلاقات العامة MAC315 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MMC203 (MA)

يغطي هذا المساق أساسيات الكتابة للعلاقات العامة، والكتابة الإقناعية، وكيفية كتابة النشرات الإخبارية لوسائل الإعلام المطبوعة، والنشرات الإخبارية للتلفزيون والراديو، وكتابة التعليقات المصاحبة للصور، والخطب والكلمات، والتقارير السنوية. كما يركز المساق ايضا على أهمية استخدام القواعد النحوية، وبناء الجملة، والهجاء وعلامات الترقيم للكتابة بشكل صحيح. بالإضافة إلى تطبيق التقنيات الجديدة في الكتابة للعلاقات العامة بما يشمل معلومات حول تطوير مواقع الويب، وكيفية العثور على مضيف موقع ويب، وكيفية الكتابة للإنترنت والمواضيع الأخرى ذات الصلة

البروتوكول والإتيكيت MAC301 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MMC201 (MA)

يتيح هذا المساق معرفة كيفية استقبال الضيوف المحليين والدوليين وشركاء الأعمال والتفاعل معهم باعتبار ذلك من عوامل النجاح الحاسمة في السوق العالمية. فيعد المساق بمثابة دليل إرشادي عن كيفية إدارة العلاقات التجارية والحصول على أحدث المعلومات حول ما يجب قوله، وكتابته، وطريقة تناول الطعام، وكيفية إعداد المائدة، وكيفية التواصل في العالم الاجتماعي. ويتضمن المساق أيضا كيفية فهم البروتوكول المحلي والدولي وآداب السلوك واحترام الاختلافات الثقافية

الاتصالات التسويقية المتكاملة MAC407 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MAC314 (MA)

يركز هذا المساق على اكتساب مهارة إعداد حملات إعلانية كاملة للشركات أو المنظمات غير الهادفة للربح. وسيتمكن الطلاب من دمج التسويق ، والبحوث الإعلامية ، وتجزئة السوق ، والترويج لمشاريعهم. حيث سيتم تقديم حملة مخططة ومبدعة في نهاية الفصل الدراسي

الحملات الإعلامية في العلاقات العامة (مساق عملي) MAC413 (MA)

الساعات المعتمدة: 3

المتطلب السابق : MAC313 (MA)

يتيح هذا المساق للطلاب معرفة كيفية إنشاء حملات العلاقات العامة الاعلامية باستخدام نهج عملي يوضح الأدوات التي سيحتاجون إليها عند العمل في هذا المجال. ويقدم المساق أمثلة حقيقية ودراسات حالة لمساعدة الطلاب على تطوير مهاراتهم لتصميم حملات علاقات عامة

متطلبات التخصص الدقيق في الإنتاج الإعلامي

مبادئ صناعة المحتوى الإعلامي (مساق عملي) FMP 180 (MA)

الساعات المعتمدة: 3

المتطلب السابق: لا يوجد متطلب سابق

هذا مساق تمهيدي مصمم لتزويد الطلبة بالمصطلحات المستخدمة والمعرفة الأساسية لتكنولوجيا إنتاج الوسائط من حيث صلتها بالكاميرا والصوت والتحرير. ويشمل المساق مقدمة في المصطلحات الأساسية والوظائف والنظريات والتطبيقات الخاصة بمعدات صناعة الأفلام والوسائط والتكنولوجيا المتعلقة بالكاميرا والصوت والتحرير. لا يلزم معرفة مسبقة بهذه المهارات. حيث أن هذا المساق لا يركز على صناعة الأفلام الروائية على وجه التحديد ، ولكنه يشمل التقنيات التي يتم استخدامها في مجموعة واسعة من الوسائط والتي تشمل أيضاً الإعلانات التجارية ومقاطع الفيديو الترويجية والأفلام الوثائقية والقصيرة بمختلف انواعها

مقدمة في المؤثرات البصرية الرقمية (مساق عملي) FMP 225 (MA)

الساعات المعتمدة: 3

المتطلب السابق: FMP 180 (MA)

"تم تصميم هذا المساق لتعريف الطلبة بعالم المؤثرات البصرية في الأفلام والبرامج التلفزيونية وفهم كافة الجوانب العملية في مجال المؤثرات البصرية بطريقة عملية.
يتعلم الطلبة من خلال هذا المساق تقنيات تركيب صور متعددة لتكوين لقطات ومؤثرات بصرية مقنعة وواقعية، ودمج تلك اللقطات في صناعة الأفلام"

صناعة الأفلام القصيرة (مساق عملي) FMP 300 (MA)

الساعات المعتمدة: 3

المتطلب السابق: FMP 180 (MA)

"هذا المساق هو دراسة متخصصة لتقنيات الأفلام التقليدية؛ حيث يؤكد على العملية الإبداعية من خلال التعلم العملي القائم على المشاريع.
ستغطي التدريبات الجماعية والفردية جميع مراحل إنتاج الأفلام القصيرة من الإلهام الإبداعي إلى التوزيع عبر الإنترنت"

كتابة السيناريو FMP 325 (MA)

الساعات المعتمدة: 3

المتطلب السابق: FMS 100 (MA)

صمم هذا المساق لمساعدة الطلبة على فهم أساسيات كتابة السيناريو. سيتعلم الطلبة كيفية كتابة سيناريو من بداية تصور الفكرة؛ من خلال عملية التحديد وحتى نص الدراما القصير المكتمل. ستشمل الموضوعات المساق تقنيات توليد الأفكار وعملية صياغة السيناريو والصراع والتوصيف والحوار وكيفية الكتابة بصريا.
سيتمكن الطلبة من استخدام تخطيط السيناريو القياسي وفهم ما الذي تبحث عنه في تكييف قصة لتصبح سيناريو درامي. كما سيفهمون العناصر الأساسية لتراكيب النص السردي والفرق بين الحوار الكتابي والمنطوق. إلى جانب تطوير النص، سيتعلم الطلبة كيفية تحليل عملهم وعمل الآخرين ككاتب سيناريو

كلية القانون
بكالوريوس في القانون باللغة العربية

متطلبات البرنامج الإجبارية

اسم المساق : القانون الاداري

رقم المساق :ADLA205

المتطلب السابق : INLA 105

الساعات المعتمدة:3 ساعات

يبحث هذا المساق في تعريف القانون الإداري ونشأته وتطوره قي دولة الامارات العربية المتحدة وخصائصه ومصادره وعلاقته بفروع القانون الأخرى ثم يبحث المساق في التنظيم الإدار ي بصورتيه المركزية، واللامركزية من حيث تعريف كل منهما، ومبررات قيامهما، وعناصرهما. كما يشرح المساق النظام القانوني الذي يحكم كل من الوظيفة العامة والمرافق العامة والوسائل القانونية للإدارة : القرارالإداري والعقد الإداري، والأموال العامة.

