

CHEMISTRY 121-GENERAL CHEMISTRY II

Southern Connecticut State University

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Summer Session B 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, Catalyst *SCSU Chemistry 121- General Chemistry II*, Pearson Custom Publishing (2005) (ISBN 0-536-71101-1) Available at SCSU Bookstore.

Course Overview: Chemistry 121, General Chemistry II, is the continuation of an introduction to the basic principles of chemistry. In this course, attention will be focused on why chemical reactions occur, how fast these reactions occur and what will we get. The course will also include the study of solutions, pH, thermodynamics, electrochemistry and chemical equilibrium with its applicability to weak acids and bases and insoluble salts. Laboratory experiments will demonstrate the scientific method and illustrate the basic concepts presented in the lecture portion of the course.

Course Prerequisites: Chemistry 120, or its equivalent, is a prerequisite for this course. There is also an algebra prerequisite for this course. It will be assumed by the instructor that all students have a working knowledge of material covered in Chemistry 120 and of algebra through logarithms and exponentials.

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>	
July 3	Chapter 12: <i>Intermolecular Attractions and the Properties of Liquids and Solids</i> <i>Suggested Problems*</i> : 4, 5, 12, 13, 15, 16, 29, 36, 40, 54, 58, 64, 66, 69, 86, 87, 88, 89, 92, 94, 95, 98, 99, 102, 104, 106, 108, 109, 114, 118, 119, 120, 121, 122, 124	
July 5	Chapter 13: <i>Structures, Properties, and Applications of Solids</i> <i>Suggested Problems</i> : 93, 100, 101	
July 6	Chapter 14: <i>Solutions</i> <i>Suggested Problems*</i> : 2, 12, 14, 27, 31, 48, 50, 51, 67, 68, 71, 72, 73, 75, 76, 77, 78, 80, 81, 84, 87, 88, 89, 90, 91, 92, 93, 94, 98, 99, 100, 101, 103, 104	
July 10, 11	Chapter 15: <i>Kinetics: The Study of Rates of Reactions</i> <i>Suggested Problems*</i> : 1, 33, 37, 38, 42, 52, 68, 69, 73, 74, 75, 76, 77, 78, 79, 80, 81, 85, 88, 89, 90, 91, 94, 100, 101,	
July 12, 13	Chapter 16: <i>Chemical Equilibrium – General Concepts</i> <i>Suggested Problems</i> : 7, 8, 14, 15, 16, 18, 19, 20, 21, 22, 23, 25, 31, 32, 35, 36, 37, 38, 41, 42, 43, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 59, 60, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 73, 74, 75, 76, 78	
July 17, 18, 19	Chapter 17: <i>Acids and Bases: A Second Look</i> <i>Suggested Problems*</i> : 2, 6, 2, 13, 14, 15, 16, 25, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 60, 61, 62, 63, 64, 65, 66, 67, 70, 71, 72, 73, 74, 75, 80, 83, 87	
July 20	Midterm Exam	Chapters 12 - 16
July 24, 25	Chapter 18: <i>Equilibria in Solutions of Weak Acids and Bases</i>	

Suggested Problems: 2, 3, 5, 6, 7, 8, 14, 15, 16, 27, 28, 30, 33, 42, 43, 44, 45, 46, 56, 57, 58, 60, 61, 62, 64, 65, 66, 67, 82, 85, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 102, 104, 108, 109, 124, 125

July 26

Chapter 19: ***Solubility and Simultaneous Equilibria***

Suggested Problems: 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 44, 45, 46, 47, 48, 49, 68, 70

July 27, 31

Chapter 20: ***Thermodynamics***

Suggested Problems: 20, 30, 46, 50, 64, 65, 66, 67, 70, 71, 74, 75, 82, 83, 84, 85, 86, 87, 90, 91, 92, 93, 97, 98, 119

August 1, 2

Chapter 21: ***Electrochemistry***

Suggested Problems: 20, 21, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94

August 3 Final Exam

Chapters 17 - 21

*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 the chapter that the professor believes is most important for the student to understand. Many problems are similar. A large number of problems are given so that the student will have plenty of opportunity to master the material by repetitive problem solving. It, of course, follows that these are also the types of questions and problems that will appear on the quizzes and exams.

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.

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 **July 5**. 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 Southern

Connecticut State University Bookstore. Ask specifically for the Safety Glasses for General Chemistry Laboratory.

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 Thursdays. In the event that a Thursday class is canceled, the scheduled exam will be given at the next class meeting, hopefully, the following Tuesday. Scheduled quizzes will not be given the following Tuesday.

Some Final Thoughts: The student is challenged to put forth a maximum effort while preparing for this class. As with any worthwhile endeavor, the more that you put in, the more that you will get out; i. e., learn, from the actual experience.

The professor will, concurrently, be putting forth a maximum effort to bridge any gaps between the two; i. e., preparation and performance, so that your maturity, creativity, and curiosity as students of chemistry may be developed, encouraged, and stimulated.

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.

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.

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.