

CHEMISTRY 162 (Chemistry and Matter)
Course Syllabus and Tentative Schedule, Fall 2019

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

Office: Bilger 213 (2nd floor next to the elevator)

Email: dbrayton@hawaii.edu (best method)

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

Lecture: Tues and Thurs 9 am to 10:15 am, Bilger 152.

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

Tues or Thurs after class 10:15 am to 11:30 am, email me anytime and we'll find a time!

Course material: Text book "Chemistry a Molecular Approach 4th edition" by Nivaldo Tro
Available by IDAP program via UH bookstore/UH account, but also note the 2nd or 3rd edition are very similar to the 4th and will work just fine if you are looking to save yourself some money.

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

-on line homework worth score of 20 (2 points per chapter)

(If you don't do these you'll drop an entire letter grade!!!)

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

-Final exam = 60 questions

-15 weeks of discussion = 15 points

-Total class score 150 points

-Occasional in class worksheets (when we get ahead of the lecture schedule: 1 point extra credit)

Questions: PLEASE STOP ME AND ASK ANY QUESTION AT ANY TIME!!!!

-I love to get questions, if you are confused, it is likely others are too!

Extra Credit worksheets: Periodically and randomly when we are ahead of the schedule of topics on the syllabus we will have an in class worksheet day worth 1 extra credit point.

Mastering chemistry HW: You must get 20 points per chapter (the programs adds up correct answers)
For example, 20 points can be achieved by 20 correct HW problems, or 40 half correct HW problems, or 80 1/4th correct HW problems, any combination.

HW (each chapter) is due on the day of the exam, no exceptions, see syllabus below for actually dates.

Extra Credit opportunity: if you get half of the total points for each (and every) HW chapter then I will bump your grade up a + or - (for example: C+ becomes a B-, A- becomes an A, etc).

Also since our final is cumulative, if you score over 85% on the final exam you will receive an A in the course regardless of previous markings/scores/etc.

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!!!

Before each exam I will spend on class period reviewing, solving problems, answering questions, etc.

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

90-100% = A 80-89 % = B 70-79 % = C 60-69 % = D 0-59 % = F

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

Student Learning: I will present course material using mostly PowerPoint presentation, highlighted topics on the board, and a few 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 10 hours/week during summer). Chemistry is a quantitative science 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.

Multi discipline topics: Several topics directly overlap and/or you will be expected to know regardless of your major. I will highlight and emphasize these topics and they will definitely be on exams

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** for later review. A PowerPoint presentation is available on laulima under "resources" tab.
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 off, 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
8/26-8/30	11	Intermolecular forces
9/3-9/6	11/13	Intermolecular forces/Solutions
9/9-9/13	13	Solutions
9/16-9/20	14	Kinetics
9/23-9/27	<u>Review/EXAM 1</u>	<u>Exam 1 Thursday 9/26</u>
9/30-10/4	15	Equilibrium
10/7-10/11	15/16	Equilibrium/ Acid/Base
10/14-10/18	16	Acid/Base
10/21-10/25	16/17	Acid/Base/ Buffers
10/28-11/1	<u>Review/EXAM 2</u>	<u>Exam 2 Thursday 10/31</u>
11/4-11/8	18	Thermodynamics
11/12-11/15	18/19	Thermo/electrochemistry
11/18-11/22	19	Electrochemistry
11/25-11/27	<u>Review/EXAM 3</u>	<u>Exam 3 Tuesday 11/26</u>
12/2-12/6	19/20	Electrochemistry/Nuclear Chemistry
12/9-12/13	20/ Review	Electrochemistry/Review
12/16-12/20	<u>Final Exam December Tuesday 17th 9:45-11:45 am</u>	

The final is comprehensive

Homework Assignments, 1 or 2 problems per chapter will be on a midterms and/or the final!!!

The answers to odd numbered problems are in the back of the book.

Suggest Homework Problems from the Book

Chapter 11; 11, 17, 21, 23, 31, 35, 39, 43, 47, 49, 55, 59, 61, 67, 73, 75, 77, 81, 85, 91.

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.