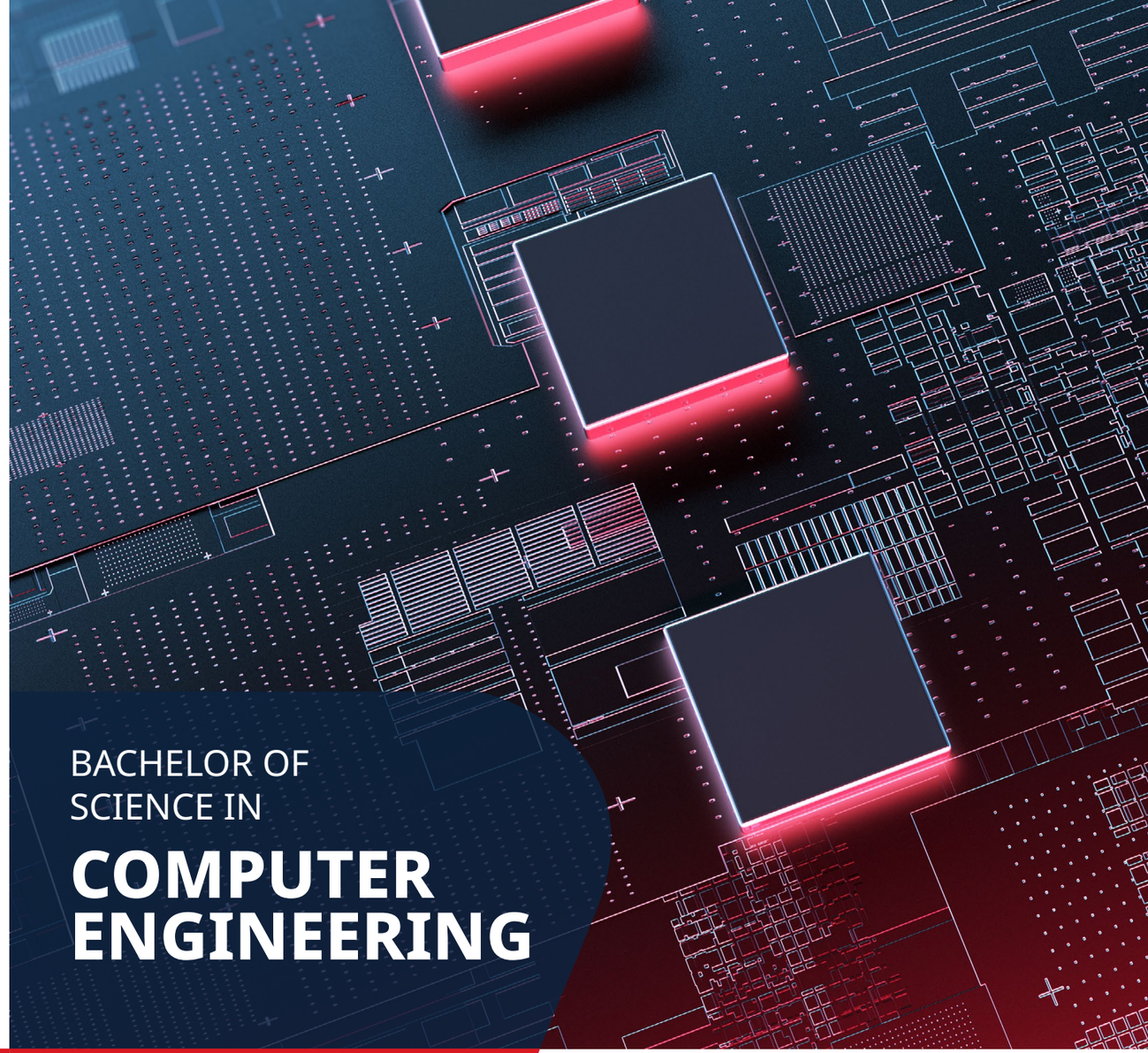
Curriculum

COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE
General Education Requirements: 21 Credit Hours					
ARL 101(A)	Communication Skills in Arabic I	ENG 200	English II	FWS 205	UAE and GCC Society
FWS 310	Fundamentals of Innovation & Entrepreneurship	ISL 100(A)	Islamic Culture	MTT 102	Calculus I
STT 100	General Statistics				
Degree Requirements: 35 Credit Hours					
ECS100	Introduction to Engineering and Computing	MTT 200	Calculus II	MTT 202	Discrete Structures and Applications
MTT 204	Introduction to Linear Algebra	MTT 205	Differential Equations	PHY 102	Physics & Engineering Applications I
PHY 102L	Physics & Engineering Applications I Lab	PHY 201	Physics & Engineering Applications II	PHY 201L	Physics & Engineering Applications II Lab
CSC 201	Computer Programming I	GEN 300	Numerical Methods	COE 101	Introductory Artificial Intelligence
COE 202	Engineering Ethics, Economy, and Law				
Major Requirements: 67 Credit Hours					
EEN210	Digital Circuits	EEN210L	Digital Circuits Lab	CSC305	Data Communications and Networks
CSC202	Computer Programming II	CSC202L	Programming Lab	CSC301	Data Structures and Algorithms
CEN330	Probability and Stochastic Processes	CEN201	Electric Circuits I	CEN320	Signals and Systems
CEN304	Electronic Devices and Circuits	CEN333	Cross-platform Mobile Application Develop.	CEN324	Digital and Analog Electronics
CEN325	Internet of Things: Foundations and Design	CSC308	Operating Systems	CEN464	Digital Signal Processing
CEN464L	Signal Processing Lab	CEN425	Internet of Things: Applications & Edge AI	CEN401L	Embedded and IoT Lab
EEN365	Control Systems	CEN466	Advanced Digital System Design	CEN455	Fund. of Sec. for Computer & Embedded Systems
CEN368	Computer Architecture and Organization	CEN454	Computer Vision and Image Processing	CEN399i	Internship in Computer Engineering I
CEN399ii	Internship in Computer Engineering II	CEN451	Computer Engineering Design Project I	CEN452	Computer Engineering Design Project II
Electives: 15 Credit Hours					
ME 1	Major Elective I	ME 2	Major Elective II	ME 3	Major Elective III
OE 1	Open Elective I	OE 2	Open Elective II		
Major Electives: 9 Credit Hours					
AIRE310	Machine Learning	AIRE410	Deep Learning	AIRE325	Edge AI
AIRE430	Generative AI	AIRE475	Self-Driving Cars	CSC302	Database Management Systems
CSC307	Web Design	CSC401	Software Engineering	ITE402	Computer Networks: Design & Implementation
ITE408	Information Security	CEN435	Low Power Operation of Embedded Systems	CEN445	Securing the Internet of Things
