



MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

COURSE CONTENT

ENGINEERING WORK SHOP								
I Semester : CE / CSD / CSM / ECE/ EEE / ME								
II Semester: CSE								
Course Code	Category	Hours/ Week			Credits	Maximum Marks		
		L	T	P		C	CIA	SEE
24X0372	Foundational	0	1	4	3	40	60	100
Contact Classes: Nil	Tutorial Classes: 15	PracticalClasses:60			TotalClasses:75			
Prerequisites: Nil								

Course Overview: After successful completion of the course, students should be able to learn. Engineering Workshops: A foundational course aimed at introducing first-year students to a variety of tools, equipment, and techniques essential for creating physical objects and mechanisms using different materials. This course provides an opportunity for students to build confidence and gain practical experience in carpentry, fitting, house wiring, tin-smithy, black smithy, welding, and principles of modern manufacturing processes.

Prerequisite: NIL

Course Objective: The student will be able to

1. To gain good basic working knowledge required for the production of various engineering products.
2. To study different tool uses and their demonstration.
3. To provide hands on experience about use of different engineering materials, tools, equipments and processes those are common in engineering field.
4. To develop a right attitude, team working, precision and safety at work place.
5. It explains the construction, function use and application of different working tools and equipments.

Course outcomes: At the end of the course students should be able to

1. Explain the design and model different prototype in the trade of carpentry such as Cross lap joint, Dove tail joint.
2. Demonstrate the design and model various basic prototypes in the trade of fitting such as straight fit and V-fit.
3. Understand to make various basic prototypes in the trade of tin smithy such as rectangular tray and open cylinder.
4. Demonstrate the design and model various basic prototype in welding and black smithy.
5. Understand to perform various basic house wiring techniques such as connecting one lamp with one switch, connecting two lamps with one switch.



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Course content:

Module -I: CARPENTRY AND FITTING

- Carpentry – Introduction, Carpentry tools, sequence of operations and applications (T-Lap Joint, Dovetail Joint, Mortise & Tenon Joint)
- Fitting – Introduction, fitting tools, sequence of operations and applications (V-Fit, Dovetail Fit & Semi-circular fit)

Module -II: TIN SMITHY AND BLACKSMITHY

- Tin-Smithy – Introduction, Tin smithy tools, sequence of operations and applications (Square Tin, Rectangular Tray & Conical Funnel).
- Blacksmithy- Introduction, Blacksmithy tools, sequence of operations and applications (Round to Square, Fan Hook and S-Hook)

Module -III: HOUSE WIRING AND WELDING

- House-wiring – Introduction, Electrical wiring tools, sequence of Operations and applications (Parallel & Series, Two-way Switch and Tube Light)
- Welding Practice – Introduction, electrode, welding tools, and sequence of Operations. Advantages and applications (Arc Welding).

Text Book:

1. Workshop practice/B.L. Juneja/ Cengage
2. Workshop manual/K.Venugopal/ Anuradha

Reference:

1. Work shop manual /P.Kannaiah/K.L. Narayana
2. Work shop Manual /Venkat Reddy /BSP

ELECTRONIC RESOURCES:

1. <https://alison.com/course/fundamentals-of-workshop-technology>
2. <https://learnerstv.org/Free-Engineering-video-lecture-courses.htm>
3. <https://www.studynama.com/community/threads/engineering-workshop-lab-manual-ebook-for-mechanical-engineering.3154/>
4. <https://ardhindie.com/pdf/mechanical-workshop-practice>
5. <https://irdtuttarakhand.org.in/Upload/wef2025-26%20new%20syllabus%20workshop-1%20sem.pdf>
6. <https://ocw.mit.edu/courses/2-670-mechanical-engineering-tools-january-iap-2004/download/>

MATERIALS ONLINE:

1. Course template
2. EWS Lab Manual
3. Open-ended experiments
4. e-Learning Readiness Videos(DSS)