Experience American Higher Education in the Gulf

American University of Sharjah, founded in 1997, is a not-for-profit, independent, coeducational institution of higher education formed on the American model. AUS integrates liberal studies and professional education to give its graduates both breadth and specialization. AUS is licensed and its programs are accredited by the Commission for Academic Accreditation of the Ministry of Education’s Higher Education Affairs Division in the United Arab Emirates. AUS is accredited in the United States of America by the Commission on Higher Education of the Middle States Association of Colleges and Schools (3624 Market Street, Philadelphia, PA 19104, USA, Tel +1 215 662 5606).

AUS admits students solely on the basis of their academic qualifications regardless of race, color, gender, religion, disabilities, age or national origin.

AUS offers 26 majors and 45 minors at the undergraduate level and 14 graduate programs through the College of Architecture, Art and Design; the College of Arts and Sciences; the College of Engineering; and the School of Business Administration.

The bachelor of science degree programs in chemical engineering, civil engineering, computer engineering, electrical engineering and mechanical engineering offered by the College of Engineering are accredited by the Engineering Accreditation Commission of ABET, www. abet.org. The bachelor of science degree program in computer science offered by the College of Engineering is accredited by the Computing Accreditation Commission of ABET, www.abet.org. The bachelor of science program in industrial engineering is initially accredited by the UAE Ministry of Education’s Higher Education Affairs Division.

The College of Engineering blends the best North American educational methods with the best practices in the Middle East and Europe. AUS engineering graduates are prepared to face the future with solid technical, leadership and language skills. In addition to thoroughly preparing students for the profession, all programs also offer them a foundation for graduate study, research and development, and teaching.
Bachelor of Science in Chemical Engineering (BSChE)

Chemical engineers combine mathematics and advanced chemistry with engineering principles to develop, design and operate industrial processes for the manufacture of a host of products such as fuels, solvents, clean water, plastics, foods, medicine and cosmetics. A chemical engineer’s education permits the student to work in areas such as chemical process design, computer simulation, specialty chemicals, food processing, petroleum processing, polymers, pollution prevention and pharmaceuticals.

Bachelor of Science in Civil Engineering (BSCE)

Civil engineering is the art and science of creating the infrastructure of a modern civilized society. Civil engineers are involved in planning, designing, constructing and managing constructed facilities and natural environments. Civil engineers design buildings, bridges, roads and infrastructure systems, plan for adequate water resources and recycling of waste materials, and seek solutions to environmental problems. Computers are used extensively in all civil engineering disciplines. The AUS civil engineering program integrates science and technology with management and leadership skills to give students a broad background in the theory and practice of the profession. The opportunity to make significant contributions to the betterment of society is limitless for civil engineers.

Bachelor of Science in Computer Engineering (BScE)

Computer engineering is one of the fastest growing areas of all industries. It lies somewhere between computer science and electrical engineering, where software meets hardware. Computer engineers analyze, design, operate and manage complex digital hardware, computer networks and large-scale software systems. The AUS computer engineering program offers students breadth in engineering, the sciences, mathematics and the humanities, and depth in both software and hardware disciplines appropriate for a computer engineer.

Bachelor of Science in Computer Science (BSCS)

The aim of the computer science program is to graduate students who are highly effective in the expanding field of information technology. The program prepares students for careers as operating system designers, system programmers, software engineers, systems analysts, numerical analysts and theory of computation specialists. The program also teaches students to design and implement both systems and software projects.

Bachelor of Science in Electrical Engineering (BSEE)

Electrical engineers influence various sectors of society by analyzing, designing and implementing a wide range of systems. They have contributed to the design and development of the internet, mobile phones, high-performance computers, communications and navigation satellites, medical equipment, energy systems and robotics. Students in this program study the generation, transmission and distribution of power, operation and control of electrical machines; computer-based control systems; signal processing; modern digital and wireless communication systems; microwaves and nondestructive testing; and medical instrumentation.
Bachelor of Science in Industrial Engineering (BSIE)
Graduates of this program have the knowledge and skills necessary to function as professional engineers in a working environment where cost effectiveness, high productivity, continuous quality and reliability improvements, waste reduction, and efficient resource utilization are critical success factors. These skills help industrial engineering graduates build successful careers in several engineering professions, such as facility design and planning; production planning, scheduling and control; quality control; warehousing and inventory control; supply chain and logistics engineering; and maintenance engineering. Industrial engineers can also work in manufacturing and service-oriented organizations such as banks, health care, utilities and transportation services. They are able to immediately deliver significant business improvements and economic savings to their employers.

