

Office of Academic Affairs
Tarleton State University

Master Course Syllabus Outline

Department: Chemistry, Geoscience, and Env. Sci. Course Prefix/Number: CHEM4283

Official Course Title: Inorganic Chemistry

Master Syllabus Approved by Department on: ____/____/____
month date year

- I. Catalog Description (50 words; brief synopsis of course content, emphases)
Discussion of the models of inorganic chemistry including atomic structure, chemical bonding, periodic properties, stereochemistry, reaction mechanisms, and coordination chemistry. Properties of specific elements and families are also presented.
- II. Prerequisites?
CHEM2024 and junior classification or approval of department head
- III. Expanded Course Description (150 words; primary course content, intended student level and role(s) course is to play in the curriculum)

A general introduction to the field of Inorganic and Organometallic Chemistry. The course will cover: the rules of nomenclature for inorganic compounds, a more detailed view of drawing Lewis structures and predicting shapes based on Valence Shell Electron Pair Repulsion Theory, periodic properties and a basic introduction to atomic orbitals, symmetry and group theory, different acid-base theories other than Bronsted-Lowry, coordination chemistry and ligand field theory, general descriptive chemistry of inorganic and organometallic compounds, the 18-electron rule, and reaction mechanisms of inorganic compounds.

- IV. Intended Student Learning Outcomes? Required; **knowledge outcomes** (what students who successfully complete the course will be expected to know). Optional; **skill outcomes** (what students who successfully complete the course will be able to do). Optional; **value outcomes** (what students who successfully complete the course will value or appreciate).

The student will receive a broad overview of the field of Inorganic Chemistry, one of the basic fields of chemical research. The student who completes this course should be better prepared for graduate school where inorganic chemistry is usually one of the major fields of chemical research. The student should also appreciate that there are other chemical fields besides organic and physical chemistry.

V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:

- a) Course Requirements? (grading/evaluation procedures; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)

The course will be graded based on the student's performance on weekly problem sets, 4 in-class exams, and the final exam.

- b) Required Text(s)?

There is a required text for this course, which is one of the basic Inorganic Chemistry textbooks. The last time the course was taught the required text was: C. E. Housecroft and A. G. Sharpe *Inorganic Chemistry*, Pearson Education Limited, **2001**

- b) Bibliography?

Department Head Signature/Date:

Signature

_____/_____/_____
Date