

# CHEM 1301, CRN 16690, Fundamental Chemistry, Fall 2015

## University of Central Arkansas

### General Information

**Professor:** Dr. Robert Mauldin

**Contact Information:** Laney-Manion Hall 303A, [rmauldin@uca.edu](mailto:rmauldin@uca.edu)

**Office Hours:** MWF 9-11 AM or by appointment

**Lecture:** MWF 11:00-11:50 AM, Laney-Manion Hall 102

### Required Course Materials

**Textbook:** "Dimensional Analysis and the Concept of the Mole," First Custom Edition, R.F. Mauldin, ISBN 9781323018286, Pearson E-Text.

**Calculator:** A scientific calculator.

### Course Description and Objectives

**Course Description:** The purpose of this course is to provide the background necessary for subsequent study in chemistry. Basic concepts of chemistry for students with limited or no previous chemistry instruction. Lecture, small group work, and laboratory demonstrations are used in the course. CHEM 1301 may not be used to satisfy any chemistry requirement in conjunction with CHEM 1402 or 1450.

**Course Objectives:** Upon completion of this course, the student should be able to:

- understand basic concepts in chemistry in the following content areas: atomic structure, atomic number, atomic mass, elemental symbols, ionic compounds, molecular compounds, nomenclature, chemical equations
- solve problems regarding dimensional analysis, rounding, stoichiometry, molar mass, Avogadro's number, limiting reactant, percent yield, molarity, and solution stoichiometry
- apply the factor-label method (dimensional analysis) to solve problems in chemistry whenever appropriate, particularly with the conversion of units and stoichiometry

## **Grading Policies**

### **1. Grading Composition**

4 exams @ 100 points each = 400 points

1 comprehensive final exam = 200 points (600 points total)

**2. Grading scale:** 80-100%=A; 70-79%=B; 60-69%=C; 50-59%=D; <50%=F

**3. Extra Credit, Dropped Grades:** No extra credit will be offered and no grades will be dropped.

**4. Attendance and Missed Work Policy:** If you miss an exam, the prorated grade on your final exam will be used in place of the missed exam grade.

**5. Academic Misconduct Policy:** In the first instance of academic dishonesty (including smart phone use during an exam), a zero will be assigned for the assignment. In the second instance, a failing grade will be assigned for the class.

## **UCA/State/Federal Policies**

**1. Academic Misconduct Policy:** The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy. See the current Student Handbook for the procedure to appeal accusations of academic misconduct.

**2. Title IX Disclosure Policy :** If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on the specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <https://uca.edu/titleix>. *\*Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.*

**3. Americans with Disabilities Act Policy:** The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this act due to a disability, please contact the UCA Office of Disability Services, 450-3613.

**4. Emergency Matters Policy:** An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at <http://uca.edu/mysafety/bep/>. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.

**5. Student Evaluations of Teaching Effectiveness Policy:** Student evaluations of a course and its professor are crucial elements in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the twelfth week of instruction through the end of finals week by logging in to myUCA and clicking on the Evals button on the top right.

### Course Schedule\*

<u>Monday</u>	<u>Wednesday</u>	<u>Friday</u>
		8/21 Introduction to Class
8/24 Module 1 Percentages, Rounding, Exponents, and Solving for X	8/26 Module 1	8/28 Module 1, Module 2 Measured Quantities, Significant Figures, and Scientific Notation
8/31 Module 2	9/2 Module 2	9/4 Module 3 SI Prefixes, Dimensional Analysis, One and Two Step Conversions
9/7 Module 3	9/9 Module 3	9/11 Module 3
9/14 Exam 1, Modules 1-3	9/16 Module 4 Dimensional Analysis: Cubed, Squared, and Combined Units	9/18 Module 4
9/21 Module 4	9/23 Module 4, Module 5 Atomic Structure	9/25 Module 5
9/28 Module 5	9/30 Module 5, Module 6 Chemical Compounds	10/2 Module 6
10/5 Module 6	10/7 Exam 2, Modules 4-6	10/9 Module 7 Chemical Equations and the Mole
10/12 Module 7	10/14 Module 7	10/16 Module 8 Molar Mass

10/19 Module 8	10/21 No Class: Fall Break	10/23 No Class: Fall Break
10/26 Module 8, Module 9 Calculations with Avogadro's Number	10/28 Module 9	10/30 Module 9
11/2 Exam 3, Modules 7-9	11/4 Module 10 Stoichiometry: Mole to Mole and Mass to Mass	11/6 Module 10
11/9 Module 10, Module 11 Stoichiometry: Limiting Reactant and Reactant in Excess	11/11 Module 11	11/13 Module 11
11/16 Module 12 Solutions and Molarity	11/18 Module 12	11/20 Module 12, Module 13 Molarity and Solution Stoichiometry
11/23 Module 13	11/25 No Class: Thanksgiving	11/27 UCA Closed for Thanksgiving
11/30 Module 13	12/2 Exam 4, Modules 10-13	12/4 Study Day
12/7 Final Exam, 2-4 PM		

**\*Note: Important dates are 10/30, drop deadline (W) and 11/30, drop deadline (WP/WF).**