

CHEMISTRY 162 (Chemistry and Matter)
Course Syllabus and Tentative Schedule
Spring 2021 (all online COVID-19 format)
MWF 1230 pm to 120 pm (test times only)
CRN 91326-91335

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: Online! I’ll post videos of me covering the material (PowerPoint in detail) *Asynchronous!*

I’ll post both lectures of our current book and a previous book. I encourage you to watch these every MWF and stay up to date with the course material outline.

Office Hours: If you are comfortable with it, we can schedule in person meetings. Any questions/help I’m happy to do via email or zoom. I usually create videos to the answers to simulate if the question was asked in class so all can benefit from it.

Course material: Text book interactive General Chemistry (Macmillan Learning)

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

-online assignments are worth 10 points (1 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 points for weekly 4th hour recitation attendance, via zoom

-Total class score 160 points

Questions: ASK ANY QUESTION AT ANY TIME!!!!

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

Online portion of the grade: Achieve program via Macmillan Learning

-There are four items to access: “End of the chapter questions”, “Homework”, “Learning curve”, and “Solutions to Odd end of the chapter questions” Open up these features and build your points!

-Each chapter has a total of 15 points. I want these to be low stakes learning so you only have to get 5 points out of the 15 points. Extra Credit opportunity: if you get over 10 points for each (and every) chapter then I will bump your grade up a + or – (for example: C+ becomes a B-, A- becomes an A, etc).

Each chapter is due on the day of the exam (before the exam), no exceptions, see the syllabus below for actually dates. Doing HW after the exam is almost pointless, like putting your seatbelt after being in a car accident.

Finding the program: “Chem162MWFSpring2021”, Course ID: “xhce44” on <https://achieve.macmillanlearning.com/courses>

Also since our final is cumulative, you score over 90% 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 10 hours a week!!!

I will cover some problems and spend at time before each exam 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 be 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 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
1/11-1/15	syllabus/12	intermolecular forces
1/18-1/22	13	Solutions <u>MLK day Monday 18th</u>
1/25-1/29	13/14	Solutions/Chemical Kinetics
2/1-2/5	14	Chemical Kinetics
2/8-2/12	14	<u>Exam 1, Wed 10th</u>
2/16-2/19	15	Chemical equilibrium <u>President's day Monday 15th</u>
2/22-2/26	16	Acids & Bases
3/1-3/5	16/17	Acids & Bases /Applications of aqueous equilibria

3/8-3/12	17	Applications of aqueous equilibria
3/15-3/19	<u>spring break = no class</u>	
3/22-3/26	18	<u>Exam 2, Wed 24th (Fri Kuhio Day)</u>
3/29-4/2	18	Free Energy / Thermodynamics <u>(Good Friday)</u>
4/5-4/9	18/19	Thermodynamics / Electrochemistry
4/12-4/16	19	Electrochemistry
4/19-4/23	20	<u>Exam 3, Wed 21st</u> Nuclear Chemistry
4/26-4/30	20	Nuclear Chemistry
5/3- 5/6	Review	

5/11-5/15 Finals Week Final Exam Monday 10th @ 12 (noon) – 2 pm

The final is comprehensive

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

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.