



**Department of Natural Sciences**

**General Chemistry (lecture)**

**CHEM 24112, 48 contact hours, 3 credit hours**

**5-Week Summer Session**

**Instructor:** TBA

**Email:** TBA

**Office Hours:** By appointment

**Textbook and/or Supplementary Materials**

Textbook: Introductory Chemistry: A Foundation, Steven S Zumdahl and Donald J DeCoste, Cengage Learning, 8<sup>th</sup> ed, 2015.

Students will also need a calculator that can perform exponential notation (EE or Exp button).

**Course Description**

MOTR CHEM 100L. Beginning course for those who did not take chemistry in high school. Serves as a refresher course for science majors and satisfies the general laboratory physical science requirement. Involves a study of elements, compounds and fundamental chemical laws. Suggested prerequisite: High school algebra.

**Northwest Core Competencies:**

**Assessment Methods:**

- |  |                        |
|--|------------------------|
| 1) Critical Thinking—assimilate, retain, and interpret information | Final Grade            |
| 2) Communication – use visuals and non-alphabetic text             | Unit Exams and Quizzes |

**Student Learning Outcomes:**

The following outcomes will be assessed on quizzes, unit exams, and the final exam:

- 1) The student will learn to develop and use models (conceptual, physical, and mathematical) to understand chemistry.
- 2) The student will learn to analyze information in a logical manner and use mathematical models to solve chemical problems.
- 3) The student will master basic knowledge of chemistry and use this knowledge to develop an understanding of the historical and modern relationship between chemistry and society.
- 4) The student will develop critical reading habits and learn to separate and analyze the components of scientific writing.

**Course Outline/Major Topics Studied:**

Unit	Topics
1	Measurements, Metric Units & Prefixes, Units, Equivalence Statements, Uncertainty and Significant Figures, Problem Solving, Temperature Conversions, Density
2	Matter, Physical and Chemical Properties and Changes, Separations

3	Atomic Structure, Isotopes, Periodic Table, States of Matter, Ions
4	Naming binary compounds, Polyatomic ions, Naming Acids
5	Balancing Chemical Equations
6	Chemical Reactions: Aqueous Reactions, Precipitation Reactions, Acid/Base Reactions
7	Mole to Gram Conversions; Atomic Masses, Formula and Percent Composition
8	Empirical and Molecular Formulas, Equations and Molar Relationships, Equations and Mass Calculations, Limiting Reagent and Percent Yield
9	Solutions, Molarity, Dilutions, Stoichiometry in Solution Reactions, Neutralization Reactions
10	Pressure, Gas Laws, and Kinetic Molecular Theory

**Disclaimer: Course schedule is subject to change and you will be responsible for abiding by any such changes. Your instructor will notify you of any changes.**

### **Instructional Methods and Techniques**

This course will be delivered fully online, and all instructional methods and assessments outlined as followed will be adapted to this format on Canvas. This course will be taught as a lecture with some in class activities such as discussion, videos, and the use of models, as well as filling in the necessary parts of PowerPoints.

### **Course Requirements**

While exam and quiz scores are not the ultimate measure of your knowledge of chemistry, they are an important way to monitor your performance in the class. Students will be graded as individuals and NOT against a curve. Grades will be based on five unit exams, a final exam, and daily quizzes.

<b>Assessment</b>	<b>Points</b>
'Daily' quizzes – 15 x 10 pts each	150 points
Unit exams – 5 x 50 pts each	250 points
Cumulative final exam	100 points

### **Grading Scale: based on % of 500 (approximately) points**

<b>Percentage of possible points</b>	<b>Letter Grade</b>
100-89.50%	A
89.49-79.50%	B
79.49-69.50%	C
69.49-59.50%	D
59.49-0%	F

### **Attendance Policy**

Students are expected to attend all classes as specified in the course syllabus for each course. However, specific attendance policies may vary from instructor to instructor. Each instructor will clarify the policy at the beginning of each course. It is the responsibility of the student to promptly notify his or her instructor when unable to attend class.

Students receiving veterans' benefits should consult with the coordinator of Veterans' Affairs for additional attendance requirements.

