

CHM1025: Introduction to Chemistry

Spring 2024

Instructor:

Kenneth Lopez Perez

Contact via Canvas message only

Lectures:

TR 10:40-11:30 AM

Chemistry Lab Building (CLB) 130

Teaching assistants: Anthony Rodriguez (contact via Canvas message only)

Course support: CLAS [Academic Resources](#): tutoring, study materials, resources & workshops.

General information and course goals:

Course description: CHM1025, 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 (CHM2045/L and CHM2046/L). This introductory readiness course in general chemistry is for those with weak yet satisfactory backgrounds in high school chemistry and algebra. (P)

By the end of the course, students will be able to interpret tables of data and graphs of various forms, and students will be competent in using mathematics to solve problems in chemistry. Students will be able to understand concepts related to atomic and molecular structure, and relationships between heat and energy. Students will be able to describe the basic model of the atom, explain theories of chemical equations, and to use the concept of the mole in quantitative calculations. Students will be able to apply these principles to solve problems in a variety of contexts.

Specifically, students will be able to:

1. Classify and describe the properties, types, and changes of matter.
2. Analyze physical processes in chemical sciences and identify the principles of those processes to make predictions of chemical behavior.
3. Solve chemical problems, involving unit conversions, reaction stoichiometry, solutions, gas laws, and thermochemistry.
4. Describe the principles of quantum theory and use them to evaluate atomic and molecular structure, periodic trends, and bonding theories.
5. Clearly communicate in writing information derived from course related readings about the major concepts and themes in the chemical sciences

Corequisite: MAC1147 or the equivalent.

Note that the math requirement of a C or higher in MAC1147 (or an equivalent or higher-level course) is strictly enforced to progress into CHM2045, along with a grade of C or higher in CHM1025!

First days: Log into Canvas and access the course. You should check daily for **Announcements** and/or emails containing important information and reminders! Click on the **Syllabus** tab to review the due dates for all assignments throughout the term. Click on the **Modules** tab and read all of the information under the **Settling In** section. Many of your questions will be answered there.

General education objectives and learning outcomes:

Primary General Education Designation: Physical Sciences (P) ([area objectives available here](#))

A minimum grade of C is required for general education credit. Courses intended to satisfy the general education requirement cannot be taken S/U.

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.

The course goals align with the UF General Education student learning outcomes and physical science area learning outcomes:

General Education SLO	Physical Science SLO	Course Goal Alignment	Assessment
Content	Identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern biological and physical systems.	Objectives 1-65	All assessments and student practice assignments offer opportunities for students to demonstrate content knowledge.
Critical Thinking	Formulate empirically-testable hypotheses derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes.	Objectives 1-5	All assessments and student practice assignments offer opportunities for students to demonstrate content knowledge.
Communication	Communicate scientific knowledge, thoughts, and reasoning clearly and effectively.	Objective 5	Communication assignments.

Course materials:

Textbook (required): A significant portion of your grade stems from electronic homework (ALEKS) associated with an e-book (*Introduction to Chemistry*, Bauer, Birk and Marks, 5th ed., McGraw-Hill). ALEKS also has its own text, the ALEKSPEDIA. The textbook for this course, however, is the Bauer text.

This course is participating in UF All-Access. Beginning the first day of the semester, students can opt-in to have the purchase price charged to your student account. Alternatively, you can purchase an access code for the materials at the UF Bookstore. The opt-in code is the comprehensive package (ALEKS homework and the e-book of Bauer, Birk, and Marks).

To opt in, navigate to: <https://www.bsd.ufl.edu/allaccess>. Click the "Opt-In" tab or view the "View Eligible UF All-Access Classes" button. You will be prompted to log in using GatorLink credentials. Follow the prompt to authorize charges to your student account. The access code will then be provided. Copy the access code to your clipboard. In the Canvas course, click on **Modules**, then select the link to **ALEKS – Science** to join the ALEKS course. Provide the access code when prompted to do so. If you have any questions about the authorization process or refunds contact allaccess@bsd.ufl.edu.

A paperback version of the text is completely optional. The bookstore may stock paper versions of the text, or you can order one directly through ALEKS. A paper version is on reserve at the Marston Science Library for reference purposes.

See the ALEKS page in Canvas (**Modules > ALEKS**, under the **Settling In** section) for a walkthrough video for instructions on viewing the textbook and general navigation tips within ALEKS.

You must access ALEKS through the links in Canvas, associated with your @ufl.edu email. Otherwise, it will not sync your grades to canvas.

