



Course Syllabus

CHE 101 AD – Principles of Chemistry Lecture

3 Credit hours

I. COURSE DESCRIPTION

An introductory course requiring no prior background in chemistry. Emphasizes applying chemical principles to everyday situations and acquaints the student with the periodic table and chemical nomenclature.

Corequisites: CHE 101L Principles of Chemistry Lab

II. ACADEMIC MISSION

Oral Roberts University's academic mission is to transform students by the power of the Holy Spirit into whole, competent servant-leaders through liberal arts and professional education that is fully Christian. Within a Spirit-filled healing community, administration, faculty, and staff love and serve students by helping them grow in knowledge, skills, wisdom, character, and spirit.

Student transformation is measured through the evaluation of student expression of University learning outcomes as demonstrated through accompanying proficiencies and capacities.

Spiritually alive Biblical knowledge; sensitivity to the Holy Spirit; evangelistic capability; ethical behavior

Intellectually alert Critical thinking; information literacy; global and historical perspectives; aesthetic appreciation; intellectual creativity

Physically disciplined Healthy lifestyle; physically active lifestyle

Socially adept Communication skills; interpersonal skills; appreciation of cultural and linguistic differences; responsible citizenship; leadership capacity

Professionally competent Discipline-specific proficiencies listed under Program Outcomes.

The last page of this syllabus, "COURSE INVENTORY for ORU's Course Objectives," indicates how this course supports ORU's academic mission and ORU's whole-person approach to learning outcomes through its [ePortfolio system](#).

III. COURSE GOALS

The primary goal of this course is to enable students to understand the fundamental principles of chemistry, equipping students to effectively approach chemically related problems common to everyday life. The course will also aid in developing a creative approach to problem solving and understanding of the wonderful chemical world created by God. This course fulfills the University requirement for a lab science for a liberal arts student and meets the needs of science students who have not had a year of high school chemistry.

IV. COURSE OBJECTIVES

After successfully completing this course, I should be able to:

1. Defend a foundation for a strong faith in God through an understanding of His creation of a chemical world. (Romans 1:20)
2. Predict the manner in which atoms bond to form molecules and properties of the resultant molecules.
3. Make quantitative evaluations (mathematical statements) of chemical phenomena discussed in this course.
4. Develop a working vocabulary of terms used in basic chemistry.
5. Apply chemical concepts when possible to practical situations encountered in everyday life.
6. Enroll and succeed in CHE 111 General Chemistry, having mastered material necessary to meet the prerequisites.

V. TEXTBOOK AND OTHER LEARNING RESOURCES

Textbook(s) and materials for the course are listed using standard [citation style](#) (APA, MLA, Chicago, Turabian, etc.). Since other styles may be used in disciplines other than the one used in this course or school, the [ORU Citing and Documenting Sources](#) pages offer a collection of styles students may choose from. This course asks that students be consistent in whatever style they use throughout the course.

The ORU Bookstore carries print as well as eTexts of assigned textbooks.

<http://www.bkstr.com/oralrobertsstore/home>

Required Materials

Textbook:

Suchocki, John. *Conceptual Chemistry* (5th Ed.). San Francisco: Benjamin Cummings, 2014.
ISBN 978-0-321-80441-9

Other required materials:

None

Optional Materials

Textbooks:

None

Other:

None

VI. POLICIES AND PROCEDURES

A. University Policies and Procedures

1. **Participation:** Participation in each online class through discussion forums, assignments, and all other course activities is mandatory at Oral Roberts University. This counts as your attendance in the course. Excessive absences can reduce a student's grade or deny credit for the course.
2. **Plagiarism:** The ORU Catalog explicitly addresses the issue of plagiarism. Make sure you know [ORU's policy on plagiarism](#) and [what is considered plagiarism](#).
3. **Privacy:** By law, students are entitled to privacy regarding their records. The Family Educational Rights and Privacy Act of 1974 (FERPA), as amended and available in the [ORU University Catalog](#), sets forth requirements designed to protect the privacy of student education records. The law governs access to records maintained by educational institutions and the release of information from those records.
4. **Whole Person Assessment Requirements:**
 - a. Specify which, if any, Whole Person Assessment requirements there are for this course.
Chemical Evolution Article Review
 - b. Artifacts not submitted electronically or incorrectly submitted receive a zero for that assignment.

