ENGR 300 Introduction to Engineering  1 Unit
Advisory: ENGR 102 or 103 and ENGRD 116 or ESLW 320 AND ESLW 320.
Course Transferable to UC/CSU
Hours: 18 hours LEC
This course is an introduction to the engineering and engineering technology professions and their place in industry. It includes an explanation of engineering and engineering technology options and curricula involved. The topics include an emphasis on problem-solving techniques used in engineering and engineering technology. This course is recommended for all entering engineering, engineering technology and design technology students.

ENGR 305 Basic Technical Drawing  3 Units
Advisory: ENGR 102 or 103 and ENGRD 116; or ESLW 320 and ESLW 320, or placement through the assessment process.
Course Transferable to CSU
Hours: 36 hours LEC; 72 hours LAB
This course introduces the graphical tools and instruments used to generate, analyze and interpret engineering drawings. This class is required for engineering students. Topics include lettering, geometric construction, or orthographic projection, auxiliary drawings, sectioning, and dimensioning.

ENGR 307 Industrial Materials Testing  3 Units
Prerequisite: MATH 100 with a grade of "C" or better.
Advisory: MATH 120.
Course Transferable to CSU
Hours: 54 hours LEC; 36 hours LAB
This course covers the basic properties of materials used in industry. The course emphasizes the practical use of the materials, but uses sufficient theory to understand these applications well. The course covers metals, concretes, plastics, ceramics, glasses, wood, and other composites. This course is primarily intended for design technology, engineering technicians and other technical students.

ENGR 310 Engineering Survey Measurements  4 Units
Prerequisite: MATH 330.
Advisory: ENGR 102 or 103, and ENGRD 116; or ESLW 320 and ESLW 320.
Course Transferable to UC/CSU
Hours: 54 hours LEC; 54 hours LAB
This course covers the basic fundamentals of surveying for engineers. Electronic surveying instruments are used in this course to develop the principles of measurement for distance, elevations and angles.
ENGR 420  Statics  3 Units
Prerequisite: MATH 401 and PHYS 410 with grades of “C” or better.
Advisory: ENGR 305 or DESGN 300, and MATH 410.
Course Transferable to UC/CSU
Hours: 54 hours LEC
This course covers the study of bodies in equilibrium with emphasis on force systems, structures, distributed loads, friction and virtual work. In this course, analytical rather than graphical methods of problem solving will be emphasized. (CAN ENGR 8)

ENGR 428  Engineering Mechanics  3 Units
Prerequisite: Physics 410 with a grade of “C” or better.
Course Transferable to UC/CSU
Hours: 54 hours LEC
This course covers the study of bodies in equilibrium with emphasis on structures and friction, including methods to calculate centroids and moments of inertia. It also includes the fundamental principles of kinematics and kinetics, and the study of motion and force analysis of particles and rigid bodies.

ENGR 430  Dynamics  3 Units
Prerequisite: ENGR 420 and MATH 402 with a grade of “C” or better.
Advisory: MATH 420; ENGWR 300 or ESLW 340.
Course Transferable to UC/CSU
Hours: 54 hours LEC
This course covers the basic fundamentals of dynamics for engineers. Topics include kinematics and kinetics of particles, systems of particles and rigid bodies; systems with fixed and rotating axes; and the equations of motion, energy and momentum.