MoChemistry 164 (01:160:164)
Honors General Chemistry II, Spring 2023

Instructors:

Lecture: Dr. Zheng Shi, zheng.shi@rutgers.edu
Office hours: Monday & Thursday, 10:00 am – 11:00 am, CCB-4220

Recitation: Dr. Yeung-gyo Shin (H1), yeung.shin@rutgers.edu
Office hours: Fridays, 1:40 pm – 3:40 pm, WRL-A101
Dr. Kiranjot Sethi (H2), kjsethi@chem.rutgers.edu
Office hours: TBD, CCB-2105

Hours and Location:

Lectures: Monday & Thursday 8:30 am – 9:50 am, CCB-1303 (Auditorium)
First class meets on Thursday, Jan. 19th

Recitations:
Section H1: Thursday 12:25 pm – 1:20 pm, CCB-1209
Section H2: Thursday 2:15 – 3:10 pm, CCB-1203
First section meets on Thursday, Jan. 19th

Materials:

Chemistry: Structures and Properties, *2nd Edition* (2017), Nivaldo J. Tro
Scientific calculator, laptops, smart phone, or other mobile device

Course website:

Via Canvas: https://rutgers.instructure.com/courses/211187

Synopsis:

This course serves as a continuation of Honors General Chemistry I. In addition to the specific topics listed in the schedule below, the learning goals of this course are (1) to understand and apply basic principles and concepts in chemistry, and (2) to explain and able to assess the relationship among assumptions, methods, arguments, and theory in scientific analysis.

Course Format:

This course will have two lectures on Monday and Thursday mornings, with two recitation sections on Thursday. A series of demos related to course material will be presented during lectures.

There will be 10 homework assignments throughout the course. Homework assignments will generally be released on Mondays and will be due at the start of the following Monday lecture according to the schedule below. Graded assignments will be available before the following recitation. Late assignments will not be graded. You may collaborate with each other on the homework problems, but each student must independently complete and turn in their own assignment.

There will be 5 quizzes throughout the course, given at the end of recitations according to the schedule below. Remember to have a scientific calculator by your hand!

This course will have two midterm exams (each 80 minutes duration, held during class time), and one cumulative final exam (3 hours duration). The exam dates are provided in the schedule

below. Students are responsible for making it to the exams on-time – there will be no make-up exams. The class period before each exam will be set aside for additional review of the relevant material. Remember to have your scientific calculator ready for all exams!

Grading:

The grading for this course will be based on your performance on homework assignments, quizzes/recitations, two midterm exams, and the final exam as follows:

Homework (10 total)	50* pts
Quizzes (5 total) /Recitation	50 pts
Midterm #1	100 pts
Midterm #2	100 pts
Final Exam	200 pts
Total	**500 pts**

* Bonus points will be given in homework throughout the semester.

No grading curves will be used in this course. Your final grade will be based on percentages of total points accumulated (the exact cutoff between letter grades will be determined after the exam). Class participation and recitation attendance will be used to decide on borderline final grade assignments.

Any questions or concerns about a graded assignment or assessment must be brought to the attention of the instructor within one week of receiving the grade. Any requests for re-grading will not be considered after this one-week window.

Attendance:

Students are expected to attend, participate and remain engaged during class. Quizzes and Exams must be taken at the scheduled times. Only excusable reasons will be considered.

To be excused from an exam, you must provide a letter of excuse within 3 days of the exam from your Academic Dean. Unexcused missed exams will result in a score of zero for that exam. For excused exams, the score will be temporarily assigned as zero and will be replaced by the average of the other exams including the final.

Special Needs:

Any student requiring extra time and/or other unusual testing accommodations must provide documentation supporting their circumstances and MUST notify the course Instructor. Please do this during the first week of classes or immediately after these needs are documented. ALL requests for extend time and/or other special accommodations for exams must be handled through the Office of Disability Services (http://disabilityservices.rutgers.edu/). The office of Disability Services will be responsible for all necessary proctoring arrangements.

Academic Integrity

Students must adhere to the university policies on academic integrity and student conduct in all assignments, assessments and other matters regarding this course. These policies can be found online: http://studentconduct.rutgers.edu/academic-integrity/

The faculty and staff at Rutgers are committed to your success. Students who are successful tend to seek out resources that enable them to excel academically, maintain their health and

wellness, prepare for future careers, navigate college life and finances, and connect with the RU community. Resources that can help you succeed and connect with the Rutgers community can be found at success.rutgers.edu, and nearly all services and resources that are typically provided in-person are now available remotely.

