

ME 201.4 – Introduction to Thermal Science

MWF 9:05 - 9:55 p.m.

220 Hammond

Spring 2007

Instructor:

Darren Green

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Office: 337 Reber – Desk #48

Office Hours: 10:00p.m.-11:00p.m. Monday & Wednesday

4:00a.m. – 5:00a.m. Thursday

Prerequisite: CHEM 110

Text: *Thermal-Fluid Sciences*, Turns, Stephen, Cambridge University Press

Course Description: Application of the basic concepts of thermodynamics, fluid dynamics, and heat transfer for the solution of engineering problems.

Objectives:

- Develop an understanding of the importance of energy and thermal science within our society
- Develop an appreciation for the fundamental principles to solve and understand engineering problems and everyday phenomena
- Develop an appreciation for the role of experiment and empiricism as a bridge between incomplete theory and the need for information for engineering design
- Develop a rudimentary understanding of how various energy conversion devices and systems operate.
- Understand the relationship of thermal-fluid sciences to other engineering and non engineering disciplines

Homework: There will be a homework assignment each week and will be due by the beginning of class on Friday unless otherwise specified. Homework should be formatted in the following manner:

- a. Begin each problem on a new page, use both sides of the paper
- b. Clearly Specify –
 - i. **Known** – What is given to you?
 - ii. **Find** – What are you trying to determine?
 - iii. **Schematic** – Draw a picture or diagram (if applicable)
 - iv. **Assumptions** – What are you assuming to answer the problem?
 - v. **Analysis** – Solution to the problem
 - vi. **Comment** – What do you think about this problem and the solution, does it make sense?
- c. All writing should be neat and legible or points may be deducted
- d. **All pages must be stapled together.**

**** Homework assignments turned in on Monday will lose 10%, all assignments turned in after Monday will lose 35%, regardless of when they are turned in.**

Quizzes: Quizzes will be given periodically and will be the equivalent of one homework assignment.

Exams: Two midterm exams will be given during the semester and a final will be given at the end of the semester. The two mid term exams will be in class.

Grading:

Midterm Exams: 40% (20% each)
Homework & Quizzes: 30%
Final: 30%

All grade disputes for homework, quizzes or exams should be brought to the attention of the grader, TA, or instructor within one week of receiving the graded work.

Additional Course Information

All additional course information, such as homework assignments, homework solutions, and a copy of the course, syllabus will be posted on Angel:

<http://cms.psu.edu>

Academic Integrity

Academic honesty and integrity is expected of all students and will be strictly enforces. Information on the Universities policies can be found at:

<http://www.engr.psu.edu/currentstudents/acadinteg.asp>

Students may work together on homework assignments but are expected to complete their own work. All tests and quizzes will be completed by each individual student.

Course Syllabus:

