Course Content

Observing and understanding the workings of nature and expressing this understanding in models and mathematical language is fundamental to the study of science and technology. This course introduces the basic concepts of physics and the methods of modeling and solving problems in science. The subjects to be covered are (mathematical content is noted in parentheses):


2. Statistical physics: The ideal gas law derived from mechanics. Meaning of temperature and pressure. Boltzmann definition of entropy based on the number of possible states (probability), with one simple example, the partitioning of a gas of N molecules into two half volumes: In a macroscopic system (large N), the most probable situation is much much more probable than anything else- the 2nd Law of Thermodynamics.
