PHYSICAL CHEMISTRY II

CHEM 3523    SEC 001    SPRING SEMESTER, 2012

Objective: Electrochemistry, Basic Quantum Chemistry, Spectroscopy, and Statistical Mechanics
Lectures: MWF 12:30 – 1:20 pm, PHSC 224
Instructor: Dr. Jana Shen (SLSRC 1130)
Office Telephone: 325-0458
Office Hours: **MW 2:00 pm – 3:00 pm (SLSRC 1130)**
Online Course Management: http://ccb.ou.edu


**Lecture Schedule:**
Chapter 5: Phases and Solutions (6 lectures)
   Jan 18, 20, 23 (Q), 25, 27, 30 (Q)
Chapter 7: Solutions of Electrolytes (5 lectures)
   Feb 1, 3, 6 (Q), 8, 10
Chapter 8: Electrochemical Cells (5 lectures)
   Feb 13 (Q), 15, 17, 20 (Q), 22, 24

**Exam 1: Chapter 5, 7, 8 (Feb 24, Friday)**
Chapter 11: Quantum Mechanics and Atomic Structure (9 lectures)
   Feb 27, 29, March 2, 5 (Q), 7, 9, 12 (Q), 14, 16, March 26 (Q)
Chapter 13: Foundations of Chemical Spectroscopy (6 lectures)
   March 28, 30, April 2 (Q), 4, 6, 9 (Q)
Chapter 14: Some Modern Applications of Spectroscopy (4 lectures)
   April 11, 13, 16 (Q), 18, 20

**Exam 2: Chapter 11, 13, 14 (April 20, Friday)**
Chapter 15: Statistical Mechanics (6 lectures)
   April 23, 25, 27, 30 (Q), May 2, 4

**Final:** Chapter 5, 7, 8, 11, 13, 14, 15 (May 8, Wednesday, 1:30 – 3:30 pm)
**Course Grading Scheme:**

1. **Homework Assignments (0%)**: Study guide and homework problems will be posted weekly. It is essential that you read the course material and work all of these problems at a satisfactory level. The problems encountered in the homework assignments will be of comparable or less difficulty as the problems encountered in the quizzes and examinations. On occasion, a problem from homework assignments may be used in quizzes and examinations with minor numerical changes.

2. **Quiz (24%)**: A 10-minute quiz will be given on most of the Mondays. Each quiz will contribute 3% to the final score. **No make-up quiz will be given.** Unless instructed otherwise, you are only allowed to use the information provided on the quiz paper. You must bring your own calculator. Only the top **eight** quizzes will be used to compute the final score.

3. **Examination (36%)**: Two 1-hour examinations will be given. Each examination will contribute 18% to the final score. **No make-up examination will be given. So mark your calendar!** You are only allowed to use the information provided on the examination paper. You must bring your own calculator.

<table>
<thead>
<tr>
<th>Date</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 24 (F)</td>
<td>5, 7, 8</td>
</tr>
<tr>
<td>April 20 (F)</td>
<td>11, 13, 14</td>
</tr>
</tbody>
</table>

4. **Final Exam (40%)**: The final examination will be given on Wednesday, May 8, 1:30 – 3:30 pm. It will be a comprehensive two-hour examination over all of the course materials. **No make-up final examination will be given.** You are only allowed to use the information provided on the examination paper. You must bring your own calculator.

5. **Final Grade**: The final grade will be roughly **curved** at 14% A, 36% B, 42% C, and 8% D or below. Another grading system a student can refer to is the **guarantee** system. In this system, the minimum final score for a guarantee ‘A’ is 90%; ‘B’ is 72%; and ‘C’ is 60%. The minimum final score to **contend** for an ‘A’ is 83%, ‘B’ is 65%, and ‘C’ is 50%. A final grade of ‘F’ will be automatically assigned if the final score is less than 40%.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>A/B</th>
<th>B</th>
<th>B/C</th>
<th>C</th>
<th>C/D</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90</td>
<td>83</td>
<td>72</td>
<td>65</td>
<td>60</td>
<td>50</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

6. **Grading Errors**: All grading mistakes have to be resolved within one week after the homework assignments or examinations are returned to the students. Grading mistakes found in the final examination have to be resolved immediately with the instructor.

*Solutions to all examinations will be posted on the web within a week after they are graded.*
Accommodation Policy: Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me as soon as possible so that we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities. The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the instructor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

Codes and Policies of Behavior Policy: Each student should acquaint his or her self with the University codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap. Students engaging in academic misconduct (including cheating, plagiarism, and any other action that may improperly affect evaluation) will be subject to sanctions in accordance with the Norman Campus Academic Misconduct Code. Dr. Yip routinely recommends "F" for the course and expulsion from the University for all such violations.

Holidays: It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required classwork that may fall on religious holidays. Students who plan to observe a religious holiday should notify Dr. Yip as soon as possible in order to make appropriate arrangements for classwork or rescheduling of examinations.

Disclaimer: I reserve the right to change by addition and/or subtraction any and/or all materials contained in this syllabus. This includes, but is not limited to, course content, assignments, scheduled dates, and fraction(s) of the final grade assigned to individual items within the course. Although your attendance at the lecture is not required, you are responsible for any announcements made in class, including changes in the quiz and examination schedule, course content, assignments, scheduled dates, and fraction(s) of the grade assigned to individual items within the course. If changes become necessary, I will announce them as early as possible.

Last update: January 16, 2012