B. School and/or Department Policies and Procedures

1. Class Assignments

- a. Students need to have the appropriate textbooks, course materials, and other supplies as designated by the professor.
- b. Professors may refuse to accept an assignment if it has inappropriate content, does not meet the assignment's criteria (e.g., not typed, incorrectly documented), is incomplete, is suspected of plagiarism, or is turned in too late.

2. Late Work

- a. The student is responsible for obtaining class assignments and materials, and all work is expected to be completed as scheduled. The professor may not accept late work, or it may result in a lower grade. Computer or Internet malfunctions do not constitute an excuse for late work; students should have their work prepared in time to ensure that they can get it completed, edited, and proofread prior to the instructor's due date. These responsibilities assist the student in professional development.
- b. Generally, assignments missed from a serious sickness or family crises can be made up and the instructor should be notified as soon as possible to reach an agreement on due dates and possible penalties. Each instructor has his or her own late-work policy. Instructors use their own judgment in accepting late work.

3. Incompletes

On rare occasions, the grade of "I" may be given for work that is incomplete at the time grades are given. It is given only after the instructor and the department chair or college dean approve a petition submitted by the student that his or her work is incomplete for good cause. Good cause typically consists of a catastrophic event in which the student is prevented from completing the course requirements. It is the responsibility of the student to initiate the petition through <http://petitions.oru.edu>, make up any incomplete work, and ask the instructor to submit a grade change to the registrar. If the work is not completed by the end of the subsequent session, the incomplete will automatically convert to an "F." For graduating seniors, the degree will be awarded in the term that the student completes his or her course work, not the final term of enrollment.

C. Online Programs Policies and Procedures

1. **Communicating with your Instructor:** All email communication between students and faculty will be through their ORU.edu emails.
2. **Learning Community:** Online learning community is established through active participation in the threaded weekly discussions. The mutual exchange of ideas, information, and experiences is an essential part of the learning process, and students are encouraged to use the discussion forum as virtual classroom platform.
3. **ADA and Students with Disabilities:**
 - Click here (<http://www.brightspace.com/about/accessibility/>) to view Desire2Learn's "Accessibility Resources for Students with Disabilities."
 - Students requiring Disability Services from ORU, please click here: <https://goo.gl/QGoK4x>
 - Desire2Learn (D2L) Accessibility Guidelines and Checklist: <https://goo.gl/Ck4RwY>
 - D2L Accessibility Policy: <https://www.d2l.com/accessibility/>
4. **Useful Links for Online Students:**
 - [Student Learning Glossary](#)
 - Library: <http://library.oru.edu>.
 - D2L Helpdesk: d2lhelp@oru.edu
 - I.T. Student Helpdesk: studenthelpdesk@oru.edu
 - [Netiquette and Online Discussions](https://goo.gl/f744AY): <https://goo.gl/f744AY>
 - Contact the University: please [fill out this online form](#). Please first contact your instructor for assistance with any matter specific to the course.

D. Course Policies and Procedures

1. **Evaluation Procedures:** The final grade will be based on forum discussions, projects, and a final exam. The weight of each item is included in the Course Calendar. Extra credit items are not offered in this course

Grade Weight	Category
40%	Exams
20%	Quizzes
10%	Forum Discussions
10%	Article Review
20%	Final Exam

2. **Grading Scale:**
A=90-100% B=80-89% C=70-79% D=60-69% F=59% and below.
3. **Other Policies and/or Procedures**
None

VII. COURSE CALENDAR

The Course Calendar shows the specific learning activities and assessments for this course. *****This Advantage course is structured in 7 Units. Each Unit lasts 2 weeks, or 14 days. The Projects and Quizzes are due on Day 14, at the end of each Unit, while the Forums are due at the end of Day 7 or the end of week 1.***** Further descriptions for activities and assessments are in their respective weeks in D2L. When applicable, ¥ Indicates this is a Whole Person Assessment item that is also submitted to the E-Portfolio system. † indicates this is a faith integration item tracked by the program.

