



# CHM2046: General Chemistry II

for PHPB (<http://www.clas.ufl.edu/prehealthpostbac/>)

Section 2D99

Spring 2015 (Jan 06 – May 01)

(3 Credit Hours)

M WR Period 9 16:05 - 17:00 LEI 142

## Textbook: Course content will follow:

Petrucci *et al* "General Chemistry:...", 10<sup>th</sup> 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  
K<sub>a</sub>, K<sub>b</sub>, and K<sub>w</sub>    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

## SPRING SEMESTER 2015

	S	M	T	W	T	F	S
Jan.					Holiday 1	2	3
		Registration	Drop/Add				
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	Holiday 19	20	21	22	23	24	
25	26	27	28	29	30	31	
Feb.	1	2	3	4	5	6	7
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	Spring Break 28	
Mar.	1	2	3	4	5	6	7
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					
Apr.				1	2	3	4
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	Reading Days 25	
26	27	28	29	30			
May						Commencement 1	2
	Comm 3	Grades Due 4	Deg Cert. 5				

## 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](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.*

5 Exams @ 100 points plus Final @ 200 points	60%
Reading	20%
<u>Mastering Chemistry</u>	<u>20%</u>
Total	100%

Your course grade will be determined from your course performance percentage as follows:

80%	A
77%	A-
73%	B+
70%	B
67%	B-
63%	C+
60%	C
50%	D
< 50%	E

UF's Grading Policy: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

### 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](mailto:helpdesk@ufl.edu)

(352) 392-HELP - select option 2

<https://lss.at.ufl.edu/help.shtml>

### Quality of Life

Resources are available at <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/>). 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>.

## 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

Area	Institutional Definition	Institutional SLO
<b>CONTENT</b>	Content is knowledge of the concepts, principles, terminology and methodologies used within the discipline.	Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.
<b>COMMUNICATION</b>	Communication is the development and expression of ideas in written and oral forms.	Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.
<b>CRITICAL THINKING</b>	Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.	Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.

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.