resources. For students who entered Texas Tech prior to June 1, 2012, a minimum 2.5 GPA is required for admission to the mechanical engineering upper-division degree program. Students entering Texas Tech after June 1, 2012, must have a minimum 2.75 GPA.

The academic standards required by the Whitacre College of Engineering and the Department of Mechanical Engineering are given in the introduction to the Whitacre College section of the catalog and summarized below. Exceptions to these standards are at the discretion of the dean of the Whitacre College of Engineering.

- A grade of C or better is required for all courses in an engineering degree plan.
- A grade of C or better must be achieved in all prerequisites before the subsequent course may be attempted.
- A minimum 2.5 GPA is required to maintain academic good standing and continued membership in the Whitacre College of Engineering.
- A full-time student must achieve a C or better in 18 credit hours of coursework in the degree plan in each 12-month period.
- An engineering course may be repeated only one time after a course drop, withdrawal, or failure to achieve a C or higher. A maximum of three engineering courses may be repeated.

Assessment. The department uses outcome assessments to monitor quality. All mechanical engineering students are required to take a comprehensive assessment examination during the senior year. The results of this examination and other assessment measures are used to evaluate the extent to which the program goals and student outcomes are met, for which actions are taken in an effort to continually improve the program. This examination is patterned after the national NCEES Fundamentals of Engineering (FE) examination.

Minors. B.S.M.E. students who are interested in obtaining a minor can do so through the application of the electives and dual credit towards the 18-hour minors requirement. The department encourages minors in the following areas: bioengineering, nuclear engineering, petroleum engineering, civil engineering, environmental engineering, computer science, geology, mathematics, and physics. For more detailed information on how to incorporate a minor into the mechanical engineering degree, contact the department advisor.

A minor in mechanical engineering consists of 18 or more hours of mechanical engineering coursework, including 6 credit hours of upper-division courses beyond any mechanical engineering or equivalent courses already required by the student’s home department.

Combined Bachelor’s–Master’s Degree Program. An accelerated program is available for outstanding students to pursue a combined B.S.M.E.–M.S.M.E. degree in five years. Students interested in this program while pursing a B.S.M.E. degree should inform their academic advisor during the first (fall) semester of the junior year, follow the suggested curriculum in the next (spring) semester, and apply before the beginning of the fourth year. Students admitted to the accelerated program may apply up to 9 graduate credit hours to the B.S.M.E. degree requirements.

Co-Op Program. Mechanical engineering students are encouraged to consider the Whitacre College of Engineering Co-op program. This normally involves three work assignments in industry for a cumulative duration of one year. These work assignments are normally completed prior to the start of the senior year. Each co-op experience earns 1 credit hour and, together, the three co-op experiences may be used to satisfy a 3-credit hour elective requirement.

Co-op students gain valuable real-world engineering experience that enhances the academic experience on campus and provides excellent preparation for a career in industry.

General Academic Requirements. Students are expected to follow the course sequence presented in the mechanical engineering curriculum table. Students whose high school courses do not include chemistry, physics, mathematics through analytical geometry, and at least two years of a foreign language will be required to take additional coursework during an adjusted first year of study. All students must earn a grade of C or better in all courses applied toward the mechanical engineering degree. The department rigorously enforces prerequisite requirements for all courses.

Course Descriptions

(To interpret course descriptions, see page 23.)

Mechanical Engineering (ME)

Undergraduate Courses

2115. Introduction to Programming Lab (1). Prerequisites: ENGR 1315, MATH 1352, PHYS 1408. Introduction to programming.