

CHE 152 General Chemistry I

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

Instructor: Dr. Matthew Wilson

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Office Hours: Dr. Wilson will be available 12:30 – 3:00 PM Monday and Wednesday, and at other times by appointment.

Course Description: Expands on the basic concepts of chemistry. Topics include chemical nomenclature, stoichiometric relationships, the chemistry of gases, atomic structure, chemical bonding, and molecular geometry. High school or college preparatory chemistry strongly recommended.

Prerequisites: Current enrollment in or successful completion of CHE 153L (with a grade of "C" or better) required. Pre- or corequisite: MAT 160.

Learning Objectives:

- Understand the principles of measurement and dimensional analysis.
- Learn the language of chemistry and chemical naming conventions.
- Learn characteristics of different types of chemical reactions and the relationship between chemical species in a reaction.
- Understand the relationships between the physical properties of a gas and the model for an ideal gas.
- Apply the thermodynamic concepts of heat, work, and enthalpy.
- Understand atomic structure and how it relates to the periodic properties of the elements.
- Learn the basics of chemical bonding and molecular geometry.

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 100 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 100 points.

Grades: A total of 500 points are possible in the course. Letter grades will be assigned as follows:

A	500 – 450 points	100.0 – 90.0%
AB	449 – 425 points	89.9 – 85.0%
B	424 – 400 points	84.9 – 80.0%
BC	399 – 375 points	79.9 – 75.0%
C	374 – 350 points	74.9 – 70.0%
D	349 – 300 points	69.9 – 60.0%
F	299 – 0 points	59.9 – 0.0%

This course and CHE 153L 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. Because of limited space in the course each semester, students earning a letter grade or officially withdrawing from CHE 152 cannot retake the course during a subsequent semester without permission from the department chair.

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:

January 21	Matter, Measurement, and Problem Solving (Ch. 1)
January 26	Matter, Measurement, and Problem Solving (Ch. 1)
January 28	Atoms and Elements (Ch. 2)
February 2	Atoms and Elements (Ch. 2)
February 4	Molecules, Compounds, and Chemical Equations (Ch. 3)
February 9	Molecules, Compounds, and Chemical Equations (Ch. 3)
February 11	Molecules, Compounds, and Chemical Equations (Ch. 3)
February 16	Chemical Quantities and Aqueous Reactions (Ch. 4)
February 18	Exam 1
February 23	Chemical Quantities and Aqueous Reactions (Ch. 4)
February 25	Chemical Quantities and Aqueous Reactions (Ch. 4)
March 2	Gases (Ch. 5)
March 4	Gases (Ch. 5)
March 9	<i>No Class</i>
March 11	<i>No Class</i>
March 16	Thermochemistry (Ch. 6)
March 18	Thermochemistry (Ch. 6)
March 23	The Quantum-Mechanical Model of the Atom (Ch. 7)
March 25	Exam 2
March 30	The Quantum-Mechanical Model of the Atom (Ch. 7)
April 1	Periodic Properties of the Elements (Ch. 8)
April 6	Periodic Properties of the Elements (Ch. 8)
April 8	Chemical Bonding I: The Lewis Model (Ch. 9)
April 13	Chemical Bonding I: The Lewis Model (Ch. 9)
April 15	Chemical Bonding I: The Lewis Model (Ch. 9)
April 20	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory (Ch. 10)
April 22	Exam 3
April 27	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory (Ch. 10)
April 29	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory (Ch. 10)
May 4	Review
May 6	Final Exam (8:30 – 10:30 AM)