

**CHEMISTRY 162 (Chemistry and Matter)**  
**Course Syllabus and Tentative Schedule, Fall 2015**

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

**Office:** Bilger 321A

**Email:** [dbrayton@hawaii.edu](mailto:dbrayton@hawaii.edu) (best method)

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

**Lecture:** MWF 11:30 am to 12:30 pm, Bilger, CRN = 76406

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

MWF after class 12:30 to 1:30 pm (I'm on campus Monday through Friday ~10 am to 6 pm)

**Course material:** Text book "Chemistry a Molecular Approach 3<sup>rd</sup> 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 worth score of 10 (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

-Total class score 145

**Mastering chemistry HW:** You must get 10 points per chapter (the program adds up correct answers) For example, 10 points can be achieved by 10 correct HW problems, or 20 half correct HW problems, or 40 1/4<sup>th</sup> 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)

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

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 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 5 hours/week). 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.

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).

- Attend class faithfully and **take notes** for later review. A PowerPoint presentation is available at the address above under "Course materials".
- Bring the text to class to follow the lecture (useful to view figure and tables).
- 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.
- Ask questions during class and/or office hours-questions; questions and answers given in class often help other students.
- You are required to do the on line mastering chemistry program assignments!**
- Realize that this is a skills building course and so will require a lot of study outside of class.
- Please turn your cell phones to voice mail or vibrate mode during class.
- 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)

<b>Days</b>	<b>Chapter</b>	<b>Topics</b>
8/24-8/28	syllabus / 9-11	Review chapters 9-11
8/31-9/4	12	Solutions
9/7-9/11	12/13	Solutions, Chemical Kinetics <b><u>Labor Day</u></b>
9/14-9/18	13	Chemical Kinetics
9/21-9/25	Review/Exam	Review/Exam <b><u>Exam 1, Wed 23<sup>rd</sup></u></b>

**Exam 1, Wednesday 23<sup>rd</sup> (chapters 12-13)**

9/28-10/2	14	Chemical equilibrium
10/5-10/9	14/15	Acids & Bases
10/12-10/16	15/16	Applications of aqueous equilibria
10/19-10/23	16	Applications of aqueous equilibria
10/26-10/30	Review	Review/Exam <b><u>Exam 2, Wed 28<sup>th</sup></u></b>

**Exam 2, Wednesday 28<sup>th</sup> (chapters 14-16)**

11/2-11/6	17	Free Energy
11/9-11/13	17	Thermodynamics <b><u>Vets Day Wed 11th</u></b>
11/16-11/20	18	Electrochemistry
11/23-11/27	18	<b><u>Exam 3, Wed 25<sup>th</sup> no class 26<sup>th</sup> &amp; 27<sup>th</sup></u></b>

**Exam 3, Wednesday 25<sup>th</sup> (chapters 17-18)**

11/30-12/4	19	Nuclear Chemistry
12/7-12/11	19/Review	Nuclear Chemistry & Review

**Last Class Wednesday 12/9 Friday 12/11 is a study day**

**12/14-12/18 Finals Final Exam Friday Dec 18<sup>th</sup> 12:00 to 2:00 pm**

**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.

Review Chapters 9-11!!!

Chapter 12; 29, 33, 35, 37, 41, 45, 49, 51, 55, 61, 65, 71, 73, 77, 83, 91, 103, 111.

Chapter 13; 25, 27, 29, 33, 35, 41, 43, 47, 49, 53, 57, 63, 65, 71, 75, 77, 79, 81, 93, 101, 115.

Chapter 14; 21, 25, 29, 31, 35, 39, 45, 47, 55, 59, 61, 67, 77, 83, 93, 101.

Chapter 15; 33, 37, 41, 45, 47, 49, 51, 55, 61, 67, 71, 75, 77, 81, 83, 89, 99, 103, 107, 113, 121, 135.

Chapter 16; 29, 33, 37, 41, 49, 55, 59, 61, 63, 65, 71, 75, 81, 89, 93, 103, 111, 121, 129, 139.

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, 57, 61, 63, 69, 71, 75, 77, 83, 87, 89, 93, 99, 103, 123, 133.

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