

Department of Chemistry, University of Florida
General Chemistry (CHM2045), Summer C 2019

Instructor:	Miguel Angel Méndez Polanco, PhD email: mmendezpolanco@chem.ufl.edu
Lectures:	{M,T,R,F} – Period 3 (11:00 am – 12:15 pm) in CLB C130
Materials:	<ul style="list-style-type: none">• Chemistry: The Molecular Nature of Matter & Change with advanced topics, 8th edition, Silberberg, Amateis. There is an opt-in ebook version available for \$45 for 5 years (more info to follow).• Non-programmable, scientific calculator
Office Hours:	{T,R,F} (9:00 – 10:00 am) in Flint 258

TAs: Office Hours in Chemistry Learning Center (CLC, see below). Times to be assigned.

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Course Description:

The first semester of the CHM2045/CHM2045L and CHM2046/CHM2046L sequence. Stoichiometry, atomic and molecular structure, the states of matter, reaction rates and equilibria. A minimum grade of C is required to progress to CHM2046. The sequence CHM2045/CHM2045L, CHM2046/CHM2046L is the standard for general chemistry. This sequence meets the preprofessional requirement for a broad range of science and engineering majors. Students are presumed to have a good background in high school chemistry and mathematics (through MAC 1147) and are expected to pass the chemistry placement exam offered online on ONE.UF before registering for CHM2045.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

About this class

This course is primarily quantitative. We will emphasize the ability to transform word problems, concepts, and data into algebraic expressions and plots (and vice-versa). We will use reading assignments, in-class questions/discussions, and other outside activities to discover some interdisciplinary connections of Chemistry, at times borrowing concepts from physics, calculus, biology, etc., and to develop and apply qualitative/quantitative abilities & critical thinking.

- **#1 Tip:** We all may need help at some point, so ask me (or your TA) questions early on in the semester. Do not wait until it is too late~! Gather with friends to collaborate & discuss. We all learn differently, try what works best for you, but venture to find other ways to learn too.

Class Resources

Office Hours are your chance to receive feedback and help, or discuss your goals for this course and set a plan of action accordingly. Do not hesitate to ask questions about the material that has not been clearly understood during lecture and your readings.

- **Golden rule: Come prepared with questions.** It is helpful to narrow down what is unclear. I anticipate you take ownership of your progress, so always try working out a solution in preparation.

Emails are for administrative purposes only, *not* for distant instruction. Use office hours for all academic inquiries. If not possible, visit the CLC (see below). Questions about grades will *not* be discussed during office hours due to privacy regulations, try setting up a separate time to discuss such matters.

Canvas: I will use this online course manager (<http://elearning.ufl.edu>) to update class materials: handouts, announcements, homework, worksheets, links to relevant information, etc. It is your responsibility to check its contents periodically. Should you require assistance, the Help Desk is available 24 hours a day, 7 days a week: <http://helpdesk.ufl.edu> or call them at (352)-392-4357

GRADING

Grade breakdown:

Progress Exams (3): 60% (20% each)	ALEKS: 2%	Quizzes: 5%
Final exam (1): 23%	Homework: 5%	PLAs/Worksheets: 5%

Letter grade cut-offs:

>90	A	>= 83	B+	>= 73	C+	>= 66	D+	<60	E
>= 86	A-	>= 80	B	>= 69	C	>= 63	D		
		>= 77	B-			>= 60	D-		

Information on current UF grading policies for assigning grade points can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

ALEKS: Two percent (2%) of the overall course grade will be based on completion of the ALEKS prep course. The points you can earn for this are given by:

% ALEKS Completion	0 – 69%	70 – 79%	80 – 89%	90 – 98%	99 – 100%
% Grade earned	0%	0.5%	1.0%	1.5%	2.0%

For details, read: <https://www.chem.ufl.edu/undergraduate/aleks/>

Exams: You will take each of the three exams outside of class. Exam Room Assignments will be posted to Canvas days before the date of the exam. You must use a non-graphing, non-programmable scientific calculator on exams (with log, ln, root, and exponent –scientific notation– functions). Do not forget pencils and your UF ID card. No additional materials are allowed during exams.

