

Introduction to Chemical Practices I

CH 104M: Introduction to Chemical Practices I

TCCN: CHEM 1111

Course Syllabus: 2022-2023

| UT Austin Faculty Lead | OnRamps Course Staff |
|--|---|
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COURSE DESCRIPTION

Introduction to Chemical Practices I provides an introduction to the techniques of modern experimental chemistry. It is designed to instill basic laboratory and analytical skills.

Course Pre-requisites

- Algebra 1
- Concurrent enrollment in Principles of Chemistry I (CH 301)

Course Learning Outcomes

- Data management and note-taking
- Critical thinking (theory vs experiments; proof of concept; applications; scientific method)
- Communication skills
- Collaboration with peers
- Quantitative reasoning: calculations, estimations; data interpretation, representation, extrapolation; predictions using models
- Manual dexterity: handling of glassware and laboratory tools, pouring or scooping of reagents (for in-person experience only)

Course Format and Procedures

This course is a general chemistry laboratory course designed to introduce you to laboratory safety, a variety of laboratory skills, including the proper handling of laboratory equipment, the standard methods for recording data and observations, interpretation of experimental data, and the presentation of scientific data through the composition of written laboratory conclusions.

Lab Timeline and Procedures

- Each lab learning cycle starts with a homework pre-lab module to be completed prior to the first lab experience. The pre-lab module is meant to be a summary of lab objectives, safety and overall review of experimental procedures.
- During the laboratory session, you will complete the experimental portion and record all your work according to your High School Instructor's directions.
- Once you have completed each experiment, you will complete a post-lab module which consists of post-lab discussion questions and error analysis.
- You may complete the Lab Conclusion Handout collaboratively and prepare for the Lab Conclusion Assessment to be done after data analysis has been completed.
- Lastly, you will complete your Lab Conclusion Assessment in your Lab College Canvas course.

University Course Staff

| Title | Description |
|------------------------|---|
| UT Austin Faculty Lead | A UT Austin faculty member who designs and oversees delivery of the OnRamps college distance course and ensures its alignment to the course as it is delivered at the residential university campus. |
| OnRamps Course Staff | <p>A UT Austin staff member and designee of the UT Austin Faculty Lead who serves as a primary subject-matter expert in the academic discipline of the OnRamps course and provides yearlong support to high school Instructors to ensure the course is delivered with fidelity.</p> <p>As a designee of the UT Austin Faculty Lead, Course Staff assist with academic integrity investigations, send official University communication to students, and ensure students have access to all course resources and policies.</p> |

| Title | Description |
|--------------------------------|---|
| UT Austin Instructor of Record | <p>The UT Austin Instructor of Record grades or oversees grading of college course work and determines student eligibility and credit award.</p> <p>The UT Austin Instructor of Record also investigates and resolves suspected incidents of academic integrity violations in the distance college course.</p> <p>The UT Austin Instructor of Record meets departmental and university criteria prior to appointment. The UT Austin Faculty Lead, Course Staff, or other UT Austin-appointed staff member may also serve as the UT Austin Instructor of Record.</p> |

Course Outline

| Unit & Topic |
|---|
| Safety Modules |
| Lab #1: Unknown Identification of Cations |
| Lab #2: Spectroscopy Lab |
| Lab #3: Thin Layer Chromatography |
| Lab #4: Baking Soda Stoichiometry Lab |
| Lab #5: Molar Volume Determination of a Gas |
| Lab #6: Gibbs Free Energy Determination |

COURSE REQUIREMENTS

Enrollment Requirements

Students enrolled in Introduction to Chemical Practices I (CH 104M) are simultaneously enrolled in Principles of Chemistry I (CH 301); however, college credit eligibility, college grades, and college credit acceptance are separate for the two courses.

