

CHM 2045	General Chemistry Gower Sections	Spring 2015
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INSTRUCTOR: Jeff Gower (jgower@ufl.edu)

Lectures: MWR 11th Period (CLB 130)

Discussion Sections: Fridays (time and place depends on student schedule)

Office hours: MWR 7th and 8th Periods (CLB 314, telephone: 392-2155)

TEXT: **Chemistry: The Molecular Nature of Matter and Change (6th Edition)**
by Martin Silberberg (McGraw-Hill)

PLANNED LECTURE SCHEDULE: It is expected that you attend each lecture and that you attend the lecture period for which you are registered. While attendance is not taken, it will be assumed that all students are present at every lecture. For official UF attendance policy, see <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Dates	Topics (# of lectures)	Chapters
Jan. 7–8	Introduction and Review: Atoms, Molecules, and Ions (2)	Chap. 1–2
Jan. 12–21	Mass Relations and Stoichiometry (3-4)	Chap. 3
Jan. 21–28	Aqueous Reactions (3-4)	Chap. 4
Tuesday, Feb. 3 (8:20–10:20 pm)	Progress Exam 1	Chaps. 1–4
Feb. 4–5	Enthalpy & Calorimetry (2)	Chap. 6
Feb. 9–11	Atomic Structure (1-2)	Chap. 7
Feb. 11–17	Electron Configuration and Periodic Trends (3-4)	Chap. 8
Feb. 19–25	Chemical Bonding Models (3)	Chap. 9
Thursday, Feb. 26 (8:20–10:20 pm)	Progress Exam 2	Chaps. 1–4, 6–9
Mar. 9–11	Molecular Geometry (2)	Chap. 10
Mar. 12–18	Covalent Bonding Theories (3)	Chap. 11
Mar. 19–25	Gases (3)	Chap. 5
Mar. 26 – Apr. 1	Intermolecular Forces and Liquids and Solids (3)	Chap. 12
Thursday, Apr. 2 (8:20–10:20 pm)	Progress Exam 3	Chaps. 1–13
Apr. 6–13	Solutions (4)	Chap. 13
Apr. 15–22	Chemical Kinetics (4)	Chap. 16
Monday, Apr. 27 (3:00–5:00pm)	Final Exam	Cumulative

ONLINE ASSESSMENTS will be posted and due on most WEDNESDAYS
(see under ONLINE ASSESSMENTS below for details and exceptions).

HOLIDAYS (no classes): Jan. 19 (MLK); Mar. 2–6 (Spring Break)

E-LEARNING (<http://lss.at.ufl.edu>): We will be using the **SAKAI** option in E-Learning for this course. Here you will find the syllabus, the Discussion Section schedule, your gradebook for the class, selected lecture material, videos, files, end-of-chapter problem solutions, class announcements, and other pertinent info for the course. It is your responsibility to check the Class Web Site often (as well as your gradebook) to make sure that you do not miss important announcements and other information and to ensure that your gradebook is accurate. If you have any problems with your GatorLink name or password, you should either go on-line <http://www.gatorlink.ufl.edu>, contact the Help Desk at 392-HELP, or go to 520 CSE for personal assistance. For other computer assistance, visit <http://helpdesk.ufl.edu/>.

“HOW TO SUCCEED IN COLLEGE CHEMISTRY”:

In addition to reading this syllabus, there is another document that is required reading for all students in CHM2045/CHM2046: “How to Succeed in College Chemistry”. This document is posted in the Resources folder. Read it carefully and do exactly as it says. No exceptions, no alternatives. The detailed structured method of self-assessment strategic study skills in this document has been proven to work many times by many different students over many years (including yours truly). For most students, it is the only way to succeed in the course (and in other courses like this one). Trust me on this: failure to read and do exactly as it says in this document will result in frustration and lack of success in this course for the majority of students. Please do not disregard this advice.