- **No makeups, or "do overs" for Progress Exams will be given for any reason.**
- If you must be absent due to a documented/approved academic or UF athletic conflict, email me the documentation at least **one week prior** to the exam (an early conflict exam will be scheduled).
- If you have another exam-schedule conflict, please email me **at least one week prior** to the exam, so arrangements can be made (an early-exam may be scheduled).
- If you are absent due to an unpredicted, documented medical reason, you must **contact me and the DSO as soon as possible**, and *have proper documentation ready*. More information regarding this policy can be found in the *General Chemistry Exam Absence Policy* document found on Canvas.

Note that in every case: failure to provide documentation will result in a zero for any missed exam, and/or failure to obtain one week approval for early exams will result in your request being denied.

Average/Replace Policy. We have incorporated this policy to alleviate the stress of potential issues that do not fall under officially-sanctioned absences: *The lowest-score of the progress exams will be replaced by the average of all-progress exams*. This is intended to minimize the negative impact of a *single poor performance* but it will not completely make it disappear.

See canvas for some possible mock scenarios as a guideline, but contact me in case you need assistance with a missed exam.

Exam grade disputes (scantrons) must be performed within one week of the scheduled exam date. Bubbling errors will not be negotiated, and point penalties will be applied: For failure to bubble in a correct form code, 20% of the total possible points; wrong UFID, or not taking the exam in the assigned room, 10-point penalty.

University examination and reading day policies can be found at:

<https://catalog.ufl.edu/UGRD/academic-regulations/examination-policies-reading-days/>

Discussion Sections meet every week and your attendance is expected, as you will work on a weekly worksheet. Worksheets points are based on participation, so these will count toward your overall grade. You must go to your assigned discussion section to receive credit for the worksheet. You will not receive credit if: you are more than 5 minutes late, or do not complete at least 50% of the worksheet at the end of the session. Students who have *an excused absence* can do the worksheet and show their work as well as the documented excuse to their TA, ASAP within 5 (five) days of the *excused absence*. No credit will be given for missed work past 1 (one) week of a given session.

Online Pre-Lecture Assignments (PLAs)/Homework/Quizzes: These will be given **through Canvas**. Each should be completed before its due date, or otherwise you cannot access it to complete them for the rest of the term. You will have multiple attempts to successfully answer HW assignments, but only one attempt per Quiz. The lowest three homework grades will be dropped at the end of the term. Quizzes will be given through Canvas on a weekly basis (unless stated otherwise) and they will be available only for 24 hrs. It is your responsibility to make sure you accommodate those in your schedule.

Suggestion:

Do not start the Homework (close to) the day it is due. The best practice is to start the day it is posted, complete it just once per day, and use your performance as a guide for studying through the week. This way you would likely have mastered the material by your last attempt at it, rather than rushing to just complete it for the sake of points the day it is due, in which case it's of little use in preparation for exams.

POLICIES AND EXPECTATIONS

- **Attendance:** Regular attendance and engagement is important for your success. Repeated absences will likely make it more difficult to collaborate and keep up with the material.
- We all love technology! But **computers, phones, tablets, iPods, or any other device should NOT be used for activities other than those pertaining to Chem Lecture.**
- **Bring relevant materials** to class: a notebook (to take notes), calculator (every day), and your willingness to engage (some group is expected during some lectures).
- **Come prepared:** *Read in advance* as this will help you understand lecture materials more effectively, and to actively participate in class activities.
- **Collaborative work:** *I encourage you to form study groups* and meet regularly on a weekly basis to discuss course material and to prepare for exams. Be engaged by asking questions, and requesting/offering help when needed. However, your final submissions of **any materials for grading must be your own!** They should reflect your own, independent work and understanding –exams, HWs, quizzes, worksheets, etc. *Directly copying from any source* other than your own work is strictly prohibited and is considered an act of *academic dishonesty*.
- **Study Habits:** This class demands at least ~{3-4 hrs} of study time per 1 hr of lecture time, *outside of class*, and a **sustained effort is expected** throughout the term to complete it successfully. Do not let concepts, HWs, etc., slip away: this will put you behind pretty soon!

