CH 102 – INTRODUCTORY CHEMISTRY II - SPRING 2006

Credit: 3 hours

Prerequisites: CH 101, 101L
Corequisite: CH 102L

Instructor: Dr. Michael B. Moeller
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Office - FSB 211
Office Hours - M, W,H, F 8:00 – 9:30
M, T,W,H 5:00 – 6:00

Description: Chemistry 102 is a continuation of the introduction to chemistry with emphasis on organic and biochemistry. The course is acceptable for general studies area III credit or for a major in nursing.

Text: Peters and Cracolice, Introductory Chemistry, 2nd edition, 2004

Purpose: The intention of chemistry 102 is to increase students' knowledge about substances commonly encountered in the today's world, especially in the health professions, and to provide an understanding of their physical and chemical properties.

Course Objectives: This course will first explore how the structure and shape of molecules gives rise to the physical and chemical properties of substances. We will then study the nomenclature, structure and properties of organic and biochemical compounds. Following this, the chemistry of solutions and acid-base reactions will be considered with the objective of mastering concentration calculations and gaining a working knowledge of pH. Finally, the course will consider nuclear chemistry with the objective of familiarizing students with common uses of radionuclides and the effect of radiation on living systems.

Evaluation Procedure: Your grade in CH 102 will be determined by quizzes, exams and a comprehensive final.

3 hour exams @ 100 pts.	300 pts
7 quizzes @ 20 pts. with lowest grade dropped	120 pts
final exam @150 pts....(Friday, May 5 at 10:15 am)	150 pts
TOTAL	570 pts

There will be 570 points available by the end of the semester. Final grades in this course will be assigned according to the following schedule: Students having 90% or more of the total points possible will receive an A. Students having between 80% and 90% of the total points will receive a B for the course. The cut offs for the grades C and D are 70% and 60% of the total points, respectively.

Attendance Policy: In accordance with the University attendance policy, anyone who misses more than eight classes will not receive credit for this course If you know you are going to have to miss a quiz or exam, please make arrangements with the instructor to take the quiz or exam early. If you miss a quiz or exam because of illness or other compelling circumstances, please contact the instructor as soon as possible. It may be that you can arrange to take the quiz or exam before the next class period. Otherwise you will receive a zero for a missed quiz and the final exam will count and additional 100 points for a missed hour exam. Your lowest quiz grade is dropped.

Withdrawal Policy: The last day to drop a class this semester is April 21. It is the policy of the Department of Chemistry and Industrial Hygiene that student dropping a chemistry class that requires that a laboratory be taken concurrently must also drop the corresponding laboratory course. Likewise a student dropping a chemistry laboratory must also withdrawal from the corresponding chemistry class.

Equal Opportunity Statement: It is the policy of the University of North Alabama to afford equal opportunity in education to qualified students. Therefore, a student who has a disability that inhibits the student's ability to meet course requirements and who desires accommodations must contact the instructor and Developmental Services within the first three class meeting of the semester (within the first three days during the summer terms). The goal is to develop a timely accommodation plan and to file an American with Disabilities Act (ADA) Accommodation Form. Course requirements will not be waived but accommodations will be made to allow each student to meet course requirements provided the student acts within the first three class meetings in working with the instructor to develop an accommodation plan. If a disability is identified later in the semester, a non-retroactive accommodation plan will developed at that time.

INTRODUCTORY CHEMISTRY LABORATORY – CH 102L
Spring Semester 2005 – Course Information

Credit: 1 hour
Instructor: Dr. Jeff Choron

Prerequisites: CH 101, CH 101L
Office: FSB 411
Office Hours: Thursday 10:00 - 12:00

Laboratory Manual: Laboratory Experiment for General, Organic and Biochemistry, fourth edition, Bettleheim & Landesberg

Course Description: A continuation of introductory chemistry laboratory involving basic laboratory operations and techniques. The primary focus of the laboratories will be organic chemistry and biochemistry.

Departmental Goals: CH 102L is offered to introduce students to chemistry as an empirical science, to teach students the fundamental techniques of basic experimental in chemistry and to use these experiments to illustrate chemical principals.

