ME 211 Thermodynamics (2-1-0-6)

Thermodynamic systems; States, processes, heat and work; Zeroth law; First law; Properties of pure substances and steam, Mollier diagram; Second law, Carnot cycle, entropy, corollaries of the second law; Application of first and second laws to closed and open systems; irreversibility and availability, exergy analysis; Thermodynamic relations; Properties of mixtures of ideal gases; Thermodynamic cycles - Otto, Diesel, dual and Joule, Third Law of Thermodynamics.

Texts:

[1] R E Sonntag, C Borgnakke and G J Van Wylen, Fundamentals of Thermodynamics, 6th Ed., John Wiley, 2003.

[2] G F C Rogers and Y R Mayhew, Engineering Thermodynamics Work and Heat Transfer , 4th Ed., Pearson 2003.

References:

[1] J P Howell and P O Buckius, Fundamentals of Engineering Thermodynamics, McGraw Hill, 1992.

[2] Y. A. Cengel and M. A. Boles, Thermodynamics, An Engineering Approach, 4th Ed., Tata McGraw Hill, 2003