Technology Access and Expectations

Accessing technology is part of your OnRamps course requirements. You may only access OnRamps course technology using your own UT EID and password or other designated login credentials. You are forbidden from substituting for another person or permitting another person to use your login credentials to substitute for yourself to take a class, a test, or any class-related assignment.

| Technology System | Description and Expectations |
|--|--|
| <p>UT EID</p> <p>URL: https://utexas.edu/eid</p> | <ul style="list-style-type: none"> You must obtain a UT EID and password, which will create a unique account with the University of Texas at Austin, to register for OnRamps courses and access coursework. You must create a strong UT EID password in order to ensure uninterrupted technology access. The guidelines for creating a strong password are available here. Do not share your UT EID password with anyone. Sharing your password could allow unauthorized access to your educational information and may result in account suspension or an academic integrity investigation. |
| <p>Canvas Learning Management System</p> <p>URL: https://onramps.instructure.com</p> | <ul style="list-style-type: none"> OnRamps provides an online learning environment in Canvas Learning Management System (LMS) for all students in this class. You will have access to two (2) Canvas courses for the purpose of the dual-enrollment experience: the OnRamps high school course and the OnRamps college course. You may only access Canvas using your own UT EID and password. You are expected to access Canvas weekly for assignments, quizzes, and exams. You will get many of your assignments and turn in your college work in Canvas. You are responsible for reading course information, including assignment instructions and due dates, that is posted in Canvas. You are responsible for frequently checking your Canvas Inbox and viewing course announcements. Failure to read announcements or failure to check your Inbox is not an acceptable reason for missed communication or missed deadlines. |

| Technology System | Description and Expectations |
|---|---|
| <p>OnRamps Portal</p> <p>URL: https://onramps.utexas.edu/portal</p> | <ul style="list-style-type: none"> You will access the OnRamps Portal to manage your current OnRamps distance college course enrollment(s), including viewing your college credit eligibility status and accepting or declining college credit, if earned. You may only access the OnRamps Portal using your own UT EID and password. You must use the OnRamps Portal to request accommodations for your distance college course in order for eligible IDEA, 504, or ADA accommodations to be approved and applied. You may view requested accommodations, approval status, and update accommodations at any time in the OnRamps Portal. |
| <p>Email</p> <p>Use a personal email address that you check regularly and will have access to after you graduate high school.</p> | <ul style="list-style-type: none"> Email is an official means of communication at UT Austin. OnRamps uses email to communicate course, enrollment, and credit information to you. It is your responsibility to keep your email address updated in the OnRamps Student Portal at all times. You are expected to check email frequently in order to stay current with OnRamps-related communications, recognizing that certain communications may be time-critical. Updating your email address in the OnRamps Student Portal automatically updates your email address in Canvas. Failure to check email is not an acceptable reason for missed communication or missed deadlines. |

Classroom Expectations

- Class participation.** Introduction to Chemical Practices is an interactive class and you are expected to actively and safely participate in the lab experiences. You will also regularly collaborate with your peers during laboratory investigations and small group work.
- Laboratory Safety Contract.** You will submit a safety agreement during the lab course introduction to the College Canvas course. You will not be allowed to perform an experiment until a safety agreement is on file with the High School Instructor and submitted to the College Canvas course.

- There is a **ZERO TOLERANCE POLICY** for unsafe practices and behavior when you are in the laboratory – you are expected to adhere to the following set of guidelines to ensure the personal safety and of those working around you. These safety requirements are also addressed in the Safety Modules and Laboratory Safety Contract completed at the beginning of the school year. For more information see the College Lab Canvas course. Additionally, you must adhere to your High School Instructor's expectations.

Safety Guidelines

- a. Safety goggles and lab coats or aprons must be worn in the laboratory **AT ALL TIMES.**
- b. Eating, drinking, and chewing gum are not permitted in the laboratory.
- c. You must immediately notify your High School Instructor of a spill, fire, broken glassware, or other emergency.
- d. You should never taste or directly inhale any chemicals in the laboratory. If necessary, waft a substance instead.
- e. Do not remove chemicals or equipment from the laboratory.
- f. You must dispose of lab-generated waste in the appropriate containers according to the High School Instructor's directions, and DO NOT overfill them.
- g. You must maintain a safe and clean workspace – label all containers, re-cap chemical containers (including waste) when you are finished with them, and return borrowed (cleaned) equipment to the shared containers.
- h. You should always wash your hands after finishing a laboratory session – doing so will help avoid chemical exposure through skin contact, eye contact, and/or ingestion later in the day.

