

Curriculum for M.Sc Railway Engineering

Two options, each with total credit hours of 30, will be offered:

(A) Thesis Option: 8 Subjects (24 credit hours) + Research Thesis (6 credit hours)

(B) Non-thesis option: 10 Subjects (30 credit hours)

Course Code	Course Title
GROUP-A	Compulsory Subjects
MRE-501	Vehicle Drives and Dynamics
MRE -502	Mechanical Design, Operation and Maintenance of Railway Systems
MRE -503	Railway Communication System (Signals and Control)
MRE -504	Railway Track, Tunnel and Bridge Engineering
GROUP-B	Elective Subjects {Any four for option (A); any six for option (B)}
MRE-505	Vehicle Aerodynamics
MRE-506	Rail Motive Power Systems
MRE-507	Railway Engineering Design and Simulation
MRE-508	Rolling Stock Technology
MRE-509	Rail Infrastructure Project Management
MRE-510	Railways and Environment (Energy Perspective)
MRE-511	Computational Mechanics
MRE-512	Fatigue and Fracture Mechanics
MRE-513	Manufacturing System Engineering
MRE-514	Experimental Design and Engineering Analysis
MRE-515	Advanced Instrumentation and Control
MRE-516	Advanced Soil and Rock Mechanics
MRE-517	Advanced HVAC systems
MRE-518	FEA in Structural Mechanics
MRE-519	High Speed Rail Engineering
MRE-520	Materials in Railway Manufacturing
MRE-521	Rolling Stock Safety and Braking Systems
MRE-522	Intelligent Railway Systems
Group-C	Research Project
MRE-698	Research Thesis in the Relevant Area and Oral Examination {Compulsory for Option (A)}