

CHEMISTRY 120-GENERAL CHEMISTRY I

Southern Connecticut State University

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Summer Session A 2006

Office Hours

M - R: 10:00 - 11:00

Texts: *Chemistry Matter and Its Changes*, J. E. Brady, F. Senese, John Wiley & Sons (2004)
Laboratory Manual, *General Chemistry I Laboratory Manual, 3rd Edition*, M. J. G. Lesley, G. S. Kowalczyk, John Wiley & Sons (2005)

Course Overview: Chemistry 120, General Chemistry I, is the first semester of a two-semester introduction to the basic principles of chemistry. The course will contain a systematic study of the fundamental laws and theories of chemistry. Modern theories of atomic and molecular structure, chemical bonding, periodic relations, chemical reactions, and stoichiometry will be covered. In addition, there will be an introduction to thermochemistry and the gaseous state of matter. Laboratory experiments will demonstrate the scientific method and illustrate the basic concepts presented in the lecture portion of the course.

Course Prerequisites: While this course does not have high school chemistry as a prerequisite, students who have not had any chemistry before do have a harder time. If you fall into that category, be aware that you may need additional help and study time. There is an algebra prerequisite for this course. It will be assumed by the instructor that all students have a working knowledge of algebra.

Final Course Evaluation:

Laboratory Grade	20%
Midterm examination (2 hr.)	40%
Final Examination (2 hr.)	40%

	100%

The final grade will be determined by the percentage of points obtained as described above. The actual grade will be based on the Southern Connecticut State University grading scale with possible adjustment for class average at the end of the semester (if necessary). Please remember that it is the policy of the Chemistry Department at Southern Connecticut State University that, to receive a passing grade in CHE 121, you **MUST pass the laboratory portion** of the course. A passing grade for the laboratory portion of the course is 60%.

COURSE OUTLINE

<u>Date</u>	<u>Topic</u>
May 30, 31	Chapter 3: Measurement <i>Suggested Problems:</i> 5-7, 11, 16, 20-25, 27, 28, 30, 32-54, 58, 59, 61-67, 69-72, 74-79, 99, 100
June 1	Chapter 1: Atoms and Elements: The Building Blocks of Chemistry <i>Suggested Problems*:</i> 4, 5, 12, 14, 25, 26, 41, 44, 55, 66-69, 80-84
June 5	Chapter 2: Compounds and Chemical Reactions <i>Suggested Problems:</i> 4, 9, 28, 29, 40, 41, 48, 50, 55, 56, 58-62, 71-74, 76-104, 106-108
June 6, 7	Chapter 4: The Mole: Connecting the Macroscopic and Molecular Worlds <i>Suggested Problems*:</i> 8, 10, 4, 5, 24, 25, 28-31, 35, 39-41, 46-57, 59-61, 64, 65, 68-71, 76-89, 92-95, 98-116, 118-120, 122, 123
June 8, 12	Chapter 5: Reactions Between Ions in Aqueous Solutions <i>Suggested Problems:</i> 15, 38, 39, 41-43, 48, 50, 60-63, 68-89, 94-107, 112-114, 116-121, 140-143
June 13, 14	Chapter 6: Oxidation-Reduction Reactions <i>Suggested Problem*s:</i> 1, 2, 5, 6, 8-12, 15, 16, 25-36, 39-46, 51, 52, 57, 58, 63, 64, 85, 90, 91
June 19	Midterm Exam
June 15	Chapter 7: Energy and Chemical Change: Breaking and Making Bonds <i>Suggested Problems:</i> 5, 19, 21, 35, 47, 49, 50, 57-59, 65, 66, 74, 77, 78, 81-90, 92-100
June 20, 21	Chapter 8: The Quantum Mechanical Atom <i>Suggested Problems:</i> 3, 5, 8, 9, 31, 34, 35, 39, 40, 49, 73, 74, 91-95, 97, 101, 102, 105, 106, 111-118, 125-135, 146, 147
June 22	Chapter 9: Chemical Bonding: General Concepts <i>Suggested Problems*:</i> 6, 7, 2, 11, 12, 15, 21, 25, 43, 70-77, 86, 90-105, 107-111, 118

June 26

Chapter 10: **Chemical Bonding and Molecular Structure**

*Suggested Problems**: 1, 2, 54-59, 66-69, 76, 77

June 27, 28

Chapter 11: **Properties of Gases**

Suggested Problems: 7, 8, 26, 36, 37, 50, 52, 53, 56-61, 64-76, 78-87, 91

June 29 Final Exam

Chapters 7 – 11

*Italicized numbers indicate problems from the “Thinking it Through” section at the end of the chapter. Remaining problems from “Review Questions,” “Review Problems,” and “Additional Exercises.”