TUTORIALS AND END-OF-CHAPTER HOMEWORK:

(1) TUTORIALS: A minimum of twelve (12) weekly tutorials will be posted online on e-Learning/Sakai (under the “Assessments” tool). These tutorials will walk students through each chapter’s content, pointing out important components of each chapter, and give the students an opportunity to assess their understanding and competence with the material via multiple-choice exam-derived questions that are sequenced in logical order to help facilitate learning. The purpose of the tutorials is to help students to self-identify individual weaknesses and calculational mis-steps so that the students will be aware of these weaknesses before the Progress Exams do this for them. The proper way to approach the tutorials is to first go through them “cold” so that students can self-assess and self-grade themselves on the material; then, students can work with focus and efficiency to address their own individual weaknesses during subsequent attempts.

IMPORTANT: Be sure to write down your answers while doing the tutorials so that you will have them at the ready when re-doing the tutorials (if needed). You’ll have five (5) attempts to successfully answer the questions. Successful completion of a weekly tutorial will earn the student 10 points. The highest scores of 10 of the 12 (or more) tutorials will count toward your grade. It is up to the student to keep up with the dates during which tutorials are open; failure to at least access the tutorials once before their due dates will result in loss of ability to access the tutorials for the remainder of the semester.

(2) END-OF-CHAPTER PROBLEMS: Suggested problems from the end of each chapter in the textbook will be posted in the Resources folder. Worked-out solutions to all end-of-chapter problems are also found in the Resources folder. Be sure to use this valuable self-assessment resource! I recommend that students use the Tutorials above to self-assess for weaknesses with the material, and to let the results of that self-assessment guide the students as to which End-Of-Chapter problems need to be done. But let me say this: the more problems you do, the more you develop your skills at solving problems and understanding concepts. If success in this course is important to your goals, do not short-change yourself by merely doing the minimum work needed to “get by”. Think about it.

DISCUSSION CLASSES: The Discussion Classes meet every Friday (the schedule of classes will be posted in the Resources folder after the first week of the semester). There are no Discussion Classes during the first week of the semester. During the Discussion Classes, TAs will hold open-discussion tutoring sessions for students who have questions about Tutorials, End-Of-Chapter Problems, Exam questions (from either practice exams or current exams), lecture material, or any other conceptual or calculational concerns that the students may have. Students are free to attend as many Discussion Classes as they’d like, so long as there is enough space in the rooms.

ONLINE ASSESSMENTS: Timed Online Assessments will be posted on most Wednesdays (except Feb. 4 and Mar. 11 - days are subject to change but if so, will be announced). To access the assessments, click on "Assessments" in e-Learning/Sakai. You’ll have 60 minutes from the time you open the Assessment to answer the questions therein and you’ll have 24 hours (midnight Tuesday to midnight Wednesday) during which you may access the assessment. No makeup assessments will be given for any reason. To accommodate unavoidable conflicts or computer issues that may arise, we only count 10 of the 12 planned Online Assessments toward your grade. It is suggested that you do the assessments early enough in the day to avoid last-minute time or computer issues late at night. If you must be absent for an assessment due to a documented and approved academic or UF athletic conflict, bring the documentation to your instructor beforehand (at least one week prior to the scheduled quiz). Planned or emergency trips home or elsewhere are not approved conflicts.

EXAMS: You may only use a non-graphing non-programmable scientific calculator on exams (with log, ln, root, and exponent (scientific notation) functions). Be sure to also bring pencils, section number, and your UF ID card. No notes, papers, cell phones or other electronic devices can be in view during exams.

No makeup progress exams will be given for any reason. Since unavoidable emergent situations (illnesses, accidents, emergencies, etc.) do arise occasionally, we've incorporated a dropped-exam policy so that if you have to miss one of the progress exams due to an emergent situation, that one exam score will not be counted toward your course grade. If you must be absent for an exam due to a documented and approved academic or UF athletic conflict, bring the documentation to your instructor beforehand (at least one week prior to the scheduled exam) and an early conflict exam will be scheduled. Planned or emergency trips home or elsewhere are not approved conflicts. For more information on CHM2045 exam policy, see

http://iteach.chem.ufl.edu/Exam_Absence_Policy_GChem_s13.pdf

Checking your Scantron: Out of the tens of thousands of exam scantrons that have been scored while I've been at UF, not one has been scored incorrectly. Any discrepancies have always been due to student bubbling error. However, scantrons may be checked during the two established instructor office hour sessions following the posting of the exam score in your Sakai gradebook, after which no further scantron checking will be accommodated.