Course technology: All UF students are expected to have reliable access to a computer. Computers are available on campus for student use. Google Chrome may be required for some assignments. Check the support page for ALEKS for technical support using their platform: <https://mhedu.force.com/aleks/s/>.

Exam materials: You must bring and present your **UF ID** for all exam sessions. A **No. 2 lead pencil** is required for filling out Scantron forms. A **non-programmable, scientific calculator** is required – graphing and programmable calculators will NOT be permitted for exams. Cell phones and other electronic devices may NOT be used for calculators. All other materials (Scantron, scratch paper, formula sheets, etc.) will be provided for you during the exam session.

Course communications:

General questions: General course question should be posted to the Q&A Discussion Boards on Canvas. Please allow up to 48 hours for a response from the instructor or a TA during the work week.

We encourage you to post questions related to the ALEKS homework or end of chapter questions you're working on to the Discussion Board. The homework is a learning tool, not a test – feel free to discuss with your peers, instructor, or the TAs as needed! For the best response, take a screenshot of your question and the work you've attempted so far. The more information you provide, the easier it is to provide feedback on your work.

Private or grade-related concerns: Direct these to your instructor via the mail function on Canvas. Please note that discussions about grades can only take place on Canvas or in-person. Any queries submitted via UF Email will be asked to resend through Canvas.

Course policies:

Syllabus quizzes, surveys, and ALEKS FAQ quiz: These assignments are designed to assess your familiarity with the syllabus and satisfaction with aspects of the course. All are accessed through the **Settling In** module.

They can be submitted late, but **a 25% penalty will be applied per day submitted late**. Make sure to open and submit the quizzes for *all attempts* prior to the due date to avoid the late penalty. Note that even one second past the due date counts as an entire day late.

Exams: Three progress exams and one cumulative final exam are administered as assembly during-term exams. Each exam is 2 hours in duration and may consist of multiple-choice, true/false, matching, and other style problems. Chemistry as a subject is necessarily cumulative in nature... you will notice that chemistry builds on itself very frequently, and later topics will require knowledge of the earlier topics!

The exam dates are as follows, in rooms TBD:

Exam 1: February 1st from 8:20-10:20 PM

Exam 2: March 18th from 8:20-10:20 PM

Exam 3: April 16th from 8:20-10:20 PM

Final Exam: April 29th from 12:30-2:30 PM

Exams will be taken on Scantrons – you are provided with a Scantron form, the formula sheet, and scratch paper for each exam. You **MUST** bring your own calculator, a No. 2 pencil, and your UF ID for each exam. We do not have pencils and calculators to provide for you during exams, even if you forget them or if they malfunction. You may not share materials at any point during an exam.

Assembly exams take scheduling priority over any other UF commitments, including other classes or organization meetings. If you must miss a scheduled assembly exam, please inform your instructor at least one week in advance of the scheduled exam date detailing the conflict, *but ideally as soon as possible!* See the **UF Undergraduate Catalog** for appropriate reasons to reschedule an exam. Note that personal travel does not constitute an excused absence. If approved, an early make-up exam will be scheduled for you. **Conflicts brought to the instructor's attention less than one week before the scheduled exam date will not be entertained. No exceptions!**

Progress exam average-replace policy: No progress exam score will be dropped for any reason. To alleviate the stress of potential issues that do not classify as officially university sanctioned absences, an "average-replace" policy has been incorporated into the course. Your lowest-scoring progress exam will be replaced with the average of your three progress exam scores. This helps to minimize the impact of a single poor performance (it will not disappear, but it will be minimized). For example, if a student scores the following on their three progress exams: 0%, 65%, 80%, the lowest scores (0%) would be replaced with the average of those three scores (48%). The final exam is not included in this calculation.

Assignment policy:

ALEKS objectives: ALEKS objectives or modules are designed to provide graded practice with multiple attempts and answer guidance as a graded learning tool on much of the course content. Access the ALEKS homework and e-book directly from within Canvas by navigating to **Modules > ALEKS Science**. A significant portion of your grade stems from on-time completion of equally weighted **ALEKS Objectives**. Whatever percentage of the topics you complete on time within an objective will count for credit (e.g., if you complete 7 of 10 topics within a particular objective assignment you will earn 70% credit for that objective). The average completion time is approximately 3 topics per hour. Plan your time accordingly!

