Basic Engineering Courses

Courses

Graphic Fundamentals in Engineering Design: Fundamentals of multiview projections, auxiliaries, sections, pictorial drawings, dimensioning; introduction to CAD, decision process, and geographical information systems. [Common Course Number ENGR 1204]

**Department:** Basic Engineering

2 Credit Hours
4 Total Contact Hours
3 Lab Hours
1 Lecture Hours
0 Other Hours

BE 2303. Intro. to Mats. Sci. and Engr..
Introduction to Materials Science and Engineering: Introduction to properties of engineering materials and relationships to their structure, behavior, and processing; materials testing and measurement of properties. Selection of materials for engineering applications considering interrelationships between structure, properties, processing, and performance. [Common Course Number ENGR 2332]

**Department:** Basic Engineering

3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

**Prerequisite(s):** (CHEM 1305 w/C or better)

BE 2338. Mechanics II.
Mechanics II: A second course in Newtonian mechanics; dynamics (kinematics and kinetics) of particles and rigid bodies; work and energy; impulse and momentum. [Common Course Number ENGR 2302]

**Department:** Basic Engineering

3 Credit Hours
5 Total Contact Hours
3 Lab Hours
2 Lecture Hours
0 Other Hours

**Prerequisite(s):** (MATH 1312 w/C or better ) OR (MATH 2313 w/C or better ) OR (MATH 2326 w/C or better)

BE 2375. Intro. to Thermal-Fluid Sci..
Introduction to Thermal-Fluid Science: An introduction to the basic concepts of thermodynamics and fluid mechanics to include properties, property relationships, states and fields. Presentation of the basic equations of thermal-fluid science, continuity, first and second laws of thermodynamics and momentum. BE 2338 may be taken concurrently with BE 2375. [Common Course Number ENGR 2334]

**Department:** Basic Engineering

3 Credit Hours
5 Total Contact Hours
3 Lab Hours
2 Lecture Hours
0 Other Hours

**Prerequisite(s):** (BE 2338 w/C or better ) OR (MECH 2338 w/C or better)

BE 2377. Electrical Circuits and Motors.
Electrical Circuits and Motors: Principles of electrical circuits, generators, and motors. Introduction to electronics and introduction to microprocessors for data acquisition. [Common Course Number ENGR 2305]

**Department:** Basic Engineering

3 Credit Hours
5 Total Contact Hours
3 Lab Hours
2 Lecture Hours
0 Other Hours

**Prerequisite(s):** (PHYS 2421 w/C or better ) OR (PHYS 2411 w/C or better)
BE 2434. Mechanics I.
Mechanics I: A first course in Newtonian mechanics using vectors. Equilibrium of particles and rigid bodies, forces in space, centroids, moments of inertia, study of stress and strain; use of stress-load equations to determine the state of stress in specific structural elements; study of combined stresses. [Common Course Number ENGR 2301]

**Department:** Basic Engineering

**4 Credit Hours**

**6 Total Contact Hours**

- 3 Lab Hours
- 3 Lecture Hours
- 0 Other Hours

**Prerequisite(s):** (MATH 1411 w/C or better ) OR (MATH 1312 w/C or better ) OR (MATH 2313 w/C or better ) OR (MATH 2326 w/C or better ) OR (MATH 1411A w/C or better AND MATH 1411B w/C or better AND MATH 1411C w/C or better)