

# INTRODUCTORY CHEMISTRY

CHM 1025, Section 3925

Spring 2020

**INSTRUCTOR:** Christopher Brewer (cbrewer4@chem.ufl.edu)

**COURSE TA:** Erik Ferenczy (erikferenczy@chem.ufl.edu)

**OFFICE HOURS:** (Brewer) T+R 9 a.m. – 10 a.m. in FLI 258 (directly above FLI 50)  
(Ferenczy) M+F 9:35 a.m. – 10:25 a.m. in FLI 258

**LECTURE:** T+R 4<sup>th</sup> period (10:40 a.m. – 11:30 a.m.); CLB C130

**COURSE DESCRIPTION:** CHM 1025, a two-credit course, is offered for students who wish to strengthen their understanding of basic concepts of atomic structure and stoichiometry before beginning the general chemistry sequence (CHM 2045/2045L, CHM 2046/2046L). This introductory readiness course in general chemistry is for those with weak yet satisfactory backgrounds in high school chemistry and algebra. (P)



Instructor



Erik Ferenczy

**A grade of “C” or better is required for progression to CHM 2045.**

**COREQUISITES:** MAC 1147 or the equivalent. (Strictly enforced for CHM 2045)

**COURSE COMMUNICATIONS:** The instructor and course TA can be contacted via email or the mail function in Canvas. Please allow 24 h for responses (48 h over the weekends). Questions related to your grade or ANY other grading concern may NOT be discussed via email; grades will be discussed IN PERSON ONLY. Emails are not intended for distance learning. Course announcements will typically be made during lecture and are not always repeated via email. If a student is absent from lecture it is their responsibility to ask a trusted classmate what they missed.

**TEXT:** *Introduction to Chemistry, 5e* (Bauer, Birk, Marks); ISBN-13: 978-0073523002; (Text is optional)

**REQUIRED MATERIALS:** Top Hat subscription  
ALEKS subscription  
*See Canvas for ALEKS and Top Hat purchasing details.*

## EXAM POLICIES:

**EXAM DATES:** Three “cumulative” progress assembly exams will be administered during the term between 8:20 -10:20 p.m. on: 2/5 (W), 3/13 (F), 4/13 (M).

Cumulative Final Examination: 4/25 (Sa), 3:00 p.m. – 5:00 p.m.

**EXAM POLICY:** Exam locations will be announced during the lecture period before the exam. Each exam will consist of multiple choice questions of varying point values. Any material covered prior to the exam is eligible to appear on the exam.

To alleviate the stress of potential issues that do not fall under officially-sanctioned absences, we have incorporated an “average/replace” policy (the lowest of the three exams will be replaced by the average

of the three exams). If you had an excused absence for one of the progress exams, then the average/replace will only average the 2 exams that were taken. This “average/replace” policy will help to minimize the impact of a single poor performance but it will not completely disappear. The final exam is not included within this policy.

Any and all exam grade disputes or Scantron confirmations must be performed within one week of the scheduled exam date during office hours. **Scantron errors are non-negotiable** and could result in loss of points. This includes form code errors, registry errors, name, and UF ID errors. Students may not use graphing or programmable calculators on exams. You must use a non-graphing non-programmable scientific calculator on exams (with log, ln, root, and exponent (scientific notation) functions). For example, a TI-30X IIS is an acceptable calculator. Be sure to also bring pencils and your UF ID card. No other device may be used as a calculator (cell phones, iPods, etc.). No spare calculators will be available for use during exams, nor will spare batteries. No notes, papers, cell phones, or other electronic devices may be in view during exams.

**EXAM ABSENCES:** These will be handled in accordance with official UF academic regulations. For more information, see <https://catalog.ufl.edu/UGRD/academic-regulations/> . See below for further clarification for two different types of situations.

(1) Conflicts with other events: Acceptable reasons to miss a scheduled exam include conflicting evening exams in courses with higher course numbers, religious holidays, military obligations, special curricular requirements (e.g., attending professional conferences), or participation in official UF-sanctioned activities such as athletic competitions, etc. For more information on such absences see the official UF Policy at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/#absencestext> ). If you must be absent for an exam due to a documented and approved conflict known in advance, you must e-mail your instructor (cbrewer4@chem.ufl.edu) the documentation at least *one week prior* to the scheduled exam and an early conflict exam will be scheduled for you.

(2) Missing an exam due to an emergency or sudden illness: If you are absent for an exam due to an unpredicted documented medical reason or family emergency, you must contact the instructor as soon as possible, and you may be asked to have your excuse verified by the Dean of Students Office (DSO). Your instructor will follow UF academic regulations in evaluating the notification and/or documentation received by you or by the DSO on your behalf. Once your instructor is satisfied with the validity of your exam absence a make-up exam will be scheduled after a reasonable amount of time, *i.e.*, before the end of the semester. If your documentation is deemed insufficient to excuse your absence you will receive a zero on the missed exam.

