Chemistry 241- Fall 2017
Descriptive Inorganic Chemistry Syllabus
SUNY Oneonta

SECTION 1 Lecture T, Th 11:30 – 12:45, PSCI 237

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Office Hours:

Description:

This course studies the chemistry of elements and their compounds, emphasizing main group elements. Topics include sources of elements, methods of production, reactivity, and uses of inorganic chemicals.

Course Materials:

MindTap Homework/Text: Provided by instructor
Other handouts and recordings provided during semester.

Schedule

Week	Chapters and Topics	
Aug. 28	Origin of the Elements; Nuclear Stability	
Sept. 18	Properties of Atoms The Periodic Table and Periodic Trends	
Sep. 25	Covalent and Metallic Bonding; Computer chips	
Sep. 30	Ionic Compound Bonding and Structure	
Oct. 9	Advanced Redox Chemistry Theory Applied Redox Chemistry: Chemical Basis for Formation of Earth Batteries and Fuel Cells Electrolysis Extraction of Elements from Ores	
Oct. 25	Descriptive Chemistry of the Main Group Elements B, C, N, O, F Silicon, Silicates, and Silicones Zeolites P and S Halogens Inorganic Environmental Chemistry Ozone Global Warming NOx Acid Rain Cave Chemistry	
Nov. 18	Transition Metal Complexes Donor-Acceptor Molecular Orbital Theory Coordination Chemistry Introductions Structure, Symmetry and Point Groups Bonding and Spectroscopy in Coordination Compounds Reactivity of Coordination Compounds	

Student Learning Outcomes
Students will demonstrate an understanding of nuclear chemistry and the stability of the nucleus.
Students will demonstrate an understanding of the structure of the periodic table and the property trends it reveals.
Students will demonstrate an understanding of important industrial processes for manufacturing common inorganic materials.
Students will demonstrate an understanding of the chemical basis for formation and structure of the earth.
Students will demonstrate an understanding of covalently bonded structure and the relationships between structure and physical properties.
Students will demonstrate an understanding of how enthalpy, entropy and kinetics each play a role in chemical events and selectivity.
Students will demonstrate a detailed understanding of redox processes and common materials and reactions that rely on them.
Students will exhibit an understanding of modes of bonding in ionic and covalent compounds.
Students will exhibit an understanding of structure and bonding in metal-based coordination compounds.

Course Webpage

Course materials such as course schedule, PowerPoint downloads and video lectures will be found on the course webpage: http://employees.oneonta.edu/viningwj/Chem241/index.html

Grading

3 Hour Exams, 100 points each	= 300 points (dates will be announced 1 week prior to exam)
Homework/Quizzes	= 100 points
Project	= 75 points
Participation	= 25 points

Letter grade ranges on a percentage basis are:

A	90.0 – 100%	**C-**	67.0 – 69.9%
A-	87.0 – 89.9%	**D+**	64.0 – 66.9%
B+	84.0 – 86.9%	**D**	60.0 – 63.9%
B	80.0 – 83.9%	**D-**	57.0 – 59.9%
B-	77.0 – 79.9%	**E**	Below 57%
C+	74.0 – 76.9%		
C	70.0 – 73.9%		

Homework and Quizzes

Homework will sometimes use the MindTap General Chemistry Homework System. Throughout, there is no penalty for getting an answer wrong. There is only a penalty for not eventually getting it right. You should plan on getting full credit for that homework. Other homework will be paper-based assignments to be handed in. Quiz topics will be announced during a previous class meeting.

Catalog Description

A systematic description of the chemistry of the elements and their compounds with an emphasis on the main group elements. Lectures will include information on the sources of the elements (with discussion of geochemical aspects), methods of production of the elements from their compounds , reactivity of the elements and their compounds, and uses of inorganic chemicals. Two, one-hour lectures per week. PREREQUISITE: Chem 112. Offered Fall only.

Emergency Evacuation/Shelter-in-Place Procedures

In the event of an emergency evacuation classes meeting in the Physical Sciences building are directed to reassemble at the Chase Gymnasium so that all persons can be accounted for. Complete details of the emergency evacuation, shelter-in-place, and other emergency procedures can be found at http://www.oneonta.edu/security.

Department of Chemistry and Biochemistry Policy on Course Attendance, Participation and Behavior

1. Students are expected to attend all scheduled course sessions and should be prepared by reading in advance any relevant material assigned or provided. Participation (defined by interacting with the instructor, working problems at the board, individually or in groups, and other mechanisms defined in the syllabus) is expected.
2. Students are reminded that instructors are not required to accept assignments submitted late, except in instances allowed according to College policies. College Policies as defined in the Student Code of Conduct apply to lecture, recitation and laboratory portions of all courses.
3. The minimum acceptable grade for a chemistry course prerequisite is a C-. For example, a student with a D+ in General Chemistry I may not enroll in General Chemistry II. This standard applies to all Chemistry prerequisites for all Chemistry courses.