

Materials Chemistry

Chemistry 340

Section: D100

Term: 2000 Fall

Instructor: Dr.R. Hill.

Office: SSB-8106.

Discussion Topics: General Course Description:

Bonding in solid state materials. Introduction to symmetry and its applications in materials science. Structure and physical properties of solid state materials.

3 lecture hours/week; 1 tutorial hour/week; 0 lab hours.

Lecture

Topics

1 Introduction

9 Simple Structures - Xray diffraction

4 Synthesis of Solid State Materials

3 Complex Structures, Metal Oxides

4 Crystal field theory, symmetry

6 Electronic, Magnetic and Optical Properties of materials

3 Non-stoichiometry

Materials Chemistry

3 Intercalation Materials

Grading: 30% One Midterm Exam

20% Assignments and Quizzes

50% Final Exam

Required Texts: Mark T. Weller, "Inorganic Materials Chemistry", Edition 1994. Oxford Science Publications.

Recommended Texts: None

Materials/Supplies: None

Prerequisite/Corequisite: Completion of 60 credit hours in a science or applied science program, including first year chemistry, physics and calculus.

Notes: None

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