

Syllabus

PHYS655 – The Physics of Solids, Fall 2011

Tu/Th, 9:30-10:45 p.m. Willard 025

Textbook: *The Physics of Solids*, Richard Turton

Instructor: Professor Mick O'Shea

Office: CW 331, mjoshea@phys.ksu.edu

Office hours: Tues, 11:00 a.m. – 12:00 noon

Thurs, 8:30 – 9:20 a.m.

The class: An introduction to the physics of solids with an emphasis on energy band structures, electrical and optical properties of solids and solid state devices..

Grading:

Exam 1	100 pts	drop 1
Exam 2	100 pts	
Final Exam	200 pts	
Homework (HW)	200 pts	
Total possible	600 pts	

Grade	Total points
A	540- 600
B	480-539
C	420-479
D	360-419
F	0 – 359

Exams: Exams will be based on homework, in-class questions, lectures, and text book readings.

Homework and Readings:

- 1) You must review the material of each Chapter before doing the HW.
- 2) All homework is due at the beginning of class on the date listed in the syllabus
- 3) I strongly recommend that you read the sections in the text to be covered in advance of the lecture. You will not understand all the detail in the reading, but you will be better prepared to gain insight into, and understanding of, the material in lecture.
- 4) Plagiarism violates the honor code and will result in academic penalties (see statement on Academic Honesty below). An example of plagiarism is copying homework.

Statement Regarding Academic Honesty Kansas State University has an Honor System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor System. The policies and procedures of the Honor System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning. The honor system website can be reached via the following URL: www.ksu.edu/honor. A component vital to the Honor System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

Statements for Academic Accommodations for Students with Disabilities

"Any student with a disability who needs a classroom accommodation, access to technology or other academic assistance in this course should contact Disability Support Services (dss@k-state.edu) and/or the instructor. DSS serves students with a wide range of disabilities including, but not limited to, physical disabilities, sensory impairments, learning disabilities, attention deficit disorder, depression, and anxiety."

Statement Defining Expectations for Classroom

Conduct All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association Bylaws, Article VI, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.

Statement for Copyright Notification

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Study guide, Exam and Homework Schedule

The physics of solids, Phys655 Fall 2011

Date	Chapter (read before class)	Homework due at start of class on dates listed below – see website for HW
Aug 23 (Tu)	Chap. 1 - Bonds	
Aug 25 (Th)		
Aug 28 (Tu)		
Aug 30 (Th)	Chap. 2 - Crystals	HW1
Sept 6 (Tu)		
Sept 8 (Th)		
Sept 13 (Tu)	Chap. 4 - Electrical	HW2
Sept 15 (Th)		
Sept 20 (Tu)		
Sept 22 (Th)		
Sept 27 (Tu)	Chap. 5 - Semiconductors	HW3
Sept 29 (Th)		
Oct 4 (Tu)		HW4
Oct 6 (Th)	Exam 1: Chaps. 1, 2, 4, 5	
Oct 11 (Tu)	Chap. 6 - Devices	
Oct 13 (Th)		
Oct 18 (Tu)		HW5
Oct 20 (Th)		
Oct 25 (Tu)	Chap. 7 - Thermal	
Oct 27 (Th)		
Nov 1 (Tu)		
Nov 3 (Th)	Chap. 8 - Magnetic	HW6
Nov 8 (Tu)		
Nov 10 (Th)		
Nov 15 (Tu)	Chap. 9 - Superconductivity	HW7
Nov 17 (Th)		
Nov 22 (Tu)	No classes - thanksgiving	
Nov 24 (Th)		
Nov 29 (Tu)		HW8
Dec 1 (Th)	Exam 2: Chap. 6, 7, 8, 9	
Dec 6 (Tu)	Chap. 12 – Polymers and soft matter	
Dec 8 (Th)		HW9
Dec 12th (M)	Final exam 2:00 p.m. – 3:50 p.m.; All material covered in class	