اسم المساق : المالية العامة والتشريع الضريبي

رقم المساق : BFLA 348

المتطلب السابق: PELA 219

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق دراسة موجزة لمفهوم علم المالية العامة وتعريفه وخصائصه ثم دراسة مفصلة للنفقات العامة (من حيث تعريفها وأركانها وأقسامها وآثارها) وللإيرادات العامة (من حيث تعريفها وأقسامها وأنواعها كالضرائب والرسوم) ثم الموازنة العامة ومفهومها وخصائصها ومبادئها العامة مع التركيز على السياسة المالية في دولة الإمارات على وجه الخصوص.

اسم المساق : مصطلحات قانونية باللغة الانجليزية

رقم المساق : ENLA 208

المتطلب السابق: (AA ENG 200)

الساعات المعتمدة : 3 ساعات

يتناول هذا المساق تعريف الطالب بالمصطلحات القانونية باللغة الانجليزية لفروع القانون والاقتصاد المختلفة مثل القانون المدني والجنائي والدستوري ومبادىء الاقتصاد والمدخل لدراسة القانون.

اسم المساق : التدريب العملي الخارجي

رقم المساق : EPLA 495

المتطلب السابق : اجتياز (90) ساعة على الاقل بنجاح الساعات المعتمدة: لايوجد

يتناول المساق تدريب الطلبة في المؤسسات ذات الصلة بتخصص القانون، وصقل معارفهم النظرية بالخبرات العملية وذلك من خلال التمرس في التطبيق العملي ومن ذلك الاطلاع على كيفية سير العمل في المؤسسات القضائية كالمحاكم والنيابات العامة والتعرف على آليات العمل فيها، ومباشرة بعض الأدوار في المؤسسات المختلفة مثل مكاتب المحاماة وشركات القطاع الخاص وغيرها.

اسم المساق : الأعمال المصرفية والعقود والأوراق التجارية

رقم المساق : BBLA 431

المتطلب السابق: CCLA 330

الساعات المعتمدة : 3 ساعات

يتناول القسم الأول من هذا المساق تعريف الأوراق التجارية وخصائصا ودراسة سند السحب فيما يتعلق بشروطه الموضوعية والشكلية، ومقابل الوفاء وتاريخ الاستحقاق وشروطه وحالة رجوع الحامل على موقعي السند وشروطه، وسند الأمر وشروطه الموضوعية والشكلية وكيفية تداوله والأحكام المطبقة عليه، والشيك وشروطه الموضوعية والشكلية وتداوله وكيفية تقديمه للوفاء والرجوع وشروطه وتعدد النسخ والتحريف والتقادم. أما القسم الثاني فيتناول العمليات المصرفية من حيث أهمية المصارف في الحياة الاقتصادية والصفة التجارية للأعمال المصرفية والحسابات المصرفية والودائع والحساب الجاري والحوالة والاعتمادات المصرفية وغيرها من الأعمال المصرفية كالخصم والكفالات والاعتماد المستندي وخطاب الضمان. وأخيراً يتناول المساق العقود التجارية من حيث أهميتها وخصائصها وأهم هذه العقود مثل البيع التجاري والرهن التجاري.

اسم المساق : العقود المسماه

رقم المساق :CCLA320

المتطلب السابق : RCLA 310

الساعات المعتمدة:3 ساعات

يتناول هذا المساق التعريف بالعقود المسماه وتقسيماتها، والتركيز على دراسة بعض العقود ذات الأهمية العملية مثل عقد البيع والمقاولة من حيث تعريف كل منهما وخصائصهما وتمييز كل عقد عن غيره، وأركان كل عقد وآثاره، وحقوق والتزامات الطرفين وطرق انقضاء كل عقد.

اسم المساق :الشركات التجارية والافلاس

رقم المساق : CCLA 330

المتطلب السابق : COLA 200

الساعات المعتمدة : 3 ساعات

The course covers the definition of commercial companies, and their general provisions, whether in terms of elements / pre-requisites of the company, its legal personality, and termination. Different types of commercial companies; partnerships, capital companies, and limited liability companies. Finally, a study of financial reorganization and bankruptcy, its provisions, and the innovative solutions to the problems of merchants defaulting on commercial debts.

اسم المساق : القانون التجاري

رقم المساق : COLA 200

المتطلب السابق : INLA 105

الساعات المعتمدة : 3 ساعات

يتناول المساق دراسة الموضوعات التالية: التعريف بالقانون التجاري وخصائصه ،ومصادره،وطبيعته،ومعايير التمييزبين العمل التجاري والعمل المدني والآثار القانونية المترتبة على ذلك . انواع الأعمال التجارية: الأعمال التجارية بحكم ماهيتها الذاتية والأعمال التجارية بالتبعية والأعمال المختلطة. ويبحث المساق في التاجر والاهلية التجارية وشروط اكتساب صفة التاجر والتزاماته. واحكام المحل التجاري: مفهومه، عناصره، وحمايته والتصرف فيه

اسم المساق : التنفيذ الجبري

رقم المساق : EILA 420

المتطلب السابق: PCLA306

الساعات المعتمدة:3 ساعات

يتناول هذا المساق مفهوم التنفيذ كصورة من صور الحماية القضائية وأركان التنفيذ، السلطة المختصة بالتنفيذ (قاضي التنفيذ واختصاصاته)، وأطراف التنفيذ، احكام وشروط المستندات التنفيذية ، محل التنفيذ والأموال التي لا يجوز الحجز عليها ، مقدمات التنفيذ وإجراءاته وطرقه ، اجراءات واحكام بيع الأموال المنقولة وغير المنقولة في المزاد العلني، منازعات التنفيذ، توزيع حصيلة التنفيذ.

الإخراج الوثائقي (مساق عملي)

FMP 350 (MA)

الساعات المعتمدة: 3

المتطلب السابق: FMP 300 (MA)

"من خلال مساق إخراج الفلم الوثائقي يتعرف الطلبة على العالم المتنوع والعاطفي لصناعة الأفلام الوثائقية وعلاقته بالمجتمع؛ حيث يركز وقت المحاضرة على العروض والنقد والمناقشات وورش العمل، وحول البحث الوثائقي، وتطوير المشاريع وإنتاج الفيديوهات، وتقنيات إجراء المقابلات المصورة.
غالباً ما يتطلب إخراج الفيلم الوثائقي تصوير أشخاص حقيقيين في أحداث وأماكن غير خاضعة للرقابة كما يتطلب وقتاً وجهداً عاليين في مرحلة التصوير وما بعد التصوير؛ لذلك يعدُّ إخراج الأفلام الوثائقية أمراً مثيراً وصعباً على عدة مستويات. وبالتالي يحتاج إنتاج الفيلم الوثائقي خبرة سابقة في الإنتاج.
سيتعرف الطلبة على الأفلام الكلاسيكية / التأسيسية، الحديثة، المؤثرة، والمثيرة للجدل، والتي تم تجاهلها، والأفلام المرشحة للحصول على جوائز وصانعي الأفلام؛ وذلك لإلهام الطلبة ومساعدتهم على التعلم من خلال الأمثلة في الفصول الدراسية والعروض عبر الإنترنت"

مقدمة في صناعة الفيلم السينمائي

FMS 100 (MA)

