

STATE UNIVERSITY OF NEW YORK  
New Paltz, New York.

**Solid State Physics**

Course No. PHY429 (3 credits)  
Fall 2025

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## Text

- **Introduction to Solid State Physics (eighth edition)** by Charles Kittel.

## Course Description

The following chapters of the text will be covered (some selected sections may be excluded).

Chap. 1	Crystal Structure.
Chap. 2	Reciprocal Lattice.
Chap. 3	Crystal Binding.
Chap. 4	Phonons I. Crystal Vibrations.
Chap. 5	Phonons II. Thermal Properties.
Chap. 6	Free Electron Fermi Gas.
Chap. 7	Energy Bands.
Chap. 8	Semiconductor Crystals.

## Evaluation

First exam	30%
Second exam	30%
Final exam	40%

## Problems for Homework

- Chap. 1 – 1, 3.  
Chap. 2 – 1, 2, 3.  
Chap. 4 – 1, 3, 4.  
Chap. 5 – 1.  
Chap. 6 – 1, 5, 6, 9.  
Chap. 7 – 3.  
Chap. 8 – 3, 4.

## **Administrative Addenda**

### **Student Learning Outcomes**

Understanding properties of solid materials from the point of view of their structure at the atomic level.

### **Campus-Wide Policies**

<https://www.newpaltz.edu/acadaff/academic-policies-including-academic-integrity/>

### **Deadlines**

<http://www.newpaltz.edu/events/academic.php>