Welcome to the Online Principles of Chemistry Lecture	Do a little chemistry everyday! Bold-faced due dates indicate something must be submitted.	<ul style="list-style-type: none"> • View Power Point video lectures • Read textbook • Take online quizzes • Use the discussion board 	You will complete this course in 7 weeks with daily participation	<ul style="list-style-type: none"> • Exams are based on the quizzes • Quizzes are based on the PP videos • Discussions provide the “flavor”
Unit 1				
Matter and Energy Read chapter 1.1-1.2, 1.6, & 2.3-2.7 Virtual Cafe	Elemental Matter Read 3.1-3.2, 3.6 God/Science Discussion	Periodic Table Read 2.2, 3.3 Chapter 1 quiz	Electrons and Isotopes Read 4.2-4.4 Chapter 2 Quiz	Nuclear Chemistry Read 5.1-5.4 Chapter 3 Quiz
Unit 2				
Nuclear Uses Read 5.5-5.7 Chap 4 quiz	Exam 1 (Chaps 1, 2, 3, 4, 5)	Ionic Bonding Read 6.1 – 6.4 God/Chemistry Discussion	Covalent Bonding Read 6.5 – 6.8 Chap 6 quiz	Start Naming Compounds Tutorial (a 2-part series)
Unit 3				
Soap Solutions Read 7.2-7.3 and 7.5-7.6 Chap 7 quiz	Balancing Chemical Equations Read 9.1, 9.4 , 9.7 Names of God Discussion	Weighing Out Chemicals Read 9.2-9.3	Water World Chap 9 quiz	Submit Naming Compounds Tutorials
Unit 4				
Stickiness of Water Read 8.1–8.3	Water and Energy Read 8.4–8.6 Chap 8 quiz	Exam 2 (Chaps 6, 7, 8, 9)	Acids and Bases Read 10.1–10.2 God/Time Discussion	Levels of Acidity Read 10.3–10.5
Unit 5				
Oxidation/Reduction Read 11.1–11.2 Chap 10 quiz	Organic Chemistry Read 12.1–12.3 Chap 11 quiz	Plastics Read 12.8-12.9 Chap 12 quiz	Biomolecules Read 13.1–13.2	Read/Begin Chemical Evolution Assignment
Unit 6				
Lipids and Proteins Read 13.3-13.4	Vitamins and Health Read 13.6–13.8 Chap 13 Quiz	Exam 3 (Chapters 10, 11, 12, 13)	Medicine or Drugs? Read 14.1–14.2	Your Brain on Drugs Read 14.4–14.5
Unit 7				
Submit Chemical Evolution article Review to Dropbox	Blocking Pain Read 14.6–14.7 Chap 14 Quiz	Air Pollution Atmospheric Chemistry Read 16.6-16.7	Environmental Stewardship Chap 16 Quiz	Energy for the Present and Future Read 17.1–17.8 Chap 17 Quiz
FINAL EXAM includes material from all previous exams plus Chapters 14, 16 and 17				

VIII. COURSE INVENTORY

For ORU's Course Objectives

CHE 101 AD

This course contributes to the ORU course objectives as indicated below:

Significant Contribution – Addresses the outcome directly and includes targeted assessment.

Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.

Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.

No Contribution – Does not address the outcome.

The Student Learning Glossary at <http://ir.oru.edu/doc/glossary.pdf> defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities		Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
1	Outcome #1 – Spiritually Alive				
1A	Biblical knowledge				X
1B	Sensitivity to the Holy Spirit		X		
1C	Evangelistic capability			X	
1D	Ethical Behavior		X		
2	Outcome #2 – Intellectually Alert				
2A	Critical thinking	X			
2C	Global & historical perspectives		X		
2D	Aesthetic appreciation				X
2E	Intellectual creativity			X	
2F	Information literacy	X			
3	Outcome #3 – Physically				
3	Healthy lifestyle	X			
3B	Physically disciplined lifestyle				X
4	Outcome #4 – Socially Adept				
4A	Communication skills		X		
4B	Interpersonal skills			X	
4C	Appreciation of cultural & linguistic				X
4D	Responsible citizenship		X		
4E	Leadership capacity				X

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This syllabus is subject to change without notice up until the first day of the semester.

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