EEN220	Electric Circuits II	EEN337	Analog and Digital Communication		

- * 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 upon the recommendation and approval of the department chair.



BACHELOR OF SCIENCE IN

COMPUTER ENGINEERING

جامعة أبوظبي
Abu Dhabi University
College of Engineering

EUROPRACTICE · Networking Academy · ORACLE Academy · ABET Engineering Accreditation Commission

Program Overview

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 the ones found in thermostats or mobile phones and others are as large as the 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.

Abu Dhabi University is accredited by the Western Association of Schools and Colleges in the United States of America. Moreover, The BSc in Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s), and Similarly Named Engineering Programs.

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.

Student's Testimonial

Maha Yaghi - graduated from Abu Dhabi University with a BSc in Computer Engineering in 2019

Being in Abu Dhabi University Computer Engineering program has been a great experience. It has offered challenging courses, opportunities to communicate with the faculty and staff within the program, and it has introduced me to new skills that I will use throughout my future career. I currently work as a teaching assistant in the department and I am pursuing my Masters of Science degree in Electrical and Computer Engineering

Career Prospects

- Computer Engineers in high-tech telecommunication, oil companies, or the government
- Applications designers and developers in a wide range of companies and government institutions
- Hardware and smart systems designers and developers in high-tech companies
- Network Engineers who develop and manage secure network systems for businesses and organizations
- System configuration/testing/maintenance engineers in multinational companies
- Researcher in laboratories to design, build and test various types of computer systems
- System engineer who design and manage complex engineering systems such as robotics machinery and computer chips
- Security Analysts who manage the security of the organization computer networks, database, and information systems
- Consultants who plan, coordinate, and recommend software and system choices to meet the organization's business requirements
- Technical solutions account managers for high-tech contractors such as Google, Microsoft, Oracle, and Cisco