
Course Prefix:	EGR 190
Course Title:	Statics
Lecture Hours/Week:	3.0
Lab Hours/Week:	0.0
Credit Hours/Semester:	3.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

COURSE DESCRIPTION

This course is a study of the relationships of forces acting on rigid bodies at rest.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to perform the following:

Module 1

- Identify applications of Statics
- Define the fundamental terms used in Statics
- Describe the characteristics of a force
- Identify the units of a force
- Identify types and occurrence of forces
- Distinguish scalar quantities and vector quantities
- Identify types of force systems
- Calculate orthogonal concurrent forces including resultants and components of a force

Module 2

- Calculate the resultant of two concurrent forces
- Calculate the resultant of three or more concurrent forces
- Calculate the moment of a force
- Apply principles of Varignon's Theorem
- Calculate moment of a couple
- Calculate the resultant of non-concurrent force systems

Module 3

- Identify the conditions of equilibrium
- Construct free body diagrams
- Apply equilibrium equations to concurrent force systems
- Apply equilibrium equations to parallel force systems
- Apply equilibrium equations to non-concurrent force systems

Module 4

- Identify two-force members
- Identify types of trusses

- Analyze internal forces in truss members
- Calculate the forces in members of trusses using method of joints

Module 5

- Calculate the forces in members of trusses using method of sections
- Identify types of frames and machines
- Identify the forces in pin connected frames and machines

Module 6

- Define Friction Theory
- Define the coefficient of static friction
- Define angle of friction
- Apply theories and equations of static friction to selected topics

Module 7

- Define Center of Gravity
- Locate centroids and centroidal axes of a body
- Locate centroids and centroidal axes of composite areas
- Define Moment of Inertia
- Apply the transfer formula
- Calculate the moment of inertia to composite areas

MINIMAL STANDARDS / PERFORMANCE OBJECTIVES

Successful completion of the course requires the completion of each module with an average of 70 points. Grades will be calculated from all tests/projects and homework assignments.

COURSE REQUIREMENTS

Students are responsible for attaining the course competencies through completion of the following requirements:

Attendance

The college attendance policy, stated in the college handbook, will be honored.

Participation in Class Discussion

Assignments

Students are expected to complete all assignments and any supplementary exercises designated by the instructor.

Academic Honesty

York Technical College adheres to the SCTCS Student Code, approved by the State Board for Technical and Comprehensive Education on September 13, 2007. Copies of this code are available in the Library and from Student Services. ... Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action.

EVALUATION CRITERIA / GRADING

The grading scale follows:

A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

Evaluation Method

Successful completion of the course requires the completion of each module with an average of 70 points. Grades will be calculated from all tests/projects and homework assignments.

Tests and Quizzes (4 minimum)	60%
Comprehensive exam or project	20%
Homework	20%
Total	100%

ENTRY LEVEL SKILLS

It is recommended that the student be able to demonstrate the capability to solve problems using algebra (including solutions of quadratic equations and solutions of simultaneous linear equations), plane geometry, and basic trigonometry.

PREREQUISITES: MAT 111

CO- REQUISITES: None

Disability Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Office (SRO) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.