Class Demeanor: In order to have an optimal learning environment, the classroom needs to be free of disruptions. Therefore, it is expected that students come to class on time and leave only after the class is dismissed, and that students talking or cell phone/computer noises do not disrupt the class.

- **IMPORTANT: if you come to the lecture hall** your engagement in activities related to Chemistry Lecture is expected. If you otherwise decide to engage in other activities that are *not* related to chemistry and/or are disruptive to the class, you may be asked to leave.

Honor Code: As an UF student, you are bound by **The Honor Pledge** which states: "*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code*".

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* The Honor Code (<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions/concerns, consult with your instructor or TAs.

FURTHER RESOURCES

Chemistry Learning Centre (CLC): Graduate student TAs are ready to help at CLC Monday–Friday in Joseph Hernandez Hall 105. Your discussion TA will also have office hours at CLC, but you may go there at any other convenient time and ask any TA for help (TAs availability will be posted at CLC at the beginning of the term). Additionally, there is the Teaching Centre located on the ground floor of Broward Hall, if you would like to use that resource. Their web site is <http://www.teachingcenter.ufl.edu>.

Academic accommodations: Students requesting accommodations should first register with the Disability Resource Center (352-392-8565, <http://www.dso.ufl.edu/drc/>) by providing appropriate documentation. Once registered, students will receive an accommodation letter, which must be presented to the instructor. The student is responsible for scheduling the exam dates with the DRC. Students with disabilities should follow this procedure as early as possible.

U MATTER, WE CARE: Your well-being is important at UF. The "U Matter, We Care" initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the "U Matter, We Care Team" can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. These open during the last 2/3 weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

GENERAL EDUCATION REQUIREMENTS: This course satisfies the general education program requirements for the Physical Sciences at the University of Florida. More information regarding the program objectives, student learning outcomes, and specific goals for CHM2045/CHM2046 can be found in the *General Education Program Requirements* document found on Canvas. The following learning outcomes will be assessed throughout the course.

Area	Institutional Definition	Institutional SLO
CONTENT	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.
COMMUNICATION	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.
CRITICAL THINKING	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.

DISCLAIMER: This syllabus represents the initial, current plans and objectives. If those need to change as the semester progresses, then appropriate changes will be communicated to the class.

CLASS SCHEDULE

TENTATIVE Schedule (Approx # of lectures)		Book Chapters
May		
13 – 14	Intro and Review: Atoms, Molecules, and Ions (2)	1 – 2
15 – 20	Stoichiometry and Quantitative Chemistry (3)	3
21 – 24	Aqueous Chemical Reactions (3)	4
28 – 31	Gases (3)	5
June		
PROGRESS EXAM 1 – 6/05/2019 *		Cumulative
3, 6 – 7	Thermochemistry (3)	6
10 – 14	Kinetics: Rate Laws, Reaction Mechanisms (4)	16
17 – 18	Light / Quantum Model of the atom (2)	7
18 – 21	Electron Configuration and Periodic Trends (3)	8
24 – 28	Summer Break	
July		
1 – 5	Types of Chemical Bonding (3)	9
PROGRESS EXAM 2 – 7/10/2019 *		Cumulative
8, 11 – 15	Lewis Structures and Molecular Geometry (4)	10
16 – 19	Theories of Covalent Bonding (3)	11
22 – 25	Intermolecular Forces, Liquids and Solids (3)	12
26 – 1	Solutions and Colligative Properties (4)	13
August		
PROGRESS EXAM 3 – 8/02/2019 *		Cumulative
5 – 6	TBA (“Reading Days”)	
FINAL EXAM (4) – 8/06/2019 *		Cumulative

Notes:

- All exams are cumulative: Each includes the material corresponding to about 5 (five) chapters. It is highly recommended to start preparing ahead of time.
- Exams dates are firm, and will not change. Room assignments will be posted in Canvas close to the corresponding dates.
- Exams are scheduled outside class-time. Make sure you contact me early if you have any schedule conflicts with these dates.