ME113 MANUFACTURING PRACTICES 0-2-4

COURSE OBJECTIVE:

1. To familiarize with the basics of tools and equipments used in fitting, carpentry, sheet metal, welding and smithy
2. To familiarize with the production of simple models in the above trades.

COURSE CONTENT:

FITTING: Tools & Equipments – Practice in filing. Making Vee Joints, Square, Dovetail joints and Key making - plumbing.
Suggested Mini project – Assembly of simple I.C. engines

CARPENTRY: Tools and Equipments- Planning practice. Making Half Lap, Dovetail, Mortise & Tenon joints.
Suggested Mini project - model of a single door window frame.

SHEET METAL: Tools and equipments– practice. Making rectangular tray, hopper, scoop, etc.
Suggested Mini project *- Fabrication of a small cabinet, dust bin, etc.*

Tools and equipments - Arc welding of butt joint, Lap joint, Tee fillet. Demonstration of gas welding, TIG & MIG welding.

SMITHY: Tools and Equipments – Making simple parts like hexagonal headed bolt, chisel.

FOUNDRY: Tools and Equipments, Mould making, conducting casting operation of a job

COURSE OUTCOMES

1. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
2. An ability to design and conduct experiments
3. An ability to design a system, component, or process to meet desired needs .ethical, health and safety, manufacturability, and sustainability
4. An ability to use the techniques, skills, and modern engineering tools necessary for Engineering practices

EVALUATION

Evaluation will be continuous an integral part of the class as well through external assessment.

REFERENCES

S K Hazara Choudhary, Gopal.T.V, Kumar.T, and Murali.G, "A first course on workshop practice – Theory, Practice and Work Book", Suma Publications, Chennai, 2005.

Kannaiah.P and Narayanan.K.C, "Manual on Workshop Practice", Scitech Publications

Venkatachalapathy.V.S, "First year Engineering Workshop Practice", Ramalinga Publications