

**CHM 6628 Chemistry of Solid Materials
Spring 2014**

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Syllabus

Topics:

Fundamentals

Classification and Structures of Solids

Electronic Structure of Solids

Semiconductors, Metals and Superconductors

Magnetism and Magnetic Materials

Optical Properties of Solids

Surfaces

Characterization Methods (Student Presentations)

Current Topics

Nanoscale and Mesoscale Solid-State

Nanochemistry at Surfaces

Porous Solids

Biominerals

Objective:

At the conclusion of the course students should have an understanding of the fundamentals that underlie most contemporary solid-state and materials chemistry, including: solid-state structure types; electronic structure of semiconductors, metals, and superconductors; magnetism and magnetic materials; optical properties; surface effects and properties; solid-state nanochemistry; and modern characterization methods.

Office Hours: Monday and Wednesday 10:30 am, and by appointment, CLB 412.

Grading: Grades will be based on student presentations and homework (25%), midterm exam to be given in-class on Wed. Feb. 26 (30%), and final exam to be given during the last week of class (45%).

Readings:

"Solid State Chemistry, An Introduction" fourth edition, L. Smart and E. Moore. Chapters of this book will be used as an introduction to several topics.

Reading will also be assigned throughout the course from several sources including books, review articles and primary literature articles.

Homework:

Homework will be assigned approximately every two weeks and will be graded as pass/fail. Doing homework with a partner or in groups is encouraged. On the due date, students will take turns working problems and leading the discussion.

Academic Honesty:

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel.

Accommodations for students with disabilities:

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation."

The following information is required by UF policy:

Attendance:

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

UF grading policies for assigning grade points:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

UF Course Evaluation Process:

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.