

ENGR

Courses

ENGR 111 Introduction to Engineering 1

3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course that introduces students to engineering disciplines, fundamentals, and problem-solving methods by completing introductory design projects. Topics include: developing skills in design, oral, and graphical communication; teamwork; using engineering tools such as Excel, CAD, and Rapid Prototyping; and understanding global issues related to engineering practice.

Prerequisites: MAT 096 and ENG 080, or appropriate placements

ENGR 112 Introduction to Engineering 2

3 Credits. 2 Lecture Hours. 2 Lab Hours.

A continuation of ENGR 111. Topics include: understanding multidisciplinary and societal impact of engineering design solutions; using creativity and innovation within engineering problem-solving methodologies; and building skills in communication and use of engineering tools including Excel, Python, Matlab, CAD, and Rapid Prototyping.

Prerequisites: ENGR 111

ENGR 200 Engineering Statics (Calculus Based)

3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on engineering fundamentals related to forces acting on rigid bodies in equilibrium. Topics include: geometric properties of structural shapes including center of gravity, centroids, moment of inertia, and radii of gyration; static friction forces; and 2-dimensional and 3-dimensional analysis of beams, trusses, and space frames.

Prerequisites: MAT 126 or MAT 152 or appropriate placement
Ohio Transfer Assurance Guide Approved

ENGR 220 Engineering Dynamics

4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on kinematic vector mechanics for engineering. Topics include: kinetics of particles and rigid bodies in linear and rotational motion; and techniques for computation including Newton's laws, work-energy, and impulse-momentum methods.

Prerequisites: PHY 201 and MAT 251 and ENGR 200