CHEM 100 Chemistry in Society
3 Credits
CRN 63206 (online)

INSTRUCTOR: Leticia Colmenares, Ph.D.
OFFICE Imiloa 116
E-MAIL: leticia@hawaii.edu
OFFICE HOURS: MTWR 8:30-9:30 am (Imiloa 116)
               F 9:30-10:30 am (online)
TELEPHONE: 236-9120
EFFECTIVE DATE: Fall 2011

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O‘ahu’s Ko‘olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

Chemistry 100 provides a survey of basic concepts and applications of chemistry in the real world. This course is suitable for students who had little or no background in chemistry and serves to fulfill a general education physical science core course for the non-science major or as a preparatory course for Chem. 151.

STUDENT LEARNING OUTCOMES

1. Describe the relationship between properties and structure of matter.
2. Name chemicals, balance chemical and nuclear equations.
4. Identify the types of chemical reactions (i.e. acid-base, redox, nuclear) and their applications to everyday lives.
5. Explain the chemistry of household chemicals, and the composition of air and water.
6. Relate a specific chemical concept to a current environmental, health, industrial, or technological issue by writing a short research paper.

COURSE TASKS

- Weekly quizzes (online)
- Assignments (online)
- Discussion (online)
- Research Paper (online)
- 2 Midterms (proctored online)
- Final Exam (proctored online)
GRADING

Grades will be based on 10 (best out of 13) chapter quizzes, 9 assignments, 2 discussion forum, 2 midterm exams, 1 research paper, and a final exam.

- Quizzes (10) (best 10 out of 13) - 100 points
- Assignments (9) - 45 points
- Research Paper (1) - 100 points
- Discussion - 20 points
- Midterm Exams (2) - 200 points
- Final Exam - 135 points
- Total - 600 points

IMPORTANT: The midterm and final exams will be proctored online exams at the Testing Center in your campus.

Course grades will be assigned as follows:

- A 600-540 points
- B 539-480 points
- C 479-420 points
- D 419-360
- F below 360

N Grade: The 'N' grade indicates that the student has worked conscientiously, attended regularly, finished all work, fulfilled course responsibilities, and has made measurable progress but has not achieved the minimal student learning objectives and is not yet prepared to succeed at the next level. Or, the student has made consistent progress in the class but is unable to complete the class due to extenuating circumstances, such as major health, personal or family emergencies. Students requesting for N grade must provide a formal letter of request before the final examination with supporting evidences.

The other grades I, W, Cr, NC to be assigned are described in the current college catalog. These options must be discussed with the instructor. The deadline to change from A-F to Cr/NC grade option is on October 25, 2011.

If you drop out from the course without any notice you will get a ‘F’ grade. To avoid this, please be sure to withdraw officially by October 25, 2011.

LEARNING RESOURCES

1. Instructor Lecture Notes (spiral bound available at WCC Bookstore)-required or download from Laulima Modules
3. Calculator (required) & Periodic Chart
4. Recommended: Chemplace, login required at http://www.aw-bc.com/chemplace/
5. Course website: https://laulima.hawaii.edu
6. Multimedia (videos, animations, etc.) in Modules (Laulima)
7. Practice quizzes & exams in Tasks, Tests & Surveys (Laulima)
8. Laulima Discussion Board
9. Sit-in face-to-face class (@MTWR 930-10:45 am, Imiloa 111)
10. Laulima Chat Room online hours (@Fri 930-1030 am) for live online consultation with instructor
11. Smarthinking online live tutor and essay center (see flier in Laulima) http://windward.hawaii.edu/smarthinking/

HOW TO STUDY FOR THIS COURSE

Usually students take online courses with the assumption that it will be easier than face-to-face classes. However, this is NOT true. Online courses actually require more discipline and individual effort on the part of the student. The focus is on YOU learning rather than the instructor lecturing.

1. You are expected to login the course website at least every other day. The website is your classroom and not coming to the site is like skipping class.

2. Time management. You are expected to spend nine hours a week to this course. Please schedule real-time hours, for example: MFS 7-10 am and stick to this routine as if it is your JOB. With a typical 3-credit class, you would spend 3 hrs a week in class and approximately 6-9 hrs studying. On the average each 3-credit class takes about 10 hrs a week. Limit the number of work and credit hours to give you time to study for the classes, the total should not go over 60 hrs a week. Please review your work and class schedule and make sure you are not over-stressing yourself.