الساعات المعتمدة: 3

المتطلب السابق: لا يوجد متطلب سابق

يتناول هذا المساق مقدمة في تحليل الأفلام التي تبحث في المناهج النقدية للتأليف والنوع والعرض والسرد. ويتعلم الطلبة من خلاله لغة السينما ومفاهيم ومصطلحات وتقنيات الفيلم الأساسية في محاولة لتقدير الأفلام بشكل كامل. كما يبحث المساق في كيفية تصوير الأفلام ورواية القصص وتشكيل الشخصيات وتصوير الواقع المادي من خلال الجمع والبناء وتركيب الصوت والصورة

تصميم المواقع الالكترونية والمنشورات (مساق عملي)

MAC410 (MA)

الساعات المعتمدة: 3

المتطلب السابق: ITD100(AA)

يقدم هذا المساق للطلبة الطرق الأساسية لإنشاء وتصميم مواقع الويب والكتيبات والمواد الدعائية، باستخدام البرامج المعاصرة، بما في ذلك بعض تطبيقات للرسوم المتحركة والتفاعلية. يتعلم الطلبة التقنيات الأدوات والعمليات الأساسية المستخدمة لإنشاء مواد إعلامية ومواقع الكترونية فعالة جيدة التصميم

اسم المساق : المصطلحات القانونية باللغة الإنجليزية

رقم المساق : ENLA 208

المتطلب السابق: PCLA306

الساعات المعتمدة:3 ساعات

This course introduces the student to the legal terms in English in different branches of law such as civil, criminal and constitutional law and the introduction to law. This course also introduces the student to how to use English legal terms synonymous with Arabic legal terms in order to achieve the greatest linguistic benefit, through the definition of law and its various sections and branches.

اسم المساق : أصول الفقه

رقم المساق : FFLA 340

المتطلب السابق: PALA 229

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بعلم أصول الفقه وأهميته، مفهوم الدليل الشرعي والعقلي والأدلة القطعية والظنية ومراتب الأدلة، ومصادر التشريع (القرآن الكريم والسنة النبوية والاجماع والقياس والمصلحة والاستحسان والعرف وسد الذرائع)، الحكم الشرعي وأهميته وأنواعه، تفسير النصوص، أقسام اللفظ ودلالته، وطرق استنباط الأحكام الشرعية.

اسم المساق : بحث التخرج

رقم المساق : GPLA 498

المتطلب السابق: اجتياز (90) ساعة على الاقل بنجاح

الساعات المعتمدة: 2 ساعات

يتناول هذا المساق دراسة تطبيقية لطرق وأساليب البحث وكيفية اختيار موضوع البحث وإعداد بحث علمي في التخصص الذي يختاره الطالب، ويتولى القسم العلمي الذي يتبعه موضوع البحث الموافقة على الموضوع المقترح للبحث وتعيين مشرفاً لتوجيه الطالب خلال مرحلة إعداد البحث.

اسم المساق :المدخل لدراسة الفقه الإسلامي رقم المساق : IFLA 218

المتطلب السابق : لايوجد

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بالفقه الإسلامي وخصائصه، والأطوار التي مر بها وأسباب الضعف والقوة عبر العصور المختلفة مع التنويه ببعض القواعد الفقهية التي استمر العمل بها واستفادت منها القوانين الوضعية في مختلف المجالات الحياتية، ومصادر الفقه الإسلامي: الكتاب، والسنة النبوية، والإجماع، والقياس، والمصالح المرسلة الاستصحاب.

اسم المساق : المواريث والوصايا

رقم المساق : IILA 337

المتطلب السابق: PALA 229

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بالتركة وما يتعلق بها من حقوق، ومفهوم الوصية وشروطها وأركانها وأسس العمل بالوصية الواجبة وتزاحم الوصايا وبطلانها والميراث في الشريعة الإسلامية من حيث ضرورته وأركانه وشروطه والمقارنة بينه وبين غيره من أنظمة المواريث القديمة والحديثة، علاوة على معرفة الوارثون من الرجال والنساء سواء بطريق الفرض أو العصبة أو الرحم والعول والرد والتخارج وميراث الحمل والمفقود والغرقى وضحايا حوادث السير.

اسم المساق :المدخل لدراسة القانون

رقم المساق: INLA 105

المتطلب السابق: لا يوجد

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق دراسة محورين اساسين: القانون والحق. يتناول المحور الاول الـتعريف بالقانون وغايته وضرورته، وبيان خصائص القاعدة القانونية و تمييزها عن غيرها من القواعد الاجتماعية ، شرح فروع القانون المختلفة و تقسيم القواعد القانونية (القواعد الآمرة و المكملة وغيرها من التقسيمات) ، مصادر القانـون، وتفسيره ونطاق تطبيقه. اما المحور الثاني فيتناول دراسة عامة لنظرية الحق من حيث تعريف الحق و أنـواعه و أركـانه وأشخاصه، محل الحق واستعماله وحمايته و التعسف في استعمال الحق.

اسم المساق : القانون الدولي العام

رقم المساق : INLA 210

المتطلب السابق : INLA105

الساعات المعتمدة:3 ساعات

This course deals with the definition of international law, its historical development, the contribution of Islamic law in establishing the rules of this law, the role of Muslim jurists in developing it, its sources, goals, subject matter, branches, and its relationship with other laws and its persons, especially the state in terms of its origin, pillars, theory of recognition, and forms. Means of resolving international disputes, means of applying international law, whether by states or by international organizations or in implementation of the rules of international responsibility, the state of war and the law of the sea.

اسم المساق : القانون الدولي الخاص

رقم المساق : IPLA 342

المتطلب السابق : PCLA 306

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق دراسة القانون الواجب التطبيق على العلاقات الخاصة الدولية من حيث قواعد الاسناد وطبيعتها وخصائصها وتفسيرها، والإحالة، وتطبيق القانون الأجنبي وموانع تطبيقه، ومجال تطبيق قانون القاضي، وتنفيذ الأحكام الأجنبية، وحالات تنازع الاختصاص القضائي الدولي، وحالات انعقاد الاحتصاص لمحاكم دولة الامارات، والأحكام العامة للجنسية وكيفية اكتسابها والتجرد منها والتنظيم القانوني لمركز الأجانب وأحكام الموطن الدولي.

اسم المساق: التدريب العملي الداخلي

رقم المساق: IPLA 490

المتطلب السابق : + PCLA 306 + PPLA 450 PALA 229

الساعات المعتمدة : 3 ساعات

يتناول هذا المساق تدريب الطالب على كيفية رفع الدعاوى المدنية والجزائية والإدارية وتتبع مراحلها، وكيفية المرافعة الشفوية وذلك من خلال المحاكمة الصورية التي يجريها الطلبة في المحكمة التعليمية، وكتابة المذكرات والاستشارات القانونية، وصياغة العقود وتسبيب الأحكام، وكتابة حكم التحكيم، وكيفية عرض الاراء القانونية وتدعيمها بالحجج الصحيحة قانونا.

