Chem. 162 General Chemistry 11
3 Credits CRN 62062
TR 11:15 AM-12:30PM

INSTRUCTOR: Bernadine Reeves. M.S.
OFFICE Imiloa 121A
E-MAIL: b.reeves@hawaii.edu
OFFICE HOURS: T 10:00=11:00
TELEPHONE: 236-9104
EFFECTIVE DATE: Fall 2008

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development: we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION
Catalog Description: Second course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include thermochemistry, kinetics, acid-base equilibrium, solubility equilibrium and electrochemistry. Emphasis on problem solving. Concurrent registration in CHEM 162L is required. (Offered Spring semester only.)
Prerequisites: A grade of "C" or better in CHEM 161, credit or concurrent registration in MATH 135, or instructor's consent.
Co-requisite: Concurrent registration in CHEM 162L.
WCC: DP

STUDENT LEARNING OUTCOMES

1. Predict properties (boiling point, melting point, osmotic pressure, vapor pressure) of solutions based on concentrations.
2. Determine reaction rate law and calculate rate constants and half-life based on experimental data.
3. Calculate the equilibrium concentration of chemicals in solution involved in precipitation, acid-base and redox reactions.
4. Predict spontaneous reactions based on enthalpy and entropy considerations.
5. Determine the electrochemical potential of redox reactions.

GRADING

1. Grades will be based on homework, class participation, quizzes, and PowerPoint presentation on a current topic in chemistry, long exams and a final exam.
Long Exams (2) @ 20%---------40 % of total grade
Final Exam -------------------25 % of total grade
Quizzes----------------------15 % of total grade
Homework -------------------10 % of total grade
Class participation--------- 5% of total grade
PowerPoint presentation-----5% of total grade
Total------------------------100%

Course grades will be assigned as follows:
A 100-90 %
B 89-80 %
C 79-70 %
D 69-60 %
F below 60 %

Curving might be employed if deemed necessary.
The other grades I, W, Cr, NC to be assigned are described in the current college catalog.
The NC grade will be assigned only as part of the Cr/NC option except in very unusual circumstances. Those circumstances must be discussed with the instructor.

2. Chapter homework is conducted on Laulima (check deadlines periodically).

3. In-class participation during lecture and inquiry-based learning activities (POGIL) will be graded on a daily basis.

Scoring:
• On time and participate in class activities-----3 points
• Late and participate in class activities---------2 points
• Late and does not participate -----------------1 point
• Absent----------------------------------zero point.

4. A short quiz (closed notes) will be given every Thursday at the start of the class period.

5. There will be two long exams, each of which will cover approximately one-third of the course. Each will last for about an hour.

6. The final exam will cover all topics from the beginning with special emphasis on topics covered after the second midterm exam. The final exam (cumulative) will be approx. 2hrs. The dates of these evaluations are given in the Course Schedule (see last page). These exams will be closed book.

7. PowerPoint presentation: There will be one group presentation on a current topic in Chemistry. The directions and the rubrics will be posted on the Laulima site for the class.

COURSE TASKS
• Class attendance and participation, weekly quizzes, midterm exams, online homework, PowerPoint presentation and a final exam.
LEARNING RESOURCES
Required Notes: Chemistry 161 Lecture Notes by Colmenares (sold at Bookstore)
Course Website: Laulima (use UH email account login and password)
Other Requirements: Scientific Calculator and Internet access

HOW TO STUDY FOR THIS COURSE
The word “Chemistry” should be written “Chem Is Try”. Nothing is more important to your academic success than strong study skills. On average, you should spend about **nine hours per week** outside the classroom to study for this course.