It is your responsibility to identify yourself as requiring such accommodation for an exam within the acceptable time frame. If you fail to do so, you may not be accommodated and the missed exam will be treated as a score of “0”. In the event of a Friday evening assembly exam, personal travels or plans will NOT constitute a valid reason for a conflict (e.g. you may NOT take an exam early just because you wish to go home for a weekend, don’t ask).

## **ASSIGNMENT POLICIES:**

**1. ALEKS OBJECTIVES AND ALEKS PIE:** You will access your electronic textbook and the ALEKS homework directly from within Canvas (*Modules>ALEKS-Science*). You are graded for both on-time completion of ALEKS objectives and for completion of your ALEKS pie. ALEKS objectives are due throughout the term, while ALEKS pie completion is due on the last day of classes. Credit for completion of an ALEKS objective is awarded by mastering the assigned topics before the deadline (firm). To account for the “life happens” factor, **the lowest two ALEKS objective scores will be dropped**. Even if you don’t complete a topic by the objective deadline, you will still need to complete it to earn all of your points for the ALEKS pie by the end of the semester. Full credit for the ALEKS pie is awarded for having the entire ALEKS pie complete by the last day of classes for the term.

ALEKS homework is **never** graded/regraded manually – get help before an assignment is due. There are no extensions for technical difficulties or other reasons – the assignments are all available well in advance of their due dates. If you have a legitimate reason for an extension (illness, family emergency, etc.), reach out to me. You may be asked to contact the Dean of Students Office to have the situation verified before an extension will be considered. Up to two missed objectives for legitimate reasons will be handled by marking them with as “Excused” in the Canvas gradebook. This will use the average of your other objective scores in place for the missed assignment. If more than two objectives must be missed, that will be addressed on a case by case basis. Keep in mind, even though the score will be excused, you will still need to complete the assignment to earn full credit in your ALEKS Pie. For technical help with ALEKS, contact ALEKS support (not the Help Desk or your instructor).

Note: The ALEKS homework is not intended to be your only source of practice problems for this course. You should anticipate needing to solve problems beyond those assigned in ALEKS.

**2. TOP HAT:** We will be utilizing Top Hat as a classroom response system in this course, beginning immediately after the Drop/Add period. You must bring a web-enabled device to each class to participate. Usually Top Hat questions will be completed in class, however in some cases I may extend the Top Hat poll so that the question may be finished after the day’s lecture concludes if I see that more time would be beneficial to the students.

Usually half of the credit for a Top Hat problem is earned by completing the problem, the other half of the credit is earned for getting the answer correct. To account for absences and missed answers, you will not be expected to earn 100% of the points in Top Hat to earn full credit for this portion of the final grade. At the end of the semester I will determine the number of points in Top Hat that will constitute a score of 100% and scale the scores accordingly. The exact score will not be released, but will be influenced by the course average. Random attendance points will be used to boost your score.

**3. OTHER ASSIGNMENTS:** Other assignments may be assigned through Canvas; instructions will be provided through Canvas if needed. These assignments may include, but are not limited to, worksheets, quizzes, and discussions.

**4. RESEARCH RELATED QUIZZES:** This semester my course will be part of an ongoing Chemical Education Research project within our department. There will be three quizzes related to this project built into our course. Only the highest one quiz score of the three quizzes will contribute to your final course

grade. Participation beyond completing one of the three research related quizzes is voluntary, but strongly encouraged (I think they are helpful, that is why they contribute to your grade). Submission of your scores to the project is voluntary, but completion of at least one of the quizzes is mandatory.

**COURSE TECHNOLOGY:** All UF students are expected to have reliable access to a computer; suggested configurations may be found here: <https://training.helpdesk.ufl.edu/computing.shtml>.

## **UNIVERSITY POLICIES:**

**UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:** Students with disabilities 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 when requesting accommodation. The student is responsible for scheduling the exam dates with the DRC. Students with disabilities should follow this procedure as early as possible. 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. Note that the DRC requires advance notice to schedule accommodated exams. Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting [disability.ufl.edu/students/get-started](http://disability.ufl.edu/students/get-started). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

**UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.” It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

**NETIQUETTE: COMMUNICATION COURTESY:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

**FEEDBACK:** Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

**CANVAS SUPPORT:** For issues with technical difficulties for Canvas, please contact the UF Help Desk at: [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu) ; (352) 392-HELP - select option 2 ; <https://lss.at.ufl.edu/help.shtml>

## **FREE CHEMISTRY HELP:**

**HELP SESSIONS:** My undergraduate TAs will hold optional help sessions at various times of the week. (See Canvas for times.) The goal of the help sessions is to give you more practice with working the problems and have the opportunity to ask questions relating to our course. Typically, we will prepare worksheets for the help sessions. Although they are optional, sometimes questions from the help sessions find their way onto my homework sets, and exams.

