

# ENGINEERING (EGR) - ROCK COUNTY

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## Courses

### **EGR 105 ENGINEERING FUNDAMENTALS 3 Units**

This course is designed to equip engineering students with the necessary tools and background info to prepare them to be successful engineering students as well as a successful practicing engineer. Topics covered in this course include project management, team work, technical writing, working with data and using spreadsheets, creating presentations, engineering design, and a thorough understanding of the engineering profession.

PREREQ: MAT 105 OR CONCURRENT ENROLLMENT

### **EGR 110 ENGINEERING GRAPHICS WITH COMPUTER AIDED DRAFTING 3 Units**

An introductory course in engineering graphics focusing on graphical communication. Topics include descriptive geometry elements, visualization, engineering drawing techniques, orthographic projection, pictorial representation, auxiliary views, section views, and basic dimensioning. The course incorporates computer aided drafting (CAD) with engineering applications using 2-D drawing and 3-D modeling techniques.

### **EGR 201 STATICS 3 Units**

Principles of mechanics, force systems, equilibrium, structures, distributed forces, moments of inertia of areas, and friction. The course will serve the requirements of the several engineering curricula.

PREREQ: C OR BETTER IN MAT 221

### **EGR 202 DYNAMICS 3 Units**

Kinematics, force-mass-acceleration relations, work and energy, impulse and momentum, and moments of inertia of mass. This course will serve the requirements of the several engineering curricula.

PREREQ: (C- OR BETTER IN EGR 201) AND (C OR BETTER IN MAT 222)

### **EGR 203 MECHANICS OF MATERIALS 4 Units**

Stress and strain, torsion, bending of beams, compound stresses, principal stresses, deflection of beams, statically indeterminate members, columns, elastic buckling, fatigue, creep, impact, and concrete properties.

PREREQ: C OR BETTER IN EGR 201

### **EGR 282 ENGINEERING ECONOMICS 3 Units**

Economic and financial factors in the engineering environment that are considered in managerial decision making. Emphasizes the time value of money, present worth analysis, uniform series, rate of return, benefit cost ratios, depreciation, income taxes, inflation.

PREREQ: MAT 110 AND EGR 105

### **EGR 299 INDEPENDENT STUDY IN ENGINEERING *Repeatable* 1-3 Units**

Indp. study under the supervision of an instructor. The work may, for example, consist of advanced Lab investigation into a particular topic or library research & writing of a paper on some subject of interest.

PREREQ: CONSENT OF INSTRUCTOR