

Montgomery County Community College
 EGT 204
 Applied Dynamics
 4-3-3

COURSE DESCRIPTION:

This course covers topics on kinematics, work-energy equations and impulse-momentum theory as they apply to rigid bodies with emphasis on engineering situations. Students will also be introduced to vibration theory. 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 162 Precalculus II
- High School Physics or equivalent (PHY121)

Concurrent Course Requirements

None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Explain the kinematic behavior of particles.	Lecture Problem Sets Design of Experiments	Exams Design of Experiments Evaluation Final Project Presentation and Evaluation
2. Define and demonstrate the kinetic behavior of particles relative to work, energy, impulse, and momentum.	Lecture Problem Sets Design of Experiments	Exams Design of Experiments Evaluation Final Project Presentation and Evaluation
3. Explain the kinetic behavior of rigid bodies.	Lecture Problem Sets Design of Experiments	Exams Design of Experiments Evaluation Final Project Presentation and Evaluation
4. Define and demonstrate the kinetic behavior of rigid bodies relative to work, energy, impulse, and momentum.	Lecture Problem Sets Design of Experiments	Exams 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. Kinematics of Particles
2. Kinetics of Particles: Newton's Second Law
3. Kinetics of Particles: Work and Energy
4. Kinetics of Particles: Impulse and Momentum
5. Kinematics of Rigid Bodies
6. Kinetics of Particles: Newton's Second Law
7. Kinetics of Particles: Work and Energy
8. Kinetics of Particles: Impulse and Momentum

LEARNING MATERIALS:

Textbook:

Beer, Ferdinand P. and Johnston, Jr., E. Russell. *Mechanics for Engineers: Dynamics* (5th ed.).(2007) McGraw Hill. ISBN 978-0072464771

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

COURSE APPROVAL:

Prepared by: H. Thomas Tucker, Jr. Assistant Professor, Engineering Technology	Date: 11/28/2004
Revised by: William H. Brownlowe Associate Professor of Engineering	Date: 9/26/2013
VPAA/Provost or designee Compliance Verification: Victoria L. Bastecki-Perez, Ed.D.	Date: 1/15/2014
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.