

CHEMISTRY 162 (Chemistry and Matter)
Course Syllabus and Tentative Schedule
Fall 2020 (all online COVID-19 format)
MWF 1130 am to 1220 pm (test times only)
CRN = 74038, 77220-77225

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)

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 homework is 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 (IF WE GET FUNDING)

-Total class score 155 points (170 points if the 4th hour is funded)

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!

Mastering chemistry HW: Achieve program via Macmillan Learning

-Each chapter has 30 points, I want these to be low stakes learning so you only have to get 10 points out of the 30 points. Extra Credit opportunity: if you get over 20 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).

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

Finding the HW: "Chem 162 Fall 2020 Brayton MWF", Course ID: "oj87ee" 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
8/24-8/28	12	Intermolecular forces
8/31-9/4	12/13	Intermolecular forces/Solutions
9/7-9/11	13	Solutions
9/16-9/18	14	Kinetics
9/21-9/25	<u>Review/EXAM 1</u>	<u>Exam 1 Friday 9/25</u>
9/28-10/2	15	Equilibrium
10/5-10/9	15/16	Equilibrium/ Acid/Base
10/12-10/16	16	Acid/Base
10/19-10/23	16/17	Acid/Base/ Buffers
10/26-10/30	<u>Review/EXAM 2</u>	<u>Exam 2 Friday 10/30</u>
11/2-11/6	18	Thermodynamics
11/9-11/13	18/19	Thermo/electrochemistry
11/16-11/20	19	Electrochemistry
11/23-11/25	<u>Review/EXAM 3</u>	<u>Exam 3 Wed 11/25</u>

11/30-12/4	19/20	Electrochemistry/Nuclear Chemistry
12/7-12/11	20/ Review	Nuclear Chemistry/Review
12/14-12/18	<u>Final Exam December Monday 14th 12:00-2:00 pm</u>	

The final is comprehensive

-Exams are taking online via laulima, so you need to be available and have a reliable internet connection!!!

Final Exam December Monday 14th 12 (noon)-2 pm
The final is comprehensive

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

Suggest Homework Problems from the book, use the "practice problems" too!

Chapter 12; 4, 8, 11, 17, 22, 23, 31, 35, 38, 43, 47, 49, 55, 59, 61, 67, 73, 75, 77, 81, 85.

Chapter 13; 6, 12, 25, 27, 29, 33, 35, 41, 43, 47, 48, 53, 57, 63, 65, 71, 75, 77, 79, 81, 93, 103, 115.

Chapter 14; 4, 10, 21, 25, 29, 34, 35, 38, 45, 47, 54, 59, 61, 66, 77, 84, 87.

Chapter 15; 7, 13, 33, 37, 40, 45, 46, 49, 51, 52, 61, 67, 71, 74.

Chapter 16; 7, 9, 12, 29, 32, 37, 41, 49, 52, 55, 59, 62, 63, 68, 70, 75, 81, 89, 93.

Chapter 17; 5, 13, 21, 29, 31, 37, 41, 46, 51, 57, 61, 65, 72, 76, 82, 86, 91.

Chapter 18; 3, 8, 14, 18, 23, 26, 31, 36, 41, 47, 49, 55, 61, 63, 69, 71.

Chapter 19; 4, 8, 12, 17, 21, 34, 42, 48, 51, 63, 64, 68, 71, 75, 75, 83.

Chapter 20; 2, 5, 10, 15, 18, 22, 28, 33, 35, 37, 41, 45, 49, 52, 56, 62, 65, 71, 73.