Please note, that although this is an online course, the instructor can see how much time was spent in the course by utilizing Canvas analytics.

Please refer to the following link to view Northwest Missouri State University's Attendance Policy:

<https://www.nwmissouri.edu/policies/academics/Attendance.pdf>

### **Code of Academic Integrity Policy**

The students, faculty, and staff at Northwest endeavor to sustain an environment that values honesty in academic work, that acknowledges the authorized aid provided by and intellectual contributions of others, and that enables equitable student evaluation.

Sustaining academic integrity at Northwest is the responsibility of the entire university community. The value of the educational experience, the reputation of Northwest's courses of study and degrees, and the university's mission of ensuring student success—each of these depends on diffuse academic integrity.

Students bear the responsibility of performing with academic integrity in all academic situations. Students should be especially attentive to academic integrity whenever submitting academic work for evaluation, honors

Students are responsible for understanding the eight areas of academic behavior which violate the Code of Academic Integrity: (1) knowingly obtaining unauthorized aid or information; (2) knowingly giving unauthorized aid or information; (3) committing plagiarism from written, electronic, or internet sources; (4) misrepresenting facts or data; (5) offering bribes; (6) using library resources unethically; (7) using computer resources unethically; and (8) knowingly assisting in any of the above practices.

The students, faculty, and staff at Northwest endeavor to sustain an environment that values honesty in academic work, that acknowledges the authorized aid provided by and intellectual contributions of others, and that enables equitable student evaluation. Please refer to Northwest Missouri State University's Academic Honesty Policy at <http://nwmissouri.smartcatalogiq.com/en/2017-2018/Undergraduate-Catalog/Policies-and-Regulations/Academic-Policies/Academic-Honesty>.

### **Administrative Drop**

An instructor may administratively drop a student from the course if the student has not met the prerequisite of for the course as stated in the catalog or if the student failed to attend/log in to class without notifying the instructor.

### **University Communications**

Students are required to use their Northwest student email account for any correspondence within the university. Students are also highly advised to check their email accounts on a regular basis.

### **Special Accommodations Policy**

Northwest Missouri State University complies with Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990.

If a student has a disability that qualifies under the ADAAA and requires accommodations, he/she/they should contact the Office for Equity and Accessibility for information on appropriate policies and procedures. Disabilities covered by the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders.

Students requiring special classroom accommodations should meet with me during office hours so that we can discuss how to meet your needs this semester. Prior to our meeting be sure you have met with Pat Wyatt in the Proctoring Center in OL 242 on the 2nd floor of Owens Library. You can also contact the office at 660.562.1639, or email at [pip@nwmissouri.edu](mailto:pip@nwmissouri.edu) or [ADA@nwmissouri.edu](mailto:ADA@nwmissouri.edu).

If you have been approved for an accommodation, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please inform me immediately.

### **Non-Discrimination and Anti-Harassment Policy**

Northwest Missouri State University (the "University") is committed to maintaining an environment for all faculty, staff, students, and third parties that is free of illegal discrimination and harassment. In keeping with that policy, the University

prohibits discrimination and harassment by or against any faculty, staff member, student, applicant for admissions or employment, customer, third-party supplier or any other person (collectively the "University Community") because of their race, color, religion, national origin, sex, sexual orientation, gender identity, pregnancy, ancestry, age, disability, genetic information, veteran status, or any other legally-protected class (collectively "protected statuses").

Please refer to the following link to view the Non-Discrimination and Anti-Harassment Policy

<http://www.nwmissouri.edu/diversity/titlevi.htm>

### **Family Educational Rights and Privacy Act (FERPA) Policy**

The Family Educational Rights and Privacy Act of 1974, as amended (commonly known as the Buckley Amendment), is a federal law which provides that colleges and universities will maintain the confidentiality of student education records. Basically, the law says that no one outside the institution shall have access to your education records nor will the institution disclose any information from those records without your written consent. Northwest Missouri State University complies with FERPA, which also gives you certain rights with respect to your education records

Please refer to the following link to view the Family Educational Rights and Privacy Act (FERPA) Policy:

<http://www.nwmissouri.edu/policies/academics/Family-Educational-Rights-and-Privacy-Act.pdf>