

Physics 401: Thermodynamics and the Introduction to Statistical Mechanics and Kinetic Theory

Text: *An Introduction to Thermal Physics* by Daniel V. Schroeder.

Class times: MWF at 1:00 plus additional recitation hour(s) to be arranged at the first class meeting.

Exams: One or two midterm-exams (date not yet chosen) and a final on the date set by the registrar.

Syllabus: Definition of fundamental concepts of statistical thermodynamics, including temperature, entropy, laws of thermodynamics. Application to as many physical systems as time permits, including classical engines, ideal and near-ideal classical gases, quantum gases, chemical processes and equilibrium states, electrochemical batteries, dilute solutions and phase equilibrium of mixtures.