Bachelor of Science in Mechanical Engineering (BSME)
Mechanical engineering is one of diverse engineering fields. Mechanical engineers design, test and manufacture engines that power ground and aerospace vehicles. They also design and manage power plants and air conditioning systems. Mechanical engineers use computers extensively in their everyday operations; they develop computer control systems, design computer interfaces and construct intelligent machines and industrial robots. Because of their comprehensive training and education, mechanical engineers have many options for the future with endless opportunities and challenges.

Master of Science in Chemical Engineering (MSCHE)
This program prepares professionals in an environment that combines chemical engineering practice and technical research to contribute to the growing body of chemical engineering knowledge, research and development both regionally and internationally. Major research activities include, but are not limited to, petroleum processes, process control, transport phenomena, reactions and kinetics, materials and corrosion, as well as environmental and biochemical issues. It strengthens knowledge in the important topics of transport phenomena, thermodynamics, kinetics and reactor design, as well as mathematics.

Master of Science in Civil Engineering (MSCCE)
Students in this program gain in-depth knowledge of the subsidiary areas of civil engineering: structures, construction management, materials, geotechnical issues, environmental issues, transportation and water resources. This detailed, field-specific study of fundamental principles, design methodology and industry-standard planning and design tools helps students prepare to tackle more sophisticated engineering activities, such as planning, analysis, design and project administration. Engineers completing a graduate degree program are particularly well suited to work as designers and take an active role in advanced, highly-visible projects.

Master of Science in Computer Engineering (MSCoE)
Graduates of this program acquire solid technical, analytical and practical skills to handle major problems or assignments in the computing field. The program aims to bring together exciting new developments in the computing field with key issues in the design and implementation of information systems. It endeavors to strike a balance between the fast-growing knowledge in computing and the application of such technology and to prepare engineers for today’s sophisticated workforce.

Master of Science in Electrical Engineering (MSSEE)
This program prepares professionals in an environment that combines electrical engineering practice and technical research to contribute to the growing body of electrical engineering knowledge, research and development. It also prepares graduates to continue advanced studies towards the PhD in electrical engineering. The program has several disciplinary and research areas that cover a diverse range of topics including digital signal processing, communications, electromagnetics, microelectronics, biomedical engineering, power systems and high voltage engineering, power electronics and electric drives, and control systems.

Master of Science in Mechatronics Engineering (MMTR)
The MSMTR Program is designed to enhance skills needed to integrate multidisciplinary applications involving mechanical, electrical and computer engineering. The program focuses on unmanned autonomous vehicles, guidance, navigation and control, robotics, industrial automation and control systems. The curriculum is supported by the Mechatronics Research Center. The center is equipped with state-of-the-art tools to promote effective teamwork and hands-on training.

Master of Science in Electrical Engineering Systems Management (MSEEW)
The objective of the MSESM Program is to prepare graduate engineers in the Gulf region to lead the interdisciplinary technical and management aspects of engineering systems. This is accomplished by enhancing the engineer’s abilities and skills to build effective teams, to coordinate and lead major engineering projects and to make sound engineering decisions in the public and private sectors.

Master of Science in Electrical Engineering (MSSEE)
Students in this program will be prepared to assume a leadership role in technology transfer and research and development in their field of study. The program emphasizes basic as well as applied research and stresses the interdisciplinary nature of current and future technological challenges. Major research activities include, but are not limited to, energy systems, renewable energy, HVAC, biomaterials, advanced materials, manufacturing, computational mechanics and fluid dynamics, turbomachines, aerodynamics, dynamics and control.

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