CHEM 1204 GENERAL CHEMISTRY II LABORATORY 1 credit
Spring 2012
2002-2004 Undergraduate Studies Bulletin Description:
Practical applications of the fundamental laws, theories, and principles of chemistry through problem solving and laboratory experiments.

Prerequisites:
CHEM 1201 General Chemistry I (lect), CHEM 1203 General Chemistry I Laboratory, Elementary algebra

Corequisites:
CHEM 1202 General Chemistry I (Lecture)

Required Textbook: General Chemistry Laboratory Manual by Dr. Christopher Devine (Professor Emeritus), Dr. James Dougherty, Dr. Ish Kumar, Dr. Mihaela Leonida, and Dr. Arthur Murphy)
Fall 2011 Edition (available at the University Bookstore).

Course objectives and outcomes:

Objective 1: To promote proper laboratory practices and report preparation (Programmatic Outcome #1,2,3,4,5)
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. (Programmatic Outcome #1,2,3,4,5)
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. (Programmatic Outcome #1,2,3,4,5)
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 (Spring - 2012)

<table>
<thead>
<tr>
<th>Week #</th>
<th>Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Exp. #15 Molar Mass Determination by Freezing Point Depression.</td>
</tr>
<tr>
<td>3</td>
<td>Exp. #16 Chemical Kinetics I: The Method of Initial Rates.</td>
</tr>
<tr>
<td>4</td>
<td>Exp. #17 Chemical Kinetics II: Integrated Rate Laws</td>
</tr>
<tr>
<td>5</td>
<td>Exp. #18 Determination of the Equilibrium Constant of a Chemical Reaction</td>
</tr>
<tr>
<td>6</td>
<td>Exp. #19 Titration of a Polyprotic Acids and Determination of Acid Dissociation Constants.</td>
</tr>
<tr>
<td>7.</td>
<td>Exp. #20 Solubility Products, Common Ion Effect, Hardness of water</td>
</tr>
<tr>
<td>8</td>
<td>Exp. #21 Analysis of Group III ions</td>
</tr>
<tr>
<td>9</td>
<td>Exp. #22 A Redox Titration</td>
</tr>
<tr>
<td>10</td>
<td>Exp. #23 Electrochemical Cells.</td>
</tr>
<tr>
<td>11</td>
<td>Exp. #24 Ion Exchange Chromatography</td>
</tr>
<tr>
<td>12</td>
<td>Exp. #25 Spectroscopy of Complex Ions.</td>
</tr>
<tr>
<td>13</td>
<td>Exp. #26 Organic Chemistry and the Synthesis of Esters.</td>
</tr>
<tr>
<td>14</td>
<td>Check out. Lab final exam.</td>
</tr>
</tbody>
</table>

The last day for withdrawing from the course with a grade of "W" is April 2th.

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.

Fairleigh Dickinson’s Academic Integrity Policy

Students enrolled at Fairleigh Dickinson University are expected to maintain the highest standards of academic honesty. Students have the responsibility to each other to make known the existence of academic dishonesty to their course instructor, and then, if necessary, the department chair, or the academic dean of their College. Course instructors have the added responsibility to state in advance in their syllabi any special policies and procedures concerning examinations and other academic exercises specific to their courses. Students should request this information if not distributed by the instructor.

Academic dishonesty includes, but is not necessarily limited to, the following:

1. **Cheating**—Giving or receiving unauthorized assistance in any academic exercise or examination. Using or attempting to use any unauthorized materials, information, or study aids in an examination or academic exercise.

2. **Plagiarism**—Representing the ideas or language of others as one's own. A more complete description is listed below in the section titled “Plagiarism Described.”

3. **Falsification**—Falsifying or inventing any information, data, or citation in an academic exercise.

4. **Multiple Submission**—Submitting substantial portions of any academic exercise more than once for credit without the prior authorization and approval of the current instructor.

5. **Complicity**—Facilitating any of the above actions or performing work that another student then presents as his or her assignments.

6. **Interference**—Interfering with the ability of a student to perform his or her assignments.
Plagiarism Described*

As defined by the Council of Writing Program Administrators, plagiarism “occurs when a writer deliberately uses someone else’s language, ideas, or other original (not common-knowledge) material without acknowledging its source.” ("Defining and Avoiding Plagiarism: The WPA Statement on Best Practices."<http://www.wpacouncil.org/positions/WPAplagiarism.pdf>)

Plagiarism can occur in the following ways:**

- Using text from another source (e.g. websites, books, journals, newspapers, etc.) without documenting the source;
- Using direct quotation from a text without quotation marks, even if the source has been cited correctly;
- Paraphrasing or summarizing the ideas or text of another work without documenting the source;
- Substituting a word or phrase for the original while maintaining the original sentence structure or intent of the passage;
- Using graphics, visual imagery, video or audio without permission of the author or acknowledgment of the source;
- Translating text from one language to another without citing the original work;
- Obtaining packaged information, foreign language translation or a completed paper from an online source and submitting it as one’s own work without acknowledgment of the source; and
- Presenting the work of another student as one’s own.

