



### Contact details:

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# Mechanical Engineering

## Applications for Admission

Applications are accepted through the College of Engineering Advising Office.

## OVERVIEW

Mechanical and Aerospace Engineering Department at UAEU, one of the pioneering engineering institute in the country, offers undergraduate bachelor's degree, graduate master's degree leading to PhD. The undergraduate mechanical engineering program is accredited by the Engineering Accreditation Commission of ABET. ABET accreditation provides assurance that a College or University program meets the quality standards of the profession for which that program prepares graduates.

The Mechanical Engineering Department offers a major in Mechanical Engineering, but students can also choose to pursue, in parallel, a minor program in Aerospace Engineering. The ME major program requires completing 147 credit hours.

The Mechanical Engineering Department at UAEU has a talented faculty body who are experts in their fields. Also, the ME department provides state-of-the-art facilities to assist the high quality of teaching and research conducted by the department. The department's vision is to be recognized among internationally reputed programs in its class in research and education.

## MISSION

The mission of the Mechanical and Aerospace Engineering Department is to provide a leading national and internationally competitive undergraduate and graduate education, research, and service. Through a student-focused experience, the department prepares graduates to engage in leadership, innovation, and the enhancement of social and economic growth in the UAE.

## Department Activities:

The department offers a wide range of activities throughout the academic year including:

- ✓ Seminars and workshops
- ✓ Industrial Training
- ✓ Fields trips
- ✓ ASME UAEU chapter
- ✓ Robotic club
- ✓ Open day
- ✓ Exhibitions of graduation projects

## Department activities showcase:



# MAE Program Objectives

**The program objective is to generate well- educated and qualified graduates who are able to support, develop and expand the aerospace industry within the Untied Arab Emirates and the region**

Our graduates will be:

- ✓ Creative and self motivated engineers, able to mentor others and to achieve advancements in their areas.
- ✓ Qualified to achieve the goals of industry which will be recognized through the periodic promotions, leadership, reputation and additional responsibilities.
- ✓ Expected to disseminate and implement codes of ethics and professional practice guidelines in resolving ethical dilemmas in their workshop.
- ✓ Possess the entrepreneurial abilities that qualify them to lead diverse and healthy economy and create a culture of innovation in their workplace.

# Program Learning Outcomes

**Upon successful completion of this program, students will be able to:**

- ✓ Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- ✓ 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.
- ✓ Communicate effectively with a range of audiences.
- ✓ 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.
- ✓ Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- ✓ Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusion.
- ✓ Acquire and apply new knowledge as needed, using appropriate learning strategies.

# STUDENTS TESTIMONIALS

“It's once in a lifetime experience to have the honor to study a major I've always had a passion for. Our university is one of the leading universities in the UAE in the field of engineering studies. What drove me to study mechanical engineering is how highly and well educated the instructors are in providing and teaching us the basis of engineering for our future. The variety of topics the major provides graduates highly educated students with high intelligence. Mechanical engineering is a major that includes all topics from basic math such as calculus to advanced courses such as heat engines and turbo-machinery's. I'm very proud to say that I'm graduating from this major with high level of excellence in mechanical field including understanding kinematics where we were taught how most basic machines and mechanisms work to different manufacturing techniques and technologies” ”

**Student name:** Asilah Khaleifa Almesmari  
**Academic year:** Fourth year.



“ This place makes me feel comfortable. Although it is a tough program; however, I enjoy studying it. It is the place where I can meet and communicate with experts and gain new skills and experience. Also, the students and engineers are supportive, and energetic. It is my pleasure to represent the mechanical engineering department by being the president of UAEU ASME Student Chapter ”

**Student name:** Abdulrahman Sulaiman  
**Academic year:** Senior year.



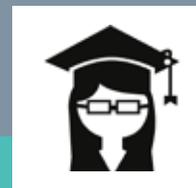
“ Before 4 years from that day I wasn't imagining that I gain these knowledge and skills. Mechanical engineering department was the best supporter for the students. My words can't represent my feelings, so thank you ”

**Student name:** Salem Ali Alefari  
**Academic year:** Third year.



“ From my childhood, I was always fascinated by machines and how they work and after joining The UAEU Department of Mechanical Engineering, I have had the honor to study under top instructors on the leading edge in their respected fields, and had access to plenty of resources, which allowed me to gain a lot of skills to solve engineering problems. I have now a renewed admiration and passion for the mechanical engineering field ”

