

## SYLLABUS

## CH 112-01

## SPRING 2006

CH 112-01 General Chemistry SPRING 2006 Credit: 3 hrs. Prerequisite: CH 111/111L				
Week of	Monday	Wednesday	Friday	Questions/Problems
Jan-9		Ch 12	Ch 12	Ch-12: 1, 2, 4-7, 9, 10-58 even, 68,72, 74, 80
Jan-16	No Class	Ch 12	Q-1, Ch 12	
Jan-23	Ch 12	Ch 13	Q-2, Ch 13	Ch-13: 1-4, 6, 9-11, 16-34 even, 38, 40, 44, 46,50, 56, 58
Jan-30	Ch 13	Ch 13	Q-3, Ch 14	Ch-14: 1-7, 12, 13, 16-28 even, 32, 34, 40, 44-58 even, 62-68 even, 78, 84
Feb-6	Ch 14	Ch 14	Q-4, Ch 14	
Feb-13	Ch 15	E-1	No Class	Ch-15: 1-15, 16-44 even, 58-66 even, 70, 72, 82, 90
Feb-20	Ch 15	Ch 15	Q-5, Ch 15	
Feb-27	Ch 15	Ch 16	Q-6, Ch 16	Ch-16: 1-7, 8-50 even
Mar-6	Ch 16	Ch 16	Q-7, Ch 17	Ch-17: 1-9, 10-72 even, 78, 80, 88, 90, 102, 104
Mar-13	Ch 17	Ch 17	Q-8, Ch 17	
Mar-20	Ch 17	E-2	Ch 18	
Mar-27	Spring	Break	No Class	
Apr-3	Ch 18	Ch 18	Q-9, Ch 18	Ch-18: 1-6, 8-12, 18-44 even, 48-70 even, 74-78 even
Apr-10	Ch 18	Ch 19	No Class	Ch-19: 1-6, 12-46 even
Apr-17	Ch 19	Ch 19	Q-10, Ch 19	Ch-20: 1-11, 12-58 even
Apr-24	Ch 20	Ch 20	Q-11, Ch 20	
May-1	E-3	Ch 20		

**TEXT:** CHEMISTRY & *Chemical Reactivity*, Sixth Edition    **AUTHORS:** Kotz, Treichel and Weaver  
**INSTRUCTOR:** Dr. Robert Gaunder    **OFFICE:** FSB 305    **OFFICE HRS:** M 8-9, 11-12; T 11-12; W 8-9, 11-12;  
**E-MAIL:** rrgaunder@una.edu    **PHONE:** 765-4474    **R** 10-12, 1-2; **F** 8-9, 11-12; & by appointment  
**Course Grade:** Quiz Average\*    20%  
Hour Exam Avg.    60%  
Final Exam    20% (comprehensive coverage)    **DATE: Monday, 5/8/05, 8:00-9:45**

\*A student taking all quizzes as scheduled may drop the lowest quiz grade. For a student who misses one or more quizzes, the first quiz missed counts as the dropped grade and the quiz absence policy below applies to all other missed quizzes.

**Note: a grade of C or better in both CH 111 & 112 is required to enroll in upper level chemistry courses.**

**Course Withdrawal Policy:** See 2005-2006 Catalog, pp 51-53. **Last day for course withdrawal with W is 4/21/06. Students dropping a chemistry or an industrial hygiene class which requires that lecture and laboratory be taken concurrently must drop both the lecture and the corresponding laboratory course.** Students wishing to withdraw from the course should fill out a DROP CARD and present it to Dr. Gaunder for his signature. The drop card signed by both the student and Dr. Gaunder should be presented to the Office of the Registrar, Room 119 Bibb Graves Hall.

**Class Attendance:** You are expected to attend class. Each student will sign a roll sheet at the beginning of each class. Students arriving late are responsible for making sure that the roll sheet is signed before leaving at the end of class. Signing another's name on an attendance sheet is considered academic dishonesty. **A student whose total number of class absences exceeds 12 should withdraw from the course before 4/21/06; otherwise, the student will receive a grade of F.**

**Policy for Calculators:** A calculator that has functions for multiplying, dividing, adding and subtracting, log, and exponential notation can be used on quizzes and exams. **Cell phone calculators and programmable large screen calculators cannot be used on quizzes and exams.**

**Quiz Absence Policy:** No excuse is needed for the first absence from a quiz because the first quiz absence counts as the dropped quiz grade. After the first quiz absence, the student must provide written verification of illness (doctor's or infirmary excuse) or unusual circumstances (e.g. car breakdown, death in the family, etc.) for an excused absence. A written excuse must be turned in no later than the next hour exam after the date of absence. As a make-up quiz grade for an excused absence the student will receive the grade earned on the next hour exam. The grade is zero for all unexcused quiz absences.

**Exam Absence Policy:** If you are absent from an hour exam due to illness or unusual circumstances beyond your control, it is your responsibility to call (765-4474) and let me know your reason for missing the exam within 24 hours after the exam. A grade of zero will be recorded for an unexcused absence from an hour exam or for failure to make up an hour exam.

**Policy on Student Misconduct:** A student directly involved in academic dishonesty such as cheating, theft of test or quiz material, signing another's name of attendance roll, or plagiarism will receive a grade of **F** for the course.

