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Aerospace Engineering

Applications for Admission

Applications are accepted through the College of Engineering Advising Office.

OVERVIEW

The Mechanical and Aerospace Engineering Department (Aerospace program) is a multidisciplinary engineering theme aiming to graduate engineers with strong technical background in aerospace engineering and aviation industry while addressing the impact of the industry on the society, economy and environment. The program involves different aspects of aeronautics and astronautics. It emphasizes the following themes:

- ✓ Aerodynamics, fluid mechanics, air breathing propulsion, rocket propulsion, aeroelasticity and flight loads.
- ✓ Aircraft structures, materials and manufacturing
- ✓ Aircraft design, flight mechanics, flight performance, aircraft dynamics, stability and control.
- ✓ Space environment and missions, attitude control and telecommunications, orbital mechanics, spacecraft engineering design and integration, and spacecraft propulsion.

Aviation regulations and certification, aviation management, airport operation, aviation security awareness. The program's objective is to generate well-educated and qualified graduates who are able to support, develop and expand the aerospace industry within the United Arab Emirates and the region



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
- ✓ AIAA-UAEU International Student Branch

Department activities showcase:



Program Objectives

- ✓ Efficiently use state-of-the-art engineering tools and technical communications in different aspects of professional practices
- ✓ Develop their knowledge, creativity and leadership skills to cope with the rapidly evolving aerospace engineering technologies
- ✓ Be committed to ethical and professional standards and develop high level of awareness of social, economic, and environmental issues relevant to Aerospace Engineering Sciences.
- ✓ Efficiently design, manage, execute and/or evaluate aerospace engineering systems components to satisfy client/market needs per design specifications and/or requirements.

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 conclusions.
- ✓ Acquire and apply new knowledge as needed, using appropriate learning strategies.

STUDENTS TESTIMONIALS

“The university experience is one of the experiences that the student goes through, with all its academic and entertainment standards. It is also full of positive spirit and makes every student a creative person. UAEU is distinguished by its various corridors and colleges that allow students to have diversity and freedom of choice. On other hand there are major of crating which mechanical engineering. The Department of Mechanics is the department of creativity, development and movement in relation to the current life situation and it is the prerequisite for development in the earth and space. I suggest you join and be part of Mechanical Engineering family. Together for the future ... at the future university.”



Student name: Samira Mohammed Alhameli
Academic year: Fourth year.

“I'm grateful to be a student at the department of mechanical engineering. I'm a senior student and I can say it's the best college to be in. My college at UAEU is different from all other universities because it focuses not only on academics but also on the students' overall development. The Mechanical Engineering College has many opportunities for students to expand their technical knowledge and, more importantly, develop approaches to problem-solving and analysis that support future careers. The staff and faculty members are very passionate and show a genuine willingness to help students achieve their goals. My college days were the golden days of my life, and for the rest of my life, I shall remember them.”



Student name: Fatima Hamad Alkaabi
Academic year: Fourth year.

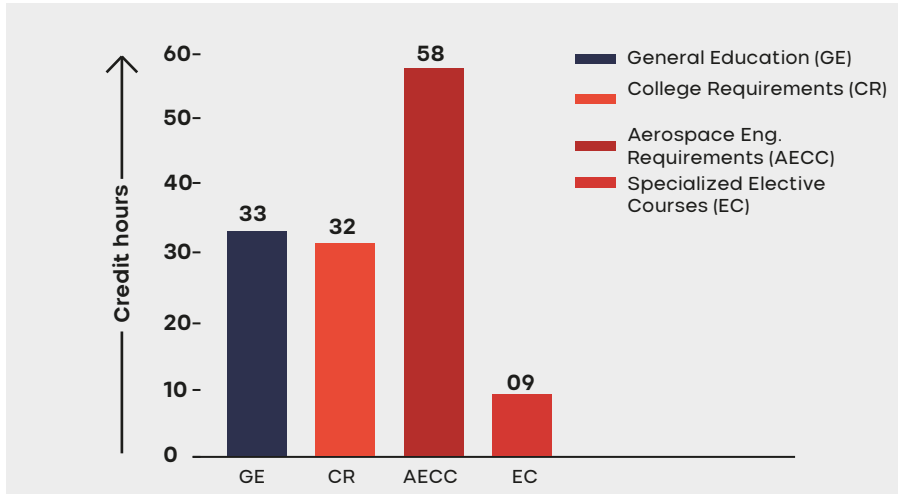
“Through my studies of mechanical engineering, I gained a lot of knowledge and improved my skills. I thank the department for their continuous support, which will be the reason for my success in my future career.”



Student name: Salim Abdallah Alblooshi
Senior student

Study Plans

At undergraduate level, the department offers a major in Aerospace Engineering which requires completing 132 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.

Aerospace Engineering core courses

Core courses required for the Aerospace program such as Dynamics, Aerospace laboratories, Aircraft propulsion, Aircraft design....etc.

Elective Courses

Student must select 3 courses from the following elective baskets:

- 1.Astronautics Electives Basket
- 2.Aviation Studies Electives Basket
- 3.Aerodynamics and Flight Mechanics Electives Basket
- 4.Aerospace Structures and Manufacturing Electives Basket
- 5.Space Science Electives Basket

Research Areas

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

- ✓ Aircraft Design, Flight Mechanics and Control
- ✓ Aerodynamics and Fluid Mechanics
- ✓ Aerospace Structures, Materials and Manufacturing
- ✓ Combustion, Rocket Propulsion, Electric Propulsion and Renewable Energy
- ✓ Space Systems Engineering, Spacecraft Design and Astroynamics
- ✓ Unmanned Aerial Vehicles