اسم المساق :قانون العمل والتامينات الاجتماعية

رقم المساق : LSLA 335

المتطلب السابق: SULA 209

الساعات المعتمدة: 3 ساعات

This course deals with the study of the nature of labor law, its characteristics, its historical development, the provisions of the labor law in terms of indicating its sources and scope, the nature of the employment contract, its elements and types, the restrictions on contractual freedom, the provisions for the employment of juveniles, women and foreigners, the rights and obligations of the parties to the labor relationship, especially the rights of the worker and the sanctions for violating them, the provisions of work injury, the reasons for the expiry of the employment contract, and the provisions of social security and pensions.

اسم المساق : الحقوق العينية الأصلية والتبعية

رقم المساق : ORLA 477

المتطلب السابق: CCLA 320

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بالحقوق العينية الأصلية والتبعية والتأنيفات الشخصية و خصائصها والتعريف بحق الملكية وعناصره ونطاقه والقيود القانونية والإرادية الواردة عليه، والملكية الشائعة، وأسباب كسب الملكية، والحقوق المتفرعة عن حق الملكية، والرهن التأميني (الرسمي) والحيازي من حيث أركانه وآثاره وانقضاؤه، وحقوق الامتياز العامة والخاصة.

اسم المساق : الأحوال الشخصية (فقه الزواج والطلاق)

رقم المساق : PALA 229

المتطلب السابق: IFLA 218

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق دراسة أحكام الزواج من حيث غايته والحكمة منه ومشروعيته وأساسه، وأحكام الخطبة والعدول عنها، أركان عقد الزواج وشروط انعقاده وصحته ونفاذه ولزومه، أقسام الزواج والآثار المترتبة على كل منها، والطلاق ومشروعيته وحكمته، أنواع الطلاق وصيغته وشروط المطلق والمطلقة، وآثار الطلاق، حقوق الأولاد، طرق النسب، الرضاع والحضانة، والولاية.

اسم المساق : النظم السياسية والقانون الدستوري

رقم المساق : PCLA110

المتطلب السابق : لا يوجد

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق دراسة مفهوم النظم السياسة وتتطور الفكر السياسي، ونشأة فكرة الدولة وتعريفها وخصائصها وأركانها وأشكالها وتعريف الحكومة وأنواعها وسلطاتها، والفصل بين السلطات، ونظم الحكم، الديمقراطية وأنواعها، والتعريف بالقانون الدستوري ومصادره، وأنواع الدساتير وطرق إصدارها، والرقابة الدستورية وحقوق وحريات الأفراد، والنظام الدستوري في دولة الإمارات.

اسم المساق : قانون الاجراءات المدنية

رقم المساق : PCLA 306

المتطلب السابق : SULA 209

الساعات المعتمدة : 3 ساعات

يتناول هذا المساق التعريف بقانون الإجراءات المدنية، التنظيم القانوني للقضاء من حيث تشكيل المحاكم ودرجات التقاضي، رجال القضاء ومعاونيهم، قواعد الاختصاص، نظرية الدعوى، الأحكام القضائية وطرق الطعن فيها.

اسم المساق : مبادىء علم الاقتصاد

رقم المساق : PELA 219

المتطلب السابق : لايوجد

الساعات المعتمدة : 3 ساعات

يتناول هذا المساق التعريف بعلم الاقتصاد، النظم الاقتصادية: رأسمالي، اشتراكي، وإسلامي، العرض والطلب، المنافسة، والاحتكار، الدخل القومي، النقود والبنوك والاقتصاد الدولي.

اسم المساق : قانون الجزاء العام

رقم المساق : PGLA 225

المتطلب السابق : INLA 105

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بالقانون الجزائي وأهدافه، ودراسة النظرية العامة للجريمة من حيث تعريف الجريمة وأركانها وأنواعها، ومبدأ الشرعية وأسباب الإباحة وموانع المسؤولية الجنائية، والتعريف بالعقوبة وخصائصها، والتدابير الاحترازية وخصائصها، وأنواع العقوبات والتدابير الاحترازية، ومبدأ شرعية العقوبة، وتعدد الأوصاف والجرائم وانقضاء الجزاء الجنائي.

اسم المساق : قانون الجزاء الخاص (1)

رقم المساق : PPLA 328

المتطلب السابق: PGLA 225

الساعات المعتمدة: 2 ساعات

يتناول هذا المساق أنواع الجرائم وتقسيماتها ودراسة الجرائم الماسة بحق الإنسان في الحياة مثل جرائم القتل بأنواعه وظروفه المشددة والمخففة، والجرائم الماسة بحقه في سلامة بدنه مثل جرائم الضرب والجرح والاجهاض، والجرائم الماسة بالعرض مثل الاغتصاب وهتك العرض والأفعال المنافية للحياء العام وجريمة السب والقذف.

اسم المساق: قانون الجزاء الخاص (2)

رقم المساق: PPLA 329

المتطلب السابق: PPLA 328

الساعات المعتمدة: 2 ساعات

يتناول هذا المساق التعريف بالجرائم المضرة بالمصلحة العامة وخطورتها على المجتمع وأهم هذه الجرائم مثل الرشوة وجرائم العملة مثل التزييف والجنح الملحقة به وتزوير المحررات وأركانه وعقوبته واستعمال المحررات المزورة وجرائم الاعتداء على الأموال مثل السرقة بصورها المختلفة، وجرائم الاحتيال، وجريمة خيانة الأمانة والنصب.

اسم المساق: قانون الاجراءات الجزائية

رقم المساق : PPLA 450

المتطلب السابق: PPLA 329

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق الدعوى الجزائية من حيث أطرافها وإجراءاتها والأحكام الصادرة فيها. المركز القانوني للنيابة العامة واختصاصاتها وسلطاتها، حقوق والتزامات المتهم، جمع الاستدلالات والتحقيق الابتدائي، سلطات الضبط والتحقيق والتصرف في الدعوى، وتشكيل المحاكم الجزائية، وضمانات القضاء، والاختصاص القضائي ومعاييره وحدوده، وإجراءات المحاكمة الجزائية والإثبات الجزائي وطرق الطعن في الأحكام.

اسم المساق: أحكام الالتزام

رقم المساق : RCLA 310

المتطلب السابق : SULA 209

الساعات المعتمدة: 3 ساعات

يتضمن هذا المساق التعريف بالالتزام وخصائصه وأنواعه، تنفيذ الالتزام تنفيذا اختياريا عن طريق الوفاء ، او تنفيذا جبريا . كما يتناول المساق شرح وسائل حماية تنفيذ الالتزام عن طريق الدعاوى التي تكفل حق الدائن في الحفاظ على حقه (الدعوى غير المباشرة ، ودعوى الصورية , ودعوى عدم نفاذ التصرفات.)، وتعدد اطراف الالتزام: التضامن بين المدينين والتضامن بين الدائنين، وانتقال الالتزام وأوصاف الالتزام مثل الشرط والأصل، وأسباب انقضاء الالتزام عن طريق الإبراء واستحالة التنفيذ ومرور الزمن.