3. Please check the Course Calendar and study the reading assignment in your lecture notes. If you do not have the printed lecture notes sold at the WCC Bookstore, please download, and print the notes by chapter found in Laulima Modules. Focus on the objectives of each chapter. Read the notes and textbook with the objectives in mind.

4. In addition to the textbook and lecture notes, multimedia materials will be used to deliver course content in the course website. These include voice over powerPoints, videos, animations, audio recordings, movies and interactive websites that are organized by chapter. All the downloadable files and links are found under Modules in the course website.

5. There is a weekly scheduled assessment (this course is NOT self-paced). Practice for the assessment by doing the worksheet, learning checks, self-assessments and
practice test. It is important to work through each problem with pencil and paper and active thinking. Please study each of the examples in your lecture notes. Please cover the answers and treat each example as if this problem was in your quiz or exam.

6. If you cannot solve the problem or answer the question, please post your question (as clearly as possible by citing the page number) in the Discussion forum. I will monitor the discussion postings very closely and provide answers as needed. However, I strongly encourage fellow students to answer the posted questions. In articulating the answer you yourself get a deeper understanding of the concepts, and for that, I will give you extra credit.

7. The textbook website Chemplace (http://www.aw-bc.com/chemplace/) contains a collection of virtual tutorials and chapter self-tests. The text that you bought from the bookstore has an access code that is needed in registering in Chemplace. This is not required, but highly recommended.

8. You MUST take the practice quiz before the actual quiz. It is important that you feel a certain level of confidence before taking the actual test. It does not work to just look at the question and answer to learn. Hence, I strongly encourage that you take the practice quiz at least twice. A 0.5 extra credit point will be awarded if you score 80% or higher in a practice quiz. There are a total of 16 practice quizzes, midterms and final exams (8 extra credit points).

8. You should plan to spend at least 9 hours per week in this course (remember, you’re not physically attending a class or spending time traveling to and from campus!). Here is how your time will be allocated during most weeks:

- three hours reading chapter notes and text reading, equivalent to attending classes face-to-face
- two hours viewing online video lectures and websites
- two hours doing self-assessments, learning checks, worksheets and assignment
- an hour taking and reviewing practice quiz
- an hour preparing your summary index card and taking the actual quiz

9. Have a notebook. Take notes when watching videos, tutorials, animations, self-assessment tests and any other resource. If you don’t write your notes, you will forget this when you reach the final exam.

10. Back up all your submissions.

POLICIES

1. Online weekly quizzes. Online quizzes are accessed in Laulima Tasks, Tests and Surveys. A chapter quiz consisting of ten (10) multiple-choice questions will be given every Thursday. The quiz will be made available for 50 hrs starting from
Thursday 9 pm to Saturday at 11 pm, EXCEPT for Quiz #1 which will be available for 8 days to allow late-Registrants to catch up with class work. All times are Hawaii Standard Time. You may take the quiz anytime within this period. You are expected to move on to the next chapter as soon as you are done with a quiz.

If you encounter a technical problem (e.g., the computer crashes, Laulima is down, etc.), please submit a Request Assistance form (on the left hand side of the Laulima login page) immediately from the computer that the problem occurred. Please indicate the course, which quiz, what kind of computer, which web browser, and what kind of internet connection was used. Please notify the instructor by email immediately before the deadline has passed. Upon verification by Laulima, your quiz may be reset and you may be allowed a second attempt. However, please make sure that your Internet connection is a robust landline connection when taking online quizzes. Please do not take your quiz using wireless connection or at the coffee shop.

Make-up or retaking quizzes will NOT be allowed. The lowest 3 quiz scores will be dropped.

The quizzes will be timed (10 to 20 min depending on whether the questions are qualitative or numerical in nature). Always have a periodic chart and a calculator with you. You may use your summary sheet as your cheat sheet. You may NOT open your notes or textbook, you will not have time to cheat. This is the reason why it is timed, to prevent cheating.

Each quiz will be opened weekly and MUST be completed by the time and date set in the course schedule. When the quiz date ends, the answers will automatically become available; hence you will not be allowed to take a late quiz. If you failed to take the quiz, this will be counted as zero. Please plan to take the quiz on the day that it becomes available, rather than on the last hour.

2. There will be two midterms. Each of which will cover approximately 40% of the material of the course. The final exam will be cumulative. All exams will be multiple-choice questions. Please see the course schedule on the last page for the dates. Please plan accordingly, and check the testing center hours of operation.

For WCC Testing Center, it is open 8am to 6 pm (MT) 8am to 8pm (Thurs) and 8am to 4pm (Fri).

