

Inorganic Chemistry II
Chemistry 431
Indiana University Northwest

TEXTBOOKS: REQUIRED :

- 1) Either: Inorganic Chemistry, Shriver and Atkins
Or: Inorganic Chemistry, Meissler and Tarr

Grading:

4 Homeworks (50 points x 4) 200 Points
3 Exams (150 points x3) 450 Points
1 Final Project 350 Points
1000 Points Total

Grades: Final Grades will follow the following scheme:

A+ 900-1000, A 830-900 A- 800-829

B+ 770-799, B 730-769, B- 700-729

C+ 670-699, C 630-669, C- 600-629

D 500-599

F 000-499

Homeworks will be due at various points in time throughout the semester. Check the Important Dates sections for specific deadlines.

Exams will be held during the lecture time. They will be held on February 19th, March 26th, and April 23rd.

Final Project – A minimum 10-page research paper on a topic of the student's choice, approved by Dr. Kelly. This will be due by the last day of classes. This should serve as a review of important literature on the given topic.

WITHDRAWAL POLICY: A student may withdraw at any time through March 15th without the consent of the instructor and receive the grade of W. Any student who decides to drop the course must fill out a withdrawal form or they will receive the grade of an F. After March 15th, a student may withdraw only with the permission of his or her Dean. The approval is given only for urgent reasons related to extended illness or equivalent distress. To then qualify for a grade of W, a student must be passing the course on the day of withdrawal. If the student is failing, the grade

recorded on the withdrawal date will be an F. This paragraph is University policy. Please make sure you understand this paragraph since no exceptions can be made.

Units:

- 1) Group Theory
 - a. Symmetry and Mechanics
 - b. Huckel Theory (HW #1)
 - c. Transition Metals
 - d. Infrared Vibrations (HW #2)
- 2) Advanced Transition Metals
 - a. Solid-State Chemistry
 - b. Organometallic and Catalysis
 - c. Bioinorganic Chemistry (HW #3)
- 3) Survey Topics
 - a. Field Trip Across the Periodic Table
 - b. Inorganic NMR (HW #4)

C431 Schedule

Week 1: Symmetry Operations, Point Groups

Week 2: Character Tables, Reducible Representations, SALCs

Week 3: SALCs, Huckel

Week 4: (HW1 Due) Transition Metal SALCs

Week 5: Transition Metal Spectroscopy, Vibration

Week 6: Vibration, EXAM (HW 2 Due)

Week 7: Solid-State, Band Theory, Semi- and Superconductors

Week 8: Organometallic

Week 9: Catalytic Cycles

Week 10: Spring Break

Week 11: Bio-Inorganic EXAM (HW 3 Due)

Week 12: Transition Metals

Week 13: F-block, P-block, Astrochemistry

Week 14: Inorganic NMR

Week 15: EXAM (HW 4 Due)

Week 16: Turn in Final Project