

GENERAL ENGINEERING CORE (EGEN)

EGEN 101 - Intro to Eng Cal & Prob Solv. 3 Credits.

Offered autumn. Prereq. or coreq., M 151, or M 121 and M 122, or M 171 or M 172 or ALEX score of 5, or M03-Maplesoft Calculus score ≥ 15 . An introduction to engineering calculations, problem solving, and design. Students are taught to solve and present engineering problems on computers using spreadsheet and graphic software (AutoCAD). In addition, there will be discussions on engineering failures and engineering ethics.

EGEN 201 - Engineering Statics. 3 Credits.

Prereq., PHSX 215N, M 171; prereq., or coreq., M 172. Equilibrium of particles and rigid bodies; addition and resolution of forces, vector algebra, moments and couples, resultants and static equilibrium, equivalent force systems, centroids, center of gravity, free body method of analysis, two and three dimensional equilibrium, trusses, frames, friction, and method of virtual work.

EGEN 202 - Engineering Mechanics - Dynamics. 3 Credits.

Prereq., EGEN 201, M 172. Particle and rigid body kinematics and kinetics; rectilinear, curvilinear, and relative motion, equations of motion, work and energy, impulse and momentum, systems of particles, rotation, rotating axes, rigid body analysis, angular momentum, vibration, and time response.

EGEN 335 - Fluid Mechanics. 3 Credits.

Prereq., EGEN 201, M 311. An introduction to the basic concepts of fluid mechanics including the fundamental properties of fluids, fluid statics, kinematics of fluid motion, and similitude. The conservation of mass, energy, and momentum are introduced with applications to compressible and incompressible fluids. Laminar and turbulent boundary layers are introduced.