The midterm and final exams will be proctored at the Testing Center. If you belong to an external campus, please inform your instructor early in the semester so that proper arrangements can be made with your campus representative. You will be required to present a picture ID at the Testing Center. The proctor will input the password for the online exam and provide you a copy of the periodic table and a blank sheet of paper to use for your calculations, etc. Again, the exam will be timed (75 min for the midterm, and 90 min for the final). Please bring a calculator to the testing center.
All midterm and final exams are closed books and notes. NO cheat sheet will be allowed. You MUST NOT tell anybody the questions on the quiz, the answers, or help a classmate in any way (e.g., by explaining how to solve the problem). This would fall under the guidelines of academic integrity and any evidence of cheating will result in a score of zero for all parties involved. Also keep in mind that we are assessing your knowledge and understanding of the concepts - attempting to find the answers online through other resources is not in the spirit of academic honesty. An "F" will be assigned to students involved in cheating and will be reported to the Dean.

3. Assignments. There are a total of nine assignments (see list below). Please follow the detailed instructions of the assignment in the Instructor Notes. You have to read relevant information or do online research before writing up the assignment. Please do not write an assignment just by reading the title of the assignment.

Each assignment has its own rubric based on the instructions and is worth 5 points. If an assignment is submitted LATE, the maximum it will get is 3 points. Each of this is due on Sunday 11 pm of the week it is due (see course schedule -last page).

How to turn in assignment. Your assignment MUST be saved as .doc or .docx or .pdf and labelled with your family name and assignment number and uploaded in Laulima “Assignments” (as attachment). If your file cannot be read, it will be returned to you and late resubmission penalty will be imposed.

Assign #1- Scavenger hunt and syllabus exercise (Chap 0)
Assign #2 - Risk Benefit Analysis & DQ (Ch1 p.3) Notes p.10
Assign #3 – Redi’s Hypothesis (Ch1 p.5) Notes p.12
Assign #4 – Chemicals in Tobacco (Ch4 p.26) Notes p.81
Assign #5 - Reactions of the Atmosphere (Ch5 p.7) Notes p.91
Assign #6 – Practice mass-mass conversion (Ch5 p.24) Notes p.108
Assign #7 – Vitamin A & E (Ch6 p.13) Notes p.132
Assign #8 – What is the chemistry of airbags? (Ch6 p.18) Notes p.137
Assign #9 – What are the different types of antacids? (Ch7 p.16) Notes p.158

The scavenger hunt assignment is mandatory. Please do this as soon as possible. It is very important that you become familiar with the tools in the course website: Tasks, Tests & Surveys, Gradebook, Modules, Discussion, Assignment, and Chat Room.

4. The research paper is a three-page (double space) paper of 600-700 words to make a connection between a chemistry concept covered in the course and an application in everyday life. This will be made based on textbook readings and online resources. A sample paper and a handout “tips on how to search for references” are downloadable in Modules.
The paper grade will be based on the following rubrics:

- contains title and purpose (1 point)
- explains at least one chemistry concept in detail (1 point)
- discusses at least one application or current issue in detail (2 points)
- connects the concept to application (2 points)
- body has correct length (at least 500 words) (1 point)
- does not have spelling and grammar errors (1 point)
- citations are included (1 point)
- reference list of at least five reliable sources is included (1 point)

Research paper topics need to be pre-approved by Nov 20 at the latest. Topics like the Kreb’s cycle, Glycolysis, or Prebiotics, etc, (textbook topics in nutrition, biology and zoology, etc courses) and airbags and antacids (already assigned) are NOT acceptable. Take advantage of the essay center (Smarthinking) to improve your paper. Please submit the research paper (by Dec 6 at the latest) in the same way you submit your assignments.

5. Discussion Postings. Two discussion postings will be required (10 points @):
   #1- Chemistry in the news
   #2- Application of a chemical reaction in everyday life

The rubrics for grading:

- Posting is focused, organized, and clearly conveys ideas to reader (3 points)
- Posting integrates concepts from the notes, text or multimedia (3 points)
- Well-developed, use own words and stimulates discussion (2 points)
- Interacted timely at least twice in a thoughtful and courteous way (2 points)

6. Discussion Extra Credit. Questions about chemistry topics should be posted in "Discussion" while questions about class procedures should be posted in the "Chat Room." If you give a correct response to your classmates’ question in both Discussion and Chat Room, you will be awarded 0.5 to 1 extra credit points. Likewise, posting your Aha experience will also gain you an extra credit point. Interactions promote deeper learning hence I encourage you all to participate. If you post your questions, others will be able to benefit from the answers. Just remember when online to follow netiquette rules. Avoid flaming. See http://www.albion.com/netiquette/corerules.html

7. Other Extra Credit. You can earn extra credit up to a maximum of 20 points. In addition to Discussion and Chat Room postings and practice quizzes, extra credit is also given for attending chemistry forums (two points each). Dates are found at http://www.wcc.hawaii.edu/chemistry_forum. Other extra credit opportunities are found imbedded in the Notes.

