



CHM2095: General Chemistry I for Engineers

Fall 2013 (Aug 21 – Dec 07)

Sections 04AA, 04AB, 04AC, 04AD, 04AE, 1552, 1565, 1572, 1581, 1590, 1612

(3 Credit Hours)

M W F Period 2 08:30 - 09:20 CLB130

No (specifically) Required Textbook: Course material will follow:
Silberberg "Chemistry: The Molecular Nature of Matter and Change", 6th Ed.
The course website will follow this text, so you probably wish to have
access to it in one form or another. Earlier editions of the title are similar

Instructor: PJ Brucat

Office Location: CLB311E

Office Hours: by appointment

Office Hours Location: CLB313 (PChem Conf Rm)

Contact info:

Use Canvas Messaging ONLY

Teaching Assistants: TBA

TA Office Location: The Chemistry Learning Center

TA's Office Hours: TBA

Course Website: <https://uflpilot.instructure.com>

Tentative Syllabus

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

An Introduction to Matter

Measurement and Units

Compare and Contrast the Macroscopic and Microscopic scales

The Scientific Method

Atoms and the Periodic Table

Stoichiometry and the Chemical Equation

Molecular Nomenclature

Solutions and Intermolecular Forces

Thermochemistry and Energy Conservation

Chemical Bonding and Electron Rules

Light, Quantum Theory, and Atomic Structure

Chemical Bonding Structure and Energetics

Lewis Structures VSEPR Average BDE Resonance MO Theory

Molecular Motion, Kinetics, and Dynamic Equilibrium

Phase Equilibrium

Gases Solids Liquids Supercritical Fluids

Time Dependence of Chemical Processes

Elementary Processes Reaction Mechanisms Temperature Dependence

Equilibrium as Rate Balance

The Equilibrium Expression LeChatlier van't Hoff

Chemical Equilibrium

Chemical Driving Forces Free/Available Energy Entropy

FALL SEMESTER 2013						
S	M	T	W	T	F	S
Registration ----- Drop/Add -----						
Aug. 18	19	20	21	22	23	24
25	26	27	28	29	30	31
Sept. 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					
Oct. 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		
Nov. 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
Dec. 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				

This course is different from other Gen Chem courses

First of all, there is you. You are a self-selected Engineer. That makes you and your cohorts different than the rest of the students at UF taking Gen Chem I. Make that count

Then, there is the textbook. There are lots of textbooks, and even lots of good ones. But the idea of how a textbook is used as a tool for learning is changing. We embrace change. Our textbook is 'contained' in the course website. Is it an eBook? Not really. It is an adventure, a puzzle, an adaptive path, and a work in progress.

The course website: < <http://uflpilot.instructure.com/> > is also different from all other courses on the UF campus. Most other UF courses on campus will use Sakai/eLearning for their course website. We will not. We will use a system called Canvas. Make a note of that. This is where the textbook \Rightarrow 'reading' materials are to be found. Naturally, all course operation details and communication tools are there, too. You are going to have to be a little more flexible, understanding, and tech savvy within this environment than usual, but it will be worth it. The next time this course is offered your successors will be told stories of your valor and bravery.

Class Attendance

We are going to learn Chemistry as a team. Therefore, your timely presence in our class meetings is kindly requested. You are an integral part of the class sessions, so class meetings are very important. If you choose not to attend, that is your choice, but this action lets down your classmates, and forfeits your classroom participation points (see below) *and* Instructor office hours. If you cannot attend class due to a medical/justifiable reason, contact your Instructor in advance using the website messaging tool.

Office Hours

Office hours held by your Instructor are intended for one-on-one discussion of a students standing in the class (grades), learning strategy and habits, and any other things not appropriate for the group discussion. They will be held at times *you arrange*. If you want a meeting of this sort, message your Instructor 3 options for meeting times that are convenient for you, and your Instructor will message back with the choice that works.

Office hours held by TA's are to provide perspective different from Brucat on the subject material. TA office hours will be held in the Chemistry Learning Center (FLI 257 & 258) and posted on the course website calendar, the Chemistry Website, and the CLC bulletin board. The CLC is also a walkup facility for on-demand personal tutoring and may be accessed at any time, even when the staff of this course are not scheduled to be there.

--- Graded Activities ---

On-line Reading = "Modules"

We have taken the contents of a typical General Chemistry textbook, put it online, and sprinkled in some typical questions about the material. When a topic heading is opened, a few questions are posed. The results of these questions are processed, and a few minutes of reading, customized for the individual, are presented. The cycle is repeated until all the learning objectives of the topic heading are mastered. Then a final "Test Me" assessment is made, and if you pass, you move on. The idea is the majority of your time is spent learning concepts not already understood, with a minimum of waste. The topic headings will have due dates, just like normal reading assignments in a textbook. But this work should be faster and more effective than reading an ordinary paper textbook.

Class Participation

In the three large assemblies we have per week, your Instructor will lead a discussion which will be enlivened with group interactions. These will be orchestrated by a classroom system licensed through <http://www1.iclicker.com/> enabling a one-to-many question answer session, with real-time (almost) feedback. Questions that you will answer using a response system called i>Clicker. This system can use physical remote (single purpose) hardware (just like in olden times) but also can recognize information submitted via any WiFi-enabled device you have (smartphone, tablet, laptop, Google Glass, etc.) with the proper software installed. For further instructions on the use of the i>Clicker response system, see the course website.

Exams

There will be **four** exams during the term, which determine the bulk of your course grade, *tentatively* to be held on the following days:

~09/11

~10/02

~10/31

~11/25

These exam dates and locations are sadly subject to slight modification, contingent on the whimsical nature of room availability. Their times, however, are the UF-mandated Assembly Exam time slot: **20:20 - 22:10**

Final Exam

Exam Group 7F

Saturday, December 07, 20:00 - 22:00

Rooms for all exams will be announced when available.

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 activities. Each exam will have a weight of 15% of the total. The cumulative final will have a weight of 15% of the total. The points awarded for completion of the Module reading on our website for the term will have a weight of 15% of the total. Classroom participation points accrued from i>Clicker points will have a weight of 10% of the total.

4 Exams at 15% each	60%
Cumulative Final Exam	15%
Module Reading	15%
<u>i>Clicker</u>	<u>10%</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 Boards might be a good choice particularly for questions that you might guess others might have too.

If you need telephone support, please contact the Center of Instructional Teaching and Training:

CITT Front Desk: (352) 273 – 4910

M-F 8:30am – 5:00 pm

Our contact: Kristina Macadangdang (kmacadangdang@ufl.edu)

For Username/Password issues, such as difficulties logging into any Gatorlink-authenticated site on the UF Campus, (including our course website), please contact the UF Help Desk at:

helpdesk@ufl.edu

(352) 392-HELP - select option 2

<https://iss.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.

Student Conduct

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>.

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.