ME110 INTRODUCTION TO MECHANICAL ENGINEERING 2-0-0

COURSE OBJECTIVE:

This course introduces students to mechanical engineering and its sub-domains. Students are expected to learn about scope, current and future trends, jobs, innovations & research opportunities in the field of mechanical engineering. Course content will be covered through lectures, assignments, case-studies, presentations, documentaries and field visits.

COURSE CONTENT:

What is Engineering, Who are Mechanical Engineers, Overview of Mechanical Engineering, its domains, scope and its utility in different areas; Specializations available with in mechanical Engineering (thermal, production and design) and job opportunities in mechanical Engineering.

Basic definitions of terms related to Thermodynamics, First and Second law of Thermodynamics, Properties of Steam, Introduction to Boilers, Terminology of IC Engines, Two and Four Stroke Petrol and Diesel Cycle.

Introduction to mechanical properties, basic manufacturing processes, pattern, type and its use in metal casting, Introduction of welding, brazing and soldering processes

Case study on any topic from Manufacturing Engineering Magazine Published by Society of Manufacturing Engineers (USA), Machinist Magazine, Technorama published by Institution of Engineers (India) and Manufacturing Today and any other magazine related to mechanical engineering..

Overview of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Society of Automotive Engineers, American Society of Mechanical Engineers (ASME); Indian Society of Mechanical Engineers (ISME) etc ; Emerging areas and new technologies in the field of mechanical engineering (3D Printing)

COURSE OUTCOMES

After successful completion of course, Students are expected to possess basic understanding and knowledge about the scope, current and future trends in mechanical engineering. The versatility of the mechanical engineering branch and career-opportunities in this field will enable the students to explore the new avenues in their future endeavours.

EVALUATION

Evaluation will be continuous an integral part of the class only through internal assessment

REFERENCES

Jonathan Wickert, Kemper Lewis, An Introduction to Mechanical Engineering, CENGAGE Learning. Michael Clifford, Kathy Simmons, Philip Shipway, An Introduction to Mechanical Engineering: Part 1 and Part 2, Taylor and Francis