8. Please use “Mailtool” in Laulima for grade-related and personal questions, and check your hawaii.edu email account for the responses. Please ALLOW 24 HOURS for responses to emails or messages. In emergencies, you may also call at
236-9120. Please speak slowly and leave your name, your phone number and times when you can be reached.

**DISABILITIES ACCOMMODATION**

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 (and instructor) 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**

- Last day to withdraw, Oct 25, 2011
- Last Day of instruction Dec 8, 2011
- Please print the course schedule and use the last column to record score.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings</th>
<th>Quiz Schedule*</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1</td>
<td>Orientation &amp; Chemistry</td>
<td>Chap 1 &amp; 2 (Notes &amp; Text) Multimedia in Modules</td>
<td>Aug 22- Sep 3 Assign#1 Scavenger Hunt &amp; Syllabus Quiz</td>
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<td>2</td>
<td>Atomic Structure</td>
<td>Chap 3 Notes &amp; Text Multimedia in Modules</td>
<td>Sep 1-10 Quiz #1-Chaps 1 &amp; 2 Assign#2 due</td>
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<td>3</td>
<td>Chemical Bonds</td>
<td>Chap 4 Notes &amp; Text Multimedia in Modules</td>
<td>Sep 8-10 Quiz #2-Chap 3 Assign#3 due</td>
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<td>4</td>
<td>Chemical Accounting I</td>
<td>Chap 5a Notes &amp; Text Multimedia in Modules</td>
<td>Sep 15-17 Quiz #3-Chap 4 Assign#4 due</td>
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<td>5</td>
<td>Chemical Accounting II</td>
<td>Chap 5b Notes &amp; Text Multimedia in Modules</td>
<td>Sep 22-24 Quiz #4-Chap 5a Assign#5 due</td>
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<td>6</td>
<td>Gases, Liquids, Solids</td>
<td>Chap 6 Notes &amp; Text Multimedia in Modules</td>
<td>Sep 29-Oct 1 Quiz #5-Chap 5b Assign#6 due</td>
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<td>7</td>
<td>Acids &amp; Bases</td>
<td>Chap 7 Notes &amp; Text Multimedia in Modules</td>
<td>Oct 6-7 Midterm 1 Chaps 1-5 Testing Center Assign#7 due</td>
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<td>8</td>
<td>Oxidation &amp; Reduction</td>
<td>Chap 8 Notes &amp; Text Multimedia in Modules</td>
<td>Oct 13-15 Quiz #6-Chap 6 Assign#8 due</td>
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<td>Organic Chemistry &amp;</td>
<td>Chap 9 &amp; 10 Notes &amp; Text</td>
<td>Oct 20-22 Quiz #7-Chap 7</td>
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<td>Chap 11 Notes &amp; Text</td>
<td>Multimedia in Modules</td>
<td>Oct 27-29</td>
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<td>Chap 11 Notes &amp; Text</td>
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<td>Quiz #8-Chap 8</td>
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<td>11</td>
<td>Air</td>
<td>Chap 13 Notes &amp; Text</td>
<td>Multimedia in Modules</td>
<td>Nov 3-5</td>
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<td>Chap 13 Notes &amp; Text</td>
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<td>Quiz #9 Chaps 9 &amp; 10</td>
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<td>Chap 14 Notes &amp; Text</td>
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<td>13</td>
<td>Household Chemicals</td>
<td>Chap 21 Notes &amp; Text</td>
<td>Multimedia in Modules</td>
<td>Nov 17-18</td>
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<td>Midterm 2</td>
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<td>Chap 21 Notes &amp; Text</td>
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<td>Chap 21 Notes &amp; Text</td>
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<td>14</td>
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<td>Research Paper</td>
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<td>Research Paper</td>
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<td>Writing</td>
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<td>Dec 1-3</td>
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<td>Cumulative Final</td>
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* Assignment/exam calendars may be changed due to institutional, weather or class problems.