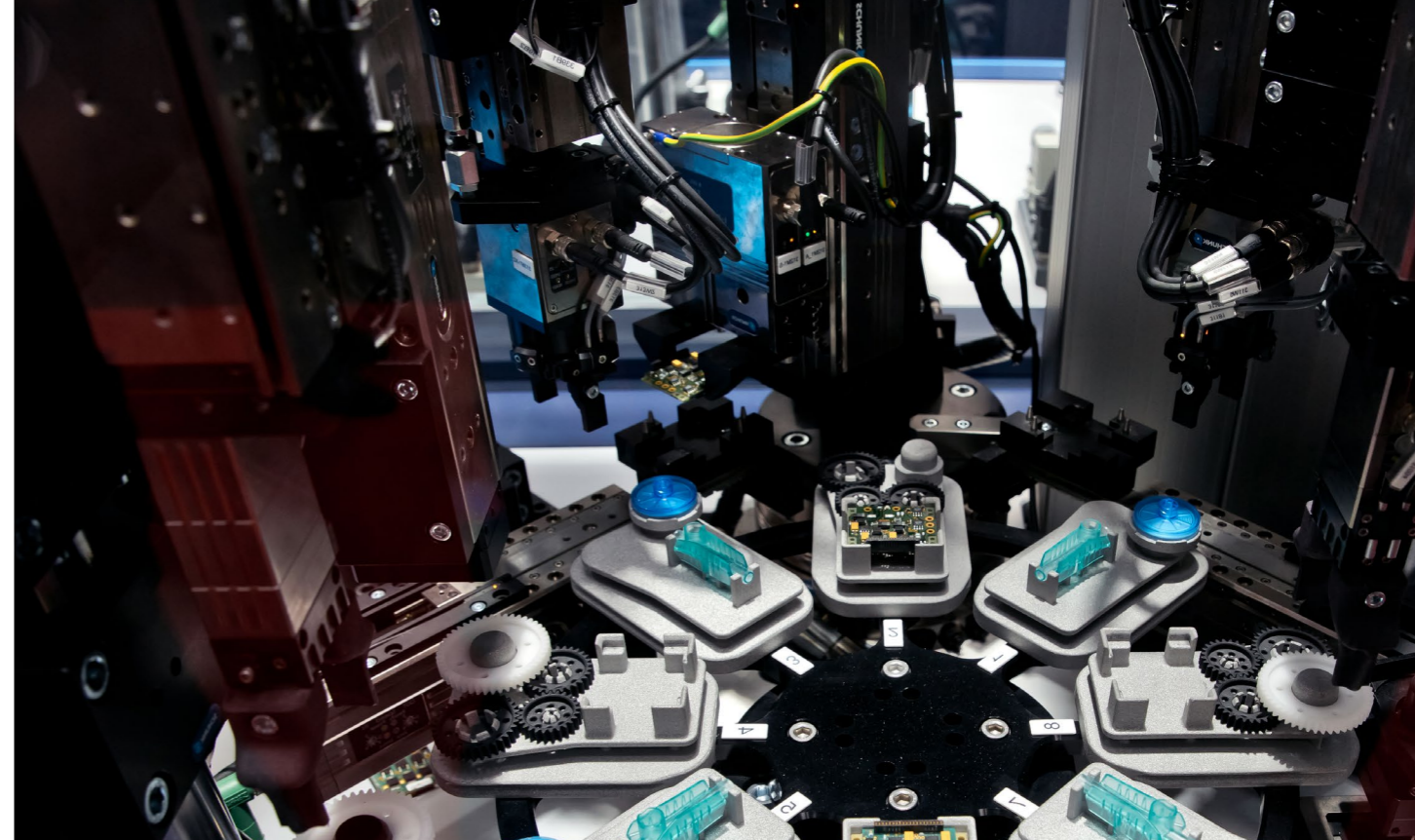


Curriculum

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 310	Fundamentals of Innovation & Entrepreneurship
ISL 100	Islamic Culture	MTT 102	Calculus 1	FWS 205	UAE and GCC Society
STT 100	General Statistics				
Degree Requirements: 38 Credit Hours					
MTT 200	Calculus II	MTT 201	Calculus III	MTT 204	Introduction to Linear Algebra
MTT 205	Differential Equations	PHY 102	Physics and Engineering Applications I	PHY 102 L	Physics and Engineering Applications I Lab
PHY 201	Physics and Engineering Applications II	PHY 201 L	Physics and Engineering Applications II Lab	CHE 205	General Chemistry I
CHE 201L	Chemistry Lab	MEC 130	Introduction to Mechanical & Industrial Engineering	CSC 201	Structured Programming
COE 102	Introductory Big Data Analytics	COE 101	Introductory Artificial Intelligence	COE 202	Engineering Ethics, Economy and Law
Major Requirements: 67 Credit Hours					
CIV 201	Statics	MEC 300	Materials Science	MEC 301	Manufacturing Processes
MEC 302	Mechanics of Materials	MEC 310	Dynamics	MEC 320	Thermodynamics I
MEC 321	Thermodynamics II	MEC 330	Computer Aided Drawing	MEC 340	Mechanical Engineering design
MEC 350	Fluid Mechanics	MEC 351	Fluid Mechanics Lab	MEC 390	Electromechanical Devices
MEC 410	Control Systems	MEC 411	Kinematics and Dynamics of Machinery	MEC 412	Dynamic and Control Systems lab
MEC 420	Heat Transfer	MEC 421	Thermal Engineering Lab	MEC 430	Machine Design
MEC 332	Design and manufacturing lab	MEC 398	Internship 1	MEC 399	Internship 2
MEC 463	Turbomachinery	MEC 465	Numerical & Finite Element Simulation of Eng. Problems	MEC 480	Mechanical Vibration
MEC 482	Introduction to Mechatronics	MEC 482	Introduction to Mechatronics	MEC 498	Capstone I
MEC 499	Capstone II				
Industrial Mechatronics Concentration Courses: 15 Credit Hours					
MEC 450	Hydraulic & Pneumatic systems	MEC 451	PLC and Industrial Automation	MEC 483	Mechatronics System Design
MEC 484	Artificial Intelligence in Mechatronics	MEC 485	DCS and SCADA		



BACHELOR OF SCIENCE IN **MECHANICAL ENGINEERING** INDUSTRIAL MECHATRONICS CONCENTRATION

Program Overview

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. Mechanical Engineering is a diverse field of engineering, in fact, it is the broadest of all engineering disciplines. Mechanical engineering is the branch of engineering that deals with the design, construction and operation of machinery and systems. 