CHEM 1203  GENERAL CHEMISTRY I LABORATORY 1 credit
Fall 2006

2004-2006 Undergraduate Studies Bulletin Description:
(includes CHEM 1204  General Chemistry Laboratory II)
Practical applications of the fundamental laws, theories, and principles of
chemistry through problem solving and laboratory experiments.

Prerequisites:
Elementary algebra

Corequisites:
CHEM 1201 General Chemistry I (Lecture) (Corequisite)

Required Textbook:
General Chemistry Laboratory Manual by Dr. C. D. Devine
Third Edition - Summer 1998 (available at the University Bookstore)
Note: This same lab manual will also be used for General Chemistry II lab.

Course objectives and outcomes:

Objective 1: To promote proper laboratory practices and report preparation
  Outcome 1.1: Know location of safety equipment, be familiar with emergency procedures and
  proper laboratory attire.
  Outcome 1.2: Understand laboratory report format and grading criteria.
  Outcome 1.3: Use Microcomputers to assist in report preparation.
  Outcome 1.4: Learn about data limitations and experimental uncertainties.

Objective 2: Become proficient at handling chemicals and using laboratory equipment..
  Outcome 2.1: Be trained in handling acids, bases, flammable and toxic substances.
  Outcome 2.2: Be trained in proper use of balances, burets, eudiometers, Bunsen burners,
  pychnometers, various types of glassware, stands and clamps.

Objective 3: Reinforce material presented in the General Chemistry I recitation course.
  Outcome 3.1: Perform experiments on temperature and density measurements.
  Outcome 3.2: Perform experiments illustrating stoichiometry and chemical reactions.
  Outcome 3.3: Perform experiments related to gas laws, thermochemical concepts, and molecular
  structure.

General “Outcomes” Remarks: Students who successfully complete this course should have deepened
their knowledge of the theoretical material discussed in General Chemistry I lecture. The topics discussed
are all fundamental, and they should serve as a basis for future studies in biology, chemistry, and other
sciences. This course is a prerequisite for General Chemistry II laboratory (CHEM 1204).

Overview
Since there are multiple sections of General Chemistry I Laboratory, the following syllabus should be
regarded as a generic syllabus. All laboratory sections perform the same experiments, but there may be
Instructor specific differences with regard to certain policies such as grading procedures etc. During your
first laboratory period, you will receive additional instructions regarding the exact policies being used.
# Tentative Laboratory Schedule M,T,W,Th, (Fall 2006)

<table>
<thead>
<tr>
<th>Week #</th>
<th>Dates</th>
<th>Activities</th>
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<tr>
<td>3</td>
<td>Sept. 13 – Sept 19</td>
<td>Exp. #3 Stoichiometry I. Decomposition of a hydrate</td>
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<td>4</td>
<td>Sept. 20 – Sept 26</td>
<td>Exp. #4 Stoichiometry II. Mass Relationships (version B unless your instructor states otherwise).</td>
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<td>5</td>
<td>Sept. 27 – Oct 3</td>
<td>Exp. #5 Reactions I. Displacement Reactions</td>
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<td>6</td>
<td>Oct. 4 – Oct. 10</td>
<td>Exp. #6 Reactions II. Acid-Base Titrations</td>
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<td>7</td>
<td>Oct. 11 – Oct. 17</td>
<td>Exp. #1 Temperature Measurements + Exp. #7 Gas Laws I: Simple Gas Laws</td>
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<td>8</td>
<td>Oct. 18 – Oct. 24</td>
<td>Exp. #8 Gas Laws II (part A unless your instructors states otherwise).</td>
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<td>9</td>
<td>Oct. 25 – Oct. 31</td>
<td>Exp. #13 Determination of a Molar Mass of a compound. Part A. The Dumas Method</td>
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<td>10</td>
<td>Nov. 1 – Nov. 7</td>
<td>Exp. #9 Thermochemistry I: Specific Heat and Heat of Solution</td>
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<td>11</td>
<td>Nov. 8 – Nov. 14</td>
<td>Exp. #10 Thermochemistry II: Heats of Reaction and Hess’s Law</td>
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<td>12</td>
<td>Nov. 15 – Nov. 21</td>
<td>Exp. #11 Determination of a Solubility Curve.</td>
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<td>13</td>
<td>Nov. 27 – Dec. 1</td>
<td>Exp. #12 Lewis Diagrams and Molecular Models</td>
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<td>14</td>
<td>Dec. 4 – Dec. 8</td>
<td>Check- Out</td>
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The last day for withdrawing from the course with a grade of "W" is October 31.

During the first lab session, your instructor will explain the laboratory report format to be used, the policy regarding lab quizzes, and the general grading policy used for the course. Unless otherwise stated, laboratory reports are due one week after the completion of the experiment. Late lab reports will not be accepted. No make-ups of missed labs are allowed. Students are generally allowed only one excused absence from lab.

Your instructor may also opt to supplement some of the experiments listed above with (a) video tapes illustrating various chemistry principles, (b) computer exercises, or (c) demonstrations.

**Safety Procedures and Policies:**

During the first laboratory period, your instructor will explain the safety procedures and policies that are to be followed in this course. All students are expected to follow these procedures at all times. Appropriate laboratory attire is required. No student will be permitted into laboratories wearing shorts, halter-tops, open toed sandals, undershirts, tank tops or any other inappropriate attire. All students are to purchase a white laboratory coat which can be used for any Biology or Chemistry class which requires a lab - non-majors or majors.

**Academic Integrity Policy:**

Each student must submit his or her own laboratory report. Copying of reports in full or in part is strictly forbidden and such cheating will be dealt with harshly. Also note that the sharing on computer files in full or in part is strictly forbidden too.

A copy of the current Fairleigh Dickinson University Academic Integrity Policy is available at FDU’s website.