اسم المساق: المصادر الإرادية للألتزام

رقم المساق : SULA 203

المتطلب السابق: INLA 105

الساعات المعتمدة:3 ساعات

يتناول هذا المساق دراسة مفهوم الالتزام وأنواعه ونظرية العقد من حيث تعريف العقد وأركانه، التراضي، والإيجاب والقبول، وطرق التعبيير عن الإرادة، وعيوب الإرادة، والمحل والسبب، ونسبية أثر العقد، والقوة الملزمة للعقد، ونظرية الظروف الطارئة، والمسؤولية العقدية، ونظيرة الإرادة المنفردةINLA من حيث مفهومها وأحكامها.

اسم المساق: المصادر غير الإرادية للالتزام والاثبات

رقم المساق : SULA 209

المتطلب السابق: SULA 203

الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بالالتزام وأنواعه والأحكام العامة للمسؤولية التقصيرية، والمسؤولية عن الأفعال الشخصية وأركانها؛ الخطأ والضرر وعلاقة السببية والمسؤولية عن فعل الغير، مسؤولية المكلف بالرقابة ومسؤولية المتبوع عن أفعال تابعة، والمسؤولية عن فعل الحيوان وتهدم البناء والأشياء الخطرة، والفعل النافع وتطبيقاته مثل الإثراء بلا سبب ودفع غير المستحق، والقواعد العامة للإثبات، وطرق الإثبات المختلفة مثل الكتابة والتوقيع الالكتروني والشهادة، واليمين والإقرار.

اسم المساق: القانون البحري والجوي
رقم المساق : SWLA 440
المتطلب السابق: CCLA 330
الساعات المعتمدة: 3 ساعات

يتناول هذا المساق التعريف بالقانون البحري واهمية النشاط البحري والنظام القانوني للسفينة واشخاص الملاحة البحرية، وملكيتها، والحقوق العينية التي ترد عليها، وحجز السفينة، وأسباب ذلك، وكيفيته. وأحكام عقود استغلال السفينة مثل عقد إيجار السفينة ورهنها، والوضع القانوني للطائرة، وأشخاص الملاحة الجوية، والمسؤولية عن حوادث الطيران.

اسم المساق: دراسات قانونية باللغة الانجليزية
رقم المساق : TVLA 220
المتطلب السابق: ENLA 208
الساعات المعتمدة: 3 ساعات

يتناول هذا المساق اختيار بعض الموضوعات المناسبة لشرحها وتحليلها باللغة الانجليزية.

المساقات الإختيارية

اسم المساق: العقود الإدارية
رقم المساق : ACLA 290
المتطلب السابق: لايوجد
الساعات المعتمدة : 3 ساعات

يتناول هذا المساق دراسة القواعد والأحكام المتعلقة بالعقود الإدارية من حيث تعريف العقد الإداري ومعيار تمييزه وكيفية وشروط إبرامه وأنواع العقود الإدارية وأركان العقد الإداري وطرق وإجراءات التعاقد مع الإدارة وأساليب اختيار المتعاقد واختصاص القضاء الإداري في مجال العقود الإدارية والتحكيم في مجال العقود الإدارية وآثار العقد الإداري وانقضاء العقد الإداري.

اسم المساق : قانون حماية المستهلك
رقم المساق : CPLA 288
المتطلب السابق: لا يوجد
الساعات المعتمدة:3 ساعات

يتناول هذا المساق تعريف المستهلم ومبررات حمايته، ومدى كفاية القواعد العامة لحماية المستهلك مثل عقود الإذعان وخيار الرؤية، ومضمون القواعد الخاصة المقررة لحماية المستهلك خصوصا حقه في العدول عن العقد خروجا على القواعد العامة، وبطلان شرط الإعفاء من المسؤولية، والتزام المورد أو المنتج أو البائع بتبصير المشتري، وجزاء مخالفة هذه القواعد.

اسم المساق : الجوانب القانونية للتجارة الإلكترونية
رقم المساق :ECLA301
المتطلب السابق : لايوجد
الساعات المعتمدة:3 ساعات

يتناول هذا المساق دراسة أهمية التجارة الإلكترونية ودورها ومستقبلها وتحديد مفهومها وكيفية حمايتها، والتشفير وتحديد الهوية الرقمية، ووسائل الوفاء الإلكترونية، وضمان الحق في الخصوصية في ظل المعاملات الإلكترونية.

اسم المساق : قانون حماية البيئة
رقم المساق : EPLA285
المتطلب السابق: لا يوجد
الساعات المعتمدة:3 ساعات

يتناول هذا المساق دراسة ماهية قانون حماية البيئة، موضوعه، خصائصه وكيفية مواجهة مشكلات تلوث الهواء والماء والتربة ومواجهة أخطار المواد والنفايات الخطرة وإقامة المحميات الطبيعية ورعايتها، بالإضافة إلى التعرف على الجهات المحلية والدولية المختصة بهذه الأمور وقواعد المسؤولية المتعلقة بها.

اسم المساق: تاريخ النظم القانونية والإجتماعية
رقم المساق : HPLA150
المتطلب السابق: لا يوجد
الساعات المعتمدة : 3 ساعات

تناول هذا المساق دراسة تاريخ النظم القانونية والاجتماعية من خلال قسمين: الأول يتناول أصول القوانين ومراحل نشأتها والعوامل والوسائل الفنية التي أثرت في تطويرها على مدى العصور التاريخية المتعاقبة، مع بيان أهم وأشهر التشريعات والمدونات التي تمثل أصولا تاريخية للعديد من النظم والقواعد القانونية المستقرة في التشريعات المعاصرة بعد تطويرها، أما القسم الثاني فنتناول فيه دراسة نظم القانون العام والخاص في أهم شرائع الشرق القديم وهي شرائع بلاد بين النهرين ومصر الفرعونية، والجزيرة العربية قبل الإسلام، حيث يتم دراسة نظم الحكم والقضاء والجرائم والعقوبات في إطار نظم القانون العام، بالإضافة إلى نظم الزواج والأسرة والميراث والملكية والعقود والالتزامات في مختلف الشرائع محل الدراسة سالفة الذكر.

اسم المساق : التحكيم الداخلي والدولي
رقم المساق : JILA344
المتطلب السابق : لايوجد
الساعات المعتمدة:3 ساعات

يتناول المساق دراسة نظام التحكيم التجارى كوسيلة لحل المنازعات من حيث مفهومه وأهميته وأنواعه وطبيعته القانونية وتمييزه عن غيره من الأنظمة المشابهة، وبيان الأحكام القانونية لاتفاق التحكيم، وإجراءات خصومة التحكيم وشروطها وصدور الحكم فيها، وحالات بطلان حكم التحكيم، والطعن على حكم التحكيم وطرق تنفيذه.

اسم المساق: التشريعات الجزائية الخاصة
رقم المساق : PLLA 300
المتطلب السابق: لايوجد
الساعات المعتمدة : 3 ساعات

يختار أستاذ المساق موضوعا أو أكثر من الموضوعات التالية أو غيرها:

- o جرائم المخدرات.
- o جرائم غسل الأموال.
- o جرائم الأحداث.
- o جرائم المرور.
- o جرائم التهريب الجمركي.

