

Course Number	Course Name	L-T-P-Credits	Year of Introduction
MP232	MACHINE TOOLS LAB- I	0-0-3-1	2016
Prerequisite : Nil			
Course Objectives: <ol style="list-style-type: none"> 1. To provide fundamental knowledge of various metal cutting practices, fundamentals of machine tools and principles in material removal processes. 2. To apply the fundamentals and principles of metal cutting to practical applications using lathes, shaping machines and drilling machines etc. 3. To demonstrate the fundamentals of machining processes and machine tools. 4. To develop knowledge and importance of metal cutting parameters. 5. To develop fundamental knowledge on tool materials, cutting fluids and tool wear mechanisms. 			
List of Experiments <ol style="list-style-type: none"> 1. Study of different types of tools its angles and materials. 2. Exercises on turning and facing in lathe. 3. Step turning and thread cutting in lathe. 4. Taper turning operation in lathe. 5. Thread cutting operation in Lathe. 6. Knurling, drilling operations in lathe. 7. Study of the characteristic features of shaper machine. 8. Machining a block in shaper machine. 9. Drilling and tapping operations in drilling machine and study of twist-drill. 			
Expected Outcome: <p>Upon successful completion of this course, the students will be able to:</p> <ol style="list-style-type: none"> i. Select cutting tool materials and tool geometries for different metals. ii. Apply cutting mechanics to metal machining based on cutting force and power consumption. iii. Operate lathe, shaping machines, drilling machines, etc. 			
References <ol style="list-style-type: none"> 1. Technology of machine tools, S.F.Krar, A.R. Gill, Peter SMID, TMH (I) 2. Text Book of Production engineering by PC Sharma; S Chand and Company Ltd. Delhi. 3. Production Technology by H.M.T. 			