Course Objectives:
1. To illustrate fundamental chemical principles through laboratory experiments.
2. To involve the student in planning a laboratory experiment.
3. To introduce basic laboratory techniques.
4. To learn how to make accurate measurements using a variety of laboratory equipment
5. To illustrate the treatment and interpretation of laboratory data.
6. To practice the principles of laboratory safety.

Laboratory Rules:
1. Eye protection is required AT ALL TIMES when you are in the laboratory. Contact lenses should not be worn in the laboratory. Goggles are essential if contact lenses must be worn.
2. Horseplay, pranks, or other acts of mischief are especially dangerous and are prohibited.
3. Eating and drinking in the laboratory are prohibited.
4. Appropriate clothing must be worn. Confine long hair and loose clothing. Open-toed shoes, sandals, or bare feet are not permitted
5. Learn the location of the shower, eye wash station, fire extinguisher and exits.
6. Read the directions carefully for each experiment.
7. Unauthorized experiments are prohibited.
8. Never perform work on an experiment while alone in the laboratory.
9. Never place glassware or other laboratory equipment in your mouth.
10. Never taste chemicals in the laboratory.
11. If you turn it on - turn it off. If you take it from the shelf - put it back. If you open it - close it.
12. Do not take reagents from another bench. If you cannot find a necessary reagent at your bench ask the instructor.
13. No chemicals or equipment may be removed from the laboratory.
14. Wash your hands and arms before leaving the laboratory.

Attendance: Laboratory is an organized group activity and it will not be possible to make-up a missed laboratory period, *per se*. For one laboratory absence, an essay can be submitted as substitution for the grades for the missed laboratory period. This essay must be an original composition in which the student relates concepts encountered in CH 102 to observations made outside of chemistry class and lab. What in your world do you comprehend better for having studied chemistry? The essay must have a minimum of four double-spaced pages in 12 pt. font. The essay will be due the last laboratory period.

Student Disabilities: It is the policy of the University of North Alabama to afford equal opportunity in education to qualified students. Therefore, a student who has a disability that inhibits the student's ability to meet course requirements and who desires accommodations must contact the instructor and

Developmental Services within the first three class meetings (within the first three days during the summer terms). The goal is to develop a timely accommodation plan and to file an Americans with Disabilities Act (ADA) Accommodation Form. Course requirements will not be waived, but accommodations will be made to allow each student to meet course requirements, provided the student acts within the first three class meetings in working with the instructor to develop an accommodation plan. If a disability is identified later in the semester, a non-retroactive accommodation plan will be developed at that time.

Grade Assignment: Your work will be evaluated through your laboratory report sheets, prelab quizzes, and a final exam on the semester's experiments. Laboratory report sheets for an experiment are due at the end of the laboratory period when performed. The prelab quiz will have questions similar to the prelab quizzes in the manual for the laboratory to be performed on that day. The final exam will be open book/notes and will review the experiments performed during the semester. The various aspects of the course will be given the following weights for the purpose of grade assignment.

Performing experiments (attending lab)	40%
Laboratory report sheets	25%
Quizzes	20%
Final exam	15%
TOTAL	100%

A total of 90% will required for an A, 80% for a B, 70% for a C, and 65% for a D.

2005 Schedule (is subject to change.)

Date	Exp. No.	Experiment Title
January 19 & 20	Handout	Check-in & Standardizing a Sodium Hydroxide Solution
January 26 & 27	Expt. 22	Analysis of vinegar by titration
February 2 & 3	Expt. 24	Molecular models I
February 9 & 10	Expt. 26	Identification of hydrocarbons
February 16 & 17	Expt. 28	Identification of alcohols and phenols
February 23 & 24	Expt. 29	Identification of aldehydes and ketones
March 2 & 3	Expt. 30	Properties of carboxylic acids and esters
March 9 & 10	Expt. 34	Active ingredients in aspirin pills
March 16 & 17	Expt. 35	Isolation of caffine from tea leaves
March 23 & 24	Expt. 38	Preparation and properties of a soap
March 30 & 31	No Lab	Spring Break ☺
April 6 & 7	Expt. 19	Factors affecting rate of reactions
April 13 & 14	Expt. 20	Le Chatelier's Principle
April 20 & 21	Handout	Polymers, colloids and gels
April 27 & 28		Final Exam & Check-out