

University of Hawaii
Department of Physics and Astronomy

Phys 440, Solid State Physics, Fall 2025

Time: MWF 1:30-2:20 pm

Instructor: Prof. Klaus Sattler (956-8941), email: sattler@hawaii.edu

Course Outline:

Week 01: Crystal Structure I

Week 02: Crystal Structure II

Week 03: Diffraction

Week 04: Crystal Binding

Week 05: Phonons I

Week 06: Phonons II

Week 07: Electron Gas

Week 08: Energy Bands

Week 09: Semiconductors I

Week 10: Semiconductors II

Week 11: Superconductivity I

Week 12: Superconductivity II

Week 13: Magnetism I

Week 14: Magnetism II

Week 15: Special Topics

Week 16: Special Topics

Lecture Slides: At the end of a week, you will receive lecture slides, in a google drive class folder, for review.

Homework: On Monday, submit a one-page essay describing what you learned during the previous week.

Exams: We will have two midterm exams and the final examination. Dates: Test 1: Mo Sept 22, Test 2: Mo Oct. 20, Final Exam: Fr Dec 19 (2:15-4:15 pm)

SYLLABUS: The syllabus describes the intended progression of the course. The syllabus and homework assignments will be revised as needed. Changes to the syllabus and the homework assignments will be announced.