**NOTE:** It is the policy of UNA 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.

Syllabus - Spring 2006

COURSE: CH 112LA & LB, General Chemistry Laboratory; CREDIT: 1 hr; Prerequisite: CH111,111L

COURSE DESCRIPTION: Laboratory for CH 112 consisting of a study of solutions, chemical reactions in solution, equilibrium systems, reaction rates, neutralization reactions, complex formation reactions, oxidation reduction reactions, and colloidal systems.

LABORATORY MANUAL: Laboratory Manual for Principles of General Chemistry, Seventh Edition,  
Author: J. A. Beran  
(CH 112 text: Chemistry & Chemical Reactivity, Sixth Edition, Authors: Kotz & Treichel)

INSTRUCTOR: Dr. Robert Gaunder      OFFICE: FSB 305      PHONE: 765-4474  
OFFICE HOURS:      M 8-9, 11-12; T 11-12; W 8-9, 11-12  
R 10-12, 1-2; F 8-9, 11-12  
and by appointment  
E-MAIL: rggaunder@una.edu

DEPARTMENTAL GOALS: The purpose of this course is to illustrate through laboratory experiments chemical principles related to chemical synthesis, solids and liquids, solution properties, acids and bases, chemical kinetics, chemical equilibrium, oxidation-reduction reactions, thermodynamics, and quantitative analysis.

COURSE OBJECTIVES:

1. To illustrate fundamental chemical principles through laboratory experiments.
2. To introduce simple laboratory techniques.
3. To learn how to make accurate measurements using a variety of laboratory equipment.
4. To illustrate the treatment and interpretation of laboratory data.
5. To demonstrate the principles of laboratory safety.

GRADING:    Experiment Reports    70%  
                  Prelab quizzes        15%  
                  Final Exam            15%

NOTE: 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.

## LABORATORY RULES

1. Eye protection is required **AT ALL TIMES** when you are in the laboratory.
2. Horseplay, pranks, or other acts of mischief are especially dangerous and are prohibited.
3. Eating, drinking, and smoking are prohibited in the laboratory.
4. Appropriate clothing must be worn. Confine long hair and loose clothing. **Open-toed shoes, sandals, or bare feet are NOT permitted.**
5. Locate the shower, eye wash station, and fire extinguisher and learn how each safety device is operated.
6. Read carefully the directions for each experiment; unauthorized experiments are prohibited.
7. Never perform work on an experiment alone in the laboratory.
8. Never place glassware or other laboratory equipment in your mouth; never taste chemicals in the lab.
9. **Never return excess reagent (solid, liquid or solution) to the reagent bottle.** Dispose of excess reagents as described in the experiment.
10. If you turn it on - turn it off. If you take it from the shelf - put it back. If you open it - close it.
11. No chemicals or equipment may be removed from the laboratory.
12. Always wash your hands and arms with soap and water before leaving the laboratory.

**Attendance and Withdrawal Policies:** See 2005-2006 Catalog, pp 51-53. Last day for course withdrawal (W) is 4/21/06. **Students dropping a chemistry or an industrial hygiene class which requires that lecture and laboratory be taken concurrently must drop both the lecture and the corresponding laboratory course.** Students wishing to withdraw from the course should fill out a DROP CARD and present to Dr. Gaunder for his signature. The drop card signed by both the student and Dr. Gaunder should be presented to the Office of the Registrar, Room 119 Bibb Graves Hall.

**Class Attendance:** Each student is expected to attend laboratory. With the permission of the instructor, a student who misses a lab can make-up the lab at another scheduled lab period during the same week of the absence. Labs are scheduled as follows: T, 12:30-3:15; T, 6:00-8:45; W, 2:00-4:45. **A student whose total number of absences (excused or unexcused) exceeds four (4) should withdraw from the course before 4/21/06; otherwise, the student will receive a grade of "F" in the course.**

**Policy on Student Misconduct:** A student directly involved in academic dishonesty such as cheating, theft of test/quizz material, doctoring (changing to deceive) lab results, or plagiarism will receive a grade of F for the course.

## SCHEDULE Spring Semester - 2006

<u>Week of</u>	<u>Expt. No.</u>	<u>Experiment Title</u>
Jan 17, 18	Expt 17	Check-in, Synthesis of Alum, $KAl(SO_4)_2 \cdot 12H_2O$ part A; p 209
Jan 24, 25	Expt 18	Molar Mass of a Volatile Liquid; p 219
Jan 31, Feb 1	Expt 19	Calcium Carbonate Analysis, Molar Volume of Carbon Monoxide; p 227
Feb 7, 8	Handout	Polymers and Colloidal Systems
Feb 14, 15	Expt 9	A Volumetric Analysis; p 109
Feb 21, 22	Expt 20	Molar Mass of a Solid; p 235
Feb 28, Mar 1	Expt 28	Aspirin Synthesis and Analysis; p 323
Mar 7, 8	Expt 28	Aspirin Synthesis and Analysis; p 323
Mar 14, 15	Expt 22	Factors Affecting Reaction Rates; p 257
Mar 21, 22	Expt 23	Determination of a Rate Law; p 267
Mar 28, 29	No Lab	Spring Break
Ap 4, 5	Expt 24	LeChatelier's Principle; Buffers, p 281
Ap 11, 12	Expt 25	An Equilibrium Constant; p 293
Ap 18, 19	Expt 13	Acids, Bases, and Salts; pH; p 169
Ap 25, 26	Expt 26	Antacid Analysis; p 305
<b>May 2, 3</b>	<b>Final Exam - Check-out</b>	