

Course Information Sheet for Physics 460: Solid-State Physics

This course provides an introduction to condensed matter physics, with an emphasis on the central phenomena observed experimentally and utilized in modern technology. Theoretical explanations are given in terms of fundamental theorems and illustrated with simple models based on quantum mechanics and statistical physics. The topics covered correspond to Chapters 1-10, 12, and 18 in Kittel (8th Ed.).

Each student will investigate a special topic in condensed matter physics to be agreed upon with the instructor, and present their findings in a 15-minute oral presentation at the end of the semester.

Professor: Charles Stafford

Office: PAS 347

Phone: 626-4260

email: stafford@physics.arizona.edu

Web: <http://www.physics.arizona.edu/~stafford/teaching.html>
and d21.arizona.edu

Office hours: Thurs. 2-4pm (tentative)

Lectures: MWF 10-10:50am, PAS 414

Grading:

The course is graded based on the cumulative score. The minimum cumulative percentages necessary to obtain the following letter grades will be approximately (but not greater than): $A \geq 85\%$, $B \geq 70\%$, $C \geq 55\%$, $D \geq 40\%$. The cumulative score will be determined as follows:

Homework: 10%

Midterm 1 (Friday, Feb. 15): 20%

Midterm 2 (Friday, April 5): 20%

Project (student presentations April 25, 30): 20%

Final Exam (take home, due 4pm Friday, May 3): 30%

No excuses accepted for missed homework, but the lowest two hw scores will be dropped. A missed exam due to an excused absence or a planned absence that is documented ahead of time by the student and approved by the instructor will be substituted with a make-up exam or an alternative arrangement at the discretion of the instructor.

All work to be considered for a regrade must be submitted at most one week after its due date.

Required Text:

C. Kittel, "Introduction to Solid State Physics" (8th Ed., Wiley, 2005).

Additional References

N. W. Ashcroft and N. D. Mermin, "Solid State Physics" (Saunders College Publishers, 1976)

M. Marder, "Condensed Matter Physics" (Wiley, 2000)

J. M. Ziman, "Principles of the Theory of Solids" (2nd Ed., Cambridge University Press, 1972)

Accessibility and Accommodations:

At the University of Arizona we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options. You are also encouraged to contact Disability Resources (520-621-3268) to explore reasonable accommodation.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Academic integrity:

Students are expected to follow the University code of academic integrity and the code of student conduct. These codes can be found at deanofstudents.arizona.edu/policiesandcodes.

Note: The information contained herein is subject to change with reasonable notice from the instructor. Version 1-8-2019.