اسم المساق : قانون الملكية الفكرية
رقم المساق: IRLA 280
المتطلب السابق : COLA 200
الساعات المعتمدة: 3 ساعات

يتناول هذا المساق دراسة التعريف بالملكية الفكرية وأهميتها، حقوق المؤلف من حيث مضمونها وصاحبها وطرق نقلها، وسائل حماية حقوق المؤلف والحقوق المجاورة، وطبيعة حق المؤلف، التنظيم القانوني للملكية الصناعية الواردة على ابتكارات جديدة مثل براءة الاختراع والواردة على علامات مميزة مثل العلامة التجارية من حيث شروط حمايتها ومضمون هذه الحماية والآثار المترتبة على ملكيتها وأثر اتفاقات ال GATT/ WTO/ TRIPS على ذلك



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ABU DHABI UNIVERSITY

ACADEMIC YEAR

2025-2026



Fall 2025-2026 Semester



Fall 2025-2026 Semester

JUNE 2025

EVENTS		WEEK
6 Jun	Fall Semster 2025-26 Internship Program Application Submission Deadline	
5 Jun	**Arafat Day ***	
6 - 8 Jun	**Eid Al Adha Holiday ***	
26 Jun	**Islamic New Year ***	

JUNE 2025

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JULY 2025

EVENTS		WEEK
3 Jul	Financial Aid/Scholarship Application for Returning / New Students for Fall 2025-26 Submission Begins	

JULY 2025

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22	23	24	25	26	27	28
29	30	31				

PUBLIC HOLIDAY
EXAMINATION DATES
FIRST/LAST DAY OF CREDIT CLASSES

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***** 09/06/2025 & 10/06/2025 are a makeup days for 12/06/2025 & 13/06/2025



Fall 2025-2026 Semester

AUGUST 2025

EVENTS	
1 Aug	Financial Aid /Scholarship Application for Returning Students for Fall 2025-26 Submission Deadline
11 Aug	Winter Term Internship Program Application Submission Begins
15 Aug	Financial Aid Application for New Prospective Students Fall 2025-26 Submission Deadline
19 - 22 Aug	Marhaba – Pre-Orientation weeks (UG) Freshmen
20 Aug	Deadline for Admission /Transfer Credit
22 Aug	Registration Deadline for Newly Admitted Students
22 Aug	Deadline of Submissions for Declaration/Change of Major Form
25 Aug	**First Day of Classes**
25 - 26 Aug	Welcome Back Days
25 - 29 Aug	Add / Drop Period with 100% Refund
29 Aug	Payment Deadline for Current and Newly Admitted Students

WEEK
1

AUGUST 2025

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Fall 2025-2026 Semester

SEPTEMBER 2025

EVENTS	
1 - 5 Sep	Course Withdrawal Period with 75% Refund
3 Sep	Freshman Orientation Program
4 Sep	**Birthday of Prophet Muhammad " Peace Be Upon Him"**
8 - 12 Sep	Course Withdrawal Period with 50% Refund**
18 Sep	Final Exam Schedule Release (PG: T-A)
16 Sep	Graduation Online Application Begins
19 Sep	Course Withdrawal Deadline for (PG: T-A) Students

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SEPTEMBER 2025

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29	30					

PUBLIC HOLIDAY
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FIRST/LAST DAY OF CREDIT CLASSES

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Fall 2025-2026 Semester



Fall 2025-2026 Semester

OCTOBER 2025

EVENTS	
6 Oct	Term A Postgraduate Last Day of Classes (make up Thursday Sep 4)
7 - 9 Oct	Term A Postgraduate Final Exams Week ***
10 Oct	Winter Term Internship Program Application Submission Deadline
10 Oct	Release of Mid-Semester Grades
11 Oct	Release of Final Grades for (PG: T-A) ***
13 Oct	Term B First Day of Classes for Postgraduate Students
13 Oct	Release of the Winter 2025-26 Term and Spring 2025-26 Semester Schedules
13 - 14 Oct	Add & Drop Period with 100% Refund (PG: T-B)
13 Oct	Grade Appeals Deadline for Spring 2024-25 Semester and Summer 2024-25 Term Final Grades ****
14 Oct	Deadline of Payment for (PG: T-B)
20 Oct	Advising and Early Registration Begins of Winter 2025-26 Term and Spring 2025-26 Semester
20 Oct	Spring Semester Internship Program Application Submission Begins
25 Oct	Final Exam Schedule Release
27 Oct	Graduation Online Application Deadline
31 Oct	Course Withdrawal Deadline (UG)

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OCTOBER 2025

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NOVEMBER 2025

EVENTS	
7 Nov	Course Withdrawal Deadline (PG: T-B) / Regular
14 Nov	Collection of Dean's list Certificate of Spring 2024-25 Semster
23 Nov	Last Day of Classes for Postgraduate Students
24 - 27 Nov	Final Exams Period for Postgraduate Students
24 Nov	Last Day of Classes for Undergraduate Students (make up Thursday Sep 4)
25 Nov - 8 Dec	Final Exams Period for Undergraduate Students

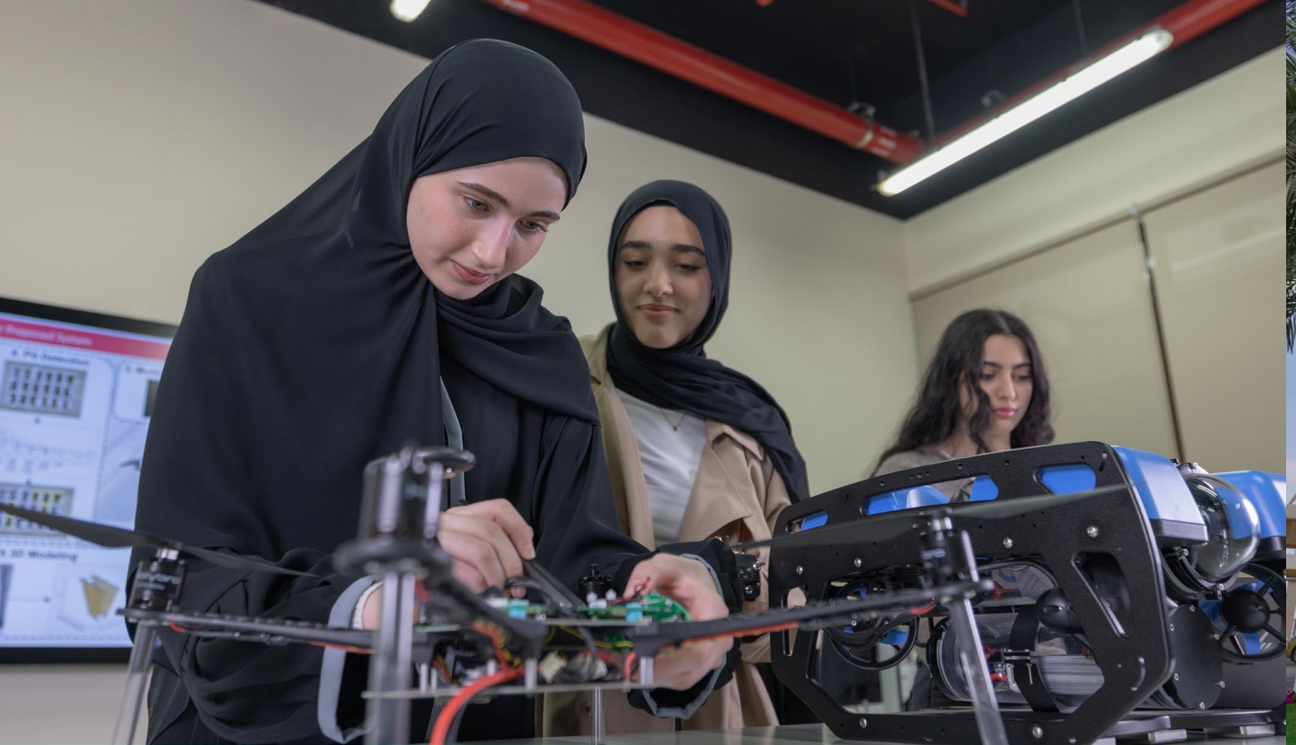
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NOVEMBER 2025

