Course Syllabus
CH3511 – Physical Chemistry Laboratory I
College of Science and Arts
Spring 2015

Instructor Information

Instructor: Kelley M. Smith, M.S., Laboratory Supervisor
Office Location: Room 706C, Chemical Science and Engineering Building
Telephone: (906)370-7401
E-mail: kmsmith@mtu.edu
Office Hours: T/R 9:00 – 11:00 a.m. and T 2:00 – 4:00 p.m. or by appointment

Course Identification

Course Number: CH3511
Course Name: Physical Chemistry Laboratory I
Course Location: 706 Chemical Science and Engineering Building
Class Times: Tuesday: 8:05 – 11:55 a.m. and 1:05 – 4:55 p.m.
Co-requisite: CH3510 Physical Chemistry I - Thermodynamics, Equilibrium and Kinetics

Course Description/Overview

This laboratory course is designed to supplement and enhance the materials taught in CH3510. In this course, students will develop skills in the collection and evaluation of reliable data by understanding the importance of quantitative methods, error analysis, and both oral and written communication.

Learning Objectives

The exercises in this course are designed to:

1. Give students experience in preparation of procedures for carrying out experiments including safe laboratory practices.
2. Expose students to data measurement and evaluation describing fundamental concepts of physical chemistry.
3. Expose students to modern experimental equipment, instruments, and techniques.
4. Develop the ability to use mathematical analysis to correctly interpret and describe the numerical significance of experimental results.
5. Develop the ability to obtain pertinent information from sources outside of experimental handouts (i.e., reference books, textbooks, and handbooks).
6. Teach students to work successfully in groups.
7. Have students successfully communicate results in written reports.
**Course Resources**

**Required Course Text**

**Course Fees**
- $195/semester

**Course Supplies**
- A bound laboratory notebook

**Grading Scheme**

**Grading System**

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Grade points/credit</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Highest score(s)</td>
<td>4.00</td>
<td>Excellent</td>
</tr>
<tr>
<td>AB</td>
<td>TBD</td>
<td>3.50</td>
<td>Very good</td>
</tr>
<tr>
<td>B</td>
<td>Average Score(s)</td>
<td>3.00</td>
<td>Good</td>
</tr>
<tr>
<td>BC</td>
<td>TBD</td>
<td>2.50</td>
<td>Above average</td>
</tr>
<tr>
<td>C</td>
<td>TBD</td>
<td>2.00</td>
<td>Average</td>
</tr>
<tr>
<td>CD</td>
<td>TBD</td>
<td>1.50</td>
<td>Below average</td>
</tr>
<tr>
<td>D</td>
<td>Some Effort</td>
<td>1.00</td>
<td>Inferior</td>
</tr>
<tr>
<td>F</td>
<td>Little - No Effort</td>
<td>0.00</td>
<td>Failure</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete; given only when a student is unable to complete a segment of the course because of circumstances beyond the student’s control. A grade of incomplete may be given only when approved in writing by the department chair or school dean.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Conditional, with no grade points per credit; given only when the student is at fault in failing to complete a minor segment of a course, but in the judgment of the instructor does not need to repeat the course. It must be made up within the next semester in residence or the grade becomes a failure (F). A (X) grade is computed into the grade point average as a (F) grade.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Grading Policy**

Grades will be based on the following:
<table>
<thead>
<tr>
<th>Individual Pre-Lab Report Portions</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Final Report Portions</td>
<td>30</td>
</tr>
<tr>
<td>Group Reports (Pre-Lab and Final)</td>
<td>20</td>
</tr>
<tr>
<td>Instructor Evaluations (Individual)</td>
<td>10</td>
</tr>
<tr>
<td>Peer/Self Evaluations (Individual)</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**NOTE:** 20% of grade will be based on *group* effort.

**Late Assignments**

There may be a deduction for each class day that a report is late after the due date. Preliminary lab reports are due before the experiment begins, whereas most of the final reports are due within 2 lab periods of the scheduled completion of the experiment. The last final report due date is *no later than 5p the Friday before finals’ week* during fall & spring semesters.

**Course Policies**

20% of scores will be based on *group* performance:
- Divide time and effort as equally as possible.
- Notify your group of upcoming absences *in advance*.
- Your group has the option of *not* including your name on any report.

The name of each student contributing to a report must be included on the title page of the reports. In addition, the portion of the report that each student is responsible for should be indicated. *If your name is not included on the title page, you will not receive group points for the report unless you submit your own (individual/entire) report.*

Students are responsible for conducting themselves in a safe manner, becoming aware of and informed about special hazards of technique, apparatus or chemicals in the chemical laboratory. They are expected to conform to any safety instructions presented orally or in writing by the instructor or contained in posted instructions or safety memoranda that are distributed. The MTU Department of Chemistry laboratory safety rules are available on the Canvas web site: [http://www.courses.mtu.edu/](http://www.courses.mtu.edu/)

**Collaboration/Plagiarism Rules**

The following are prohibited in this course and violate the Academic Integrity Code of Michigan Tech. Turnitin.com will be used to identify plagiarism.

- Written or digital information exchanges that are *inter*-group or inter-section. (Most forms of *intra*-group communication are acceptable.)
- Use or possession of “scoop” materials for any of the laboratory assignments
- Plagiarism: This includes anything copied or even loosely copied from another source (person, institution, web site, etc.). *If you use a source, place it in quotations and cite it within the text.*
University Policies

Academic regulations and procedures are governed by University policy. Academic dishonesty cases will be handled in accordance to the University's policies.

If you have a disability that could affect your performance in this class or that requires an accommodation under the Americans with Disabilities Act, please see me as soon as possible so that we can make appropriate arrangements. The Affirmative Action Office has asked that you be made aware of the following:

Michigan Technological University complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990. If you have a disability and need a reasonable accommodation for equal access to education or services at Michigan Tech, please call the Dean of Students Office at 487-2212. For other concerns about discrimination, you may contact your advisor, Chair/Dean of your academic unit, or the Affirmative Programs Office at 487-3310.

Academic Integrity:
http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic_integrity.html

Affirmative Action:
http://www.admin.mtu.edu/aa/

Disability Services:
http://www.mtu.edu/dean/disability/services/

Equal Opportunity Statement:
http://www.admin.mtu.edu/admin/boc/policy/ch5

Course Schedule

Please access the experiment schedule from the Canvas CH3511 Course pages. Note that schedules are based on group number.