

Montgomery County Community College
 EGT 203
 Applied Statics
 4-3-3

COURSE DESCRIPTION:

This course covers Newton's first law as applied to particles and rigid bodies. Topics include the study of elementary, analytical and practical applications of the principles and physical concepts of statics. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

REQUISITES:*Previous Course Requirements*

- EGT 190 Principles of Critical Thinking in Technology
- MAT 161 Precalculus I
- High school Physics or equivalent (PHY121)

Previous or Concurrent Course Requirements

- MAT 162 Precalculus II

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Solve the following types of engineering problems: a. Forces in a plane b. Forces in space c. Equilibrium of forces in two dimensions d. Equilibrium of forces in three dimensions e. Distributed forces in centroids and centers of gravity	Lecture Problem Sets Design of Experiments	Exams Homework Evaluation Design of Experiments Evaluation Final Project Presentation and Evaluation
2. Perform analysis of structures such as trusses, frames and machines.	Lecture Problem Sets Design of Experiments	Exams Homework Evaluation Design of Experiments Evaluation Final Project Presentation and Evaluation

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
3. Calculate forces in beams and cables.	Lecture Problem Sets Design of Experiments	Exams Homework Evaluation Design of Experiments Evaluation Final Project Presentation and Evaluation
4. Relate/calculate the effects of friction in real world problems.	Lecture Problem Sets Design of Experiments	Exams Homework Evaluation Design of Experiments Evaluation Final Project Presentation and Evaluation
5. Calculate the effects of distributed forces related to moments of inertia.	Lecture Problem Sets Design of Experiments	Exams Homework Evaluation Design of Experiments Evaluation Final Project Presentation and Evaluation

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:

1. Principles of Statics
2. Statics of Particles
3. Rigid Bodies in Three Dimensions
4. Centroids and Centers of Gravity
5. Analysis of Structures
6. Friction

LEARNING MATERIALS:

Textbook:

Beer, Ferdinand P. and Johnston, Jr., E. Russell. (2007). *Mechanics for Engineers: Statics* (5th ed.). McGraw Hill. ISBN 0-07-246478-X

Other learning materials may be required and made available directly to the student and/or via the College's Blackboard course management system.

COURSE APPROVAL:

Prepared by: H. Thomas Tucker, Jr. Date: 11/28/2004
Assistant Professor of Engineering

Revised by: William H. Brownlowe Date: 9/26/2013

VPAA/Provost or designee Compliance Verification: Date: 1/15/2014
Victoria L. Bastecki-Perez, Ed.D.

Revised by: Debbie Dalrymple Date: 12/17/2017

VPAA/Provost or designee Compliance Verification: Date: 1/9/2018



This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.