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PUBLIC HOLIDAY
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Fall 2025-2026 Semester

DECEMBER 2025

EVENTS		WEEK
2 - 3 Dec	**UAE National Day**	
8 - 9 Dec	Graduation Ceremony for Spring 2024-25 Semster and Summer 2024-25 Term Graduates *****	
9 Dec - 4 Jan	**Fall Break**	
10 Dec	Final Grades Released****	
12 Dec	Spring Semester Internship Program Application Submission Deadline	

DECEMBER 2025

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Winter 2025-2026 Term

DECEMBER 2025

EVENTS		WEEK
31 Dec - 2 Jan	Marhaba – Pre-Orientation weeks UG Freshmen	
31 Dec	Deadline of Admissions/Transfer Credit	

DECEMBER 2025

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
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Winter 2025-2026 Term

JANUARY 2026

EVENTS	
1 Jan	**Gregorian New Year**
2 Jan	Deadline of Submission for Declaration/Change of Major
2 Jan	Registration Deadline for Newly Admitted Students
5 Jan	**First Day of Classes**
5 - 6 Jan	Add/ Drop Period 100% Refund
6 Jan	Payment Deadline for Current and Newly Admitted Students
7 - 8 Jan	Course Withdrawal Period 75% Refund
9 Jan	Financial Aid/Scholarship Application for Returning / New Students for Spring 2025-26 Submission Begins
9 - 12 Jan	Course Withdrawal Period 50% Refund**
12 Jan	Summer Term Internship Program Application Submission Begins
19 Jan	Graduation Online Application Begins
26 Jan	Release of Mid-Term Grades
26 Jan	Final Exam Schedule Release

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JANUARY 2026

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Winter 2025-2026 Term

FEBRUARY 2026

EVENTS	
2 Feb	Graduation Online Application Deadline
2 Feb	Course Withdrawal Deadline
9 Feb	Financial Aid /Scholarship Application for Returning Students for Spring 2025-26 Submission Deadline
13 Feb	Financial Aid Application for New Prospective Students Spring 2025-26 Submission Deadline
15 Feb	**Last Day of Classes**
16 - 18 Feb	Final Exams Period***
17 - 20 Feb	Marhaba – Pre-Orientation weeks (UG) Freshmen
18 Feb	**First day of Ramadan***
20 Feb	Final Grades Released****

WEEK
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FEBRUARY 2026

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PUBLIC HOLIDAY
EXAMINATION DATES
FIRST/LAST DAY OF CREDIT CLASSES

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Spring 2025-2026



Spring 2025-2026

FEBRUARY 2026

EVENTS		WEEK
18 Feb	Admissions/Transfer Credit Deadline	
20 Feb	Deadline of Submissions for Declaration/Change of Major	
20 Feb	Registration Deadline for Newly Admitted Undergraduate Students	
23 Feb	**First Day of Classes**	
23 - 24 Feb	Welcome Back Days	
23 - 27 Feb	Add/Drop Period with 100% Refund	
27 Feb	Payment Deadline for Current and Newly Admitted Students	1

FEBRUARY 2026

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24	25	26	27	28		

MARCH 2026

EVENTS		WEEK
2 - 6 Mar	Course Withdrawal Period with 75 % Refund	2
4 Mar	Freshman Orientation Program	
9 - 13 Mar	Course Withdrawal Period with 50% Refund**	3
16 Mar	Graduation Online Application Begins	
19 Mar	Course Withdrawal Deadline for (PG: T-A) Students	4
20 Mar	Final Exam Schedule Release (PG: T-A)	
20 Mar	Summer Term Internship Program Application Submission Deadline	
20 - 22 Mar	**Eid Al Fitr Holiday***	
23 Mar - 3 Apr	**Spring Break**	

MARCH 2026

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31						

PUBLIC HOLIDAY
EXAMINATION DATES
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Spring 2025-2026



Spring 2025-2026

APRIL 2026

EVENTS		WEEK
20 Apr	Term A Postgraduate Last Day of Classes (make up Friday March 20)	
21 - 23 Apr	Term A Postgraduate Final Exams Week ***	5
20 Apr	Fall Semester 2025-26 Internship Program Application Submission Begins	6
25 Apr	Term A Postgaduate Final Grades Released****	7
24 Apr	Release of Mid-Semester Grades	8
27 Apr	Term B First Day of Classes for Postgraduate Students	
27 - 28 Apr	Students Add/Drop Period with 100% Refund (PG: T-B)	
27 Apr	Graduation Online Application Deadline	
27 Apr	Release of the Summer 2025-26 Term and Fall 2026-27 Semester Schedules	
27 Apr	Grade Appeals Deadline for Fall 2025-26 Semester and Winter 2025-26 Term Final Grades ****	
28 Apr	Term B Postgraduate Classes Payment Deadline	

APRIL 2026

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MAY 2026

EVENTS		WEEK
4 May	Advising and Early Registration for Students Begins of Summer 2025-26 Term and Fall 2026-27 Semester	
11 May	Final Exam Schedule Release	9
15 May	Course Withdrawal Deadline (UG)	10
22 May	Course Withdrawal Deadline (PG: T-B) / Regular	11
22 May	Collection of Dean's List Certificate of Fall 2025-26 Semester	
26 May	Arafat Day *	
27 - 29 May	Eid Al Adha Holiday *	

MAY 2026

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Spring 2025-2026



Summer Term 2025-2026

JUNE 2026

EVENTS		WEEK
1 - 2 Jun	Graduation Ceremony for Fall and Winter 2025-26 Graduates *****	12
5 Jun	Fall Semester 2026-27 Internship Program Application Submission Deadline	13
8 Jun	Make up day for Friday March 20	
12 Jun	**Last Day of Classes**	
13 - 25 Jun	**Final Exams Period*** **	
27 Jun	Final Grades Released****	
17 Jun	**Islamic New Year ***	

JUNE 2026

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	**12**	**13**	**14**
15	**16**	**17**	**18**	**19**	**20**	**21**
22	**23**	**24**	**25**	26	27	28
29	30					

