

**CHEM 162 – UH Manoa**

**Fall 2018**

**Dr. Daniel Brayton:**

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

**Instructor:** Dr. Daniel Brayton (feel free to call me “Dan”)

**Office:** Bilger 213

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

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

**Lecture:** Tues & Thurs 9 am to 10:15 am, Bilger hall 152, CRN = 80397, 89775-89782

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

(I’m on campus Monday through Friday ~10 am to 6 pm, so whenever is good for you!)

**Course material:** Text book “Chemistry a Molecular Approach 4<sup>th</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 20 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) **Thursday Dec 13<sup>th</sup> 9:45-11:45**

-attendance in discussion sections 15 points (1 point per week)

-Total class points 170

**Mastering chemistry Homework (HW):** You must get 20 points per chapter for full credit.

20 points can be achieved by 20 correct HW problems, or 40 half correct HW problems, or 80 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)

**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.

**If you score 85% or higher on the final I will give you an A for the entire class!**

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

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, which has happened **every** semester so far!*)

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 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 5 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
8/20-8/24	syllabus/11	intermolecular forces
8/27-8/31	13	Solutions
9/3-9/7	14	Chemical Kinetics
9/10-9/14	14	Chemical Kinetics/Review
9/17-9/21	Exam 1	<u><b><i>Exam 1, Tuesday 18<sup>th</sup></i></b></u>

#### ***Exam 1, Tuesday 18<sup>th</sup> (chapters 11, 13, & 14)***

9/24-9/28	15	Chemical equilibrium
10/1-10/5	16	Acids & Base, Titrations
10/8-10/12	17	Applications of aqueous equilibria
10/15-10/19	17	Buffers/Review
10/22-10/25	Review/test	<u><b><i>Exam 2, Tuesday 23<sup>rd</sup></i></b></u>

#### ***Exam 2, Tuesday 23<sup>rd</sup> (chapters 15-17)***

10/29-11/2	18	Free Energy / Thermodynamics
11/5-11/9	19	Thermodynamics / E-chem ( <u><b><i>11/6 election day</i></b></u> )
11/12-11/16	19	Electrochemistry
11/19-11/23	19	<u><b><i>Exam 3, Tuesday 20<sup>th</sup> Thanksgiving holiday</i></b></u>

#### ***Exam 3, Tuesday 20<sup>th</sup> (chapters 18-19)***

11/26-11/30	19	Electrochemistry
-------------	----	------------------

12/3-12/7                      20                      Nuclear Chemistry  
12/10-12/14                      *Finals*                      *Final Exam Thursday Dec 13<sup>th</sup> 9:45-11:45*

**The final is comprehensive**

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

Chapters 11,13-20, do the odd problems (answers are in the back)!

**CHEM 162 – UH Manoa**

**Fall 2018**

**Dr. Kayla Gary:**

**CHEMISTRY 162: GENERAL CHEMISTRY II****INSTRUCTOR:** Dr. Kayla Gary**EMAIL:** kmgary@hawaii.edu**LECTURE HOURS:** MWF 11:30am – 12:20pm in Bilger 150**OFFICE HOURS:** MWF 12:20pm-2:00pm in Bilger 247A (and by appointment)**REQUIRED MATERIALS**

- Textbook: Chemistry: A Molecular Approach, by Nivaldo Tro, 4<sup>th</sup> Edition, Pearson. ISBN 978-0558-29865-4.
- Pearson access code for using “Mastering Chemistry,” on-line homework (new textbooks include access code, used textbooks do not include access code and must be purchased separately). PLEASE REFER TO MASTERING CHEMISTRY REGISTRATION INSTRUCTIONS FOR MORE DETAILS.
- iClicker for in-class participation credit. PLEASE REFER TO iCLICKER REGISTRATION INSTRUCTIONS FOR MORE DETAILS.
- Scientific calculator (graphing or non-graphing).

**ADDITIONAL REQUIRED RECITATION COURSE**

The lecture course is accompanied by a weekly 50-minute required recitation section led by undergraduate learning assistants. These sections will cover important concepts and problems from lecture in interactive, small group settings. You are required to attend the weekly recitation course you are enrolled in; attendance will be taken and be worth 5% of your overall grade in the course.

