



SEMESTER

Life and Natural Sciences Department School of Science, Technology, Engineering, and Mathematics

Program Name: Chemistry
Course Name: Principles of Chemistry – Lecture
Course Number: CHM095 **Section:** XXX
Meeting Day(s) & Time(s):
Credits: 4 credit hours combined (Lecture and Laboratory)
Contact Hours: 3
Text: *Introductory Chemistry with Mastering Chemistry, 7th Edition*, Tro, Nivaldo, Pearson Publishing, 2023.
Instructor Name:
Office Location:
Office Hours:
Virtual Office Hours:
Owens CC Phone:
Owens CC Email:**

**Please use only Owens email for course communications.

CATALOG DESCRIPTION

Covers properties of matter, measurement, the atom, covalent and ionic compounds, structures of carbon compounds, chemical reactions, stoichiometry, the mole concept, oxidation-reductions, solutions, acids and bases, radiation and nuclear chemistry. Laboratory work promotes the understanding of basic principles and emphasizes use of the system. Students retaking this course must repeat both the lab and lecture. This course DOES NOT count towards graduation.

PREREQUISITE: MTH013 or MTH033 or MTH070 or MTH091 or equivalent

COREQUISITE: None

TEXTBOOKS and MATERIALS

- *Introductory Chemistry with Mastering Chemistry*, 7th Edition, Tro, Nivaldo., Pearson Publishing, 2023.
- Scientific calculator
 - Note: Graphing or programmable or cell phone/smart devices are prohibited from use on all examinations. You must use a scientific calculator. If you are concerned about whether your calculator will be allowed, please show it to your instructor ahead of any assessment. Your instructor will not have extra calculators to lend out.
- *Principles of Chemistry Laboratory Manual* 10th Edition, Owens Community College, 2014.

*Your **print book, e-book, or access code** required for class can be accessed through the Owens Community College e-Campus Bookstore by accessing the online link, called “Find Books” on the course schedule for each course section.*

GENERAL COURSE INFORMATION

Course Objectives

The general objective is to provide the student with a background in chemistry necessary for the understanding of scientific principles used in the health technologies.

Institutional General Education Competencies:

As a student at Owens Community College, you will take General Education courses as part of your degree program. While specific to the General Education courses, will be reinforced in many of your degree program major courses and may be measured in your capstone course(s) and others as identified.

Competency	Assessed
Think analytically, critically, and creatively	Homework Assignments/Question Sets/Lab Reports
Communicate effectively	Exams/Quizzes/Lab Reports

Lecture Student Learning Outcome

- Demonstrate a working knowledge of the metric system.
- Learn and apply the concept of significant figures.
- Relate atomic structure to properties of matter.
- Predict bonding types from the position in the periodic table.
- Determine electron configuration of elements and ions.
- Name and write the formulas of inorganic compounds.
- Balance chemical equations.
- Identify the substance being oxidized or reduced in a redox reaction.
- Determine mass relationships in chemical reactions.
- Calculate solution concentrations.
- Describe important properties of acids, bases, and salts.
- Basic overview of organic chemistry.
- Explain nuclear reactions in terms of subatomic particles.

Laboratory Student Learning Outcomes

Student should be able to demonstrate comprehension of: the metric system, types of bonding, chemical formulas, solution concentrations, properties of acids and bases, structures of simple organic compounds, arrangement of the periodic table, types of chemical reactions and the application of formulas used in various chemical equations and reactions.

Course Rules

Attendance

Since the class discussion is an important and often effective way of learning course concepts, attendance at classes will be expected. Excessive absences could cause one to have difficulty in mastering the required course content. Attendance will be taken and recorded.

Class Participation

This is a 4-credit hour course, so you should expect to spend a minimum of 8 hours per week outside class reviewing the material for the course and completing the homework assignments. Doing the homework is essential to understanding the course material and being successful in this course.