Assignments & Grading

The following assignments and assessments contribute to your college grade. Detailed instructions and due dates for assignments are posted in your Canvas college course.

| Assessment | Description | Frequency | % Course Grade |
|-------------------------|---|----------------------|----------------|
| Fall Lab Conclusions | Canvas-based assessments specific to content in each lab. | 3 per semester | 33% |
| Spring Lab Conclusions | Canvas-based assessments specific to content in each lab. | 3 per semester | 33% |
| Lab Safety Modules | Canvas-based modules and Lab Safety Contract, to be completed prior to starting Lab #1. | Once per school year | 10% |
| Fall Pre-Lab Modules | Pre-class Learning Modules to prepare for lab experience. | 3 per semester | 6% |
| Spring Pre-Lab Modules | Pre-class Learning Modules to prepare for lab experience. | 3 per semester | 6% |
| Fall Post-Lab Modules | Pre-class Learning Modules to prepare for Lab Conclusion. | 3 per semester | 6% |
| Spring Post-Lab Modules | Pre-class Learning Modules to prepare for Lab Conclusion. | 3 per semester | 6% |
| Total | | | 100% |

College Course Grading Scale

| | | |
|----|---------------|----------------------------------|
| A | 91.50 – 100 | <i>Minimum Eligibility Grade</i> |
| A- | 88.50 – 91.49 | |
| B+ | 85.50 – 88.49 | |
| B | 81.50 – 85.49 | |
| B- | 76.50 – 81.49 | |
| C+ | 71.50 – 76.49 | |
| C | 64.50 – 71.49 | |
| C- | 59.50 – 64.49 | |
| D | 54.50 – 59.49 | |
| F | 0 – 54.49 | |

- Missed Work
 - a. Missed lab assignments or experiences due to unplanned and excused absences will convert to zero if the work is not made up within five school days after return to school. Students missing lab assignments due to approved appointment and extracurricular activities are encouraged to make arrangements to reschedule the assignment with the High School Instructor of Record prior to the absence.
 - b. UT assignments must be submitted by the due date to receive credit. If students are unable to complete a college assignment on time, the UT Course Staff should be contacted through OnRamps Support located in the College Canvas course to request that late work be accepted. There may be a grade reduction for late work.

COLLEGE CREDIT

This is a college course delivered via distance education through a dual-enrollment program, which means you may earn UT Austin college credit for Introduction to Chemical Practices I (CH 104M) in addition to earning high school credit.

Eligibility for the Opportunity to Earn College Credit

Eligibility refers to whether or not you met criteria to be eligible for the opportunity to earn college credit.

You may become eligible for the opportunity to earn college credit in the following ways:

| Eligibility Pathway | Requirements |
|--------------------------------|---|
| College grade | Meet the minimum eligibility grade of D (54.50) on selected college assignments and assessments. All Fall Lab Conclusions, Fall Pre-Lab Modules, Fall Post-Lab Modules, and Lab Safety Modules will count towards eligibility. |
| Texas Success Initiative (TSI) | Submit proof of scores on certain standardized assessments, as shown in the Requirements for Eligibility by TSI table. |

Requirements for Eligibility by TSI

| Assessment | Subject Area | Minimum Score |
|------------|--------------------|--|
| TSI | Math | 350 |
| TSIA 2.0 | Math | Math score of 950 or diagnostic level of 6 |
| SAT | Math | 530 |
| ACT | Composite and Math | 23 (Composite) and 19 (Math) |

College Credit Decision Period

If you are eligible for the opportunity to earn college credit, you may accept or decline college credit earned during the five-day college credit decision period, which will occur during a Monday – Friday window after you receive your final college grade. You will receive an email notification from OnRamps when your credit decision period begins, a reminder email during the credit decision period, and an email when the credit decision period ends.

If you do not make a decision during the credit decision period, OnRamps will determine course credit as follows:

- **C- or above.** You earned credit and *will* be issued a UT Austin transcript unless you decline credit in the OnRamps Portal.
- **D.** You earned credit but *will not* be issued a UT Austin transcript unless you accept credit in the OnRamps Portal.
- **F.** You did not earn credit and will not be issued a UT Austin transcript.

