## ENG 120  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*

**Delivery mode:** Face-to-Face | Hybrid | Online

### ENG 211  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*

**Delivery mode:** Face-to-Face | Hybrid | Online

### ENG 212  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*

**Delivery mode:** Face-to-Face | Online

### ENG 217  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*

**Delivery mode:** Face-to-Face | Hybrid | Online

### ENG 220  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*

**Delivery mode:** Face-to-Face | Hybrid | Online

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**ENG 250  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*

**Delivery mode:** Face-to-Face | Hybrid | Online

**Fee:** $30