

**Syllabus - CHEMISTRY 111**  
**Lecture Course #20017**

**-Fall 2009**

**Room- S-102**

**Tue/Thur 12:30-2:00 PM**

**Instructor:** Professor J. Bradbury

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**Website-** [www.cerritos.edu/jbradbury](http://www.cerritos.edu/jbradbury)

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**Prerequisites:**

CHEM 110 or equivalent with a grade of Pass or "C" or higher and MATH 80 (or MATH 80B) or equivalent with grades of Pass or "C" or higher. (Satisfactory completion of the Math Placement Process may be substituted for math 80)

Recommendation: It is strongly recommended that all of the preceding prerequisites be completed within four years prior to the date of enrollment in CHEM 111.

**Required Material:**

1) Chemistry, Matter and Its Changes, Fifth Edition, by Brady and Senese

To be able to use the WileyPlus online assignments, You need to buy Access Code and register online for WileyPlus. Please see the instructions for WileyPlus, given on pages 3 and 4 in this packet to learn how to buy Access Code.

Make sure that you register in the correct Class Section URL given below:

**<http://edugen.wiley.com/edugen/class/cls89464>**

2) A simple calculator that handles the four basic calculations, log and antilog.

3) Periodic Table of the Elements, VWR Scientific Company.

4) Safety for People and Chemicals, Spencer and Garcia.

5) Safety goggles which have splash protection in compliance with ANSI Z87.1-1989 as required by California State Law.

6) Lab coat/apron.

**Lecture Notes and Worksheets**

- All lecture notes and worksheets are posted on line <http://www.cerritos.edu/jbradbury> . Download /print all lecture notes and worksheets. Bring the lecture notes to class with you.
- Your lecture professor will announce quizzes and scheduled tests.
- All chapters assigned in the schedule are from the textbook, Chemistry, Matter and Its Changes by Brady and Senese.
- You will do the WileyPlus Homework assignment online. You will get immediate feedback on your score.

**Attendance**

It will be expected that you attend regularly. **Be on time!** If you have been or intend to be absent for legitimate reasons, inform the instructor. Roll will be taken at the beginning of the hour. If you are late to class, you will not be accounted for in the roll sheet and will be marked absent. You may be dropped from the class if you are considered absent for three class meetings or more.

**Web Lectures:**

**Many of the problems assigned in class are solved by Mr. Bradbury on the Web in the form of short videos. These can be accessed on your home computer or on campus. These are not a substitute for attending lecture but to help you in developing your understanding of chemistry and problem solving. You can access these "mini-lectures" at [www.cerritos.edu/jbradbury](http://www.cerritos.edu/jbradbury) click on Chem. 111 lecture and then on "Web lectures".**

**Withdrawal**

If you find it necessary to drop the class, do not just stop attending class. In order to drop the course and receive a "W" grade, you must proceed as follows:

1. Check out of the laboratory and receive a laboratory clearance form. This must be

done at your regularly scheduled lab time. If this is not possible, you can make an appointment with the chemistry stockroom personnel at (562)860-2451 ext 2695, however, there is a fee for the stockroom service.

2. Complete the official withdrawal procedure required by the Admissions Office.

If you miss three consecutive class meetings I may drop you from the course. However, you are still responsible for checking out of the laboratory. If you fail to check out, your records will be placed on administrative hold. NOTE: April, 24, 2009 is the last day to withdraw.

### Examinations

All examinations and quizzes will be announced. There will be given:

- Five exams, each worth 100 points. The lowest exam score will be dropped. All exams will be closed book/closed notes. All books and papers must be out of sight. Complete setups must be given in order to receive credit. (i.e. no credit for answers alone.) You must use the Conversion-factor method (also known as Factor-label method or Dimensional-analysis method) in solving problems. No make-up will be given on exams or quizzes. . If you miss one of the five exams, this will count as the exam that is dropped. Exams and quizzes will count as 50% of your course grade.
- A two-hour final examination that will count as 15% of the course grade.

### Missed Exams:

No make up will be given for missed exams or quizzes. You must take each exam at the time and on the date it is scheduled for your class. NO EXCEPTIONS

### Course Grade

The course grade will be broken down in the following manner:

|                                     |      |
|-------------------------------------|------|
| Lecture exams, quizzes and homework | 50 % |
| Lecture Final exam                  | 15 % |
| Laboratory                          | 35 % |

### Grading Scale

| <u>percent</u> | <u>Letter grade</u> |
|----------------|---------------------|
| 90-100         | A                   |
| 80-89          | B                   |
| 70-79          | C                   |
| 60-69          | D                   |
| 59 and below   | F                   |

**To pass CHEM 111 you must pass (D or better, 60% or higher) the lab portion, the lecture portion, and the lecture final exam.**

### Cheating Policy

If you cheat in lab or in lecture, you will be dismissed from the course with an "F" grade.

