ENG - ENGINEERING

ENG 120 **3 credit hours (lecture: 2 | lab: 4)**
Engineering Graphics
Course covers scope of engineering graphics. Content includes lettering; geometric construction; sketching; multiview projections; auxiliary views and sections; shop processes; dimensioning; tolerancing; axonometric and oblique projections; fasteners; assembly drawings; descriptive geometry; graphs and computer-aided design. Three-dimensional Computer Aided Design (CAD) integrated throughout the course.
IAI Major: EGR 941
Instruction Type: In-Person | Online | Hybrid Fee: $30
Term Typically Offered: Fall | Spring

ENG 211 **3 credit hours (lecture: 3 | lab: 0)**
Analytical Mechanics (Statics)
Content includes particle statics, general principles and force vectors, rigid body equilibrium, moments of inertia, distributed forces and centroids, analysis of structures, virtual work, and friction.
Prerequisite: MAT 250 or concurrent enrollment.
Note: Instructor Approval Required for online course sections only.
IAI Major: EGR 942
Instruction Type: In-Person | Online | Hybrid
Term Typically Offered: Fall | Spring | Summer

ENG 212 **3 credit hours (lecture: 3 | lab: 0)**
Analytical Mechanics (Dynamics)
Course studies relation between forces acting on rigid bodies and the changes in motion produced. Content includes particle kinematics (rectilinear and curvilinear); Newton's laws; energy, work, and momentum methods; planar dynamics and rigid bodies; rigid body kinematics; impulse and momentum; and vibrations.
Prerequisite: ENG 211 and concurrent enrollment in MAT 251.
Note: Instructor Approval Required for online course sections only.
IAI Major: EGR 943
Instruction Type: In-Person | Online
Term Typically Offered: Fall | Spring | Summer

ENG 217 **3 credit hours (lecture: 3 | lab: 0)**
Strength of Materials
Course covers principles of strength. Content includes stress and strain; torsion, shear and bending moments diagrams; deflection of beams; combined loading; welded, bolted and riveted connections; and columns.
Prerequisite: ENG 211.
IAI Major: EGR 945
Instruction Type: In-Person | Online | Hybrid
Term Typically Offered: Fall | Spring | Summer

ENG 220 **4 credit hours (lecture: 3 | lab: 2)**
Engineering Circuit Analysis
Course introduces scope of engineering circuit analysis. Content includes circuit elements, resistive circuits, nodal and loop analysis; equivalence and superposition; capacitance and inductance; analysis of transient circuits; steady-state AC and power analysis. Lab work involves use of measuring equipment, and analysis of resulting data to compare actual and theoretical circuits. Intended for all engineering majors requiring linear circuit analysis with lab.
Prerequisite: MAT 252 and PHY 222.
IAI Major: EGR 931L
Instruction Type: In-Person | Online | Hybrid Fee: $30
Term Typically Offered: Spring | Summer

ENG 250 **4 credit hours (lecture: 3 | lab: 2)**
Introduction to Digital Systems
Course introduces computer engineering. Content includes representation of information; binary system; Boolean algebra; switching circuits, combinational switching circuits, and sequential switching circuits; macro-circuits; and wired and stored program processor concepts. Lab work required. Intended for transfer to electrical and computer engineering programs.
Prerequisite: MAT 250 or concurrent enrollment.
IAI Major: EGR 932L
Instruction Type: In-Person | Online | Hybrid Fee: $30
Term Typically Offered: Fall