

CHEM 1501 - An Introduction to Chemistry

Fall 2026 Syllabus, Section 04, CRN 44153,

Credit hours: 3

Instructor

Christine Cunningham

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Public Instructor Information

Instructor Title: Senior Lecturer

Instructor Professional Qualifications:

ABD- PhD Integrated Bioscience

M.S., Chemistry & Technology

B.S. Biology & Secondary Education

Instructor Office Location: TBD

Instructor Office Phone: TBD

Course Description

1501. Introduction to Chemistry. Metric units, dimensional analysis, chemical nomenclature, the mole concept, chemical stoichiometry. Emphasis on problem solving and the mathematics required for success in the study of chemistry. For students without high school chemistry and others needing preparation for CHEM 1510 or CHEM 1515. Three hours lecture, no laboratory. Prereq.: "C" or better in MATH 1510 or Level 20 on the MPT or one unit each of high school algebra and geometry. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Basic Chemistry 6th edition (Pearson+), digital rental	Timberlake and Timberlake	8220145125501

Hardcopy ISBN: 9780134878119

Looseleaf ISBN: 9780134986999

*The above ISBN are 3 different options for the same book. Do not purchase all 3.

Required text:

Zumdahl S.S. and DeCoste D.J. Basic Chemistry, 7nd edition; ISBN: 978-0-538-73637-4

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24	CH 1	Introduction; Scientific Method, Math Review	
Wed	8/26	CH 1	Scientific Notation/Significant Figures, Conversion Factors	Chapter 1 Homework due Sunday, Aug. 30th by 11:59 PM
Mon	8/31	CH1 / CH 2	Dimensional Analysis, Density	
Wed	9/2	CH 2	Matter; Classifications and Properties, Temperature	Chapter 2 Homework due Sunday, Sept. 6th by 11:59 PM

Mon	9/7	CH 3/ CH 4	Energy/Elements and Symbols	
Wed	9/9	CH 4	The Periodic Table, Atoms and Isotopes	Chapter 3 Homework due Sunday, Sept. 13th by 11:59 PM
Mon	9/14	CH 6	Ions, Nomenclature; Ions and Ionic Compounds	
Wed	9/16	CH 6	Nomenclature cont.; Polyatomic Ions, Molecular Compounds	Chapter 4/6 Homework due Sunday, Sept. 20th by 11:59 PM
Mon	9/21	CH's 1, 2, 3, 4, and 6	EXAM 1	
Wed	9/23	CH 5	Electromagnetic Radiation, Energy Levels, Sublevels and Orbitals	
Mon	9/28	CH 5	Electron Configuration, Periodic Table Trends	
Wed	9/30	CH 7	The Mole, Molar Mass, Percent Composition	Chapter 5 Homework due Sunday, Oct. 4th by 11:59 PM
Mon	10/5	CH 7	Empirical and Molecular Formulas	
Wed	10/7	CH 8	Chemical Equations, Balancing Equations	Chapter 7 Homework due Sunday, Oct. 11th by 11:59 PM
Mon	10/12	CH 8	Chemical Reactions, Redox Reactions	Chapter 8 Homework due Wednesday, Oct. 14th by 11:59 PM
Wed	10/14	CH's 5, 7, and 8	EXAM 2	
Mon	10/19	CH 9	Stoichiometry, Limiting Reactant, Percent Yield	
Wed	10/21	CH 9	Energy in Chemical Reactions, Enthalpy	
Mon	10/26	CH 10	Lewis Structures, VSEPR Theory	
Wed	10/28	CH 10	Molecular Geometry, Electronegativity, Polarity	Chapter 9 Homework due Sunday, Nov. 1st by 11:59 PM
Mon	11/2	CH 10	Molecular Polarity, IMF, phase changes	
Wed	11/4	CH 11	Gas Laws	Chapter 10 Homework due Sunday, Nov. 8th by 11:59 PM
Mon	11/9	CH 11	Ideal Gas Law, Partial Pressure	
Wed	11/11	CH's 9, 10, and 11	EXAM 3	Chapter 11 Homework due Sunday, Nov. 15th by 11:59 PM
Mon	11/16	CH 12	Solutions, Solubility, Concentration	
Wed	11/18	CH 12	Concentration cont., Dilutions, Colligative Properties	
Mon	11/23	CH 13	Equilibrium	Chapter 12 Homework due Monday, Nov. 30th by 11:59 PM
Wed	11/25	No Class		
Mon	11/30	CH 13	Equilibrium cont., Le Châtelier's Principle	
Wed	12/2	CH 14	Acids and Bases; Kw,pH, Buffers	Chapter 13/14 Homework due Sunday, Dec. 6th by 11:59 PM
Mon	12/7	No Class		
Wed	12/9	CH's 1-14	Comprehensive Final Exam: 10:30 AM - 12:30 PM, Cushwa Hall Room B110	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.