CHM1025 INTRODUCTORY CHEMISTRY

FALL 2024; CLASS NUMBER 21024

INSTRUCTOR INFORMATION

Instructor	Email/Office/Phone	Preferred Contact
Kenneth Lopez Perez **klopezperez@chem.ufl.edu**	Email in Canvas only	Email preferred Office hours: TBA

TEACHING ASSISTANT/UNDERGRADUATE TAS

Graduate TA: **Summer Brown** Contact via Canvas email; Office Hours: TBA

Academic Resources offers free in person and virtual tutoring assistance. See their website for details. They also have test reviews, with materials for download, posted on their website for previous semesters. This is a valuable resource (for both CHM1025 and gen chem, once you move on to gen chem/orgo, as well as math).

COURSE DELIVERY/MEETING TIMES

The course meets TR per 4 (10:40 am – 11:30 am) in CLB 130.

You can typically expect to receive replies to emails within 48 h during the workweek, or by the next business day for questions posted late on a Thursday, or on a Friday.

COURSE FEES

Additional Course Fees: $0.87

GENERAL INFORMATION

COREQUISITES/PREREQUISITES

MAC1147 or the equivalent is a published co-requisite. Refer to the Course Catalog for math requirements to continue in general chemistry sequence. The math requirement of a C or higher in MAC1147 or the equivalent or higher is strictly enforced for CHM2045. A C or higher in CHM1025 is also required for progression to CHM2045, no matter the ALEKS math placement score.

COURSE DESCRIPTION/GOALS

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)

By the end of this 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, and 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. Interpret tables of data and graphs of various forms, and students will be competent in using mathematics to solve problems in chemistry.
2. Describe properties, changes, and types of matter, as well as the key components of the scientific method.
3. Understand concepts related to atomic and molecular structure, and relationships between heat and energy.
4. Describe the basic model of the atom, quantum theory, and write electron configurations for atoms and ions.
5. Characterize a compound as ionic or molecular including being able to predict formulas for, and naming ionic compounds, molecular compounds, and molecular acids.
6. Write and balance chemical equations, and classify reaction types
7. Use the concept of the mole in quantitative calculations including mass and solution stoichiometry
8. Clearly communicate in writing information derived from course related readings about the major concepts and themes in the chemical sciences

FIRST DAYS/HOW OFTEN SHOULD I CHECK ANNOUNCEMENTS IN CANVAS

Log into Canvas and access the course. You should check daily for new *Announcements* and/or emails containing important information and reminders. Important announcements may also be made verbally in class – you are responsible for the content of lecture whether or not you are in attendance.

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 objectives align with the UF General Education student learning outcomes and physical science area learning outcomes:

General Education SLO	Physical Science SLO	Course Objective 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 1-8	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 1-8	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 8	Communication assignments.

COURSE LEARNING OUTCOMES

A complete list of student learning outcomes is posted in Canvas, organized by module/chapter.

REQUIRED & RECOMMENDED COURSE MATERIALS

TEXTBOOK (ONLINE EBOOK WITH HOMEWORK; REQUIRED IN FULL)

A significant portion of your grade stems from electronic coursework (Achieve) associated with an eBook (*Introductory Chemistry*, Revell, 2nd ed., Macmillan Learning).

This course is participating in UF All Access. Beginning the first day of the semester students can opt in to consent to have the purchase price charged to your student account. Alternatively, you can purchase an access code for the materials at the UF Bookstore.

To opt in, navigate to: https://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 ALEKS from the navigation bar then 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 Macmillan Learning.

See the Achieve Information module in Canvas (Modules>Achieve Information) for instructions on viewing the textbook and videos on general navigation tips within the Achieve platform.

COURSE TECHNOLOGY

All UF students are expected to have reliable access to a computer. Check the support page for ALEKS for technical support using their platform: https://mhedu.force.com/aleks/s/.

EXAM MATERIAL

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 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 QUESTIONS

Direct these to your instructor via the mail function in Canvas or see your instructor in office hours. Do not email outside of Canvas to your instructor's external email address – we are not permitted to discuss grade related questions outside of Canvas. You will be asked to resend the query through Canvas.

COURSE POLICIES

SYLLABUS QUIZ AND SURVEYS

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: September 16th from 8:20-10:20 PM
Exam 2: October 24th from 8:20-10:20 PM
Exam 3: November 21st from 8:20-10:20 PM
Final Exam: December 7th from 8:00-10:00 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

This applies to all students. No progress exam score will be dropped for any reason. 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 two progress exams (note, this does not include the cumulative final exam) will be replaced by the average of the two progress exams. This policy helps to minimize the impact of a single poor performance (it will not disappear, but will be minimized). For example, if a student scores the following on their progress exams: 0%, 90%, the 0% would be replaced with the average which is 45%. That is a much better score than a 0.

QUIZ/EXAM QUESTION DISPUTES

If you believe you have found an error on a quiz/exam or would like to dispute a question, the deadline for doing so is within 72 h of a quiz/exam or 24 h after the final exam. Email your instructor through Canvas email.

ASSIGNMENT POLICY

ADAPTIVE HOMEWORK

Access the electronic homework and eBook directly from within Canvas by selecting Macmillan Learning from the navigation bar. Each assignment is also deep-linked in its corresponding Module in Canvas. Your adaptive homework mimics a game-like environment that provides individualized question sets that help students solidify their foundational knowledge using an algorithm that provides more practice in areas

where students are weakest. Students can utilize hints, links to the eBook, and feedback based on responses to questions.