Course Schedule: (updated 1/12/23)
(*Subject to change, dates when quizzes and exams will be hold are bolded*)

Week #	Date	Topics	Book Sections	Suggested Problems	Quizzes	Activity
1	Th · 01/19	Intro	E.1-8 11.3-5	11. 37, 41, 45, 47, 53, 55, 71, 81, 89		PS #0 Assigned
2	M · 01/23	Solutions	13.1-5	13.25, 29, 31, 33, 37, 39, 45, 47, 53, 59, 97, 99, 101		PS #1 Assigned
	Th · 01/26		13.6-7	13.65, 69, 71, 73, 77, 81, 85, 89, 105, 113, 121, 125		PS #0 Due
3	M · 01/30	Chemical Kinetics	14.1-5	14.27, 31, 33, 35, 37, 41, 43, 45, 47, 49, 51		PS#1 Due, PS #2 Assigned
	Th · 02/02		14.5-8	14.57, 59, 65, 71, 75, 77, 81, 87, 95, 101, 105, 115, 117	**Recitation Quiz#1**	
4	M · 02/06	Chemical Equilibrium	15.1-5	15.21, 25, 27, 29, 31, 33, 35		PS#2 Due, PS #3 Assigned
	Th · 02/09		15.6-8	15.37, 41, 43, 47, 49, 51, 53, 57, 59, 61, 73, 83, 89, 91		
5	M · 02/13	Kinetics and Equilibrium	15.8-9	15.63, 65, 67, 71, 79, 95, 97		PS #3 Due, PS #4 Assigned
	Th · 02/16	**Review**			**Recitation Quiz#2**	
6	**M · 02/20**	**Midterm #1**				
	Th · 02/23	Acids & Bases	16.1-5	16.31, 33, 35, 37, 39, 41, 45, 47, 145		
7	M · 02/27		16.6-8	16.49, 51, 53, 55, 59, 65, 75, 81, 83, 87, 89, 93, 129		PS #4 Due, PS #5 Assigned
	Th · 03/02		16.9-11	16.97, 99, 103, 107, 109, 113, 117, 121, 123		
8	M · 03/06	Aqueous Equilibrium	17.1-4	17.25, 27, 29, 33, 37, 43, 47, 51, 53, 59, 63, 65, 73, 75, 113, 121, 131		PS #5 Due, PS #6 Assigned
	Th · 03/09		17.4-7	17.83, 85, 87, 93, 97, 99, 103, 107, 125, 137, 139	**Recitation Quiz#3**	
–	M · 03/13	Spring Break – No Class				

–	Th · 03/16					
9	M · 03/20	Entropy, Free Energy & Thermodynamics	18.1-5	18.27, 31, 33, 35, 37, 39, 41, 83		PS #6 Due, PS #7 Assigned
	Th · 03/23		18.6-7	18.43, 45, 51, 53, 59, 61, 65, 67, 87		
10	M · 03/27		18.8-10	18.69, 71, 75, 79, 91, 93, 97, 103, 107		PS #7 Due, PS #8 Assigned
	Th · 03/30	**(8:30 am) Review**			**Recitation Quiz#4**	
11	**M · 04/03**	**Midterm #2**				
	Th · 04/06	Electro-chemistry	19.1-5	19.33, 37, 39, 43, 47, 49, 53, 57, 59		
12	M · 04/10		19.6-9	19.61, 65, 69, 71, 75, 83, 85, 91, 99, 115, 119, 127		PS #8 Due, PS #9 Assigned
	Th · 04/13	Radioactivity and Nuclear Chemistry	20.1-6	20.31, 35, 37, 45, 51, 55		
13	M · 04/17		20.7-12	20. 59, 65, 73, 77, 83, 91, 99		PS #9 Due, PS #10 Assigned
	Th · 04/20	Organic Chemistry and Biopolymers	Notes in class		**Recitation Quiz#5**	
14	M · 04/24					PS #10 Due
	Th · 04/27	Applying Physical Chemistry to Biomolecular Assemblies				
15	M · 05/01	**Final Review**				
	M · 05/08	**Final Exam 12:00 pm – 3:00 pm**				