CONTACTING THE INSTRUCTOR / OFFICE HOURS: Course administrative queries can be emailed to the instructor or made during office hours. Chemistry/course-content queries should be made in person during office hours or before/after lectures (if time permits). If this is not possible, please visit the CLC (see below). Please consult the online chapter solutions (if applicable) and follow the steps in "How To Succeed In College Chemistry" before coming to office hours.

CHEMISTRY LEARNING CENTER (CLC): There is free help to be had from graduate student teaching assistants in the CLC Monday through Friday in Flint Hall 257. Your discussion TA will have office hours in the CLC, but you may go there anytime any TA is assigned there to get help on questions pertaining to chemistry. A schedule of the TA schedules will be posted in the corridor outside the CLC and also on e-Learning. And, there is the **TEACHING CENTER** located on the ground floor of Broward Hall, if you'd like to use that resource. Their web site is <http://www.teachingcenter.ufl.edu>.

GRADES: Grades for the term will be determined as follows:

Progress Exams (best 2 of 3 @ 250 pts)	500 pts
Tutorials (best 10 of 12 @ 10 pts)	100 pts
Online Assessments (best 10 of 12 @ 10 pts)	100 pts
Final Exam	300 pts
TOTAL	1000 pts

The following grade cutoffs will be used (these are non-negotiable):

900-1000 = A 860-899 = A- 830-859 = B+ 800-829 = B 760-799 = B-
730-759 = C+ 700-729 = C 660-699 = D+ 630-659 = D 600-629 = D-
< 600 = E (a grade of C or higher is required to take CHM2046)

For further information on UF's Grades and Grading Policies, go to <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

INSTRUCTOR EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu> during the last two or three weeks of the semester. Students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

HONOR CODE: (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>)

The UF Student Honor Code applies to all exams and assessments given in this course. Please understand that absolutely no leniency will be extended in any case of academic dishonesty.

DISABILITIES / STUDENT MENTAL HEALTH

COUNSELING: Students requesting classroom and exam accommodations should contact the Dean of Students Disability Resources Center (DRC) at 392-8565 or <http://www.dso.ufl.edu/drc/> and obtain the proper forms that need to be turned in to me during the first week of class or as soon as possible after obtaining the paperwork from the DRC. It is the student's responsibility to schedule and arrange accommodations with the DRC. Students may seek mental health counseling at any time. See <http://www.counseling.ufl.edu/cwc/>.

COURSE INFO: CHM 2045 and CHM 2045L constitute the first semester of the two term sequence of General Chemistry, CHM 2045-2045L-2046-2046L. This sequence is suitable for all science and engineering majors.

GENERAL EDUCATION CREDIT: This course is available for general education credit. This course introduces students to fundamental concepts of chemistry including bonding, atomic and molecular structure, chemical reactions, states of matter, and reaction rates. The scientific method and the place of chemistry in the everyday world are emphasized.

PROGRAM OBJECTIVES: Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern physical systems. Students will formulate empirically-testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

These objectives will be accomplished through participation in the course lectures and discussion sections, and individual work done on homework assignments and step-by-step online tutorials.

GENERAL EDUCATION STUDENT LEARNING OUTCOMES: The following learning outcomes will be assessed through Discussion section quizzes, online tutorials, online assessments, and progress (mid-term) and final examinations.

Area	Institutional Definition	Institutional SLO
CONTENT	Content is knowledge of the concepts, principles, terminology and methodologies used within the discipline.	Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.
COMMUNICATION	Communication is the development and expression of ideas in written and oral forms.	Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.
CRITICAL THINKING	Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.	Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.