The premise of ALEKS involves completing certain topics in order to proceed to the next topic, as topics and concepts in chemistry build on one another. **You are encouraged to work on assignments early and**

frequently for short periods of time, no more than 2 or 3 hours at a sitting – get into the habit of working on a little bit of ALEKS between each lecture so you don't fall behind!

Due to the way ALEKS Objectives are set up, with students working on prescribed topics during set times, it can be problematic for the student to extend due dates. If you have a legitimate reason for an extension on an ALEKS assignment (see the [University Attendance Policy](#)), reach out to your instructor via email through Canvas. Up to two missed objectives for documented and approved reasons will be handled by marking them with "EX" in the Canvas gradebook. This will weight your other graded objective scores more heavily in your final course grade. If more than two are missed, due date extensions will be made for the third and subsequent missed assignments (this should be rare). **Even though the individual assignment grades may be excused, you still need to complete the topics contained in the assignments to earn full credit on your ALEKS Pie.**

ALEKS pie: The ALEKS pie is the totality of ALEKS topics learned all semester and should give a general indication of your overall knowledge and gains during the course. You can view your timeline in ALEKS and other resources to get an idea of how much learning you have done and how much time it takes you to do so, which is both individual and also quite valuable going forward in later coursework. A significant portion of your grade stems from the completion of your **ALEKS Pie** by the last day of classes. The work you do on **ALEKS Objectives** counts towards this goal. You can catch up or work ahead on your pie progress during **Open Pie** periods. There are regularly scheduled Open Pie times for all students in the course (all day on exam days). Whenever you complete an ALEKS objective before its due date or time you also will enter Open Pie mode. Pie progress is calculated as $(\# \text{ of topics completed} / \text{total } \# \text{ of topics}) * 100\%$. The pie progress percent you view in ALEKS is a good estimate of this, but the precise value according to the calculation above is used in your grade calculation in Canvas. ALEKS Pie score will update after the deadline, any other score corresponds to the progress you had at the latest sync but does not reflect your final score.

You can work on your ALEKS Pie progress for credit until 11:59 PM on the last day of the term. April 24th

ALEKS knowledge checks: Periodically, ALEKS will have you take a knowledge check. Think of them as progress checks — they tell ALEKS what topics you know and what topics you may need to review. The first knowledge check is the initial knowledge check, which must be taken before you can start the first ALEKS assignment! The purpose of the initial knowledge check is to determine what topics you already know and therefore don't need to learn.

The ALEKS and Canvas gradebooks will sync after each due date has passed, so when you finish an objective, you will not see the score in Canvas until after the due date has passed. You may see intermediate ALEKS progress grades in Canvas; if the assignment is not yet past due then these grades can change if you work more in ALEKS.

Additional information regarding ALEKS is provided in the **Settling In** section in Canvas. Contact ALEKS support for tech help with ALEKS or for grading disputes.

iClicker: iClicker is used extensively during lectures and is a valuable learning tool. Think of them as low-stakes practice for your knowledge and ability to solve problems, which should help you prepare for high-stakes exam situations. iClicker is required but is free for UF students. Questions will be graded 50:50 on participation and correctness of each answer. The class before each exam will be heavy in iClicker, students are advised to not miss them. Is the student's responsibility to create the iClicker account with the @ufl.edu

email address, problems with synchronizations with non-UF accounts will not be addressed. iClicker malfunctions during lectures should be addressed by the end of the lecture, not after.

Chem Communication: Students will submit infographics, slide presentations or discussions as asked on canvas assignments. Students will explain chemistry topics with their own words. Two chem communication assignments will be given per term. Dates stated on the tentative schedule.

Attendance and extension requests:

Attendance during regular lectures is expected and highly encouraged, but not required. Requirements for make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

Exam absences 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:** This should be rare, as CHM1025 proctored exams are considered evening assembly exams and thus take priority over other examinations (see above in the **Exams** section). You should plan accordingly. Such reasons for needing to schedule a make-up exam may include 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 (within Canvas) the documentation **at least one week to the scheduled exam**, and an early conflict exam (i.e., before the regular exam date) 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 medical reason or family emergency, you must contact the instructor as soon as possible. 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 from you or from the DSO on your behalf. If the documentation is deemed sufficient to excuse your 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.

Grading:

Grade policy: Should a student wish to dispute a grade received in this class, the dispute must be in writing and be submitted to your instructor within 72 h of receiving the grade, or within 24 h of the Final Exam.

No extra credit is available for this course. **Do not** expect exam grades or course grades to be curved (asking for one won't help). Take care to complete each assignment prior to its advertised due date and to submit assignments as directed. Contact the UF Help Desk for help as needed with Canvas.