### **WORD TO THE WISE AND UNWISE:**

Come prepared. It is your responsibility to come to lecture, lab and exams with the proper material (paper, pencils, calculator, text, lab sheets... etc.)

### **STUDY HABITS and SCHEDULE:**

Probably the main reason that students do not succeed in Chemistry is because of their schedule. Either they have too many hours of work and/or too many difficult classes. Please analyze your schedule now to see that you will not be overwhelmed by the work load. Science classes tend to be much more difficult and require many hours outside of class. You need to keep up with the assignments daily: last-minute cramming in chemistry does not work! I strongly suggest you read the appropriate material in the text book before and after the lecture.



**Your instructor recommends WileyPLUS!  
Here's what you need to know:**

WileyPLUS is an online teaching and learning solution that will help you reach your full potential in this course and beyond. You can access...

- + **The complete online textbook!**
- + **Extra study aids!**
- + **Online homework!**
- + **And much, much more...**

**Get Help—and Instant Feedback on your Assignments:**

- You will get immediate feedback and scoring on any assignment you complete. Some questions will contain links to hints, solutions, or the relevant section of the online book.

**Track your Own Progress:**

- Any work that you submit will be recorded in a personal grade book, allowing you to track your progress.

**You will need to buy a registration code to access WileyPLUS**—but it's your choice to buy it with—or without the printed text:

- Buy the new, printed text in the bookstore and a WileyPLUS access code will be included at no additional cost.
- If you prefer to only use the online version of your text contained in WileyPLUS—you can save 60% off the price of your new, printed text! **[www.wileyplus.com/buy](http://www.wileyplus.com/buy)**
- Once you purchase your WileyPLUS registration code, you will need to register for WileyPLUS at your class section URL below. Bookmark this URL so you have it for future reference.

Once registered, you can access all of your live courses at [www.wileyplus.com](http://www.wileyplus.com)

To get started, please use the WileyPLUS registration code to register in your Class Section. You will do this by going to the URL listed **make sure you register in the correct Class Section URL!**

**<http://edugen.wiley.com/edugen/class/cls89464>**

Once you go to the URL, **click on "register" below the email box to start.** Watch this tutorial for more information:

**<http://www.wiley.com/college/twomin/stu/register.html>**

Find more helpful information about WileyPLUS at the 1<sup>st</sup> Day of Class website designed just for YOU!

**<http://www.wileyplus.com/studentdoc>**

If you are having any difficulty in registering or accessing? Please contact WileyPLUS Technical Support:

**<http://www.wileyplus.com/support>**

We hope you enjoy your WileyPLUS Experience!

## CHEMISTRY 111 LECTURE SCHEDULE -Fall 2009

All chapters assigned are from the textbook, Chemistry, Matter and Its Changes by Brady and Senese. Those items with a **T** mark are worksheets posted online <http://www.cerritos.edu/jbradbury>. Click on Chem. 111 Lecture . Download and print the worksheets.

Homework will be checked at the discretion of the professor.