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, biomechanics, transportation on the ground, in the air, in and under water and in outer space – just to name a few from a long list of challenges facing our society. Cars and vehicles that we drive or ride on, airplanes that we fly in, ships, hovercrafts and submarines that we travel in and 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 ADU has been developed according to the international standards. This ensures that graduates of the program 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 through and 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.

Mechanical Engineering graduates with Industrial Mechatronics concentration will be equipped with knowledge and skills in industries application of Mechatronics systems as DCS, SCADA, Industrial robotics, PLC and industrial automation. We prepare our graduates to meet the industry expectation directly related to the fast expansion and growth in industrial automation and smart manufacturing systems. The Industrial Mechatronics concentration provides Mechanical Engineers with future needs of Industrial sectors to meet the requirements of Abu Dhabi Economic Vision 2030.



Student's Testimonial

Eng. Mohammed Alavi

Joining the Mechanical and Industrial Engineering department was always my dream due to my passion and interest in turbomachinery, automobiles, and mechatronics. I had accomplished my dream successfully when I graduated from Abu Dhabi University with Bachelor of Science in Mechanical Engineering. This great achievement wouldn't have been possible without the help of highly qualified faculty, their incredible teaching style, and support. The program at Abu Dhabi University with excellent quality of academic curriculum prepared me to excel my skills, knowledge, and developed me to work environment as well as to pursue higher studies. While studying at Abu Dhabi University, I also had the opportunity to participate on major research projects, and competitions held in the region. Moreover, I would like to highlight that the faculty members support, guide, and help in publishing the papers and project works in journals and conferences which I cannot see in other universities.



Career Prospects

Graduates of the Mechanical Engineering program have great job opportunities in the following places:

- Oil and gas industries
- Power generation and distribution industries
- Control, simulation and robotics industries
- Automotive industries
- Aerospace industries
- Manufacturing industries