JUNE 2026

EVENTS		WEEK
24 - 25 Jun	Marhaba – Pre-Orientation weeks (UG) Freshmen	
24 Jun	Deadline for Admissions/Transfer Credit	
26 Jun	Registration Deadline for Newly Admitted Students	
26 Jun	Deadline of Submission for Declaration/Change of Major	
29 Jun	**First Day of Classes**	
29 - 30 Jun	Add/ Drop Period 100% Refund	
30 Jun	Payment Deadline for Current and Newly Admitted Students	

JUNE 2026

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

PUBLIC HOLIDAY
EXAMINATION DATES
FIRST/LAST DAY OF CREDIT CLASSES

Notes:
* Subject to change based on the sighting of the moon.
** Tuition fee will not be refunded after this date.
*** Examination periods are inclusive of Saturdays but not Sundays.
**** Grade appeal deadline is one week prior to the early registration in the following regular semester.
***** 09/06/2025 & 10/06/2025 are a makeup days for 12/06/2025 & 13/06/2025

Abu Dhabi University | Undergraduate Catalog 2025 - 2026



Summer Term 2025-2026



Summer Term 2025-2026

JULY 2026

EVENTS	
1 - 2 Jul	Course Withdrawal Period 75% Refund
3 - 6 Jul	Course Withdrawal Period 50% Refund**
6 Jul	Financial Aid/Scholarship Application for Returning / New Students for Fall 2026-27 Submission Begins
13 Jul	Graduation Online Application Begins
20 Jul	Release of Mid-Term Grades
27 Jul	Graduation Online Application Deadline
27 Jul	Course Withdrawal Deadline

WEEK
1
2
3
4
5

JULY 2026

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

AUGUST 2026

EVENTS	
6 Aug	Financial Aid /Scholarship Application for Returning Students for Fall 2026-27 Submission Deadline
9 Aug	**Last Day of Classes**
10 Aug	**Final Exams Period *** **
14 Aug	Financial Aid/ Scholarship Application for New Prospective Students Fall 2026-27 Submission Deadline
15 Aug	Final Grades Released****

WEEK
6

AUGUST 2026

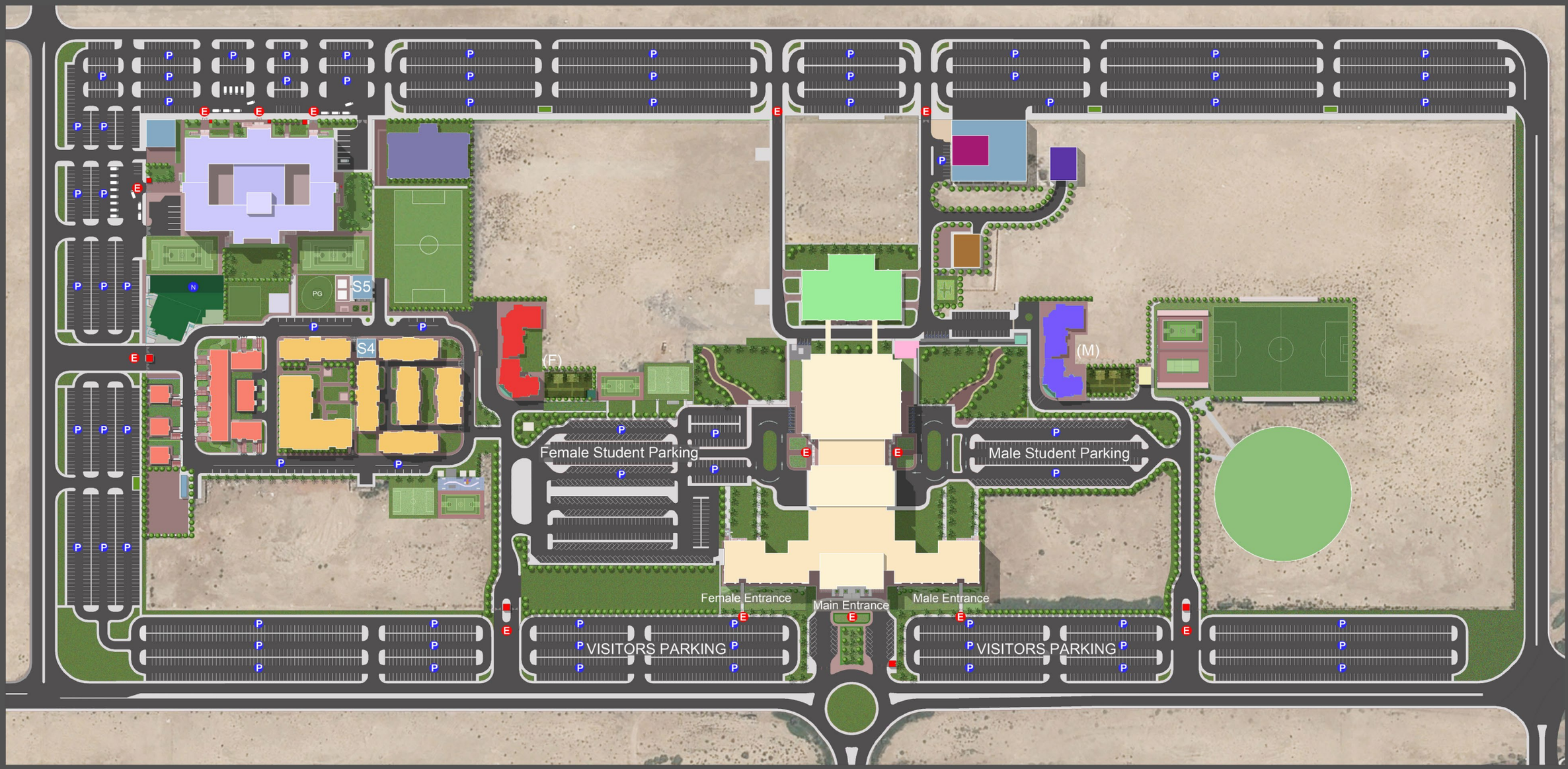
M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	**9**	**10**
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Fall 2026-2027 Semester

EVENTS	
24 Aug	**First Day of Classes**

- PUBLIC HOLIDAY
- EXAMINATION DATES
- FIRST/LAST DAY OF CREDIT CLASSES

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ADU BUILT UP AREAS OF ALL THE BUILDINGS AND OTHER DETAILS

- ADU MAIN EDUCATION BUILDING
- MAIN EDUCATION BUILDING EXTENSION
- BRITISH SCHOOL (BISAD)
- BISAD SPORTS CENTER
- FACILITIES MANAGEMENT OFFICES
- STUDENT NEW & OLD MALE ACCOMODATION
- STUDENT NEW & OLD FEMALE ACCOMODATION
- FACULTY/ STAFF ACCOMODATION
- EXECUTIVE & DEANS VILLAS
- MOSQUE & COMMUNITY CENTER
- SUBSTATION & SERVICES
- WAREHOUSE
- SPECIALIZED LABS BUILDINGS
- NEW CRICKET SPORTS FIELD
- N NURSERY
- GUARD
- E ENTRANCE
- P PARKING



ABU DHABI UNIVERSITY

CAMPUS SITE LAYOUT PLAN (CURRENT STATUS)

SACLE 1/1250

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