Course Syllabus

MEEG 341: Thermodynamics
Fall 2013, 3 credits

Class meeting: TR 3:30PM-4:45PM, Wolf Hall, Room 100
W 10:10-11:00 or 12:20-1:10, Colburn Lab, Room 102

Instructor: Dr. Heather Doty, 334 Spencer Lab (x2799, hdoty@udel.edu)
Office Hours: Wednesday 11:10-12:10 (between discussion sections)
Undergraduate TAs: Jessica Corson (jcorson@udel.edu) and Eric Mauer (emauer@udel.edu)
Graduate TA: Zach Adams (zadams@udel.edu)

Catalog description: Basic concepts of thermodynamics including properties of pure substances and gas mixtures, energy, entropy, and exergy. First and second law analysis of systems and control volumes. Applications to steady-flow devices and systems in power production, propulsion, and air conditioning.

Honors students will be asked to conduct research on contemporary issues and applications of thermodynamics and present an example of such to the class.

Course objectives: As a result of this course, I hope that you can better:
- understand concepts and basic tools used for treating thermodynamic systems;
- determine the thermodynamics principles and necessary property relations that underline specific problems and applications;
- establish criteria to assess the relative importance of available information in the solution of engineering problems in thermodynamics;
- apply thermodynamic reasoning and basic mathematics to applications in real world energy systems including power cycles, reverse cycles, air-conditioning systems;
- integrate computer tools and problem-solving skills into engineering practice.


Prerequisites: MATH351 or equivalent

Grading: Student performance will be measured using homework sets, unannounced in-class quizzes, and three exams. Each component will be weighed in the final grade as described below.

Homework: 20%
In-class Quizzes: 10%
Exam I: 20%
Exam II: 20%
Final Exam: 30%

Grading scale:
- 90-100: A
- 80-90: B
- 70-79: C
Assignments: Homework problems are due at the beginning of the class on the specified due date. Late homework will NOT be accepted. All homework assignments are posted in advance at the course website and you should obtain them online.

I believe that problem sets are the heart of an engineering course. I will teach you the relevant concepts and skills in class, but it takes practice to become proficient problem solvers. Problem sets can be difficult and I encourage you to consult with your classmates and work in groups. However, it is important that you understand how to solve the problems on your own. If you work with others on your homework, I encourage you to repeat the problems on your own.

Quizzes: Quizzes will take place in class and will not be announced in advance. Quizzes help me figure out what you know and don’t know before an exam. This is to your benefit because you’ll know what topics you should study harder and I’ll know where to focus during exam reviews. Quizzes are based 50% on attendance, which means that if you show up to take a quiz the lowest score you’ll receive is a 50. Quizzes are meant to test basic concepts and should not be difficult if you come to class regularly and do your homework.

Class attendance: Students are expected to attend all class meetings, to come to class on time, and to show proper behavior in the classroom. Any student who is found to be a distraction to the instructor or other students will be asked to leave the classroom.

Exams: Midterm exams will be given outside of class on October 2 and November 6. The final exam will be scheduled by the registrar. Exams are open book. Collaboration is not permitted on exams.

Office Hours: I will hold office hours between the two discussion sections on Wednesdays. Additionally, the undergraduate TAs will hold office hours to help with your homework.

Use of Sakai: I will rarely give handouts during class. All class materials will be posted on Sakai. Additionally, I would like to use Sakai as a forum for discussion about the course, including homework. This course is for you, the students, and I value your input. It is a large lecture course, but let’s make it as interactive as possible. We will use Sakai to determine which homework problems to concentrate on during discussions.

Academic honesty: You are responsible for making yourself aware of and understanding the University Policies (http://www.udel.edu/stuguide/11-12/code.html) that pertain to academic honesty. These policies cover plagiarism, fabrication, cheating, and academic misconduct. If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Judicial Affairs. You should consult with me if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test.

Other information for the course is posted and updated at the Sakai course site.