Tompkins Cortland Community College

Master Course Syllabus

Course Discipline and Number: ENSC 209 **Year: 2021-2022**
Course Title: Engineering Mechanics: Statics **Credit Hours: 3**

Attendance Policy: *To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. It is the responsibility of all instructors to distribute reasonable attendance policies in writing during the first week of class. Students are required to comply with the attendance policy set by each of their instructors. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors. See college catalog for more information.*

Services for Students with Disabilities: *It is the College's policy to provide, on an individual basis, appropriate academic adjustments for students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the Coordinator of Access and Equity Services, to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.*

Course Description

A study of classical static mechanics, including three dimensional vector resolution, equilibrium and freebody diagrams, centroids, friction, and moments of inertia. Prerequisites: MATH 202; PHSC 211; RDNG 116 if required by placement testing. 3 Cr. (3 Lec.) Fall semester.

Course Context/Audience

This course is the first part of a two-semester course in vector mechanics (Statics and Dynamics) for Engineering Science majors.

Basic Skills/Entry Level Expectations

Writing: W0 Course requires very limited or no writing.

Math: MC College level math skills – Course requires college level math skills. See course description for co-requisite and/or prerequisite requirement(s).

Reading: R4 Before taking this course, students must satisfactorily complete RDNG 116 or have assessment indicating that no reading course was required.

Course Goals

Students will learn to analyze and describe force systems on rigid bodies using two and three dimensional vectors, free body diagrams, and equilibrium methods.

Course Objectives/Topics

Objective/Topic	% Course
Vector resolution in two and three dimensions	20%
Particle equilibrium	20%
Vector representation of moments	10%
Rigid body equilibrium; Free-body diagrams	30%
Trusses and mechanisms	10%

Centroids and moments of inertia	10%

General Education Goals - Critical Thinking & Social/Global Awareness

CRITICAL THINKING OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
Students will be able to ➢ develop meaningful questions to address problems or issues. ➢ gather, interpret, and evaluate relevant sources of information. ➢ reach informed conclusions and solutions. ➢ consider analytically the viewpoints of self and others.	Not addressed
SOCIAL/GLOBAL AWARENESS OUTCOMES	**HOW DOES THE COURSE ADDRESS THE OUTCOMES** (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
➢ Students will begin to understand how their lives are shaped by the complex world in which they live. ➢ Students will understand that their actions have social, economic and environmental consequences.	Not addressed

Instructional Methods
The instructional format is three lecture/problem solving sessions per week.

Methods of Assessment/Evaluation

Method	% Course Grade
Quizzes and hourly exams	80%
Final exam	20%

Text(s)

Engineering Mechanics Statics and Dynamics, Hibbeler, Russell C., 12th, Edition, Prentice Hall.

Reviewed Spr 14

Bibliography
No resources specified

Other Learning Resources

Audiovisual No resources specified
Electronic No resources specified
Other No resources specified