

Condensed Matter I. Spring 2018

Instructor: Artem G. Abanov

Web page: <http://faculty.physics.tamu.edu/abanov/>

email : abanov@tamu.edu

Office: MPHY 415

Office Hours: TR 11:00-12:00

Office phone: 1-404-981-7799 (via Google voice)

Text: Book for the course.

- A. Abrikosov, Fundamentals of the Theory of Metals.
- A. I. Ansel'm, Introduction to semiconductor theory.
- etc.

Grading:

Grading will be based on homeworks and in class participation.

Prerequisites and Co-requisites: Solid state physics.

Syllabus:

Crystal periodicity, Lattice Vibrations, Quantum Mechanics of Atomic Vibrations, Electrons in a Lattice, Band Structure, The Model of Near Free Electrons, Tight Binding Approximation, Second Quantization of Bosons and Fermions, Transport in Electron and Phonon Systems, Electrodynamics of Metals, Acoustical Properties of Metals.

Attendance Policies: The student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for the absence. Among the reasons absences are considered excused by the university are listed in Student Rule 7, for details see <http://student-rules.tamu.edu/rule07>. The fact that these are university-excused absences does not relieve the student of responsibility for prior notification and documentation. Failure to notify and/or document properly may result in an unexcused absence. Falsification of documentation is a violation of the Honor Code.

Americans with Disabilities Act (ADA) Policy Statement: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.

Academic Integrity Statement: "An Aggie does not lie, cheat, or steal or tolerate those who do." The Honor Council Rules and Procedures may be found on the web at <http://www.tamu.edu/aggiehonor>.