

## Engineering Science (ENGS)

### **ENGS 1000 Introduction to Engineering**

**(TAG) 2 Credits**

*Prerequisite: MATH 1700 (can be taken concurrently) or higher.*

This course introduces students to the various career options that are available in the engineering and engineering technology fields. It also instructs students in various methods that can be used for solving complex engineering problems, including the calculation, interpretation and presentation of data. It introduces students to many basic pieces of equipment that they will use in future laboratory experiments. Finally, it discusses many of the ethical dilemmas that engineers face during their careers in the workplace.  
(3 contact hours: 1 lecture, 2 lab)

### **ENGS 2010 Statics**

**(TAG) 3 Credits**

*Prerequisite: MATH 2600 or equivalent.*

This course introduces students to the mechanics of forces and force systems, static equilibrium, forces in structures and machines, friction, centroids, moments of inertia, radii of gyration, and virtual work.  
(3 contact hours)

### **ENGS 2020 Dynamics**

**(TAG) 3 Credits**

*Prerequisite: ENGS 2010.*

This course introduces students to the motion of particles and rigid bodies subjected to unbalanced force systems; the kinematics of plane motion, relative motion, and Coriolis acceleration; the concepts of force, mass and acceleration; and work, energy, impulse and momentum.  
(3 contact hours)

### **ENGS 2820 Engineering Economic Cost Analysis**

**(TAG) 3 Credits**

*Prerequisite: MATH 1700 or higher.*

This course will introduce students to the methods that are routinely utilized to make economic decisions in real-world engineering problems. Topics include cash flow analysis, time value of money calculations, replacement decisions, depreciation schedules, economic analysis of engineering proposals, costing in engineering projects, and optimizing profitability.  
(3 contact hours: 3 clinical)