

NPTEL Courses for B.Tech 3rd Semester Mechanical Engineering

(Any one certification is mandatory)

1. Materials Processing (Casting, Forming, and Welding) - https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_me191
2. Techniques of Materials Characterization - https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_mm79

Learning Pathway B.Tech 3rd Semester Mechanical Engineering

(Any one certification is mandatory)

1. Materials Science for Advanced Technological Applications Specialization - <https://www.coursera.org/specializations/materials-science-for-advanced-technological-applications>
2. 3D Printing and Additive Manufacturing Specialization - <https://www.coursera.org/specializations/3d-printing-additive-manufacturing>

B.Tech 3rd Semester Mechanical Engineering MOOCs

(At least one certification from each pool for both the subjects is mandatory)

ESCME302: Engineering Thermodynamics

1. Introduction to Thermodynamics: Transferring Energy from Here to There - <https://www.coursera.org/learn/thermodynamics-intro>
2. Statistical Thermodynamics Specialization - <https://www.coursera.org/specializations/statistical-thermodynamics-engineering>
3. Basics of Air Conditioning & Heat Load Calculation - <https://www.coursera.org/learn/designing-air-conditioning-systems-and-heat-load-calculation>

PCCME302: Mechanics of Deformable solids

1. Mechanics of Materials I: Fundamentals of Stress & Strain and Axial Loading - <https://www.coursera.org/learn/mechanics1>
2. Mechanics of Materials IV: Deflections, Buckling, Combined Loading & Failure Theories - <https://www.coursera.org/learn/materials-structures>
3. Mechanics of Materials II: Thin-Walled Pressure Vessels and Torsion - <https://www.coursera.org/learn/mechanics2>

NPTEL Courses for B.Tech 4th Semester Mechanical Engineering
(Any one certification is mandatory)

1. IC Engines and Gas Turbines - <https://nptel.ac.in/courses/112103262>
2. Fundamentals of Manufacturing Processes - <https://nptel.ac.in/courses/112107219>

Learning Pathway B.Tech 4th Semester Mechanical Engineering
(Any one certification is mandatory)

1. Materials Science for Advanced Technological Applications Specialization - <https://www.coursera.org/specializations/materials-science-for-advanced-technological-applications>
2. 3D Printing and Additive Manufacturing Specialization - <https://www.coursera.org/specializations/3d-printing-additive-manufacturing>

B.Tech 4th Semester Mechanical Engineering MOOCs
(At least one certification from each pool for both the subjects is mandatory)

PCCME401: Fluid Mechanics Fluid Machines

1. Fundamentals of Fluid Power - <https://www.coursera.org/learn/design-and-assemble-an-ic-engine-using-solidworks>
2. Computational Fluid Mechanics - Airflow Around a Spoiler - <https://www.coursera.org/specializations/design-assemble-mechanical-systems-solidworks>
3. Applied Computational Fluid Dynamics - <https://www.coursera.org/learn/automotive-industrial-engineering>

PCCME403: IC Engine & Gas Turbine

1. Design and Assemble an IC Engine Using SolidWorks - <https://www.coursera.org/learn/design-and-assemble-an-ic-engine-using-solidworks>
2. Design & Assemble Mechanical Systems in SolidWorks Specialization - <https://www.coursera.org/specializations/design-assemble-mechanical-systems-solidworks>
3. Automotive Industrial Engineering - <https://www.coursera.org/learn/automotive-industrial-engineering>

NPTEL Courses for B.Tech 5th Semester Mechanical Engineering

(Any one certification is mandatory)

1. Introduction to Composites - https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_me156
2. Aluminium based Alloys and Metal Matrix Composites - https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_mm70

Learning Pathway B.Tech 5th Semester Mechanical Engineering

(Any one certification is mandatory)

1. Digital Manufacturing & Design Technology Specialization - <https://www.coursera.org/specializations/digital-manufacturing-design-technology>
2. Lean Six Sigma Specialization - <https://www.coursera.org/specializations/lean-six-sigma>

B.Tech 5th Semester Mechanical Engineering MOOCs

(At least one certification from each pool for both the subjects is mandatory)

PCCME502: Machine Elements & System Design

1. Machine Design Part I - <https://www.coursera.org/learn/machine-design1>
2. Design of Specific Systems - <https://www.coursera.org/learn/design-of-specific-systems-effluent-treatment-safety-relief>
- 3 .Design of General Utility Systems - <https://www.coursera.org/learn/design-of-general-utility-systems>

