ENGINEERING (EGG)

EGG 1030 | Robotics Design
Lab Credit: 1

Focuses on the process of building an autonomous robot from the initial design to final evaluation. Includes design and building of the mechanical structure, electrical system as well as programming and integration of all systems to produce a fully functional autonomous robot capable of performing a series of proscribed tasks. Culminates with a detailed evaluation of both the robot and its performance.

EGG 1050 | Engineering Data Analysis
Lab Credit: 1

Focuses on the process of data analysis and presentation for scientists and engineers. Includes an introduction to coding, statistics, probability, data graphics, fitting, modeling, and communicating the data and results in written and oral formats.

Prerequisite: MAT 1340 or higher, with a grade of C or better

EGG 1051 | Experimental Design
Lab Credit: 2

Introduces the student to the design and construction of scientific and engineering experiments. Includes the entire life cycle of the experiment, from design, to construction, to analysis of data and communication of final results.

Prerequisite: MAT 1340 or higher, with a grade of C or better

EGG 1060 | Introduction to Engineering Computing
Lecture Credit: 4

Introduces techniques for designing, implementing, and testing computer programs in higher-level programming languages to solve problems common in engineering domains. This course uses elementary numerical methods, visualization, and tools from engineering.

Corequisite: MAT 2410 or higher

EGG 2011 | Engineering Mechanics I - Statics
Lecture Credit: 3

Focuses on the vector and calculus treatment of forces and force systems, including particle and rigid body force systems. Additional topics include moments, friction, structures, and section properties.

Prerequisite: MAT 2410 with a grade of C or better
Corequisite: PHY 2111

EGG 2012 | Engineering Mechanics II (Dynamics)
Lecture Credit: 3

Presents content in particle kinematics, including 2-D motion in x-y coordinates, normal tangential coordinates, and polar coordinates; rigid body kinematics, including relative velocities and relative accelerations; and rigid body kinetics, including the equation of motion, work and energy, linear impulse-momentum, and angular momentum.

Prerequisite: EGG 2011 with a grade of C or better

EGG 2020 | Thermodynamics
Lecture Credit: 3

Explores fundamental concepts and basic theory, including first and second laws of thermodynamics, thermodynamic functions, properties, states, cycles, pure substances, and chemical and phase equilibrium.

Prerequisite: PHY 2111 and MAT 2410 or higher with a grade of C or better

EGG 2030 | Mechanics of Solids
Lecture Credit: 3

Uses forces and torque to determine stress and strain on objects. This course includes bending moments, shear forces, deflection in beams, deformations in structural members, and stress transformation.

Prerequisite: EGG 2011 with a grade of C or better