



## **COLLEGE CHEMISTRY II**

3-3-4

Date: 08/11/09

**COURSE NUMBER:** CHM 111

**PREREQUISITE(S):** CHM 110 with a grade of "C" or better

**CO-REQUISITE(S):** None

**COURSE DESCRIPTIONS:**

This course is a continuation of the study of atomic and molecular structure, nomenclature and equations, properties, reactions and states of matter, stoichiometry, gas laws, solutions, and equilibria. Other topics included are kinetics, thermodynamics, and electrochemistry.

**GENERAL EDUCATION OUTCOMES:**

Students who complete the general education core curriculum should be able to demonstrate

1. rationality, logic, and coherence, through critical thinking;
2. their ability to express themselves effectively in written and oral communication;
3. their ability to express themselves effectively in quantitative and qualitative terms;
4. the scientific method of inquiry; and
5. their ability to access, retrieve, synthesize, and evaluate information.

**TEXTBOOK(S):** McMurry, John, and Fay, Robert C., Chemistry, 5th Ed., Pearson/Prentice Hall, 2008 (ISBN 0-13-199323-2)  
Bhatti, A.M., Laboratory Manual for College Chemistry II, Spartanburg Community College, Spartanburg, SC, 2009

**REFERENCE(S):** None

**OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT:**

A scientific calculator (no cell phone calculator)  
Safety goggles for the laboratory  
Solutions manual (optional) for McMurry & Fay's Chemistry

Computer with Internet access, Internet Explorer 5.0 or higher or other current browser, Java, word processing software (must be able to save Word format), and anti-virus software. Access to a scanner or U.S. Postal Service.

**METHOD OF INSTRUCTION:**

The online course is taught by providing guidelines to reading and practice problems; by providing sample tests; and by using other online study and teaching techniques.

**GRADING SYSTEM:**

90 - 100 = A  
80 - 89 = B  
70 - 79 = C  
60 - 69 = D  
Below - 60 = F

**GRADE CALCULATION METHOD:**

Tests	=	50%
Laboratory	=	30%
Final Exam	=	20%
	=	<u>100%</u>

**CONFIDENTIALITY:**

All students' e-mail addresses may be available to other students in the class. Although some assignments in an online course may encourage or require peer communication, the instructor will make every effort to protect the confidentiality of any personal communication (for example, grades). However, you should recognize that e-mail and other electronic media are not secure; there is no guarantee of the privacy of your e-mail or other personal information.

**APPROPRIATE ONLINE BEHAVIOR:**

The use of Spartanburg Community College's website, e-mail service or course management software for creation and/or distribution of material not pertaining to course participation is prohibited and is grounds for dismissal according to College policy under "disruptive behavior." Such actions, include, but are not limited to:

- Inappropriate use of email and discussion boards for:
  - ✓ Harassment
  - ✓ Unlawful solicitation
  - ✓ "Spamming"
  - ✓ "Flaming"
- Use of online editing tools within the course management software to:
  - ✓ Create offensive material
  - ✓ Link to inappropriate materials

**ATTENDANCE  
POLICY:**

An electronic mail to the instructor or log-in to the course is required from each student during the drop-add period. If this condition is not met, the Instructor will drop such students from the course.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student who stops attending the online class and fails to initiate a withdrawal will remain on the class roster. *With this in mind, for every assignment, test or exam not completed while still enrolled in the course the student will receive a grade of zero and the final course grade will be calculated accordingly.*

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

**ACADEMIC  
CONDUCT:**

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

**TEST/EXAM/LAB  
PROCEDURES:**

Students are required to take tests and final exam in the SCC Testing Center located in the East Building, Room E-3. Tests/Exam, if not taken within the time frame specified in the course calendar, will result in a grade of zero for that Test/Exam. Five laboratory meetings are required to be attended on SCC Central Campus on dates specified in the calendar. Lab reports must be submitted on time; otherwise, a reduced grade will be awarded. Lab reports cannot be modified after submission. Same is true for tests. All written assignments (labs, tests, homework, etc.) will be graded and offered for review by students within one week of

submission.

**ACCOMMODATIONS:** Students who need special accommodations in this class because of a documented disability should notify Student Disability Services. You may contact Student Disability Services by calling, (864) 592-4811, toll-free 1-800-922-3679; via email through the Spartanburg Community College web site at [www.sccsc.edu/SDS/](http://www.sccsc.edu/SDS/); or by visiting the office located in the Dan Lee Terhune Student Services Building, room 112 of the Spartanburg Community College campus. By contacting Student Disability Services early in the semester, students with disabilities give the College an opportunity to provide necessary support services and appropriate accommodations.

**COURSE OUTCOMES & OBJECTIVES:** As a result of successful completion of this course, a student will be able to:

- I. Apply principles of thermochemistry, thermodynamics, and solution concentration.
  1. Define energy and related terms.
  2. Calculate heats of reaction.
  3. Apply Hess's law and calculations involving heats of formation.
  4. Apply calculations involving units of concentration.
- II. Apply calculations involving colligative properties and reaction rates.
  1. Apply calculations involving colligative properties.
  2. Apply calculations involving reaction rates.
- III. Apply principles of equilibria and ionization.
  1. Define equilibrium state and constant.
  2. Apply calculations involving equilibrium constants.
  3. Apply Le Chatelier's principle.
  4. Calculate quantities involving ionization constants and pH.
- IV. Apply principles of electrochemistry.
  1. Describe galvanic cells.
  2. Apply calculations involving standard potentials.
- V. Apply principles of organic and nuclear chemistry.
  1. Apply principles of organic chemistry.
  2. Apply principles of nuclear chemistry.

- VI. Describe main group chemistry and transition elements.
  - 1. Describe main group chemistry.
  - 2. Describe transition elements.
- VII. Apply basic laboratory operations.
  - 1. Apply basic laboratory operations to the study of heats of reactions, boiling-point elevation, reaction rates, chemical equilibrium, and antacids.
  - 2. Apply basic laboratory operations to the study of ionization, pH, common-ion effect, buffer solutions, oxidation-reduction, and molecular structure.