Fairleigh Dickinson students are responsible for authenticating any assignment submitted to an instructor should the instructor request it. Students must be able to produce proof that the assignment they submit is actually their own work. Therefore, students must engage in a verifiable work process on all assignments:

- Keeping copies of all drafts of work;
- Making photocopies of research materials (including downloads from websites);
- Writing summaries of research materials;
- Keeping Writing Center receipts;
- Keeping logs or journals of their work on assignments and papers; and
- Saving drafts or versions of assignments under individual file names on a computer, external drive or other source.

In addition to requiring students to authenticate their work, Fairleigh Dickinson University instructors may employ various other means of ascertaining authenticity—such as using search engines to detect plagiarism, using external plagiarism detection services, creating quizzes based on student work, and requiring students to explain their work and/or process orally. The inability to authenticate work is sufficient grounds for a charge of plagiarism.

If subsequent evidence of plagiarism should be found after a grade has already
been assigned, instructors have the right to lower the grade and/or apply one of the-sanctions listed below.

**Sanctions:** Any student violating academic integrity will, for the first offense, receive one or a combination of the following penalties imposed by the faculty member:

1. *No credit (0) or Failure* for the academic exercise.

2. *Reduced grade* for the course.

3. *Failure* in the course.

4. Recommendation for *Academic Probation* to the dean of the college in which the student is registered.

The instructor shall file a notice of the penalty in the student’s file maintained in the campus Office of Enrollment Services.

In cases of interference and complicity, whether or not the student is registered in the affected course, the incident and penalty shall be recorded in the student's file maintained in the campus Office of Enrollment Services.

For a subsequent violation of academic integrity, a student will be subject to any combination of the above sanctions, and, after due review by the academic dean according to the procedure below, one of the following:

1. *Suspension* from the University for one year. Readmission will be contingent upon the approval of the academic dean.

2. *Dismissal* from the University.

3. *Dismissal from the University identified on the student’s academic transcript* as a result of a violation of the Academic Integrity Policy.

**Procedure:** When a faculty member believes that a student has violated the Academic Integrity Policy, the faculty member shall discuss the incident with the student as soon as possible. If after the conference, the faculty member determines that an act of academic dishonesty has occurred, the faculty member may impose the appropriate sanctions. Within five days of the faculty member’s action, the faculty member shall notify his or her department chair/school director in writing of the circumstances of the violation and the imposed sanctions. Within five days the academic department/school shall notify the student via certified mail/return receipt of the sanctions and the appeals’ procedures. Copies of the notice shall be sent to the chair of the department or director of the school of the student's major, the dean of the college in which the course is offered and the campus Office of Enrollment Services. The student may appeal the instructor’s decision as outlined below. Upon completion of the appeals process, the dean shall notify the student of the final disposition of the matter and the sanctions to be imposed, if any, via
certified mail with copies to the faculty member, the department chair/school director and the campus director of enrollment services.

**Appeals Process:** A student who is charged with violating the Academic Integrity Policy by an instructor may appeal in writing to the chair of the department or the director of the school in which the alleged incident took place. The letter must state the specific grounds for the appeal. The student must submit a written appeal to the department chair or school director within 14 days of the receipt of the notification of the imposed sanctions. Failure to make an appeal within this 14-day period shall constitute a waiver of the appeal right. Within 10 working days of the receipt of the student’s appeal, the chair/director will review the circumstances of the alleged violation with the student and the instructor and recommend upholding, modifying, or dismissing the sanctions imposed by the instructor. The chair/director, within five working days, shall notify the student in writing via certified mail of the outcome, with copies to the instructor, the chair/director of the student’s major, the academic dean of the college in which the course is taught and the campus director of enrollment services. If it is determined that a violation of academic integrity did not occur, the student’s final grade in the course cannot be based on the assumption of such violation. If the differences between the instructor and the student are not resolved by this review, the student may appeal the outcome to the dean of the college in which the course is offered.

Within 10 working days of the department chair/school director’s notification, the student may submit a written appeal to the dean of the college in which the alleged dishonesty took place. The letter must state the specific grounds for the appeal. Upon receipt of the student’s appeal, the dean shall provide the faculty member and his or her chair/director with a copy of the student’s appeal. Within 10 working days the dean shall convene a five-person hearing committee consisting of a faculty member at large from the college in which the course is offered, the dean or his or her designee, the campus dean of students or his or her designee, a faculty member from the department or school of the student’s major, and a student, selected by the campus dean of students, from the college in which the alleged dishonesty took place. The hearing will be chaired by the college dean or his or her designee. The role of the appeals committee is to review the record of the matter and determine whether a finding of academic dishonesty is founded and whether a sanction is consistent with the terms of this policy. The committee shall base its decision upon a review of the record but may meet with the student and the faculty member to secure additional information to help it in making a determination about the merits of the appeal. The committee can uphold, modify or dismiss the sanction imposed by the instructor. The college dean shall notify the student of the committee’s decision within five working days of the hearing. For a second offense of academic dishonesty, the academic dean can suspend or dismiss the student as indicated above.

For a sanction of suspension or dismissal imposed by the academic dean, the student may file a written appeal to the University Provost/Senior Vice President for Academic Affairs within 10 working days of receiving the notification of the dean's decision. The University Provost, or his or her designee, shall review the case within 10 working days
of the receipt of the appeal. The University Provost shall make the final decision, using any appropriate resource to assist in deciding the appeal. The University Provost shall then notify all parties in writing of his or her final decision within five working days of his or her decision.

Reviewed: August 2011