

CHE 154 General Chemistry II

Section A — MW 8:30 – 9:50 AM — Lecture Hall A

Instructor: Dr. Matthew Wilson

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Office Hours: Dr. Wilson will be available 10:00 – 11:15 AM Monday through Thursday and at other times by appointment.

Course Description: A continuation of General Chemistry I. Topics include solution chemistry, kinetics, equilibrium, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: CHE 152 and CHE 153L (both with a grade of “C” or better). Pre- or corequisites: CHE 155L (with a grade of “C” or better) and MAT 170.

Learning Objectives:

- Understand how intermolecular forces affect the physical properties of substances.
- Learn how reaction kinetics relates to reaction mechanism.
- Apply the concept of thermodynamic equilibrium to chemical reactions.
- Understand the thermodynamic parameters enthalpy, entropy, and Gibbs free energy.
- Understand how electrochemistry relates to redox reactions.
- Apply nuclear chemistry to understand radioactivity.

Required Materials: *Chemistry: A Molecular Approach*, N. J. Tro, 3rd ed., the accompanying *Selected Solutions Manual*, K. T. Shaginaw and M. B. Kramer, 3rd ed., and a non-programmable scientific calculator (a phone or other electronic device may *not* be substituted for a calculator).

Recommended Material: *ACS Study Guide for General Chemistry Exam* (on reserve at the UT Library and available for purchase at <http://chemexams.chem.iastate.edu/guides/index.cfm>)

Attendance: Attendance is not mandatory, but necessary. Supplemental materials may be distributed in class, and topics may not always be covered in the text.

Communication: Class announcements, lecture notes, course documents, and grades will be posted on Blackboard (<http://ut.blackboard.com>). Students are responsible for monitoring their UT email account and the course Blackboard site.

Homework: The MasteringChemistry online homework system (<http://www.masteringchemistry.com>) will be used in conjunction with this course. Each chapter will have two associated assignments: “Tutorials” and “Graded”. The “Tutorials” assignments are a collection of tutorial problems which are not required and not graded. The “Graded” assignment problems are graded for correctness, with the opportunity to earn partial credit if multiple attempts are needed. No credit will be given for late submissions. The maximum number of course points that can be earned from homework is 100 points.

Exams: Each exam will be worth 200 course points. A missed exam will count as a zero, unless excused by your instructor. A decision to excuse an absence from an exam will only be considered if supported by written documentation. An excused in-class exam will be replaced by the grade on the final exam; no make-up exams will be given. An unexcused absence from an exam will result in a grade of zero on the exam. Any requests regarding the regrading of an exam must be made within one week of receiving the graded exam; your instructor reserves the right to regrade the entire exam. The final exam will be a standardized exam prepared by the American Chemical Society, covering all of the material from the second semester of general chemistry. The number of points earned on the final exam will be calculated by multiplying the raw number of correct answers on the exam by a factor determined by relating a middle C on the class's grading scale to the national median on the exam. There will be no penalty for incorrect answers on the final exam, and the highest score that can be earned on the exam is 200 points.

Grades: A total of 900 points are possible in the course. Letter grades will be assigned as follows:

A	900 – 810 points	100.0 – 90.0%
AB	809 – 765 points	89.9 – 85.0%
B	764 – 720 points	84.9 – 80.0%
BC	719 – 675 points	79.9 – 75.0%
C	674 – 630 points	74.9 – 70.0%
D	629 – 540 points	69.9 – 60.0%
F	539 – 0 points	59.9 – 0.0%

This course and CHE 155L have separate grades; a student must make a grade of “C” or better in *both* courses to be eligible to take any chemistry class that requires them as prerequisites.

Academic Dishonesty: Cheating in any form will not be tolerated. Students caught violating any aspect of the University of Tampa's Academic Integrity Policy will be penalized in all cases. Penalty ranges from “0” on an assignment to “F” for the course without regard to a student's accumulated points. Students may also face expulsion. It is the student's responsibility to become familiar with the policies of the university regarding academic integrity and to avoid violating such policies.

Office of Student Disability Services: If there is any student who has special needs because of a disability, please go directly to the Academic Success Center in North Walker Hall. You may phone 813-258-5757, or e-mail jlaw@ut.edu to report your needs and provide documentation of your disability for certification. Janice Law is the director of the Academic Excellence Programs that includes Student Disability Services. Please feel free to discuss this issue in private if you need more information.

Disruption Policy: The professor believes that every student has the right to a comfortable learning environment where the open and honest exchange of ideas may freely occur. Each student is expected to do his or her part to ensure that the classroom (and anywhere else the class may meet) remains conducive to learning. According to the terms of the University of Tampa Disruption Policy, the professor will take immediate action when inappropriate behavior.

Course Interruption Due To Adverse Conditions: In case of any adverse condition or situation which could interrupt the schedule of classes, each student is asked to access www.ut.edu for information about the status of the campus and class meetings. In addition, please refer to ut.blackboard.edu for announcements and other important information. You are responsible for accessing this information.

Syllabus Modifications: The professor reserves the right to make changes to this syllabus as necessary.

Schedule: The following is a tentative schedule of topics to be covered and exam dates:

August 25	Liquids, Solids and Intermolecular Forces (Ch. 11)
August 27	Liquids, Solids and Intermolecular Forces (Ch. 11)
September 1	<i>No Class</i>
September 3	Solutions (Ch. 12)
September 8	Solutions (Ch. 12)
September 10	Solutions (Ch. 12)
September 15	Chemical Kinetics (Ch. 13)
September 17	Chemical Kinetics (Ch. 13)
September 22	Review
September 24	Exam 1
September 29	Chemical Equilibrium (Ch. 14)
October 1	Chemical Equilibrium (Ch. 14)
October 6	Chemical Equilibrium (Ch. 14)
October 8	Acids and Bases (Ch. 15)
October 13	Acids and Bases (Ch. 15)
October 15	Acids and Bases (Ch. 15)
October 20	Review
October 22	Exam 2
October 27	Aqueous Ionic Equilibria (Ch. 16)
October 29	Aqueous Ionic Equilibria (Ch. 16)
November 3	Free Energy and Thermodynamics (Ch. 17)
November 5	Free Energy and Thermodynamics (Ch. 17)
November 10	Electrochemistry (Ch. 18)
November 12	Electrochemistry (Ch. 18)
November 17	Review
November 19	Exam 3
November 24	Radioactivity and Nuclear Chemistry (Ch. 19)
November 26	<i>No Class</i>
December 1	Radioactivity and Nuclear Chemistry (Ch. 19)
December 3	Review
December 10	Final Exam (8:30 – 10:30 AM)