**Student name:** Shimwa Muhire Beni  
**Academic year:** Third year.



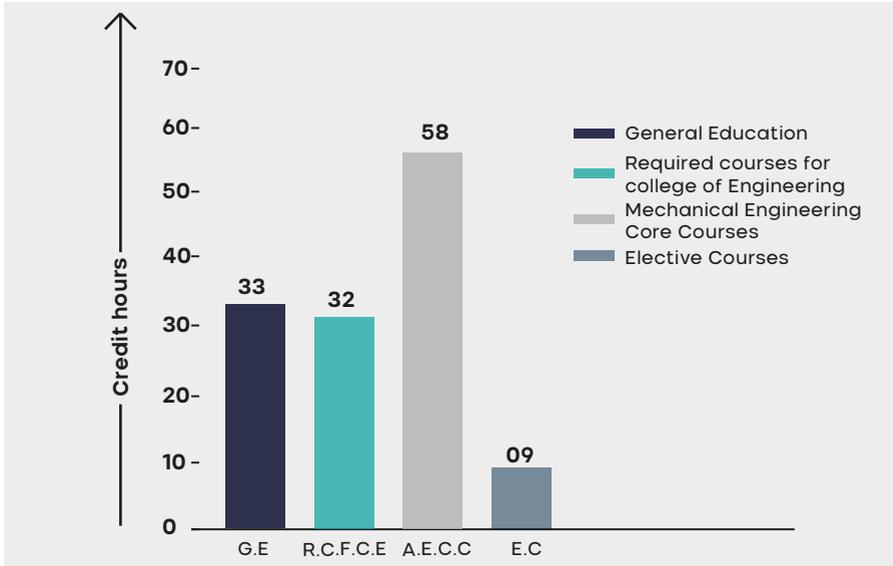
“ Whenever someone asks me what do I study I proudly answer that I'm a mechanical engineering student at UAEU, being a student in this department allowed me to gain skills and strength which I've never thought I can do, they've facilitated each step on my education path and I would like thank all of our doctors who have been always there for their students ”

**Student name:** Mohamed H. Murad  
**Academic year:** Third year.



# Study Plans

At undergraduate level, the department offers a major in Engineering which requires completing 147 Credit hours based on the following:



## General Education

- Clusture-1:** Skills for future (15 credit hours)
- Clusture-2:** The human community (12 Credit hours)
- Clusture-3:** The natural world (6 credit hours)

## Required courses for college of Engineering

**Common courses required for all Engineering students such as** Eng. Ethics, Thermodynamics, Physics, computer programming....etc.

## Mechanical Engineering core courses

**Core courses required for the mechanical program such as** mechanics of materials, machine design, heat transfer, geometric modeling, introduction to CAM, kinematics design of machinery ....etc.

## Elective Courses

**Student must select 3 courses from the following elective baskets:**

- 1.Design and manufacturing
- 2.Thermo-fluids
- 3.Mechatronics and controls
- 4.Aerospace

# Research Areas

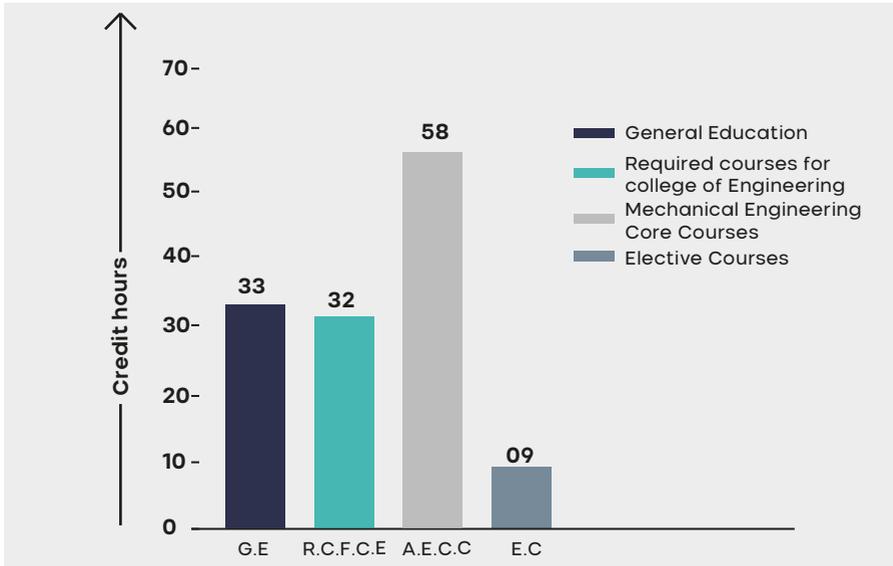
The Mechanical Engineering program has a wide range of research activities in the following areas:

Robotics, Control, Mechatronics, Dynamics, Vibration, Satellite Dynamics  
Renewable Energy, Aerodynamics, Fluid Mechanics, Heat Exchangers, Propulsion and Engines Automotive Design, Nanocomposites, Materials, Manufacturing Processes and Systems, Machine Design, Industrial Engineering



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