

CHEMISTRY 162 (Chemistry and Matter) Course Syllabus and Tentative Schedule

Instructor: Dr. Daniel Brayton (please just call me “Dan”)

Office: Bilger 213

Email: dbrayton@hawaii.edu (best method)

Website: Laulima or “My UH” portal for grades and for supplementary (syllabus, etc)

Lecture: MWF 12:30 pm to 1:20 pm, Bilger hall 152, CRN = 80365

Office Hours: Please feel free to come in for help during office hours or by appointment.

MWF after class 2:30 to 3:30 pm

(I’m also on campus Monday through Friday ~10 am to 7 pm)

Course material: Text book “Chemistry a Molecular Approach 4th edition” by Nivaldo Tro
ISBN 978-0558-29865-4

Grading: The weight of each portion of your grade will be as follows:

-on line homework 10 points (If you don’t do these you’ll drop an entire letter grade!!!)

Due on the day of exams, but don’t wait until the night before!

-3 midterm exams (25 points each) = 75 points total

-Final exam = 60 points (1 point = 1 question) **Monday May 8th, 12-2 pm**

-Total class points 145

Mastering chemistry HW: You must get 10 points per chapter for full credit.

10 points can be achieved by 10 correct HW problems, or 20 half correct HW problems, or 40 1/4th correct HW problems, etc. Your score is shown at the bottom of each chapter with your total points and percent of problems completed (completed means the right answer is shown, whether you figured it out or the program gave it to you after your maximum attempts) “CHEM162SPRING2017DANBRAYTON”

Extra credit in the form of an increase by a “+” or “-” to your grade will be given for those that get over half the points of each chapter. (for example a C+ will become a B-, A- to an A, etc)

Reminder: HW (each chapter) is due on the day of the exam, see syllabus below for actually dates.

Due dates are firm, no exceptions, so do not leave it until the night before.

This is a lecture course, not a problem solving study session!!!!

You need to do homework OUTSIDE OF CLASS TIME! At least 5 hours a week!!!

I will cover some problems and spend at least one lecture period before each exam reviewing, solving problems, answering questions, etc.

The grading scale will be based on the following: (curved if deemed necessary)

90-100% A

70-79 % C

0-59 % F

80-89 % B

60-69 % D

Grade Availability: Students are encouraged to see the instructor about his/her standing at any time during the course. Grades will be discussed in class periodically throughout the semester

Student Learning: I will present course material using PowerPoint presentation, demonstrations and experiments. It is the student's responsibility to put in the effort required to read and learn the material and to complete the assigned homework (minimum of 4 hours/week). Chemistry is a quantitative science and, therefore, throughout the semester you will solve mathematical problems both in class and as homework. To become proficient at problem solving complete the homework problems and develop good study habits.

I will be happy to assist you in achieving this goal. I am available during office hours or by appointment if you would like help.

To maximize the learning experience the student should:

1. Read the material before coming to class (for a list of topics covered in class see the schedule below).
2. Attend class faithfully and **take notes** to later review. A PowerPoint presentation is available at the address above under "Course materials".
3. Bring the text to class to follow the lecture (useful to view figure and tables).
4. Complete the **homework problems** which are the odd numbered problems after each section in the chapter under the heading "Questions and Problems". The answers for these problems are at the end of the chapter. The study guide contains the solutions to these problems. *You are not required to turn in the homework problems out of the book.*
5. Ask questions during class and/or office hours-questions; questions and answers given in class often help other students.
6. *You are required to do the on line mastering chemistry program assignments!*
7. Realize that this is a skills building course and so will require a lot of study outside of class.
8. Please turn your cell phones to voice mail or vibrate mode during class.
9. **All exams MUST be completed independently!!!** An "F" grade will be given to anyone caught cheating.

Study Groups: Participation in study groups is an effective way to learn chemistry - learn by helping each other. Get to know each other and form study groups. Students who are part of study groups tend to outperform others.

TENTATIVE Chemistry 162 Lecture Schedule (exam dates are subject to change)

| Days | Chapter | Topics |
|-----------|----------------|---|
| 1/9-1/13 | syallbus/11-12 | Solids, liquids, and intermolecular forces |
| 1/16-1/20 | 13 | Solutions <u><i>MLK day Monday</i></u> |
| 1/23-1/27 | 13/14 | Solutions, Chemical Kinetics |
| 1/30-2/3 | 14 | Chemical Kinetics / Review |
| 2/6-2/10 | Exam | <u><i>Exam 1, Monday 6th</i></u> |

Exam 1, Monday 6th (chapters 13-14)

| | | |
|-----------|-------|--|
| 2/13-2/17 | 15 | Chemical equilibrium |
| 2/20-2/24 | 16 | Acids & Bases <u><i>President's day Monday</i></u> |
| 2/27-3/3 | 16/17 | Applications of aqueous equilibria |
| 3/6-3/10 | 17 | Applications of aqueous equilibria |
| 3/13-3/17 | Exam | <u><i>Exam 2, Monday 13th</i></u> |

Exam 2, Monday 13th (chapters 15-17)

| | | |
|-----------|---------------------------------------|--|
| 3/20-3/24 | 18 | Free Energy |
| 3/27-3/31 | <u><i>spring break = no class</i></u> | |
| 4/3-4/7 | 18 | Thermodynamics |
| 4/10-4/14 | 19 | Electrochemistry/ Review |
| 4/17-4/21 | 19 | <u><i>Exam 3, Monday 17th</i></u> |

Exam 3, Monday 17th (chapters 18-19)

| | | |
|-----------|----|-------------------|
| 4/24-4/28 | 20 | Nuclear Chemistry |
|-----------|----|-------------------|

5/1-5/3

20/Review

Nuclear Chemistry & Review

5/08-5/12FinalsFinal Exam Monday May 8th, 12-2 pm**The final is comprehensive**

Homework Assignments, one or two problems per chapter will be on a midterms and the final!!!

Chapter 13; 25, 27, 29, 33, 35, 41, 43, 47, 49, 53, 57, 63, 65, 71, 75, 77, 79, 81, 93, 103, 115.

Chapter 14; 21, 25, 29, 31, 35, 39, 45, 47, 55, 59, 61, 67, 77, 83.

Chapter 15; 33, 37, 41, 45, 47, 49, 51, 55, 61, 67, 71, 75, 77, 81, 83, 89, 99, 103, 107, 113, 121.

Chapter 16; 29, 33, 37, 41, 49, 55, 59, 61, 63, 65, 71, 75, 81, 89, 93, 103, 111, 121.

Chapter 17; 29, 31, 37, 41, 47, 51, 57, 61, 65, 71, 75, 81, 89, 93, 99, 105, 111.

Chapter 18; 37, 41, 47, 49, 55, 61, 63, 69, 71, 75, 77, 83, 87, 89, 93, 99.

Chapter 19; 17, 21, 35, 43, 49, 51, 63, 63, 69, 71, 75, 75, 83.

Chapter 20; 29, 33, 35, 37, 41, 45, 49, 51, 55, 61, 65, 71, 73, 77, 83, 91, 127.