1. Prepare for each class by familiarizing yourself with the **lecture slides** in the Lecture Notes.
2. Use the **Chem 162 Lecture Notes** during class. Take notes during the lecture. Bring your **calculator** at all times. Ask **questions** if you do not understand
3. **Participate** in all the in-class **Learning Checks** and **POGIL (inquiry learning) activities**.
4. **Review** your notes soon after class. Do the **chapter homework** assignment online and use other resources in Laulima (animations, videos and websites). Study the **“For Review”** section at the end-of each chapter in your **textbook**.
5. Individual and small group **tutoring** is available through a grant funded by the Ifuku Family Foundation. Students are encouraged to use tutoring from the very beginning of the semester, before running into difficulty. **Open tutoring hours** are posted at the Bulletin Board outside Imiloa 112 (Tutoring Room). Other hours are available upon request to wcc-chemistrytutoring-L@hawaii.edu at least two days in advance.
6. Practice the following tests for general review.
   - **Self-tests** in every chapter in your **Study Guide**.
   - Chapter **Ace Practice Tests** at http://www.college.hmco.com/pic/zumdahl7e (click Online Study Center
   - **Knowledge Survey** available at the course website. The **knowledge survey** is a list of questions that cover the full breadth of the course and serves as a guide of what is expected of the students to learn.
   - **Old exams** downloadable at the course **website**. Do not use these as your primary review as topical coverage may vary from semester to semester

OTHER POLICIES
1. **The Topics and exam schedule** are found in the Course Schedule on the last page.
2. It is expected that you have the required math for the class. There is a review section in Appendix A in your text book.
3. **Missed quizzes**. If you are **absent**, the quiz you missed will be counted as **zero**.
4. You must notify the instructor if you need to miss a quiz or test so that you may **take it in advance in the Learning Center**.
5. **Missed Test**. Only one missed test (with requisite doctor's note, police report or obituary notice) can be made up, if you notify the instructor **in advance or on the day of the exam**.
6. **Final Exam**. There is no make-up for the final exam.
7. Make-ups. Exams and quizzes cannot be retaken to obtain better grades.

8. Disruptive Behavior leads to loss of learning time. Examples are using cell phones or texting in class, making offensive remarks, eating or drinking in the classroom, packing of books, making noise, leaving class early, sleeping in class, prolonged chatting, reading other materials not relevant to this class etc. If a student takes part in disruptive behavior, the instructor reserves the right to exclude immediately the student from the class meeting and mark him or her absent.

9. If you have any special learning needs, including hearing/visual impairment, please inform the instructor as soon as possible.

10. An "F" will be assigned to students involve in cheating.

11. Any class announcement pertaining to changes in schedule will be made at least a week prior to the affected date. However, you are responsible for knowing these changes, whether or not you were in class for the announcement. If you were late or missed class, please borrow notes from you classmate.

**DISABILITIES ACCOMODATION**

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encourage to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you to succeed in this class. Ann Lemke can be reached at 235-7448 or lemke@hawaii.edu or you may stop by Hale 'Akoakoa 213 for more information.

**COURSE CONTENT AND SCHEDULE**

Important Dates: Last day for withdrawal, 3/20 (F); Last day of instruction, (5/5)

Holidays (3/23 to 3/27)

<table>
<thead>
<tr>
<th>Chapter Topic</th>
<th>Date</th>
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<tbody>
<tr>
<td>10 – Solids &amp; Phase Diagrams</td>
<td>1/13</td>
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<tr>
<td>11- Properties of Solutions</td>
<td>1/22</td>
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<tr>
<td>12- Chemical Kinetics</td>
<td>2/5</td>
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<tr>
<td><strong>First Long Exam</strong></td>
<td>2/17</td>
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<td>13- Chemical Equilibrium</td>
<td>2/19</td>
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<td>14- Acids and Bases</td>
<td>2/26</td>
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<td>15- Applications of Aqueous Equilibria</td>
<td>3/3</td>
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<td><strong>Second Long Exam 3/18</strong></td>
<td>3/19</td>
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<tr>
<td><strong>PowerPoint Presentations</strong></td>
<td>4/2</td>
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<tr>
<td>16- Spontaneity, Entropy and Free Energy</td>
<td>4/7</td>
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<td>17-Electrochemistry</td>
<td>4/23</td>
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<tr>
<td>18 Nuclear</td>
<td>4/30</td>
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<tr>
<td><strong>Review</strong></td>
<td>5/5</td>
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Final Exam (Tuesday) 5/12 11:30-1:20 PM

* subject to change