

Aerospace Engineering

Provides undergraduate students with the necessary background for careers in the aeronautical and space related industries, as well as other engineering fields from the offshore industry to automobiles. Many students who have successfully completed the undergraduate curriculum have taken positions in NASA, the military, major aerospace corporations and a diverse group of other engineering and technology-intensive industries.

Others have gone on to graduate school in engineering, to business school or other graduate specialties. As part of the basic engineering coursework the curriculum emphasizes fluid mechanics, structural mechanics, system dynamics and control, and experimentation. More advanced classes focus on aerodynamics and propulsion, structural mechanics, flight mechanics and orbital mechanics, and flight control. Students in the undergraduate program can select one of two options, atmospheric flight or space flight.

Architectural Engineering

Curriculum offers training in the fundamentals of engineering with specializations in structural design, construction methods, environmental systems, or industrial design to meet the demands of the expanding building industry. Students completing the undergraduate program gain competence in the structural design of buildings.

Extensive technical requirements coupled with courses in the arts and sciences provide the architectural engineering graduate with a background suited for a career with contractors, manufacturers, government agencies, architectural firms and private consulting firms. The curriculum also serves as a foundation for graduate work in the areas of structural engineering, construction engineering and management and environmental systems.

Students in the undergraduate program can select from several options: structural engineering, construction engineering and project management, environmental systems for buildings, construction materials, and a dual program with the School of Architecture.

Biomedical Engineering

Application of engineering science and technology to problems in medicine and biology. The human body is the centerpiece of a biomedical engineering enterprise. It is the interface between engineering and the human.

Areas of application include medical devices, medical instrumentation, and research in medical physiology, materials, and pharmaceuticals. Biomedical engineers with undergraduate and graduate degrees apply principles of engineering to medical and health-related concerns. These engineers design artificial body parts from hearts to hips, use lasers to develop bloodless scalpels, adapt computers to do medical research and clinical practice, teach at the university level, design noninvasive methods of monitoring heart rates or ambulatory methods of kidney dialysis, and develop techniques for freezing white blood cells.

Chemical Engineering

Chemical engineers are responsible for developing and manufacturing new chemicals ranging from biodegradable plastics to man-made nerve fibers. They also design and operate highly sophisticated chemical plants.

The University of Texas' Chemical Engineering curriculum offers the undergraduate student specialized areas in process analysis and control, polymer engineering, electronic materials engineering, environmental engineering, process engineering, product engineering, biomedical engineering, and biotechnology engineering.

Completion of the chemical engineering curriculum affords the graduate the opportunity to pursue careers in specialty materials, fabrics, environmental protection, energy, biochemical engineering, health, transportation, microelectronics, and computer applications.

Civil Engineering

This discipline is most commonly associated with creating structurally sound dams, buildings, roads, and bridges. Civil engineers are also trained to create efficient housing in addition to safe water supplies, clean air, and managing hazardous wastes.

UT's Civil Engineering curriculum allows the undergraduate student to emphasize specific areas of civil engineering such as construction engineering and project management, environmental engineering, geotechnical engineering, structures, mechanics and materials, transportation, and water resources in addition to the basic engineering coursework.

Civil engineering graduates have the opportunity to pursue careers in planning, design and construction with government agencies, industry and private consulting firms, or attend graduate school in engineering, business, law or medicine.

Electrical and Computer Engineering

This program develops design and problem-solving skills to prepare students for present and future technology. Electrical/computer engineers design products ranging from large urban electrical power generators to tiny computer components. Specific areas of specialization include biomedical engineering, computer engineering, communication and control engineering, electromagnetic engineering, electronic materials and devices, management and production, and power systems and energy conversion.

The electrical engineering graduate will have an opportunity to pursue careers in computers, software, lasers and optics, telecommunications, electronic control systems, power systems, and biomedical engineering. Students completing the curriculum may also choose to pursue graduate studies in law, business, medicine, or electrical engineering.

Mechanical Engineering

This discipline is extremely broad in scope, encompassing the design and manufacture of rocket, jet and auto engines, conventional, nuclear and solarpower plants. As a result employment opportunities span the automotive, aerospace, energy, manufacturing, petrochemical and many other industries.

UT's Mechanical Engineering program offers undergraduate students a wide range of specialized areas of concentrated study in addition to the basic engineering coursework. The undergraduate student may choose any of the following technical area options in the curriculum: biomedical engineering, materials science and engineering, mechanical systems and design, nuclear engineering, operation research and industrial engineering, thermal/fluids systems, and general mechanical engineering.

Petroleum and Geosystems Engineering

Engineers in this area specialize in the safe and efficient production of oil and gas and other resources from the earth. This requires evaluating potential oil reservoirs, overseeing drilling activities, selecting and implementing recovery schemes, and designing surface collection and treatment facilities.