CHEM 301. Inorganic Chemistry Syllabus 2024 Fall Semester				
September 23	Atomic Structure & Periodicity			
September 30	No Class	Laboratory Experiment		
October 7	Atomic Structure & Periodicity	Assignment 1:		
October 14	Molecular Symmetry	Laboratory Experiment		
October 21	Molecular Symmetry	Assignment 2:		
October 28	Structure & Bonding	Laboratory Experiment	Midterm 1	
November 4	Structure & Bonding	Assignment 3:		
November 11	Acids & Bases	Laboratory Experiment		
November 18	Metallic & Ionic Solids	Assignment 4:		
November 25	Metallic & Ionic Solids	Laboratory Experiment		
December 2	Complex Ions & Coordination Chemistry	Assignment 5:		
December 9	Complex Ions & Coordination Chemistry	Laboratory Experiment	Midterm 2	
December 16	Complex Ions & Coordination Chemistry	Assignment 6:		
December 23	Inorganic Materials & Applications			

Instructor:	Asst. Prof. Dr. Alp Yürüm (FENS 1031)
Assistants:	Büşra Çetiner, Hamza Arslan
Textbook:	Weller, Overton and Rourke's Inorganic Chemistry (7 th Ed.)
Alternative Textbooks:	Shriver and Atkins' Inorganic Chemistry (5 th or 6 th Ed.)
	Housecroft and Sharpe's Inorganic Chemistry
Midterms:	Midterm 1: October 28, 2024 - Midterm 2: December 9, 2024
Weekly program	

Class: Monday 11:40-13:30 FENS L062, Tuesday 13:40-14:30 FENS L062 Laboratory: Tuesday 10:40-13:30 FENS G050

Topics & Learning Outcomes

This course covers the fundamental components of atoms, introduction to wave mechanics, atomic orbitals, multi-electron atoms, the periodic table, ionization energies and electron affinities, group theory and molecular symmetries, bond models, valence bond theory, molecular orbital theory, electronegativity values, molecular shapes, structures and energies of metallic and ionic solids, stacking of spheres, alloys and intermetallic compounds, chemical bonding in metals and semiconductors, ionic lattices, lattice energy, coordination complexes, chemical bonding in d-block metal complexes, crystal field theory, ligand field theory, electronic spectra, magnetic properties, organometallic compounds of d-block elements, homogeneous and heterogeneous catalysis, and some characteristics of solid-state chemistry.

Rules

- 1. Attendance to classes is expected from all of the students. Students who will attend **all of the classes** regularly will be awarded one grade above.
- 2. All of the assignments must be done by each student. Students who will not complete all of the assignments, will get an incomplete grade (I) until all of the assignments will be completed.

3. Percentages for the final grade:

Midterm 1:	20%
Midterm 2:	20%
Final:	30%
Assignments:	10%
Labs:	20%

4. Assignments will be returned one week after the date given above in the second classday of the week. Late returns will get a 25% reduction in the grade.