Knowledge Network of
Indian Institute of Technology, Gandhinagar
Under TEQIP-II Initiative

Summer School on Thermodynamics

The fundamental course of Thermodynamics has been integral to the curricula of science and engineering. The concepts that form the core of Thermodynamics find their implications in a diverse range of fields and hence form a very important skill set for students. An important challenge often faced in the student learning of Thermodynamics is that even though the students appear to acquire a reasonable grasp on the thermodynamic concepts in classes, they encounter obstacles to apply these concepts in practice. Several pedagogical approaches have been developed by academicians to facilitate an improved student learning. In this workshop, we will demonstrate some such pedagogical approaches that have been designed for efficiently teaching the first and second laws of thermodynamics.

The summer school will provide an exposure to the teachers on the different styles of delivering the thermodynamic concepts and will help them adopt a method most effective in their setting.

Topics for discussion -
Fundamental concepts in classical Thermodynamics, Zeroth law of Thermodynamics; Introduction to Work and Heat; First Law of Thermodynamics; Concept of Energy and Enthalpy; Kelvin Planck and Clausius Statements on the Second Law of Thermodynamics; Statistical Perspective on the second law of Thermodynamics; Equilibrium from Thermodynamics Perspective; Steam Tables and Thermodynamics Charts

Tentative schedule for this summer school

(a) Morning session: Lectures for 3-4 hours
(b) Afternoon session: Tutorial session for 1-2 hours

Presenters: Instructors –
1. Prof. Kabeer Jasuja (IIT Gandhinagar)
2. Prof. Atul Bhargava (IIT Gandhinagar)
3. Prof. Nitin Padhiyar (IIT Gandhinagar)