

Northern Illinois University

Course Syllabus for Physics 580 --- Solid State Physics

Fall Semester, 2022

Instructor: Dennis Eugene Brown

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Office Hours: TTh 11am-3pm

tel: 630-910-5512

Course Textbook: Introduction to Solid State Physics (8th ed) **Author:** Kittel

Physics 580 WebPage: www.niu.edu/brown

We will be covering the following material in Kittel: (Tentative Schedule)

Crystal Structure:	Chapter 1
Crystal Diffraction:	Chapter 2
Crystal Binding?	Chapter 3
Quiz #1	
Phonons I:	Chapter 4
Phonons II:	Chapter 5
Quiz#2	
Free Electron Fermi Gas:	Chapter 6
Energy Bands:	Chapter 7
Quiz #3	
Semiconductor Crystals:	Chapter 8
Fermi Surfaces and Metals:	Chapter 9

Final Exam (Tuesday, December 6, 6-7:50 p.m.)

Problem Sets will be posted on www.niu.edu/brown every week, and they will be due one week later at the beginning of the class (**not at the end of class**). Late homework will be penalized 10% per day (however, *the problem sets just before quizzes&exams* will not be accepted late).

All quizzes and exams are closed book, and closed notes. Graphics Calculators and Cell Phones will not be allowed, only scientific calculators can be used.

Tentatively: All Problems Sets will make up 25% of the grade
Each quiz “ “ 15% ” ”
Final Exam “ “ 30% “ “

The lowest scoring Problem Set will not be counted towards the final grade.

There are Physics Tutors available in Faraday East Room 251

Additional Notes:

- (1) When the solutions are posted on Blackboard, late homework will no longer be accepted.
- (2) Homework should have the following format (or you will be penalized up to a maximum of 50% per assignment):

The diagram illustrates the required format for a homework assignment. It consists of a rectangular box divided into two main sections. The top section is for student information, and the bottom section is for problem solutions. Annotations with red arrows provide specific instructions for each part.

Make certain the Title is given. Put # of problem to the left of the vertical line. If you use graph or blank paper, draw the vertical line.	First, Last Name Course Date Instructor's Name Homework #1 1 Write your Solution to Problem #1 here showing all your work & figures 2 Write your Solution to Problem #2 here showing all your work & figures	Put this info in the upper right hand corner. Homework must be written in on a separate sheet of paper, <i>not on the Problem Set</i> handout.
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- (3) For Quizzes & Exams, the solution to each problem is to be put on separate pages in the blue booklet (which will be provided). There will be a maximum of 10 points deducted for each quiz & exam for not following these rules.

ACCESSIBILITY: Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located at the Campus Life Building, suite 180, and can be reached at 815-753-1303 or drc@niu.edu.

HONOR CODE: Be aware of the policies and procedures regarding your rights as well as responsibilities that are published in the NIU Student Code of Conduct, which is available on line at: <https://niu.edu/conduct/pdf/niu-scc-final.pdf>.

Working with other students on homework is encouraged, but outright copying (plagiarism) of other student's work is strictly forbidden and will be reported to the NIU administration.