PCCME504: Mechatronics, Robotics & control

1. Modern Robotics: Mechanics, Planning, and Control Specialization - <https://www.coursera.org/specializations/modernrobotics>
2. Introduction to Robotics with Webots Specialization - <https://www.coursera.org/specializations/introduction-robotics-webots>
3. Robotic Process Automation - <https://www.coursera.org/specializations/roboticprocessautomation>

NPTEL Courses for B.Tech 6th Semester Mechanical Engineering

(Any one certification is mandatory)

1. Manufacturing Automation - <https://nptel.ac.in/courses/112104288>
2. Fundamentals of Additive Manufacturing Technologies - https://onlinecourses.nptel.ac.in/e-learning/preview/noc22_me122

Learning Pathway B.Tech 6th Semester Mechanical Engineering

(Any one certification is mandatory)

1. Digital Manufacturing & Design Technology Specialization - <https://www.coursera.org/specializations/digital-manufacturing-design-technology>
2. Lean Six Sigma Specialization - <https://www.coursera.org/specializations/lean-six-sigma>

B.Tech 6th Semester Mechanical Engineering MOOCs

(At least one certification from each pool for both the subjects is mandatory)

PCCME601: Computer Aided Design & Analysis

1. Computer Aided Design - <https://www.coursera.org/learn/computer-aided-design>
2. Design & Assemble Mechanical Systems in SolidWorks Specialization - <https://www.coursera.org/specializations/design-assemble-mechanical-systems-solidworks>
3. Solidworks 3D CAD for Education Specialization - <https://www.coursera.org/specializations/practice-solidworks-3d-cad>

PCCME602: Manufacturing Automation

1. Advanced Manufacturing Process Analysis - <https://www.coursera.org/learn/advanced-manufacturing-process-analysis>
2. Manufacturing Industry 5.0 - <https://www.coursera.org/learn/manufacturing-industry-101>
3. Additive Manufacturing - <https://www.coursera.org/specializations/additive-manufacturing>

B.Tech 7th Semester Mechanical Engineering MOOCs
(At least one certification from each pool for all the subjects is mandatory)

PEME701A: Automobile Engineering

1. Automotive Industrial Engineering - <https://www.coursera.org/learn/automotive-industrial-engineering>
2. Self-Driving Cars Specialization - <https://www.coursera.org/specializations/self-driving-cars>
3. Autonomous Vehicle Engineering - <https://www.coursera.org/specializations/autonomous-vehicle-engineering>

OEME701B: Renewable Energy Engineering

1. Renewable Energy Technology Fundamentals - <https://www.coursera.org/learn/renewable-energy-technology-fundamentals>
2. Renewable Energy Specialization - <https://www.coursera.org/specializations/renewable-energy>
3. Energy : The Enterprise - <https://www.coursera.org/learn/energy-industry-overview?specialization=energy-industry>

OEME702A: Industry 4.0

1. Industry 4.0 and its impact on Manufacturing Sector - <https://www.coursera.org/learn/industry-4-point-0-and-its-impact-on-manufacturing-sector>
2. Key Industry 4.0 Technologies in Manufacturing - <https://www.coursera.org/learn/key-industry-4-point-0-technologies-in-manufacturing---1>
3. Industry 4.0 & Impact in Manufacturing - <https://www.coursera.org/learn/industry-4-point-0-and-its-impact-on-manufacturing-sector>

HSMME701B : Operations Research

1. Operations Research Specialization - <https://www.coursera.org/specializations/operations-research>
2. Operations Research : Models & Application - <https://www.coursera.org/learn/operations-research-modeling>
3. Operations Research : Optimization Algorithm - <https://www.coursera.org/learn/operations-research-algorithms>
4. Operation Research Theory - <https://www.coursera.org/learn/operations-research-theory>

B.Tech 8th Semester Mechanical Engineering MOOCs

(At least one certification from each pool for all the subjects is mandatory)

HSMME801 : Universal Human Values

1. Human Resource Management - <https://www.coursera.org/specializations/human-resource-management-corporate-fundamentals>
2. Human Rights for Open Societies - <https://www.coursera.org/programs/uemj-passout-batch-2028-4ok2/learn/humanrights?source=search>
3. Leading: Human Resource Management and Leadership Specialization - <https://www.coursera.org/specializations/hr-management-leadership>

OECME801A : Total Quality Management

1. TQM Excellence: Lean Six Sigma & Quality Systems Specialization - <https://www.coursera.org/specializations/tqm-excellence-lean-six-sigma-quality-systems>
2. Operations and Lean Management Specialization - <https://www.coursera.org/specializations/operations-and-lean-management>
3. Quality Control & Regulatory Science - <https://www.coursera.org/learn/quality-control-and-regulatory-in-cosmetic-science>