CHEM 1500 - Chemistry in Modern Living

Summer 2026 Syllabus, Section 01, CRN 30399,

Credit hours: 3

Instructor

Dr. Nina Stourman

Professional Qualifications:
Ph. D., Bioorganic Chemistry and Chemistry of Natural Physiologically Active Compounds, Moscow State University, Russia, 1992
BS/MS Chemistry, Moscow State University, Russia, 1984

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Communication Expectations:
expect to receive a reply to your email question(s) within 24 hours, Monday through Friday, or within 48 hours during weekend.

How to Refer to me:
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Course Description

1500. Chemistry in Modern Living. Introduction to basic chemical concepts, the scientific method, and the impact of chemistry on human life and society. Examples may include water treatment, air quality, plastics, drugs, cosmetics, energy resources, food, and the chemical basis of life. Not intended for Chemistry majors. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Waldron 21st Century Chemistry, 2nd edition ISBN 13 : 9781319106171.		

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	5/12		Introduction. Chapter 1: Scientific Method, Accuracy and Precision; Scientific Notations; Metric Units, Significant Figures; Conversion Factors Quiz 1	
Thu	5/14		Chapter 2: Atoms, Isotopes; Electrons, Light Chapter 3: Periodic Table, Elements and Compounds Quiz 2	

Tue	5/19	Chapter 3: Pure Substances and Mixtures, States of Matter Review for Exam 1 Quiz 3
Thu	5/21	Exam 1 (Chapters 1, 2, 3) Chapter 4: Octet Rule, Valence Electrons
Tue	5/26	Chapter 4: Ionic Bonds, Ionic Compounds; Metal Bonding Covalent Bonds and Polarity, Prediction of Types of Bonds from Periodic Table Quiz 4
Thu	5/28	Chapter 7: Chemical Equations, Balancing Chemical Equations, Mole, Molar Mass Stoichiometry, Endothermic and Exothermic Reactions, Catalyst Review for Exam 2 Quiz 5
Tue	6/2	Exam 2 (Chapters 4, 7) Chapter 6: Properties of Gas
Thu	6/4	Chapter 6: Effect of Volume, Temperature, Pressure, and Moles on Gas Behavior Gas Laws Chapter 8: Hydrogen Bonds and Dipole-Dipole Interactions, Heating Curve of Water Quiz 6
Tue	6/9	Chapter 9: Salts are Ionic Compounds, Polyatomic Ions; Hydration, Solutions, Electrolytes; Quiz 7
Thu	6/11	Chapter 9: Concentration (Molar, % m/m), Osmosis; Review for Exam 3; Quiz 8
Tue	6/16	Exam 3 (Chapters 6, 8, 9) Chapter 10: Autoionization of Water, Acids and Bases
Thu	6/18	Chapter 10: pH Scale, Calculation of pH, Common Air Pollutants; Chapter 5: Organic Molecules; Hydrocarbons; Functional Groups (hydrocarbons with single, double, and triple carbon-carbon bonds, carboxylic acids, alcohols, sulfides, amines) Quiz 9
Tue	6/23	Final Review Quiz 10
Thu	6/25	Final Comprehensive Exam

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.