

Physics 489 – Solid State Bibliography:

In addition to the course text the list below gives a few other general solid state texts, including some graduate-level texts.

A. General Solid State Texts:

Course text: **Kittel, Introduction to Solid State Physics**. In 8th edition, long history of use as general text. Current edition includes recent developments.

Other recommended books, arranged very roughly by order of increasing sophistication:

Hook & Hall, Solid State Physics. Might be a good complement for this course, interesting order of materials.

Omar, Elementary Solid State Physics. Optional course text, nicely written & provides a good framework for the important results, though no coverage of recent developments.

Blakemore, Solid State Physics. Interesting treatment especially for semiconductor physics.

Gersten & Smith The Physics and Chemistry of Materials. (2001) Aimed at a wider audience including materials sciences. Many specific materials references [if a bit encyclopedic]. If you purchase this book it also has a huge web-based supplement with great detail on modern techniques and materials.

Snoke, Solid State Physics: Essential Concepts. (2009) Recent graduate text has good coverage of optics, Bose condensation, and related topics, electronic structure.

Ashcroft and Mermin, Solid State Physics. Classic graduate course text, very well written. Not so up to date but we often use it for our graduate course.

Harrison, Solid State Theory, and Electronic Structure and the Properties of Solids. The first is a good general introduction, though more of a graduate text. Second one provides a more chemical perspective. Both are inexpensive in Dover editions.

Ziman, Principles of the Theory of Solids (1972). Classic, still excellent grad-level introduction.

Ibach and Lüth, Solid State Physics. Somewhat more materials focused; popular graduate text now out in 4th edition. (2009)

Mahan, Condensed Matter in a Nutshell. (2010) Terse but interesting; physics-oriented general text includes comprehensive and up-to-date overview of many current topics.

Marder, Condensed Matter Physics. Comprehensive graduate text; 2010 2nd edition has many recent examples.