Laboratory

Laboratory work will be conducted in conjunction with the lecture. A separate syllabus will be issued for the laboratory portion of the course. The syllabus will detail the policies and evaluation procedures for the laboratory. The score in the laboratory will be used to compute the final grade for the course. The laboratory score represents 25% of the total score for the course.

Devices

Phones and other electronic communication devices must be in silent mode during class. Unauthorized use of a phone, e-watch or tablet is not permitted during an exam. Use of these devices could result in forfeiture of exam points. Phones cannot be substituted for calculators.

GRADING PROCEDURE

EVALUATIONS

Student evaluation will be based on how well the objectives are met as shown by performance on examinations, laboratory reports, course projects, and the comprehensive final exam.

1. **Exams** Four one-hour exams and a comprehensive final exam will be given. There will be no make-up exams. If an exam is missed due to an excused absence, such as illness, the score will be taken from the score of the final exam. If two or more exams are missed, the score for one exam will be assigned from the final, and the score for other exams will be zero. EVERY STUDENT MUST TAKE THE FINAL EXAM.

All exams are administered by the instructor in the classroom.

Tentative Exam Schedule

Exam 1 (Chapters 1-4)	Thursday, September 11
Exam 2 (Chapters 9, 10, 5, 6)	Thursday, October 9
Exam 3 (Chapters 18, 7, 16)	Tuesday, November 4
Exam 4 (Chapters 13, 14)	Tuesday, December 2
Final Exam (17, Entire Course)	Thursday, December 11

There are NO open book or open note exams.

During exams, unauthorized use of a phone, tablet, e-watch or any other electronic device is prohibited. Use of these devices during an exam, could result in forfeiture of exam points.

For any technical issues contact the Owens IT help desk at helpdesk@owens.edu

2. **Laboratory Grade:** See laboratory syllabus for this information.

3. **Homework Assignments:** Homework assignments will be assigned, with varying point values, utilizing Pearson's Mastering Chemistry or other instructor-specified activities.

4. **Quizzes:** Throughout the semester, quizzes will be announced and the quiz average will be incorporated in the final grade.

GRADING

There is no provision for extra credit.

Exam 1	10.0%
Exam 2	10.0%
Exam 3	10.0%
Exam 4	10.0%
Homework	5.0%
Quizzes	5.0%
Laboratory Reports	25.0%

<u>Final Exam</u>	<u>25.0%</u>
TOTAL	100%

The Grading Scale will be as follows:

100-90%	= A
89.99-80%	= B
79.99-70%	= C
69.99-60%	= D

Below 60.00%	= F
--------------	-----

Example of calculations of a weighted total:

Add all partial exams scores	x 0.10 =	points
Homework average	x 0.05 =	points
Quiz average	x 0.05 =	points
Final exam score	x 0.25 =	points
Lab score	x 0.25 =	points

Weighted total = points or % (corresponding to letter grade)

IMPORTANT: You must earn no less than 60% out of the total possible laboratory points to pass the entire course. If you do not earn at least 60% out of the total possible laboratory points, you will receive an (F) letter grade for the entire course.

IMPORTANT

Under some circumstances, dropping a course may negatively affect your ability to receive financial aid in future semesters. Consult your academic advisor with questions.

WEB SECTIONS

Using LockDown Browser for Online Exams

This course requires the use of LockDown Browser and video monitor for online exams. Watch the video (*link below*) to get a basic understanding of LockDown Browser and the webcam feature. To get started on your computer, watch the instructional video and then download and install LockDown Browser from the link.

- <http://www.respondus.com/products/lockdown-browser/student-movie.shtml>

To get started on your computer, download and install LockDown Browser from this link.

- <http://www.respondus.com/lockdown/download.php?id=139313370>

To take an online test, start LockDown Browser and navigate to the exam. (*You won't be able to access the exam with a standard web browser.*) For additional details on using LockDown Browser, review the quick start guides from Owens and Respondus in Course Content.

