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# ME 363 - Fluid Mechanics

Department of Mechanical Engineering
University of Wisconsin-Madison
Fall Semester 2007

**Office Hours**: 3:30-5:00 TW, 1:00-2:30 R, or by appointment.

**Textbook**: Fox, R.W, McDonald, A.T. and Pritchard, P.J., Introduction to Fluid Mechanics, 6th Edition, John Wiley and Sons, Inc., 2004.

**Homepage**: http://courses.engr.wisc.edu/ecow/get/me/363/ghandhi1/

**Objectives:** The objective of this course is to provide students with (1) An understanding of the basic principles governing fluid flows, recognizing that these principles are the same ones you have seen elsewhere. (2) The ability to solve simple problems by applying these principles and making appropriate assumptions. (3) An exposure to computer-based solutions of fluid dynamics problems. (4) The ability to use these skills to study several important applications in more depth, *e.g*. pipe flows, boundary layers, lift, and drag.

**Reading**: Reading assignments are listed on the syllabus. It is required that the reading assignments be done *prior* to class. It is important to come to class prepared! The goal of class time is to help fill in the details that the text can not present, including steps and assumptions of derivations that have importance. Not having a base understanding of the material will limit the value of these discussions.

**Homework**: Homework assignments (1 per week) will be announced in class and will be posted on the website. All homework **must be turned in within the first five minutes of class** (students will make a pile at the front of the classroom before class starts). Once this time is up, homework will no longer be accepted (if you are late to class, even if you have an excellent excuse like you just finished an exam in another class or had a family emergency, your homework will not be accepted). You can also turn homework assignments in well before class starts by placing them in the folder hanging outside my door. Homework will be collected from the folder up until 15 minutes before the start of class. Homework turned in to another location (my mailbox, under my door, etc.) will not be accepted. Homework solutions will be posted just as class begins and in many cases, will be reviewed in class. If you want to have a copy of your own homework for the in-class review, prepare a photocopy.

**Homework grading**: To compensate for the strict homework policy, your two lowest homework scores will be dropped. I strongly advise you to save these until the end of the semester, when things get very busy. I would still encourage you to put forth a full effort on all homework (even though two homework scores will not impact your final grade). After all, a big reason for doing the homework is to practice the material and prepare for the exams, which have a more significant impact on your final grade. The homework will be graded on both correctness and presentation. Failure to present your results in a concise manner will result in deductions.

**Hourly Exams**: There will be three in-class exams in addition to the final examination. The exams will contain some "concept questions" and some "problems". For each exam you will be allowed one 8.5"×11" sheet of paper (both sides) with whatever information you deem appropriate. Exams will be closed book. I will provide fluid property information (including any necessary charts) if needed on the exam. If you cannot make the scheduled exam period you must arrange an *earlier* time to take it.

**Final Exam**: The final exam is scheduled for Friday December 21, 2007 at 10:05 AM.

**Grading**: Your cumulative score will be calculated in the following manner:

| Homework | Hour Exams | Final Exam |
|---|---|---|
| 20% | 54% (3 @ 18% each) | 26% |

Your final grade will be determined using a fixed scale:

| 92-100 | 87-91 | 82-86 | 77-81 | 72-76 | 62-71 |
|---|---|---|---|---|---|
| A | AB | B | BC | C | D |