

Montgomery County Community College
 EGT 212
 Applied Fluid Mechanics
 4-3-3

COURSE DESCRIPTION:

This course covers topics in fundamental fluid mechanics theory including fluid properties, static fluids, kinematics of fluids, and the general energy equation. Applied topics include power requirements of hydraulic and turbo machinery, steady incompressible flow in pressure conduits and flow measurements. 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
- PHY 121 - General Physics I
- PHY 122 - General Physics II, or equivalent

Concurrent Course Requirements

None

Upon successful completion of this course, the student will be able to:

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
1. Demonstrate a complete understanding of the basic principles of real life problems.	Lecture Group Problem Solving Activities Design of Experiments	Exams Problem Sets Review Design of Experiments Review
2. Use logical and methodical problem solving techniques.	Lecture Group Problem Solving Activities Design of Experiments	Exams Problem Sets Review Design of Experiments Review
3. Discuss how approaches in fluid mechanics can be used in electromechanical engineering, mechanical engineering, construction, architecture, industry, and manufacturing.	Lecture Group Problem Solving Activities Design of Experiments	Exams Problem Sets Review Design of Experiments Review

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. Properties of Fluids
2. Fluid Statics
3. Kinetics of Fluid Flow
4. Similitude and Dimensional Analysis
5. Steady Incompressible Flow in Pressure Conduits
6. Forces on Immersed Bodies and Steady Flow in Open Channels
7. Fluid Measurements

LEARNING MATERIALS:

Textbook:

Daugherty, Robert L., Franzini, Joseph B. and Finnemore, E. John. *Fluid Mechanics with Engineering Applications* (10th ed.).2002 McGraw Hill. ISBN: 0072432020

Engineering Labs
Computer Labs

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 of Engineering	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.