

**MVSR Engineering College, Nadergul.**  
**Department of Mechanical Engineering**  
**COURSE OUTCOMES**

Class: B.E.II Year I Sem (Mech. Engg.)

Name of the Course: **METALLURGY AND MATERIAL SCIENCE**

Course Code: ME 201

At the end of the course student is able to

<b>No.</b>	<b>Course Outcome</b>	<b>PO</b>
M 201.1	Interpret atomic arrangement and structure of metals and alloys with respect to yield, cold and hot working, and strain hardening; and effect of recrystallization on mechanical properties; Explain different types of fracture, crack propagation, ductile fracture	1,2
M 201.2	Interpret S-N curves for fatigue, effect of metallurgical variables on damage due to fatigue; and mechanism of creep deformation ; and experimental determination of fatigue and creep	1,2
M 201.3	Interpret equilibrium diagrams of binary non-ferrous alloys; Iron-Iron carbon diagram and properties of plain carbon steels and cast irons.	2,4
M 201.4	Construct and interpret TTT curves w.r.t annealing, hardening, and tempering; and application of various case hardening methods.	1, 2,4, 12
M 201.5	Describe various methods of manufacture of Iron and steel, copper and aluminum	1
M 201.6	Explain the effects of alloying elements Ni, Cr, Tungsten, Mn, Si on the properties of steel , stainless steel, HSS, maraging steel and non-ferrous alloys like Brass, bronze, Invar, Ti-AL, and identify application areas	1,2,3,6,7