

ME 300 – ENGINEERING THERMODYNAMICS - SPRING 2014

Catalog

Description: ME 300 Engineering Thermodynamics. (IAI Course: ENGR 946) Study of the basic principles of thermodynamics. Engineering analysis of physical systems based on first and second laws. Properties of pure substance (ideal gas behavior, non-ideal gas behavior, and equations of state).

Prerequisites: MATH 250 and PHYS 205A,B.

Lecture: MWF 11:00 – 11:50 A.M. A 0111

Instructor: Dr. Tarig A. Hassan

Office: Engr B 116

Email: tarig@siu.edu

Phone: 618-453-7006

Office Hours: MW 9.00 a.m. to 10.00 a.m. (or by appointment).

Teaching

Assistant: Bradley Wrage, bwrage@siu.edu

Textbook: Fundamentals of Engineering Thermodynamics
M.J. Moran, H.M. Shapiro et al; John Wiley & sons, Inc., 7th Edition 2010
ISBN: 978-0-470-49590-2

Lecture Topics:

1. Basic concepts
2. Heat transfer, work, and First law in closed systems
3. Ideal Gas Law, property evaluation, compressibility factor, specific heats, and polytropic processes
4. First Law applied to control volumes
5. Second law
6. Entropy

Administration of the Course:

Attendance will be taken for the classes. Homework assignments are to be turned in at the beginning of class on due dates. Slipping your homework under my door or the TA's door or dropping it in the mailbox is unacceptable. For the Tests and Homework assignments, you should take note of the following:

- (a) Put name, date, course number and page number on every sheet and staple all pages together.
- (b) Use one side of the paper only.
- (c) Neat diagrams should be drawn as needed.
- (d) Show how you solved the problem by using text and descriptions throughout the steps in the solution.
- (e) Use appropriate units.
- (f) Highlight your final answer with a box or underline and give the appropriate units.

Academic dishonesty will not be tolerated. You are studying to enter a respected profession and the highest ethical standard is expected of you. Your work should be your own. For the homework assignments, you are encouraged to consult other students, the TA or the instructor if you run into problems. **Consulting is allowed but not copying.**

Also, your homework, tests, exams, reports etc are viewed as exercises in technical communication. Hence, correct procedure and effective presentations are important. As practicing engineers, your work will be read by other engineers. It should be easy to do so. The overall course grade will be based on scores obtained as shown below:

Homework/Assignments/quizzes	30%
Tests (3 tests)	50%
Final Examination	20%

There will be a 5% bonus for class attendance and participation. Any student who is absent from a class for **ANY** reason shall lose one attendance point. The same will be the case if the professor decides that a student is late enough not to benefit adequately from a class. The maximum loss in this bonus *attendance points* is of course 5%.

<u>GRADES:</u>	A	90 – 100%
	B	80 – Less than 90%
	C	70 – Less than 80%
	D	60 – Less than 70%
	F	Less than 60%

TEST SCHEDULE/DATES

Due dates for the homework and design problems will be given when they are assigned. Test dates to be determined.

Note: The Instructor reserves the right to make any necessary changes in this course program as the need arises.

SIUC EMERGENCY PROCEDURES

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Public Safety's website www.dps.siu.edu (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team (BERT) will provide assistance to your instructor in evacuating the building or sheltering within the facility.