Assignments are weighted as follows:

Assignment Group	Weight
ALEKS objectives	10%
ALEKS pie progress	5%
iClicker	10%
Progress exams	45%
Cumulative final exam	25%
Chem Communication	4%
Syllabus Quizzes	1%

The grading scale is as follows:

Letter	A	A–	B+	B	B–	C+	C	D+	D	D–	E
Cutoff	90.0	86.0	83.0	80.0	77.0	73.0	69.0	66.0	63.0	60.0	< 60.0

University policies:

Students requiring accommodations: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting <https://disability.ufl.edu/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.

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: 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, see: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

In-class recording: Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture

does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session. Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Lectures are automatically recorded and uploaded to a Mediasite link that can be found on Canvas.

Campus resources: U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit the [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress. **Counseling and Wellness Center:** Visit the [Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services. **Student Health Care Center:** Call 352-392-1161 for 24/7 information to help you find the care you need or visit the [Student Health Care Center website](#). **University Police Department:** Visit [UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies). **UF Health Shands Emergency Room / Trauma Center:** For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Emergency Room and Trauma Center website](#). **GatorWell Health Promotion Services:** For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-273-4450.

Academic resources: E-learning technical support: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu. **Career Connections Center:** Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services. **Library Support:** Various ways to receive assistance with respect to using the libraries or finding resources. **Teaching Center:** Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. **Writing Studio:** 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. **Student Complaints On-Campus:** Visit the [Student Honor Code and Student Conduct Code webpage](#) for more information. **On-Line Students Complaints:** View the [Distance Learning Student Complaint Process](#).

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: <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.bluvera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Netiquette: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions, and chats. A detailed guide is posted under the **Settling In** section in Canvas.

Getting help: For issues with or technical difficulties with Canvas, contact the UF Help Desk: <https://lss.at.ufl.edu/help.shtml>; (352)-392-HELP.

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.

Tentative Lecture Schedule:

Date	Content	ALEKS/Discussions Due	ALEKS Open Pie
T 1/9	Syllabus, ALEKS orientation, iClicker registration; Math Review		
R 1/11	Ch 1		
T 1/16	Ch 1	ALEKS Prerequisite Review due @ 11:59 pm	
R 1/18	Ch 2	ALEKS Ch. 1 due @ 11:59 pm	
T 1/23	Ch 2		
R 1/25	Ch 3	ALEKS Ch. 2 due @ 11:59 pm	Open Pie 1/25 (11:59 pm) -2/1
T 1/30	Ch 3	Chem communication 1 due @ 11:59 pm	
R 2/1	iClickers for exam practice	ALEKS Ch. 3 due @ 11:59 pm	
R 2/1	EXAM 1 – covers Ch 1, 2 and 3		
T 2/6	Exam 1 review, Ch 7		
R 2/8	Ch 7		
T 2/13	Ch 8	ALEKS Ch. 7 due @ 11:59 pm	
R 2/15	Ch 8		
T 2/20	Ch 8		
R 2/22	Ch 8		
T 2/27	Ch 4	ALEKS Ch. 8 due @ 11:59 pm	
R 2/29	Ch 4		
T 3/5	Ch 4		
R 3/7	iClicker for exam practice	ALEKS Ch. 4 due @ 11:59 pm	Open Pie 3/7 (11:59 pm) -3/18
M 3/18	Exam 2 – covers Ch 7, 8, 4		
T 3/19	Ch 5		
R 3/21	Exam 2 review, Ch 5		
T 3/26	Ch 13-14	ALEKS Ch. 5 due @ 11:59 pm	
R 3/28	Ch 6		
T 4/2	Ch 6	ALEKS Ch. 13-14 due @ 11:59 pm	Open Pie 4/2 (11:59 pm) – 4/24
R 4/4	Ch 6		
T 4/9	Ch 6		

R 4/11	Ch 11.3	ALEKS Ch. 6 due @ 11:59 pm	
T 4/16	iClicker review for Exam 3		
T 4/16	Exam 3 – covers Ch 5, 13, 14, 6, 11.1-11.3		
R 4/18	Exam 3 review, Ch 11.4	Chem communication 2 due @ 11:59 pm	
T 4/23	Ch 11.5, iClicker review	ALEKS Ch. 11 due @ 11:59 pm	
W 4/24		ALEKS Pie Progress due @ 11:59 pm	
Monday 4/29	Cumulative Final Exam 12:30-2:30 pm		