To earn any credit for adaptive homework, the student must complete the **entire** activity. To earn full credit, the student must complete the **entire** activity by the due date. The completed activity can be submitted up to ten days past the deadline for reduced credit with a 10% penalty per day submitted late. The last possible date any assignment can be completed for credit is the last day of term, 11:59 pm Dec. 7th. Note that if an assignment is submitted even 1 s after the due date/time, the late penalty will apply. There is no partial credit for an incomplete assignment.

The one lowest *Homework* grade is dropped from your overall course grade.

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 directed in Canvas assignments, twice at scheduled times during the term. Students will explain chemistry topics and relevance to the real world in their own words.

ATTENDANCE, EXTENSION REQUESTS

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/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 scheduled during your scheduled class time. You should plan accordingly. Such reasons 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 your instructor (within Canvas) the documentation at least one week prior 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 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 from you or from 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.

GRADING

GRADE POLICY

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

There is no extra credit available for this course. Grades are not rounded at the end of term. Exam grades or course grades are not curved. 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 weights are as follows (see the syllabus text for details of dropped assignments):

Assignment Group	Weight %
Achieve Homework	12%
iClicker	10%
Progress Exams (3 equally weighted; consider average/replace policy)	48%
Cumulative Final Exam	25%
Chem Communications	4%
Syllabus Quiz and Surveys	1%

Grade scale (note: there is no rounding to your score in Canvas):

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

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES

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. 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. Any SCCR sanctions given will also result in a score of zero on the assignment in question. Any student found cheating during an exam will receive a score of zero for the exam. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php."

U MATTER, WE CARE

Your well-being is important to the University of Florida. 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.

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/.

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.

Other resources are available at http://www.distance.ufl.edu/getting-help for Counseling and Wellness resources, disability resources, resources for handling student concerns and complaints, and library desk support.

COURSE TOPICS

The following list details the order of topics that will be covered in this course:

Chapter 1: Foundations

Chapter 2: Measurement

Chapter 3: Atoms

Chapter 4: Light and Electronic Structure

Chapter 5: Chemical Bonds and Compounds

Chapter 6: Chemical Reactions

Chapters 7 & 11: Mass Stoichiometry; Solutions

Chapter 8: Energy

TENTATIVE SCHEDULE

The following schedule is tentative, but exam dates will not change

Date	Content	Reading Assignment (~30 - 45 mins each)	Due
R 8/22	Syllabus, Achieve orientation, iClicker registration; Math Review		Opt in and access Achieve
T 8/27	Ch. 1.1 – 1.2	pages 3 - 11	
R 8/29	Ch. 1.3 – 1.4	pages 12 – 16	Math-Up Skills Test (MUST)
T 9/3	Ch. 2.1	pages 25 - 36	Ch. 1 Homework due by 11:59 pm
R 9/5	Ch. 2.2 – 2.4	pages 36 - 45	
T 9/10	Ch. 3.1 – 3.3	pages 56 - 67	Ch. 2 Homework due by 11:59 pm
R 9/12	Ch. 3.4 – 3.5	pages 67 - 74	Chem Communication 1 due by 11:59 pm
M 9/16	Exam 1@ 8:20 pm – covers Ch. 1 - 3		

T 9/17	Ch. 4.1 – 4.2	pages 84 - 89	Ch. 3 Homework due by 11:59 pm
R 9/19	Ch. 4.3	pages 90 - 94	
T 9/24	Ch. 4.4 – 4.5	pages 94 - 104	
R 9/26	Ch. 5.1 – 5.2	pages 113 - 118	Ch. 4 Homework due by 11:59 pm
T 10/1	Ch. 5.3	pages 118 - 121	
R 10/3	Ch. 5.4	pages 121 - 125	
T 10/8	Ch. 5.5 – 5.7	pages 126 -130	
R 10/10	Ch. 6.1	pages 141 - 146	
T 10/15	Ch. 6.2	pages 147 - 149	Ch. 5 Homework due by 11:59 pm
R 10/17	Ch. 6.3 – 6.4	pages 149 - 153	
T 10/22	Ch. 6.5	pages 153 - 161	
R 10/24	iClicker review for Exam 2 Practice		
R 10/24	Exam 2 @ 8:20 pm – covers Ch. 4 - 6		
T 10/29	Ch. 7.1	pages 174 - 177	Ch. 6 Homework due by 11:59 pm
R 10/31	Ch. 7.2	pages 177 - 180	
T 11/5	Ch. 7.3	pages 180 - 189	
R 11/7	Ch. 7.3 contd.	pages 180 - 189	
T 11/12	Ch. 7.4	pages 189 - 190	
R 11/14	Ch. 11.1	pages 291 - 297	Ch. 7 Homework due by 11:59 pm
T 11/19	Ch. 11.3 – 11.4	pages 305 - 309	
R 11/21	iClicker review for Exam 3 Practice		
R 11/21	Exam 3 @ 8:20 pm – covers Ch. 7, 11.1, 11.3, 11.4		
T 12/3	Ch. 8.3	pages 213 - 217	Tuesday: Chem Communication 2 due by 11:59 pm Wednesday, 12/4: Ch. 8 Homework due by 11:59 pm

S 12/7	Final Cumulative Exam @ 8:00 pm	Last day to submit any work for credit

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.