

EMEC 320: THERMODYNAMICS I

Updated: June 27, 2012

CATALOG DATA: Spring, 3 cr.

Basic thermodynamic concepts, first and second laws, open and closed systems, properties of ideal and real substances, work, heat, irreversibility, and availability

CLASS SCHEDULE: M,W, F at 2:10 pm, ROBH 101

COURSE WEB SITE: D2L is used in this course for:

- Providing copies of all materials handed out in class.
- Homework assignments and solutions (available online after the assignment due date).
- Quiz and exam solutions.
- Providing student access to assignment scores and course grade.

TEXTBOOK:

Sonntag, R.E. and Borgnakke, C., *Fundamentals of Thermodynamics*, 7th ed., Wiley, ISBN 0-470-04192-7

INSTRUCTOR:

Dr. Sarah Codd, 201 Roberts Hall, 994-0000, sampleEmail@montana.edu

Office Hours: Every M, W after class. If emailing, put "ME 320" in the subject of the email.

LEARNING OUTCOMES:

Students will be able to:

- determine and understand the implications of the thermo-physical properties and states of a substance.
- apply the 1st and 2nd laws of thermodynamics to engineering problems involving closed and open systems.
- effectively apply and understand the relevance of thermodynamics in the practice of engineering.

PREREQUISITES: M 273 and EM 251.

GRADING:

Homework and Quizzes	10%
Mid-term Exam 1	10%
Mid-term Exam 2	25%
Mid-term Exam 3	25%
Final Exam	<u>30%</u>
TOTAL	100%

Homework: Textbook solutions will be available on D2L.

Quizzes:

- Scheduled Quizzes – CLOSED BOOK – annotated equation sheet allowed. Quiz will be held in first 10 minutes of class – be prompt!! The highest 10 scores will be used for your homework/quiz score.
- Absolutely no make-up quizzes.

Exams:

- Exam 1: in-class exam
- Exams 2 and 3: evening exams, 6:15pm, EPS 103, no regular class on day of exam
- Final Exam: comprehensive, see the published Final Exam Schedule for time and location

Notes:

- Textbook and annotated equation sheets are allowed during exams.
- An unexcused exam will be assigned 0 points. Official documentation will be required to support any excused absences from exams.

SPECIAL NEEDS INFORMATION:

Students with special needs or requiring special accommodations should contact the instructor and the Disabled Student Services Office at the earliest opportunity.

STUDENT CONDUCT:

Montana State University expects all students to conduct themselves as honest, responsible and law-abiding members of the academic community and to respect the rights of other students, members of the faculty and staff and the public to use, enjoy and participate in the University programs and facilities. For additional information reference see

www2.montana.edu/policy/student_conduct/student_conduct-code_2008-2009.htm

Collaboration:

University policy states that, unless otherwise specified, students may not collaborate on graded material. Any exceptions to this policy will be stated explicitly for individual assignments. If you have any questions about the limits of collaboration, you are expected to ask for clarification.

Plagiarism:

Paraphrasing or quoting another's work without citing the source is a form of academic misconduct. Even inadvertent or unintentional misuse or appropriation of another's work (such as relying heavily on source material that is not expressly acknowledged) is considered plagiarism. If you have any questions about using and citing sources, you are expected to ask for clarification.

Academic Misconduct:

Section 420 of the Student Conduct Code describes academic misconduct as including but not limited to plagiarism, cheating, multiple submissions, or facilitating others' misconduct. Possible sanctions for academic misconduct range from an oral reprimand to expulsion from the university.

Academic Expectations:

Section 310.00 in the MSU Conduct Guidelines states that students must:

- be prompt and regular in attending classes;
- be well prepared for classes;
- submit required assignments in a timely manner;
- take exams when scheduled;
- act in a respectful manner toward other students and the instructor and in a way that does not detract from the learning experience; and
- make and keep appointments when necessary to meet with the instructor.

In addition to the above items, students are expected to meet any additional course and behavioral standards as defined by the instructor.