CHME 501 – Intermediate Engineering Thermodynamics  
9:30 a.m. — 10:20 a.m. F, O’Donnell Hall 143  
Fall Semester 2015

Catalog Description:

Advanced applications of the first and second law to chemical process systems. The calculus of thermodynamics, equilibrium and stability criteria. Properties relationships for real fluids, both pure materials and mixtures. An introduction to molecular thermodynamics and statistical mechanics. Chemical Engineering graduate students must make B or better. Restricted to majors.

Textbook:


Topics Covered:

1. Review of classical thermodynamics (Laws of Thermodynamics, etc.)
2. Calculation of thermodynamic properties
3. Calculation of phase equilibria
4. Calculation of chemical equilibria
5. Introduction to statistical mechanics
6. Thermodynamic Properties of Phase Transitions

Class Schedule:  9:30 a.m. — 10:20 a.m. MWF, O’Donnell Hall 143

Final Exam:  8:00 a.m. – 10:00 a.m. December 7, 2015

Grading:

Exams and homework will be based on the problems at the end of each chapter, as well as supplementary material supplied in class. Questions on the problems will be answered at the beginning of each class. Exams will cover all material since the last examination.

The final examination will be two hours in length and will be comprehensive. The final examination is scheduled for Monday, December 7, 2015 from 8 a.m. to 10 a.m. Any student with a conflict must bring it immediately to the attention of Dr. Mitchell. No make-up final examination will be given.
Homework will be coordinated with lectures and will be due approximately one week after assignment. Additional homework drawn from reference material may be assigned. Late homework may be submitted for grading, but will be assigned the following penalties: 1 day late: 50% credit, 2 days late: 25% credit, 3 days late: 10% credit. If the homework is not turned in by 9:20 a.m. the date it is due, the 1 day late policy will be invoked. Twenty-four hours later the 2 day late policy will be invoked, etc. Homework can be turned in early if a student expects to be absent. The total of all homework will be 100 points. Note that, as a Chemical Engineering graduate student, you must pass the course with a B or better.

The total point accumulation and final grade distribution for this course will be as follows:

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
<th>Range</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams (3)</td>
<td>450</td>
<td>900—1000 Points</td>
<td>(90—100%)</td>
<td>A</td>
</tr>
<tr>
<td>Final</td>
<td>250</td>
<td>800—899.99 Points</td>
<td>(80—89%)</td>
<td>B</td>
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<tr>
<td>Homework</td>
<td>150</td>
<td>700—799.99 Points</td>
<td>(70—79%)</td>
<td>C</td>
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<tr>
<td>Quizzes</td>
<td>150</td>
<td>600—699.99 Points</td>
<td>(60—69%)</td>
<td>D</td>
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<tr>
<td>Total</td>
<td>1000</td>
<td>&lt;600.00 Points</td>
<td>(&lt; 60%)</td>
<td>F</td>
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**Attendance Policies:**

Attendance is very important. Quizzes will be given at the beginning of some class periods, and will serve both to test knowledge as well as to assess attendance. Attendance is required for all examinations. If a student arrives late for any examination or quiz, the student must complete the examination or quiz at the same scheduled time as all other students.

**Withdrawals:**

Students **will not** receive an automatic drop for persistent absences or persistent failure to complete assignments. The responsibility for withdrawals is completely up to the student.

**Student Accessibility Services**

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADAAA) covers issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact:

Trudy Luken, Director  
Student Accessibility Services (SAS) - Corbett Center Student Union, Rm. 208  
Phone: (575) 646-6840  
E-mail: sas@nmsu.edu  
Website: [http://sas.nmsu.edu/](http://sas.nmsu.edu/)

**Nondiscrimination and Title IX**

NMSU policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status.
Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on discrimination issues, Title IX, Campus SaVE Act, NMSU Policy Chapter 3.25, NMSU's complaint process, or to file a complaint contact:
Gerard Nevarez, Title IX Coordinator
Agustin Diaz, Title IX Deputy Coordinator
Office of Institutional Equity (OIE) - O'Loughlin House, 1130 University Avenue
Phone: (575) 646-3635 E-mail: equity@nmsu.edu
Website: [http://eeo.nmsu.edu/](http://eeo.nmsu.edu/)

**Common Syllabus Addendum:** This syllabus also contains the Department of Chemical Engineering, Common Syllabus Addendum, Fall 2015, that describes Attendance Policy, Student Accessibility Services, Misconduct, Re-grades, Student Work Products, Etiquette, Video Surveillance, and Intervention. This Common Syllabus Addendum can be found at [http://chme.nmsu.edu/academics/syllabi/chme-common-syllabus-addendum/](http://chme.nmsu.edu/academics/syllabi/chme-common-syllabus-addendum/)

**Coordinator:**

Dr. Martha C. Mitchell, Professor, Chemical and Materials Engineering
Office: 105 Regents Row (and Engineering Complex I 123) 646-2093 martmitc@nmsu.edu
Office Hours: MWF 10:30 a.m.-12 noon, or by appointment