Physics 556 Spring 2007

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Office hours: Wednesday 3-5 pm.
I am happy to discuss with students almost any time you find me in my office, which is most of the time, except Thursdays I try to spend a lot of the day at BNL.

The course web page http://felix.physics.sunysb.edu/~allen/556-07 has important links, such as "***Schedule***" -- look here for links to HW assignments and due dates, and "***book list***" – look here for useful supplements to the text.

Catalog description: The course focuses on the many-particle aspects of solid state physics addressing classical topics such as superconductivity and the transport properties of disordered conductors, as well as more modern subjects including the fractional quantum Hall effect, dissipative quantum mechanics, and problems of mesoscopic physics. Both phenomenological and theoretical descriptions are discussed.

The main topic for Spring 2007 will be group theory, as applied to molecules, solids, and nanosystems. The text is Melvin Lax, *Symmetry Principles in Solid State and Molecular Physics* (Dover, 1999). List price $24.95. Sale price at Amazon $17.71.

Grading will be based on homeworks (approximately 6 during the semester) plus a term paper or oral report to the class prerequisites are (1) one semester of solid state physics (undergraduate or graduate level) and (2) one semester of quantum mechanics or physical chemistry (graduate level).

I. Aims of the course: Same as bulletin description, except for a slight change of topic: group theory in molecules, solids, and the intermediate case, nanosystems.
II. Procedures and Requirements: There will be homework problems assigned (7-10 problem sets over the semester.)
III. Grading: A good, B passing; C unsatisfactory. The grade will be based on homework and class attendance and participation (75%); term paper or oral report (25%). There are no exams.
IV. Required text: Melvin Lax, *Symmetry Principles in Solid State and Molecular Physics* (Dover, 1999).
V. Academic Honesty: Discussions with fellow students are **strongly** encouraged, but work which is submitted for grading must be your own understanding, expressed in your own words. You should review the definition of plagiarism (there is a link on the course web page.
VI. Americans with Disabilities Act: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site: <http://www.ehs.sunysb.edu/fire/disabilities/asp>