| Week of | Topic   | Chapter            | Pages                       | Textbook Assigned Problems  |
|---------|---|--------------------|-----------------------------|---|
| Aug 17  | Naming (ionic and molecular)                          | Ch 2.8- 2.9        | 65-77                       | Ch 2: 111,113,115,117,119,121,123.  |
|         | Naming acids<br>Equations                             | Ch 4.4<br>Ch 4.5   | 143-145<br>146-153          | Ch 4: 20,23,24,29.<br>Ch 4: 17,40,64,70,72<br><br><b>T</b> ) Worksheet: Formulas<br><b>T</b> ) Worksheet: Equations |
| Aug 24  | Stoichiometry<br><b>Exam I</b>                        | Ch 3 All           | 86-115                      | Ch 3:<br>86,88,102,104,118,120,124,125,126,127,128,129,<br>130,132,133,137,138,139<br>Ch 4: 116,118                 |
| Aug 31  | Chemical Bonding                                      | Ch 8.2-8.6         | 306-321.                    | Ch 8: 2,10,26,29,32,82,86,88,92<br><br><b>T</b> ) Worksheet: Lewis Structure.                                       |
|         | Trends in the periodic table                          | Ch 7.8             | 285-291                     | Ch 7:59,61,62,63,64,68,69,126,128,132,  |
|         | Intermolecular Forces.                                | 11.1-11.2          | 432-441                     | Ch 11: 4,8,11,81,   |
| Sept 7  | Gases   | Ch10 All           | 389-424                     | Ch10:13,16,30,66,68,70,74,80,82,87,94,96,<br>97(given $D_{\text{H}_2} = 13.6 \text{ g/ml}$ ),99,100                 |
| Sept 14 | Solids  | Ch 11.9,11.11      | 456-462,<br>464,<br>465-467 | Ch 11: 67,68,70,100,103,105,107,118,119,121   |
|         | Born-Haber cycle.<br><br><b>Exam II</b>               | Ch 8.1             | 298-303                     | Ch 8: 111,112<br><br><b>T</b> ) Worksheet: Solids Structure.  |
| Sept 21 | Liquids,<br>Changes of State.<br>Properties of water. | Ch 11.3-11.7,11.12 | 444-455<br>467-472          | Ch 11: 28,32,34,35,37,87,108,109,110,111  |
| Sept 28 | Colloids.   | Lecture notes      |                             |   |
| Oct 5   | Electrolytes.<br>Net-Ionic Equations.                 | Ch 4 All           | 127-167                     | Ch 4: 6,10,12,60,64,66,70,122<br><br><b>T</b> ) Worksheet: Molecular and Ionic Equations                            |
|         | Molarity  |                    |                             | Ch 4: 86,98,108,110,112,114,120,123,124,125   |
|         | Units of concentration                                | Ch 12.5            | 491-486                     | Ch 12 : 22,23,45,49,51,53,86  |

|        |   |                     |                     |   |
|--------|---|---------------------|---------------------|---|
| Oct 12 | Colligative Properties.<br><b>Exam III</b>                                    | Ch 12.6-12.9        | 496-512             | Ch12:24,25,26,27,35,36,55,57,63,65,67,69,71,78,79<br><b>T)</b> Worksheet: Solutions and Colligative Properties.                             |
| Oct 19 | Arrhenius Acid  | Ch 4.3              | 135-143             | Ch 4: 15,16,17,20,21  |
|        | Bronsted-Lowry Acid   | Ch 15.1-15.2        | 604-614             | Ch 15: 42,44,79,85  |
|        | Lewis Acid  | Ch 15.4<br>Ch 15.5- | 619-623             | Ch 15 : 52,56,58  |
|        | pH,pOH,K <sub>w</sub> .   | 15.5-15.6           | 625-636             | Ch 15:60,62,64,66,70,74,80,88,90,92   |
| Oct 26 | Chemical Equilibria. relationship between K <sub>c</sub> and K <sub>p</sub> ) | Ch 14 All           | 568-597             | Ch 14: 5,7,8,16,17,26,27,28,42,46,48,50,56,58,60,64,74,75,79,81<br>Ch 14 : 32,36,38,76,80<br><br><b>T)</b> Worksheet: Chemical Equilibrium. |
| Nov 2  | Acid-Base Equilibria.<br><br><b>Exam IV</b><br>Polyprotic Acids.              | Ch 16.1,16.2        | 642-656             | Ch 16: 10,11,37,47  |
|        |   | 16.4                | 662-666             |   |
|        |   | 16.6                | 673-678             | Ch16: 75,77,79  |
| Nov 9  | Common -ion. Buffer.  | Ch 16.5             | 666-673,            | Ch 16: 20,21,65,71<br><br><b>T)</b> Worksheet: Buffers  |
| Nov 16 | Hydrolysis (Anions of weak acids and weak bases)                              | Ch 16.3             | 657-662             | Ch 16 : 14,15,16,17,18,25,33,53,81,83,97,98   |
| Nov 23 | Titration   | Ch 16.7             | 678-686             | Ch 16: 87,89,91,94,95<br><b>T)</b> Worksheet: Acid-Base Equilibria (Solution Equilibria).   |
| Nov 30 | Solubility Equilibria   | Ch 17.1,17.3        | 692-704,<br>707-711 | Ch 17 : 19,21,25,31,37,41,43,47,61  |
| Dec 7  | <b>Exam V</b>   |                     |                     | <b>T)</b> Review I-Chem 111<br><b>T)</b> Review II- Chem 111  |

**Final Exam:** will be announced by your instructor

