COURSE INFORMATION

Instructor: Prof. Jeffrey Bokor, 508 Cory Hall, 2-4134, jbokor@eecs

Class Schedule: Tues. and Thurs. 11AM-12:30PM, room 299 Cory Hall

Office Hours: Wed. 2-3PM other hours possible by appt. - send email

Course Secretary: Rosemary Alonso, 2-2386, rosemary@eecs

Grading Policy: Approximately 6 take-home problem sets (75%) and a final project (25%).

Prerequisites: You should have taken Introductory Quantum Mechanics (Physics 137A at Berkeley, for example), and have had at least some introduction to semiconductor physics. See me if you have any questions.

BIBILIOGRAPHY

Primary texts:

Introduction to Solid State Physics, 6th edition, by Charles Kittel, (John Wiley, NY, 1986). [Available at ASUC]

Supplementary (This is not an exhaustive list. There are dozens of books on solid-state and semiconductor physics. These are some of my favorites. You may find others you like better.):

Fundamentals of Carrier Transport, by Mark Lundstrom, (Cambridge Press, 2000).

Quantum Transport: Atom to Transistor, by Supriyo Datta (Cambridge Press, 2005

The Physics of Low-Dimensional Semiconductors, by John H. Davies (Cambridge Press, 2006)

Physics of Semiconductors and Their Heterostructures, by Jasprit Singh, (Mc Graw Hill, NY, 1993).

Solid State Physics, by Neil W. Ashcroft and N. David Mermin, (Holt, Reinhardt, and Winston, NY, 1976*.

Semiconductor Physics, an Introduction, 5th edition, by Karlheinz Seeger, (Springer-Verlag, Berlin, 1991).

Solid State Theory, by Walter A. Harrison, (Dover, NY, 1979).

Fundamentals of Statistical and Thermal Physics, by F. Reif, (McGraw-Hill, NY, 1965).

Optical Processes in Semiconductors, by Jacques I. Pankove, (Dover, NY, 1975).

Background (These cover the prerequisites. Again, there are many other choices)

Quantum Mechanics, 3rd edition, by Leonard I. Schiff, (McGraw Hill, NY, 1968).*

Solid State Physics for Engineering and Materials Science, by John P. McKelvey, (Kriegar, Malabar, FL, 1993).