Helpful Hints

When taking an online exam, follow these guidelines:

- Ensure you're in a location where you won't be interrupted
- Turn off all mobile devices, phones, etc.
- Clear your desk of all external materials — books, papers, other computers, or devices
- Remain at your desk or workstation for the duration of the test
- LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

CHM 095 LECTURE COURSE CALENDAR

Week	Day	Date	Chapter(s) *	Topics
1	DAY	DATE	1, 2	Math and study skills, significant figures, metric system
1	DAY	DATE	2	Basic quantities, unit conversions, density
2	DAY	DATE	3.1-3.8	Matter and energy; elements compounds and mixtures
2	DAY	DATE	3.10	Temperature scales and conversions
3	DAY	DATE	4	Atomic theory. Isotopes and periodic table
3	DAY	DATE		Exam 1 (covers chapters 1-4)
4	DAY	DATE	9	Atomic orbitals, electron configuration, periodic trends
4	DAY	DATE	10.1 – 10.5	Ionic and covalent bonds, Lewis structures
5	DAY	DATE	10.7 – 10.8	Lewis structures, electronegativity, molecular geometry
5	DAY	DATE	5	Chemical nomenclature,
6	DAY	DATE	5	Acid names, formula mass
6	DAY	DATE	6	Mole concept, percent composition, empirical formula
7	DAY	DATE	6	Mole concept, percent composition, empirical formula
7	DAY	DATE		Exam 2 (Covers chapters 9, 10, 5, 6)
8	DAY	DATE	18.1 -11	Organic; structure of carbon compounds
8	DAY	DATE	18.1 -11	Organic; structure of carbon compounds
9	DAY	DATE	7.1 – 7.6	Chemical equations, balancing
9	DAY	DATE	7.8 – 7.10	Types of chemical reactions
10	DAY	DATE	7	Chapter 7 Review
10	DAY	DATE	16.1 – 16.3	Redox reactions
11	DAY	DATE		Exam 3 (Covers chapters 18, 7, 16)
11	DAY	DATE	8.1- 8.4	Stoichiometry
12	DAY	DATE	TBD	
12	DAY	DATE	13.1 – 13.7	Solutions, solubility, molarity, dilutions
13	DAY	DATE	13.1 – 13.7	Solutions, solubility, molarity, dilutions
13	DAY	DATE	14	Acids and bases, pH, buffers
14	DAY	DATE	14	Acids and bases, pH, buffers
14	DAY	DATE	TBD	
15	DAY	DATE		Exam 4 (Covers chapters 13, 14)
15	DAY	DATE	17.1 – 17.5	Radioactivity: Nuclear reactions, half-life
16	DAY	DATE		Optional Attendance: Final Exam Review
16	DAY	DATE		Final Exam

Chapter(s)*: Any chapter with a decimal point followed by numerical values indicates specific sections within the chapter that will be covered.

Academic Calendar

DATE	Semester begins
DATE	Last day to add
DATE	Last day of classes
DATE	Exam week
DATE	Last day to drop
DATE	Commencement

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit <https://www.owens.edu/disability/>, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: <https://www.owens.edu/successcenters/>.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's [Student Code of Conduct](#), which includes academic honesty, encompassing plagiarism. See the [Board Policy](#) for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's [Anti-Discrimination and Harassment Policy](#) and the College's [Title IX Policy](#)/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu. The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Use of AI Tools: This course requires you to complete various assignments that assess your understanding and application of the course content. You are expected to do your own work and cite any sources you use properly. You are not allowed to use any artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to complete any part of your assignments. Any attempt to use these tools will be considered academic misconduct and will be dealt with according to the university's academic integrity policy. Students are expected to complete all work independently and without the assistance of AI-generated content. If you have any questions about what constitutes acceptable use of AI tools, please consult with the instructor *before* submitting your work.

The instructor reserves the right to amend this syllabus as necessary and will communicate amendments to students in the course. It is the responsibility of the student to regularly check emails and announcements for changes.