CHEM 1501 - An Introduction to Chemistry

Fall 2026 Syllabus, Section 01, CRN 40648,

Credit hours: 3

Instructor

Janelle Mitchell

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Public Instructor Information

Instructor Title: Senior Lecturer
Instructor Professional Qualifications:

M.S., Chemistry, Youngstown State University
B.S., Chemistry, Youngstown State University
Instructor Office Location: WBH Room 5019
Instructor Office Phone: 330-941-7102

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.

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
Tue	8/25	CH 1	Introduction; Scientific Method, Math Review	
Thu	8/27	CH 1	Scientific Notation/Significant Figures, Conversion Factors	Chapter 1 Homework due Sunday, Aug. 30th by 11:59 PM
Tue	9/1	CH1 / CH 2	Dimensional Analysis, Density	
Thu	9/3	CH 2	Matter; Classifications and Properties, Temperature	Chapter 2 Homework due Sunday, Sept. 6th by 11:59 PM
Tue	9/8	CH 3/ CH 4	Energy/Elements and Symbols	
Thu	9/10	CH 4	The Periodic Table, Atoms and Isotopes	Chapter 3 Homework due Sunday, Sept. 13th by 11:59 PM
Tue	9/15	CH 6	Ions, Nomenclature; Ions and Ionic Compounds	

Thu	9/17	CH 6	Nomenclature cont.; Polyatomic Ions, Molecular Compounds	Chapter 4/6 Homework due Sunday, Sept. 20th by 11:59 PM
Tue	9/22	CH's 1, 2, 3, 4, and 6	EXAM 1	
Thu	9/24	CH 5	Electromagnetic Radiation, Energy Levels, Sublevels and Orbitals	
Tue	9/29	CH 5	Electron Configuration, Periodic Table Trends	
Thu	10/1	CH 7	The Mole, Molar Mass, Percent Composition	Chapter 5 Homework due Sunday, Oct. 4th by 11:59 PM
Tue	10/6	CH 7	Empirical and Molecular Formulas	
Thu	10/8	CH 8	Chemical Equations, Balancing Equations	Chapter 7 Homework due Sunday, Oct. 11th by 11:59 PM
Tue	10/13	CH 8	Chemical Reactions, Redox Reactions	Chapter 8 Homework due Wednesday, Oct. 14th by 11:59 PM
Thu	10/15	CH's 5, 7, and 8	EXAM 2	
Tue	10/20	CH 9	Stoichiometry, Limiting Reactant, Percent Yield	
Thu	10/22	CH 9	Energy in Chemical Reactions, Enthalpy	
Tue	10/27	CH 10	Lewis Structures, VSEPR Theory	
Thu	10/29	CH 10	Molecular Geometry, Electronegativity, Polarity	Chapter 9 Homework due Sunday, Nov. 1st by 11:59 PM
Tue	11/3	CH 10	Molecular Polarity, IMF, phase changes	
Thu	11/5	CH 11	Gas Laws	Chapter 10 Homework due Sunday, Nov. 8th by 11:59 PM
Tue	11/10	CH 11	Ideal Gas Law, Partial Pressure	
Thu	11/12	CH's 9, 10, and 11	EXAM 3	Chapter 11 Homework due Sunday, Nov. 15th by 11:59 PM
Tue	11/17	CH 12	Solutions, Solubility, Concentration	
Thu	11/19	CH 12	Concentration cont., Dilutions, Colligative Properties	
Tue	11/24	CH 13	Equilibrium	Chapter 12 Homework due Monday, Nov. 30th by 11:59 PM
Thu	11/26	No Class		
Tue	12/1	CH 13	Equilibrium cont., Le Châtelier's Principle	
Thu	12/3	CH 14	Acids and Bases; Kw,pH, Buffers	Chapter 13/14 Homework due Sunday, Dec. 6th by 11:59 PM
Tue	12/8	No Class		
Thu	12/10	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.