**IN LECTURE TAs:** I will have many undergraduate TAs present during lecture who are solely there to help YOU. When we are working questions during lecture you should take full advantage of having my undergraduate TAs available. In order to make the best use of our lecture time, as soon as you get stuck

or are unsure about a question you should call over a TA. Even if you have an answer, I encourage you to ask the TAs if your answer is correct so you can confirm whether you have worked the problem correctly or not. The questions in lecture are not designed to be a quiz, they're designed to be an active team learning experience.

**UF TEACHING CENTER:** FREE help for our course is available at the UF Teaching Center. Times of operation can be found on their website: <https://teachingcenter.ufl.edu>

**CHEMISTRY LEARNING CENTER (CLC):** In addition to the office hours of myself and my TA, graduate student TAs are typically available daily from 9am – 5pm in JHH 105 for General Chemistry.

**GENERIC CAVEAT:** Help sessions and office hours should be used as a supplement to your own individual studying, NOT a replacement. Attendance alone will not bring success; hard work is essential to achieving success.

## **GRADING POLICIES:**

Grading disputes (other than simple addition errors) will only be considered if submitted in writing within one week of score distribution (within 24 h for the final exam). Grading disputes will not be addressed in person or by email. Any assignment/exam grade that is being disputed will be evaluated as a whole, meaning the score could go up or down and the new score is non-negotiable.

## **GRADE DISTRIBUTION:**

1. ALEKS Objectives and ALEKS pie (18% ; split evenly between the two)
2. Progress Exams (50%)
3. Cumulative Final Exam (21%)
4. Other Assignments (3%)
5. Research Related Quizzes (1%)
6. Top Hat (7%)

**GRADING SCALE:** (*firm, no rounding will be done*)

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

For more information:

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

<http://www.isis.ufl.edu/minusgrades.html>

\*\*Please do not ask me to “bump your grade up” or ask for extra assignments/points at the end of the semester. The answer will be no. (No exceptions.) Also do not ask me to round your grade to the nearest whole number, the answer will also be no.

## **COURSE CONTENT:**

We will be loosely following the Bauer textbook. We will cover topics from/related to the following sections, in this order: (Use this as your reading list for the semester)

Bauer Chapter	Topics	Approximate Lectures
1	Matter and Energy, Measurements and Unit Conversions	3
6.6 – 6.7	Calorimetry	1
2	Atoms, Ions, and the Periodic Table	2
3	Chemical Compounds (Naming)	2
4	Chemical Compositions (Mole Quantities, Percent Composition, Solution Prep)	2
5.1 – 5.4	Chemical Reactions and Equations (Balancing and Predicting Reactions)	2
14.1 – 14.2	Oxidation-Reduction Reactions	1
5.5	Representing Reactions in Aqueous Solution	1
6	Quantities in Chemical Reactions (Stoichiometry, Solution Stoichiometry)	4
7	Electron Structure of the Atom	2
8	Chemical Bonding	4
11	Solutions (Properties, Concentrations)	2
13.1 – 13.2	Acids and Bases	2
	Special topics, TBA	3

I reserve the right to alter the pace/covering of the course material as I see fit. I also reserve the right to cover material outside of what is contained in our book, as well as omit topics from what is presented in the book. The material I discuss during lecture will be what is fair game on an exam.

In the event that I am away for travel, lectures may be recorded in advance and provided to the students in place of my presence. The material covered in a recorded lecture is EQUALLY fair game on an assessment as the material in a live lecture. Students may still be required to attend the lecture period in my absence to complete the accompanying Top Hat questions. Alternatively, lectures may be delivered by a substitute lecturer and are still fair game for any assessment.

## **GENERAL EDUCATION:**

This course satisfies the General Education requirement in the Physical Sciences.

### **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.

### **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 participation in the course lectures and discussion sections, and individual work done on homework assignments and assessments.

Naturally, all three areas of learning outcomes will be assessed in all categories of graded assignment administered in CHM1025.

**SPECIFIC GOALS OF CHM1025:**

You will be required to analyze scientific concepts and think critically. This means being able to answer both quantitative (mathematical) and conceptual (qualitative) multiple choice problems in a limited period of time. Additionally, you will have to write or orally communicate during your discussion periods. We will also demonstrate how these topics can be applied to the scientific method and how observation and experimentation leads us to the development of scientific theories. To achieve this, students will be introduced to the following concepts from the text.

You will review the importance of chemistry in our everyday lives. You will be required to utilize the methods of science as a logical means of problem solving through critical thinking. This means you must analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems. To ensure your competency in these concepts you will be required to complete online homework assignments and take quizzes and exams that require critical thinking, analysis of problems, and drawing conclusions.

**COPYRIGHT NOTICE:** All handouts used in this course are copyrighted and may not be copied without expressly granted (written) permission from Christopher Brewer. “Handouts” include all original materials generated for this class, which include but are not limited to syllabi, exams, problem sets, in-class materials, or other materials. Tutors and tutoring services are expressly forbidden from copying any or all of these materials. Students currently enrolled in the course are authorized to usage of this material for academic purposes. Incorporated figures from published works are not claimed as property by the instructor.

*Disclaimer: This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*

“A lack of planning on your part does not constitute an emergency on mine.”