Fall 2015

ENME 3720

Pratik Sarker
University of New Orleans

ENME 3720−FLUID MECHANICS
Fall 2015

CREDIT HOURS : 03

CLASS HOURS : MoWeFr 9:00 am - 9:50 am in EN 320

INSTRUCTOR : Pratik Sarker
Office: EN 416, Phone: 5046387209, Email: psarker1@my.uno.edu

OFFICE HOURS : MoWe Fr 10:00 am – 12:00 pm

TEXT BOOK : White, F. M., Fluid Mechanics, 8th ed., McGraw Hill, 2015-16
(ISBN 978-0-07-339827-3)

REFERENCE : Munson, B. R., Young, D. F., and Okiishi, T. H., Fundamentals of Fluid Mechanics, 8th ed., John Wiley & Sons, Inc., 2015-16 (ISBN: 978-1-118-84713-8)

PREREQUISITES : (MATH 2134 or MATH 2115), MATH 2221 and ENME 2750

GRADE POLICY : Homework 10%
Three Tests 60% (20% each)
Final 30%

NB: Homework is to be submitted in person and in the class by due date. Missing Homework will be counted as zero. Final grade will be curved based on the total cumulative points earned during the semester. The ranges of Grade points are as follows:

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

COURSE TOPICS

1. Fluid properties and dimensions
2. Pressure measurements, hydrostatics, buoyancy, and stability
3. Integral forms of conservation of mass, momentum, and energy
4. Differential analysis of fluid motion, fluid kinematics, Eulerian and Lagrangian flow description
5. Fluid dynamics, Bernoulli equation, and potential flow
6. Dimensional analysis and similitude
7. Pipe and duct flows including laminar and turbulent flows
8. External flows - lift and drag concepts
9. Tests

COURSE OUTCOMES

After successfully completing this course, students will:

1. be able to determine the control volume of an engineering problem and apply correct formulations to solve problems related to hydrostatics, fluid motions, internal and external flows, viscous flows, turbulence, drag, dimensional analysis and similitude.
2. be able to formulate engineering problems using conservation laws of mass, momentum, and

energy, and recognize that these fundamental laws are the same for other subjects that they have learned and for those that they will learn.

STUDENT CONDUCT & CLASS POLICIES

1. Students are not allowed to use cell phones by any means in the class.
2. Students must have internet access to www.uno.edu and Moodle and should check Moodle on a regular basis. They will be responsible for all email communications with the Instructor via their UNO email ID.
3. During the tests, calculators, books or notes are not allowed to be exchanged or shared. Using Laptops, I-Pad, Tablets or any e-book reading devices is prohibited during the tests. Only hard-copies of books or notes are allowed.
4. Copying other people's homework is strictly prohibited. If caught, both the copied and original work will be assigned a zero. Points will be deducted for the late submission of Homework.

ATTENDANCE POLICY

Attendance is mandatory. Those who miss the class without proper excuses are responsible for the negative consequences such as, deduction of points. Absence in a particular test will result in zero points.

ACADEMIC INTEGRITY & DISHONESTY POLICY

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at http://www.studentaffairs.uno.edu.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to http://www.ods.uno.edu.

TENTATIVE DATES

Test 1: Wednesday, September 16, 2015 (Class time)
Test 2: Wednesday, October 14, 2015 (Class time)
Test 3: Wednesday, November 18, 2015 (Class time)
Last day of Class: December 4, 2015
Final: Wednesday, December 9, 2015 (7:30 am-9:30 am, **can't be changed**)

Prepared by: Pratik Sarker **Date: Fall 2015**