College Transcript & Credit Transferability

If you earn and accept college credit, you may request an official UT Austin transcript through the UT Austin Office of the Registrar at the end of the academic year. You will receive an email notification from OnRamps when your transcript is available with instructions for ordering a transcript.

Each college or university evaluates transfer credit based on its own policies, which vary by school, college, and institution. In order to determine how OnRamps courses will transfer and if the grade will factor into your college GPA, you must contact the higher education institution you plan to attend. OnRamps course grades will be factored into your cumulative GPA if you attend UT Austin as an undergraduate.

POLICY INFORMATION

Students with Disabilities

If you receive high-school accommodations related to a disability under the Individuals with Disabilities Education Act (IDEA) or Section 504 of the Rehabilitation Act, you may also receive certain accommodations in your OnRamps college course. Accommodations in an OnRamps course must follow accommodations in your Individual Education Plan or 504 Individual Accommodation Plan and be allowable under the university assessment practices. Accommodations are individualized and based on need and disability.

You must use the OnRamps Portal to request accommodations for your distance college course in order for eligible IDEA, 504, or ADA accommodations to be approved and applied. You must request accommodations prior to the due date for an assignment in order to

access accommodations for that assignment. You are strongly encouraged to provide information about your need for accommodations during registration at the beginning of the course or immediately following changes to your Individual Education Plan or 504.

Academic Integrity

OnRamps students are subject to the University's academic integrity policies. Academic integrity is honesty in your academic work. Each student in the course is expected to abide by the University's Student Honor Code:

"As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity."

This means that work you produce on assignments and exams is all your own work, unless it is assigned as group work. The UT Austin Instructor of Record or your high school Instructor will make it clear for each assignment or exam whether collaboration is allowed. Refer to the **Assignments and Grading** section for further details about assignment types in your course.

You are responsible for understanding UT Austin's Academic Honesty Policy which can be found here: <https://deanofstudents.utexas.edu/conduct/academicintegrity.php>

You must respond to email requests from OnRamps staff for investigations of potential academic integrity violations. If you fail to respond to email requests about potential academic integrity violations from OnRamps staff, you may receive an academic disciplinary action.

More information about academic integrity may be found in the OnRamps Orientation in Canvas.

Student Code of Conduct

As a participant in the UT Austin OnRamps program, you are expected to uphold a high standard of integrity and ethical behavior. This includes using UT Austin resources in an appropriate, ethical manner for the purpose of learning. Prohibited behavior includes:

- Unauthorized use of institutional technology and services
- Providing false or misleading information about an academic record
- Engaging in violent or disruptive conduct, including hazing, stalking, or behavior that impedes, interferes with, or disrupts any University teaching, research, administrative, disciplinary, public service, learning, or other authorized activity.

Failure to abide by the student code of conduct may result in an academic sanction or removal from the course. For more information about standards of behavior, refer to The University of Texas catalog, Chapter 11, Student Discipline and Conduct: <http://catalog.utexas.edu/general-information/appendices/appendix-c/student-discipline-and-conduct/>

FERPA

All students in OnRamps are college students and subject to the federal Family Educational Rights and Privacy Act (FERPA). As a participant in the UT OnRamps program, it is important that you understand these rights as they apply to you.

Under FERPA, university staff may not share information regarding a student's college coursework or academic standing (grade point average, academic transcript, academic probation, or discipline records).

Exceptions:

- If the student signs a waiver stating that FERPA-protected information may be released to the student's parent/guardian, university staff may share the FERPA-protected information with the parent/guardian.
- If university staff share FERPA-protected information with high school staff, including the high school Instructor, and the student is under 18 years of age, then the high school staff may share that information with the student's parent or guardian.
- If university staff suspect a student presents a significant risk of harm to self or others, university staff may disclose FERPA-protected information with a student's parent/guardian, high school Instructor, principal, or other appropriate authority to ensure the safety of the student and/or other individuals.

For more information about FERPA, refer to The University of Texas catalog, chapter 9, Educational Records: <https://catalog.utexas.edu/general-information/appendices/appendix-c/educational-records/>