

# Undergraduate Program Overview

Engineering graduates design and implement products and systems which touch virtually every aspect of our lives. They are involved with telecommunications, computer systems, automobiles, aircraft and spacecraft, power plants, robotics, machinery of all types, medical equipment and prosthetics, home appliances, and manufacturing systems, to name a few. Many graduates continue their professional education by attending graduate school programs in engineering, law, medicine, or business. The three engineering programs build on a common core of basic sciences and mathematics, humanities and social sciences, and engineering sciences developed primarily in the first two years of study. Mathematics and basic sciences provide the technical foundation for the engineering curriculum.

The engineering sciences introduce basic areas of engineering and represent the bridge between the basic sciences and mathematics on which they build and the more advanced engineering applications and engineering design to which they lead. The humanities and social sciences component of the curriculum helps to prepare the student for the human and social influences on engineering applications and design, and for increased appreciation and fulfillment in the broader aspects of life and culture. Other requirements include courses that contribute to communication and computer skills, ethics, engineering economics, and additional electives.

Computer-aided design and laboratory experiences are vital program features. The Baylor engineering programs integrate design throughout the curriculum, with special emphasis in specific courses taken in the first freshmen semester, the first junior semester, and final senior semester, as well as in other courses in the program. Juniors take an engineering design course that teaches design methodology and the creative aspects of engineering. In addition, all students complete other courses with design content in their chosen major as well as a senior design course which emphasizes design of open-ended projects by multidisciplinary teams. These broadly based engineering programs prepare students for the complex and multidisciplinary problems that face our contemporary society. For well-prepared students, these programs can be completed in four years or four years plus one summer. The Electrical and Computer Engineering and Mechanical Engineering programs contain a twenty-one hour mathematics core which meets the course requirements for a

mathematics minor. Engineering majors by choice of electives may also complete a mathematics minor. The minor must be approved by the Department of Mathematics.

These programs are offered by a faculty that is dedicated to the education of undergraduate engineering students. To encourage and facilitate close student-faculty interaction, each student has a faculty advisor for academic and professional career guidance.