**CHEMISTRY 162 TENTATIVE LECTURE SCHEDULE (3 UNIT COURSE)**

<b>Week</b>	<b>Monday</b>	<b>Wednesday</b>	<b>Friday</b>
<b>Week 1</b> Aug 20 <sup>th</sup> – 24 <sup>th</sup>		Introduction to Chemistry 162 Chapter 11: Intermolecular Forces	
<b>Week 2</b> Aug 27 <sup>th</sup> – 31 <sup>st</sup>		Chapter 11: Intermolecular Forces Chapter 13: Solutions	
<b>Week 3</b> Sept 3 <sup>rd</sup> – 7 <sup>th</sup>	<b>No Class on Monday Sept 3<sup>rd</sup>: Labor Day</b>		
		Chapter 13: Solutions	
<b>Week 4</b> Sept 10 <sup>th</sup> – 14 <sup>th</sup>		Chapter 13: Solutions Chapter 14: Kinetics	
<b>Week 5</b> Sept 17 <sup>th</sup> – 21 <sup>st</sup>		Chapter 14: Kinetics	
<b>Week 6</b> Sept 24 <sup>th</sup> – 28 <sup>th</sup>	<b>Exam 1 Monday Sept 24<sup>th</sup>: Chapters 11, 13, 14</b>		
		Chapter 15: Chemical Equilibrium	
<b>Week 7</b> Oct 1 <sup>st</sup> – 5 <sup>th</sup>		Chapter 15: Chemical Equilibrium Chapter 16: Acids & Bases	
<b>Week 8</b> Oct 8 <sup>th</sup> – 12 <sup>th</sup>		Chapter 16: Acids & Bases	
<b>Week 9</b> Oct 15 <sup>th</sup> – 19 <sup>th</sup>		Chapter 16: Acids & Bases Chapter 17: Aqueous Ionic Equilibrium	
<b>Week 10</b> Oct 22 <sup>nd</sup> – 26 <sup>th</sup>		Chapter 17: Aqueous Ionic Equilibrium	
<b>Week 11</b> Oct 29 <sup>th</sup> – Nov 2 <sup>nd</sup>	<b>Exam 2 Monday October 29<sup>th</sup>: Chapters 15, 16, 17</b>		
		Chapter 18: Thermodynamics	
<b>Week 12</b> Nov 5 <sup>th</sup> – 9 <sup>th</sup>		Chapter 18: Thermodynamics	
<b>Week 13</b> Nov 12 <sup>th</sup> – 16 <sup>th</sup>	<b>No Class on Monday Nov 12<sup>th</sup>: Veteran's Day</b>		
		Chapter 19: Electrochemistry	
<b>Week 14</b> Nov 19 <sup>th</sup> – 23 <sup>rd</sup>	<b>Exam 3 Monday November 19<sup>th</sup>: Chapter 18 + ½ Chapter 19</b>		
		Chapter 19: Electrochemistry	
	<b>No Class on Fri Nov 23<sup>rd</sup>: Thanksgiving Holiday</b>		
<b>Week 15</b> Nov 26 <sup>th</sup> – 30 <sup>th</sup>		Chapter 19: Electrochemistry	
<b>Week 16</b> Dec 3 <sup>rd</sup> – 7 <sup>th</sup>		Chapter 19: Electrochemistry Chapter 20: Nuclear Chemistry	
		<b>Last Day of Instruction: Thursday Dec 6<sup>th</sup></b>	
<b>FINALS Week</b> Dec 10 <sup>th</sup> – 14 <sup>th</sup>	<b>Cumulative Final Exam: Monday Dec 10<sup>th</sup> 12 – 2pm in Bilger 150</b>		

\*Changes may be made at any time at the discretion of the instructor\*

**GRADING & EVALUATION SYSTEM FOR CHEMISTRY 162 LECTURE:**

**HOMEWORK (10%):** Homework will be completed on-line through Pearson's interactive homework system called "Mastering Chemistry." To access the homework on-line, go to [masteringchemistry.com](http://masteringchemistry.com). You will need an access code from Pearson to access Mastering Chemistry; the code comes with any new book purchased, or can be purchased separately on-line if the book is bought used or is being re-used from a previous semester. You will also need the course code, "**CHEM162FALL2018GARY**" and your school ID# in order to register for our class homework. **Homework is due on various days and times; you are responsible for submitting your homework on time. No late homework will be accepted.** Please see the registration instructions on Lulima for how to correctly register for Mastering Chemistry. There is an abundance of homework problems to practice for each chapter. **In order to receive full credit for each chapter's homework, you must complete 20 POINTS per chapter.** Each chapter has ~80 points worth of problems available to practice, however you will only receive credit for up to 20 POINTS per chapter.

