

# Syllabus for Physics 211B

Winter 2019, Physics Department, UCSD

INSTRUCTOR: Congjun Wu (5430 MH)

Time/Place: 9:30am - 10:50am, TUTH, MH5301

Office hour: Friday: 3:30-4:30 pm

Books for Phy211A

1. J. M. Ziman, *Principles of the Theory of Solids*, Cambridge University Press; 2 edition (November 30, 1979)
2. N. W. Ashcroft and N. D. Mermin, *Solid State Physics*, Saunders College Publishing, Harcourt Brace College Publishers.
3. P. W. Anderson, *Concept of Concepts in Solids: Lectures on the Theory of Solids* World Scientific Pub Co Inc (January 1998).
4. C. Kittel, *Introduction to Solid State Physics*, Wiley; 8 edition (November 11, 2004)

Books for Phy211B

1. P. Coleman, *Introduction to Many-Body Physics*, 1st Edition Cambridge University Press; 1 edition (February 1, 2016)
2. D. Pines and P. Nozieres, *The theory of quantum liquids*, Advanced book classic series, Westview Press.
3. P. W. Anderson, *Basic Notions of Condensed Matter Physics*, The Benjamin /cummings Publishing Company, Inc.
4. A. J. Leggett, *Quantum Liquids-Bose condensation and Cooper pairing in condensed matter systems*, Oxford University Press.
5. P. G. De Gennes, *Superconductivity of metals and alloys*, W. A. Benjamin, Inc.
6. J R Schrieffer, *Theory of superconductivity*, Advanced book classics, 1999.
7. R. P. Feynman, *Statistical mechanics-a set of lectures*, Addison-Wesley Longman, Inc.
8. G. Baym and C. Pethick, *Landau Fermi-liquid theory, concepts and applications*, John Willey & Sons, Inc.
9. G. D. Mahan, *Many-particle physics*, Plenum Press, New York.

Grade:

We will decide the policy during the first class. Basically it will depend on your homework, midterm and the final project.

Homework Assignments:

Homework will be assigned every one or two weeks. Since it is unlikely to find a TA, I will not actually grade the homework. But I will do collect homework and keep a record.