The *Suggested Problems* are problems found at the end of each chapter in your textbook and are representative of the material in that chapter that the professor believes is most important for the student to understand. It, of course, follows that these are also the types of questions and problems that will appear on the quizzes and examinations.

Late/Missed Work: There will be no make-up examinations or laboratory sessions except in the case of substantiated illness (a doctor’s note is required). Late lab reports will be given a grade of zero. Late laboratory reports will not be accepted for grading unless accompanied by a doctor's note.

Calculators: Each student is required to have his/her own scientific calculator for this course. Calculators may be used during exams, however, sharing of calculators is not allowed. Students are responsible for the operating ability of the calculator.

Attendance: Regular and prompt attendance of scheduled classes and laboratory sessions is necessary for the student to derive the intended benefit of the learning experience the college strives to provide, and for the optimization of student academic progress.

Laboratory: The **FIRST LABORATORY SESSION** will be held on **May 31**. The Chemistry Department requires that everyone wear Safety Glasses while in the laboratory, beginning with the first laboratory. If you show up for any laboratory period without Safety Glasses, you will **NOT** be allowed to perform the experiment and you will receive a zero grade for that experiment. The proper Safety Glasses must meet OSHA regulations and can be purchased at the first meeting of the lab.

Students who are pregnant should not enroll in this course due to the nature of the chemicals used in the laboratory.

Accommodating Students With Disabilities: If any student has a particular disability-related need in order to participate in this course, such as, special seating, note-taking assistance, use of tape-recorders, or modified examination conditions, please let me know as soon as possible so that appropriate accommodations can be made.

Inclement Weather: When inclement weather threatens, call the university’s WeatherChek voice mail message line (203-392-SNOW) to hear the latest official information on possible delayed openings, class cancellations, or the closing of the university. Please note that all hour exams and weekly quizzes are scheduled for Fridays. In the event that a Friday class is canceled,

the scheduled quiz or exam will be given at the next class meeting, hopefully, the following Monday.

Cell Phones: Students are hereby notified that cellular phones and beepers **MUST** be turned off while in lecture or lab. Under no circumstances are telephones to be answered in class or lab. Students who ignore this policy will be asked to leave.

Student Integrity: Unfortunately, the question of academic honesty occasionally becomes an issue between an instructor and a student. The best way to avoid this is to be sure that no suspicions arise. **Cheating on exams, laboratory reports, quizzes or any other phase of this course will not be tolerated. The student handbook outlines the various prerogatives of the instructor in cases of academic dishonesty.**

Some Final Thoughts: Clearly, this course will require a great amount of time and effort on the part of the student for success. Some suggestions are given here:

1. Schedule sufficient time for this course. Studying should be done after each lecture and before the next one. Plan on at least 2 hours for each hour of lecture.
2. Read the material before lecture. The order of material is given in this syllabus. Reading the material prior to hearing it from me gives you familiarity with the material and allows more time for listening rather than just writing.
3. Do the suggested problems. Quiz and exam problems are similar to the assigned problems. If you can't do the problems as homework, you won't be able to do them on the exam either. Be able to do the problems cold.
4. Get help early. Falling behind in this course is usually catastrophic. Make use of the professor's office hours, lab instructors, study groups and tutors to stay up on the material.

It is also the case that your grade will not be based upon any claimed "need" which you may have. If you "need" a B in this course in order to gain admission into some program or another, then it is incumbent upon you, the student, to perform at the level which will fulfill that "need." It is not the professor's role to alter his or her evaluations of your work so as to take your "needs" into consideration.

Finally, there is no provision in this course to do work for "extra credit." It stands to reason that if a person is not performing adequately in the assigned tasks of a course, there is no point in giving that person "extra" work. Requests to do work for "extra credit" will not be honored.