CHM2046: General Chemistry II
for PHPB (http://www.clas.ufl.edu/prehealthpostbac/)
Section 2D99
Spring 2015 (Jan 06 – May 01)
(3 Credit Hours)

Textbook: Course content will follow:
Petrucci et al “General Chemistry:..”, 10th Ed. You have already been provided a hardcopy and eBook access to this title.
Other sections of CHM2046 will be following a different text (Silberberg 6e) which could be useful as an additional reference, if available.

Instructor: PJ Brucat
Office Location: LEI214A
Office Hours: by appointment
Contact info: Use Canvas Messaging, only

Course Website: https://ufl.instructure.com/courses/

Tentative Syllabus
(for exact ordering and schedule of lectures, see the course website)

Review of Concepts in Chemical Equilibrium
The Equilibrium Expression  Equilibrium Advancement
The Standard State  Equilibrium Calculations

Aqueous Acid-Base Equilibria
Strong and Weak Acids and Bases. Percent Ionization
Ka, Kb, and Kw  Neutralizations and the Equivalence Point
Acidic and Basic Salts  Buffers  Titrations
Complex Ion Equilibria

Equilibrium Thermodynamics
Chemical Driving Forces  Free/Available Energy  Entropy
Standard vs Actual Energy Changes  Absolute Entropy
The Third Law  Maximum Thermodynamic Efficiency

Electrochemistry
Redox Reactions  Half Cell Reactions  Cell Potentials
Voltaic and Electrolytic Cells  Standard Reduction Potentials
Storage Batteries

Descriptive Chemistry
Representative Main Group Chemistry  Transition Metals
Transition Metal Complexes

Simple Organic Chemistry
Nomenclature  Functional Groups  Typical Reactions

Chemicals of Life
Proteins  Lipids  Carbohydrates  Nucleic Acids
Changes from Last Term

- New MasteringChemistry "integration": Access to the Mastering Chemistry will be through our Canvas site this term. Hopefully this will provide easier access to the assignments and eText. Let me know if there are any issues.
- The old "Classwork" grade category is now called “Reading”. In order to emphasize the importance of reading the textbook before our class discussions, grades will be assigned based in your preparedness through reading for our class discussions.

Attendance

We are going to learn Chemistry as a team. Therefore, your timely presence in our class meetings is kindly requested. Your activities in our class meetings will be graded (now the Reading category); This grade is used in the course grade computation (see below). If you cannot attend class due to a medical/justifiable reason, contact your Instructor in advance using the Canvas website messaging tool.

Office Hours with Brucat

Office hours held by your Instructor are intended for one-on-one discussions with students. Typical discussion topics are the student’s standing in the class (grades), learning strategy and habits, arrangement for unavoidable absences, special accommodations due to disability, and any other things not appropriate for the group discussion. These meetings will be held at times you arrange. If you want a meeting of this sort, message your Instructor (using Canvas messaging only) 3 (three) options for meeting times that are convenient for you, and your Instructor will message back with the choice that works and a location. This procedure avoids a protracted back and forth negotiation, and has proven to be quite efficient; please use it.

Exams

There will be five exams during the term, to be held during our scheduled class meeting time and place on the following Mondays:

01/26  02/09  03/09  03/30  04/20

Any anticipated conflict should be reported to your Instructor immediately.

Cumulative Final Exam

Exam Group 25A  Saturday, April 25  07:30 -09:30

It is anticipated that the room for the exam will be our regular classroom: LEI 142. This is to be confirmed. The General Chemistry Exam Absence policy: http://iteach.chem.ufl.edu/Exam_Absence_Policy_GChem_s13.pdf See also: https://catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx

Course Grade Computation

Your course letter grade will be derived from the weighted average of your performance in the three graded assignment categories: Exams, Reading, and Mastering Chemistry, viz.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weightage</th>
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<tbody>
<tr>
<td>5 Exams @ 100 points</td>
<td>60%</td>
</tr>
<tr>
<td>Reading</td>
<td>20%</td>
</tr>
<tr>
<td>Mastering Chemistry</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</table>
Your course grade will be determined from your course performance percentage as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>80%</td>
<td>A</td>
</tr>
<tr>
<td>77%</td>
<td>A-</td>
</tr>
<tr>
<td>73%</td>
<td>B+</td>
</tr>
<tr>
<td>70%</td>
<td>B</td>
</tr>
<tr>
<td>67%</td>
<td>B-</td>
</tr>
<tr>
<td>63%</td>
<td>C+</td>
</tr>
<tr>
<td>60%</td>
<td>C</td>
</tr>
<tr>
<td>50%</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 50%</td>
<td>E</td>
</tr>
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**Getting Help**
For quickest response, you might find posting questions to the Canvas Discussion Board might be a good choice. Messaging the Instructor, or even a classmate also works.
For Username/Password issues, such as difficulties logging into any Gatorlink-authenticated site at UF, (including our course website), please contact the UF Help Desk at:

- helpdesk@ufl.edu
- (352) 392-HELP - select option 2
- [https://lss.at.ufl.edu/help.shtml](https://lss.at.ufl.edu/help.shtml)

**Quality of Life**
Resources are available at [http://www.distance.ufl.edu/getting-help](http://www.distance.ufl.edu/getting-help), such as:

- Counseling and Wellness resources
- Disability Resources
- Online Library Help Desk
- Dean of Students Office

**University Policy on Accommodating Students with Disabilities**
Students requesting accommodation for disabilities must first register with the Dean of Students Office ([http://www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**University Policy on Academic Misconduct**
Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at [http://www.dso.ufl.edu/students.php](http://www.dso.ufl.edu/students.php).
This course satisfies the General Education requirement in the Physical Sciences

Physical Science General Education Program Objectives

Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern physical systems. Students will formulate empirically-testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

These objectives are accomplished through active participation in the carefully designed course activities, interaction and communication with the teaching staff and peers, and individual, but guided, effort by the student.

General Education Student Learning Outcomes

<table>
<thead>
<tr>
<th>Area</th>
<th>Institutional Definition</th>
<th>Institutional SLO</th>
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<tbody>
<tr>
<td>CONTENT</td>
<td>Content is knowledge of the concepts, principles, terminology and methodologies used within the discipline.</td>
<td>Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.</td>
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<tr>
<td>COMMUNICATION</td>
<td>Communication is the development and expression of ideas in written and oral forms.</td>
<td>Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.</td>
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<tr>
<td>CRITICAL THINKING</td>
<td>Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.</td>
<td>Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.</td>
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Naturally, all three areas of learning outcomes will be assessed in all categories of graded assignment administered in CHM2045.

We, the members of the University of Florida Community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

Disclaimer for this document

Note: All aspects of course operations, including grading and all aspects of course policy and policy execution, are subject to change at the whim and caprice of the course instructor.