GENERAL CHEMISTRY LAB I COURSE OUTLINE
FALL 2010
Mondays, Tuesdays, & Fridays 5:10 PM -8:00 PM
CRN#: 85236, 85237, 89420 & 89421

Instructor: Dr. Jafara S. Turay  Office: 103 Chem building  Phone: 240 350 9104
Office hours: M.T, 4-5 PM; Others by appointment.  E-mail: jturay@howard.edu


The objective of this course is to become proficient in techniques used by practicing chemists, to carry out experiments safely and carefully, to obtain data accurately, and to manipulate the data correctly.

Policy & Grading:  
Pre-laboratory assignments for each experiment are due at the beginning of each lab. Period.  
Lab. Report for each experiment is due at the end of the day of the Lab period or as required by the TA.  
Quizzes are given at the beginning of each lab. Period. They are based on the experiment to be performed on that day and are collected at 05:30 PM of the lab period. Missing the Quiz constitutes an absence for that lab and/or your missing 10-points for the lab.

A comprehensive final Exam will be given in the last week of the semester.  
Techniques grades will be based largely on the following criteria.  
(a) Arriving on time and leaving by the end of the lab period.  
(b) Wearing protective goggles at all times;  
(c) Knowing the procedure for the experiment before coming to the lab.  
(d) Disposing of chemicals properly;  
(e) Cleaning glass wear and work area before leaving.

Students are expected to study and follow the SAFETY RULES listed in the lab book. If anyone is found to be violating the rules, he or she will lose points on techniques. If anyone persists in violating the safety rules, he or she may be removed from the lab

GRADING :

Lab reports: @ 50 pts. = 500 pts. Best 10 scores (dry lab is considered as one lab report).
Pre-labs: @ 10 pts., = 100 pts.  Best 10 scores
Quizzes: @ 10 pts. = 100 pts.  Best 10 scores
Techniques  100 pts.
Final Exam  200 pts.
Total pts. = 1000

A score equal/greater than 90% is an A, equal/greater than 80% is a B,  
Equal/greater 70% is C, greater than 60% is a D. All others F

American with Disability Act (ADA) Compliance

Howard University is committed to providing an educational environment that is accessible to all students. In accordance with this policy, students in need of accommodations due to a disability
should contact the Office of the Dean for Special Student Services for verification and determination of reasonable accommodations as soon as possible after admission to the University, or at the beginning of each semester. The Dean of the Office of Special Student Services, Dr. Elaine Heath, can be reached at (202) 238 2420.

**STUDENT CODE OF CONDUCT**

Howard University expects that a student’s conduct will be in accordance with accepted standards of behavior. In keeping with this expectation, a student may be disciplined for academic offences, particularly cheating and/or plagiarism. For further details view the Student Reference Manual for Fall 2010 (page 40) at [http://www.howard.edu/academics/courses/default.asp](http://www.howard.edu/academics/courses/default.asp).

**HEM 005: General Chemistry Lab 1. Fall 2010**

**Lab Schedule**

<table>
<thead>
<tr>
<th>Week of:</th>
<th>Experiment Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/23/10 Check in and</td>
<td>TECH0600: Practicing safety in the chemistry laboratory</td>
<td>1-10</td>
</tr>
<tr>
<td>08/30/10</td>
<td>TECH0511: Laboratory techniques: measuring the volume of liquids</td>
<td>115-138</td>
</tr>
<tr>
<td>09/06/10</td>
<td>No labs (Monday September 6 is Labor Day, a legal holiday)</td>
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<tr>
<td>09/13/10 PROP0375: Separating the components of a ternary mixture</td>
<td>11-30</td>
<td></td>
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<tr>
<td>09/20/10</td>
<td>ANAL0478: Evaluating commercial antacids</td>
<td>153-166</td>
</tr>
<tr>
<td>09/27/10</td>
<td>ANAL1001: Redox titration of iron</td>
<td>167-176</td>
</tr>
<tr>
<td>10/04/10</td>
<td>MISC0477: Writing and balancing chemical equations (a dry lab) 99-114</td>
<td></td>
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<tr>
<td>10/11/10 No labs (Monday October 11 is Columbus Day, a legal holiday)</td>
<td></td>
<td></td>
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<tr>
<td>10/18/10 STOI0386: Determining the empirical formula of copper chloride 31-44</td>
<td></td>
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<tr>
<td>10/25/10</td>
<td>EQUI2007: A sequence of chemical reactions (requires two lab periods) 45-58</td>
<td></td>
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<tr>
<td>11/01/10</td>
<td>EQUI2007: A sequence of chemical reactions (continued) 45-58</td>
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<tr>
<td>11/08/10</td>
<td>No labs (Thursday November 11 is Veteran’s Day, a legal holiday)</td>
<td></td>
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<tr>
<td>11/15/10 REAC2022: Heats of neutralization and Hess’ law</td>
<td>189-206</td>
<td></td>
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<tr>
<td></td>
<td><strong>And check out</strong></td>
<td></td>
</tr>
<tr>
<td>11/22/10</td>
<td>No labs (Thanksgiving recess)</td>
<td></td>
</tr>
<tr>
<td>11/29/10</td>
<td>No labs (Formal classes end, Thursday December 2)</td>
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University policy regarding cheating as detailed in “Academic Code of Conduct published in the H-Book will be enforced.

**SCHEDULE OF LABORATORY EXPERIMENTS**

All Labs meeting Tuesday, & Thursdays will follow the schedule below.

**WEEK OF**

<table>
<thead>
<tr>
<th>Date</th>
<th>Expt.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/2-4/08</td>
<td></td>
<td>Check into Laboratory &amp; View the Safety Video</td>
</tr>
<tr>
<td>09/9-11</td>
<td>Expt. #1:</td>
<td>Basic Laboratory Techniques</td>
</tr>
<tr>
<td>09/16-18</td>
<td>Expt. #2:</td>
<td>Separation of components of a mixture</td>
</tr>
<tr>
<td>09/23-25</td>
<td>Expt. #3:</td>
<td>Empirical Formulas of Compounds</td>
</tr>
<tr>
<td>09/30-10/2</td>
<td>Expt. #4:</td>
<td>The Formula of a Hydrate</td>
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<tr>
<td>10/7-9</td>
<td>Expt. #5:</td>
<td>Stoichiometry of a Reaction</td>
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**DRY LAB WEEK** Names and Formulas of Chemical Compounds.

It is expected that Dry Labs will be turned in on 10/14-1

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<tr>
<td>10/14-16</td>
<td>Expt. #6:</td>
<td>Chemical Reactions of Copper and percent yield.</td>
</tr>
<tr>
<td>10/21-23</td>
<td>Expt. #7:</td>
<td>Synthesis of Alum from Aluminum Beverage cans.</td>
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<tr>
<td>10/28-30</td>
<td>Expt. #8:</td>
<td>Acid-Base Titrations</td>
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</table>
11/4-6     Expt.# 9: Vinegar Analysis
11/11      NO LABS   VETRAN’S DAY
11/12-13   Expt.# 10: Analysis of Aspirin

11/25-27   NO LAB
12/2-4     Check Out and Final Exams