

Physics 5315
Solid State Physics I
Spring 2014, Science Hall 205
Time: Tuesday and Thursday, 2:00 PM - 3:20 PM
Main Text Book: “Condensed Matter Physics”, 2nd edition by Michael P Marder

Instructor: Prof. M. N. Huda

Office Hours: After class, or by appointment.

Office: CPB, Room 339

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Other useful Textbooks:

Ashcroft/Mermin, “Solid State Physics”.

Charles Kittel, “Introduction to Solid State Physics”.

Ziman, “Principle of the Theory of Solids”.

etc.

Purpose of the course: This is a graduate level solid state physics course. The course will introduce the topics of crystalline solids, translational symmetry and their consequences, band theory, electronic structure theories, etc. It is expected that the students know the undergrad level quantum mechanics and mathematical methods.

Content of the course: Selected topics from mainly first 13 chapters of the main text book. The focus will be on crystalline solids and electronic structure of these solids.

Home Work: Home work will be assigned at the rate of about one set per week. Solutions will be available after the due dates. Every other week, there will be a class devoted to the discussion on home works. Start working on the HW early. No late submission will be accepted. **Also, no make-up HW will be assigned.**

Exams: There will be two exams: one is midterm and the other is final. Both exams will be of equal weight.

Mid-term exam date: 03/27/14.

Final exam: 05/06/14.

There will be no make-up exam

Attendance: Attendance in the class is highly encouraged. However, if you missed class/classes it is your responsibility to know what/when the HWs are given or if there is any change of plan.

Grading policy:

Home work: 30%

Mid-term exam: 35%

Final Exam: 35%

A: 90 and up; B: 80-89; C: 70-79; D: 60-69; F: 59 and below.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.
I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.