**IN CLASS PARTICIPATION WITH ICLICKER (5%):** The iClicker, iClicker 2, or any personal device such as a cell phone, laptop, or tablet will be used to assess in class attendance and participation during lecture and will account for 5% of your overall grade. Questions answered in lecture will not be graded for accuracy but rather for participation and engagement in the course. Please see the registration instructions on Lulima for how to correctly register your iClicker and sync your account to Lulima. Participation credit will be assessed starting on the second week of class.

**WEEKLY RECITATION CLASSES (5%):** Attendance of weekly recitation classes will count for 5% of your overall grade in the course.

**EXAMS (60%):** Three (3) multiple choice exams will be given throughout the term to determine students' level of mastery of the material and will cover approximately 2-3 chapters each. Each exam will count for 20% of your total lecture grade. Make-up exams will not be given and will be given only on the assigned day and time. Only excused medical absences will allow students to take an exam at a later date. Otherwise, no credit will be given. The instructor cannot make accommodations for conflicting work schedules, vacation plans, or any other non-emergency situations. Any medical emergency must be documented by a hand-written doctor's note by a local doctor with a physical address and phone number on the heading of the note. Make-up exams are always at the discretion of the professor, regardless of the medical excuse.

**FINAL EXAM (20%):** There will be a multiple choice cumulative final exam given at the end of the course and will count for 20% of your total lecture grade. **The final exam will be given on Monday Dec 10<sup>th</sup> from 12:00-2:00pm in Bilger 150.** Make-up exams will not be given and will be given only on the assigned day and time.



**GRADING:** The grading scale for lecture is as follows:

Overall %	Grade Earned
98% or Above	A+
93-97%	A
90-92%	A-
88-89%	B+
83-87%	B
80-82%	B-
78-79%	C+
73-77%	C
70-72%	C-
68-69%	D+
63-67%	D
60-62%	D-
59% or Below	F

\*Scores *may* be curved at the end of the curve, and is up to the discretion of the professor.

### **INSTRUCTOR METHODS & COURSE POLICIES**

Students should read the textbook for the upcoming lecture material prior to coming to class, **as well as take many hand-written notes in lecture to enhance learning.** You are encouraged to go to the office hours of the professor or *any* TA for help working through chemistry problems. Additionally, the Learning Emporium has knowledgeable people willing to help with Chemistry 162 as well as other math and science courses.

**Students are responsible for keeping track of their own points along with the instructor.** It is essential that students retain all returned assignments and course information. Late work will not be accepted; students must turn in assignments at assigned dates and times only. Every student is accountable for all work missed. Instructors are under no obligation to make special arrangements for students who are absent.

**ATTENDANCE:** You are required to attend the lecture section for which you are enrolled. The instructor reserves the right to request student ID verification at any time during this course. You may be dropped from the course if you have consecutive unexcused absences in lecture.

**STUDENTS WITH DISABILITIES**

Students with conditions that may require classroom or test accommodations are encouraged to contact me privately and contact the KOKUA Program (the Office for Students with Disabilities). KOKUA can be reached at (808) 956-7511 or (808) 956-7612 (voice/text) in Room 013 of the Queen Lili'uokalani Center for Student Services.

**ACADEMIC DISHONESTY & CONDUCT**

Any act of plagiarism, or any other attempt to defraud the academic process will meet with reprimand and possible dismissal from the course without credit. Cheating in any form on an assignment will, at a minimum, result in a zero grade on that assignment and the filing of an Academic Dishonesty Report Form describing the incident with the Vice President of Student Affairs. Prior or future cheating incidents anywhere in the university could result in expulsion. Cheating includes: the copying or exchanging of information during exams or quizzes, using banned materials, information, or devices during exams/quizzes, and plagiarism. Exact reproduction of written materials from other students on any lab report will result in all parties receiving a zero. An on-line version of the Academic Honesty Policy for the university can be found at:

[http://www.studentaffairs.manoa.hawaii.edu/policies/conduct\\_code/](http://www.studentaffairs.manoa.hawaii.edu/policies/conduct_code/)