

**COURSE SYLLABUS**  
**CHE 202-01**  
**SUMMER 2010**

**Instructor:** Lisa M. Devillez  
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<http://chemistryconnections.com>  
**Office Hours:** Immediately following class  
**Lecture:** CB 1213, 8:00am-11:50am M F ; 9:50am-11:50am T Th  
**Laboratory:** CB2209/2210, 8:00am-9:50am T Th

**DEPARTMENT:** CHEMISTRY

**COURSE NUMBER:** CHE 202-01      **CREDIT HOURS:** 5.0

- I. TITLE:** General Chemistry and Qualitative Analysis
- II. CATALOG DESCRIPTION:** A continuation of CHE 201 emphasizing thermochemistry, solution chemistry, oxidation-reduction reactions, chemical kinetics, chemical equilibrium, acid-base chemistry, thermodynamics, electrochemistry, and selected topics.
- III. PURPOSE:** To provide an introduction to the topics covered in the catalog description suitable for students intending to pursue further courses in chemistry. The coverage of the material will also be suitable for individuals intending to pursue careers in other scientific and technical areas.
- IV. COURSE OBJECTIVES:** Student will demonstrate sufficient understanding of the concepts outlined in Section V below to support/facilitate further studies in chemistry. Students will further develop problem solving, scientific thinking and reasoning abilities.
- V. CONTENT OUTLINE:** The topics of the following chapters of the text will be covered:
- |            |  |
|------------|--|
| Chapter 11 | Intermolecular Forces and Liquids and Solids   |
| Chapter 12 | Physical Properties of Solutions               |
| Chapter 13 | Chemical Kinetics                              |
| Chapter 14 | Chemical Equilibrium                           |
| Chapter 15 | Acids and Bases                                |
| Chapter 16 | Acid-Base Equilibria and Solubility Equilibria |
| Chapter 18 | Entropy, Free Energy and Equilibrium           |
| Chapter 19 | Electrochemistry                               |
- VI. INSTRUCTIONAL ACTIVITIES:** Lecture and discussion
- VII. FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:** 2 hour laboratory
- VIII. RESOURCES:** Textbook, laboratory manual, and handouts

**IX. GRADING PROCEDURES:** Grades will be determined based on number of ‘points’ obtained on exams, homework, laboratories and the final exam. Four examinations will be given during the semester, which are worth 100 points each. These examinations will occur on July 8, 15, 22, and 29. Note that these all occur on Thursdays, material covered in each exam will include topics covered up to and including the Monday prior to the examination. Ten experiments will be performed worth 10 points each. Scores on homework will be averaged and will be worth 100 points. The **final examination** (August 3 at 10:00 am) in this course is a **standardized examination** prepared by the American Chemical Society. You will have 110 minutes in which to complete this exam which consists of approximately 70 multiple choice questions. These questions include material covered in both CHE 201 and 202. This final is worth 100 points bringing the point total to 700 points.

**Requirements for Letter Grades:** Letter grades will be determined from the total number of points accumulated by a particular individual compared to the total points for the class. Grades will not be curved. Letter grades are assigned as follows:

90 – 100%	A
80-89%	B
70-79%	C
60-69%	D
<59%	F

**X. ATTENDANCE POLICY:** Attendance is required. If an examination or laboratory session is missed, there will be **no make up laboratory sessions or exams. Attendance to the July 1<sup>st</sup> lab check-in and safety lecture is mandatory for participation in laboratory sessions.**

**XI. ACADEMIC HONESTY POLICY:** Dishonesty of any kind will not be tolerated. A student observed cheating on an exam/quiz/lab report will automatically receive a zero for that activity – no exceptions. A student guilty of a second offense will be given a failing grade for the course. These policies are consistent with the “Academic Dishonesty” statement on page 10 of the *2005-2007 MSU Undergraduate Bulletin*

**XII. TEXT AND REFERENCES:** *Chemistry*, Raymond Chang, 9<sup>th</sup> ed., McGraw Hill  
*Laboratory Manual for Chemistry 202*, McCreary

**XIII. PREREQUISITES:** CHE 201

**XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:**  
Murray State University does not discriminate on the basis of race, color, national origin, sex, religion, marital status, age, or disability in employment, admission, or the provision of services, educational programs and activities, and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. For information regarding nondiscrimination policies contact the Office of Equal Opportunity, 270-809-3155 (V) or (270) 809-3311 (TDD).

## XV. DEPARTMENTAL POLICIES

**Checking Supplies Out of Stockroom:** Students are required to present their valid student identification card in order to check out supplies or equipment from the stockroom.

**Exemption From the Laboratory Component of a Chemistry Course:** The department policy does not provide for exemption from the laboratory component of this course.

**Overloaded Classes:** A student who does not attend, on time, the first laboratory meeting for check-in may be dropped from the course. Individuals who wish to add a particular course and who are on a waiting list will be advised to be at the first laboratory meeting, and will be allowed to add the class in place of students who are dropped, as space is available.

**Checking Out From Laboratory:** A student who is not present for laboratory check-out at the end of the semester, without a valid excuse, will be assessed a check-out/breakage fee of **\$25.00**. Students who drop the course at any time must arrange with the instructor to check-out of laboratory, or must attend the regular check-out, or the student will be assessed this fee.

### CHE 202 LABORATORY SCHEDULE SUMMER 2009

July 1	Check-in / Determination of Enthalpies of Solution
July 6	Molar Mass by Freezing Point Depression
July 8	Synthesis of a Cobalt Complex
July 13	Kinetic Study of a Ligand Exchange Reaction (Handout)
July 15	Spectrophotometric Det. Of the Form. Const. of a complex ion: $\text{FeSCN}^{+2}$
July 20	Acid-Base Titrations and Standardization
July 22	Acid-Base Properties of an Unknown Acid
July 27	Determination of Iron by Redox Titration
July 29	Qualitative Analysis, complete Group I and start Group II
August 3	Qualitative Analysis, complete Group II / Checkout

## SAFETY

All students must read, understand, and abide by the safety rules and turn in a signed copy thereof on the first lab day. **Students must wear OSHA approved safety goggles, long pants, and enclosed shoes (no sandals) during the laboratory.** Goggles will be available for purchase from the Student Affiliates of the American Chemical Society (SAACS) for \$5.00 during the first laboratory period. If you do not already have goggles, please bring money to purchase goggles on the first day of lab. Students not wearing goggles will be asked to leave the laboratory.