

Syllabus
Fluid Mechanics (CE30460)
Spring 2013

Classes: MW 11:45-1:00 DeBartolo 118

Optional Tutorial Session: To be determined

Instructor: Dr. Diogo Bolster
Office: 120c Cushing Hall
Office phone: 574-631-0965
Email: dbolster@nd.edu

Office hours: 1-3 Mondays right after class. Also, whenever my door is open, except after 10:00 on class days

Teaching Assistants:
Nicole Sund (nsund@nd.edu)
Tomas Aquino (tdecampo@nd.edu)

Office hours to be announced

Course Webpage: http://www3.nd.edu/~bolster/Diogo_Bolster/Fluids.html

Textbook: Young, Munson, Okiishi and Huebsch, *A Brief Introduction to Fluid Mechanics*, 5th edition. Available at bookstore.

Textbook web site: <http://www.wiley.com> then search for the text and follow links. The inside of your front cover has an access code to register for the web site. If you bought the book used, the code will probably have expired and you will need to find some friendly person who will let you use their access code.

Course Description:

This is an introductory course in fluid mechanics aimed at Civil Engineering students. It concentrates on the fundamentals of fluid flow and forces, and will be followed next year by Hydraulics, which looks at somewhat more practical problems.

We will broadly speaking cover Chapters 1-8 of the textbook

Topics Covered:

- Introduction: What is Fluid Mechanics?
- Fluids at Rest
- Fluids in Motion: An Introduction
- Conservation of Mass
- Conservation of Momentum
- Simple Flow Problems

- Dimensional Analysis
- The Stream Function
- Potential Flows
- Flow in Pipes

Matlab: In this course, there will be some problems that are most easily solved in Matlab (although these will not be as complicated as in Dr. Westerink's course). Go to <http://oit.nd.edu/> and click on "Downloads" under the Software heading. Then login and follow the links to download. Should you wish to use some other programming and plotting software that you may be more familiar with you are welcome to do so.

Academic Code of Honor: Follow the code at all times. No cheating allowed. Students are encouraged to discuss homework problems with others in the class, but all work handed in must be your own, not copied from your classmates.

Student responsibilities: Do the work and keep up to date. Attend class. If you are not going to be able to make a class, let the instructor know beforehand.

Grading:

Homework: 15%

In class quizzes, participation and attendance: 10%

First midterm 20%

Second midterm 20%

Final exam 35%

Two Midterms for now are provisionally scheduled for

(i) Midterm 1: Wednesday February 27

(ii) Midterm 2: Wednesday April 3

The instructor reserves the right to change these dates should it be necessary. Advanced notice will be given should this occur.

Late Work: Homework assignments due on Wednesdays (or other date as indicated) at beginning of class. No assignments will be accepted after homeworks have been returned. Assignments handed in late but before assignments are returned will have a 10% penalty per day. If you are going to be late for a good reason, let the instructor know beforehand.

Notes: This syllabus is subject to change as events warrant.