



**Mechanical Engineering**  
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## ME 271 (JAN) 3:0

### Thermodynamics

**Instructor(s):** Pradip Dutta, Pramod Kumar, R V Ravikrishna, Susmita Dash, Navaneetha Krishna Ravichadran

**Course description:**

Concepts of thermodynamics, zeroth law, first law, properties of pure substances and mixtures, first order phase transitions, thermophysical properties, energy storage; second law; energy analysis of process and cycle; calculation of entropy and entropy diagrams; availability analysis, chemical equilibrium, non-equilibrium thermodynamics, multi-phase-multi component systems, transport properties; third law

**Prerequisites:**

1. "Fundamentals of Classical Thermodynamics", by G. Van Wylen, R. Sonntag and C. Borgnakke
2. "Fundamentals of Engineering Thermodynamics", by Moran and Shapiro
3. "Advanced Thermodynamics for Engineers" by Kenneth Wark, Fluid Flow: A First Course in Fluid Mechanics

**Resources:**

**Outcomes:**

**Additional information:**

**Course website:**