

## Manufacturing Engineering: Railway Specialization 2026-2027

Year	Course	Course	Course	Course	Course	Course
1-1	ENGR 1015U Introduction to Engineering	ENGR 1050U Engineering Communications and Technology Impacts (Credit restrictions: COMM 1050U/ SOCI 1470U)	MATH 1010U Calculus I	MATH 1850U Linear Algebra for Engineers	PHY 1010U Physics I	
1-2	CHEM 1800U Chemistry for Engineers (Credit restrictions: CHEM 1010U/CHEM 1020U/CHEM 1110U)	ENGR 1025U Engineering Design (ENGR 1015U, ENGR 1050U)	ENGR 1200U Introduction to Programming for Engineers (Credit Restriction: INFR 1100U)	MATH 1020U Calculus II (MATH 1010U)	PHY 1020U Physics II (PHY 1010U)	
2-1	MANE 2220U Structure and Properties of Materials (CHEM 1800U)	MATH 2860U Differential Equations for Engineers (MATH 1020U, Coreq: MATH 1850U)	MECE 2230U Statics (MATH 1020U, PHY 1010U)	MECE 2310U Concurrent Engineering and Design (ENGR 1025U or ESNS 1200U)	MECE 2640U Thermodynamics and Heat Transfer (MATH 1020U, PHY 1010U)	Liberal Studies Elective
2-2	ELEE 2790U Electric Circuits (MATH 1020U, MATH 1850U, PHY 1020U)	ENGR 2100U Computational Engineering Applications (ENGR 1200U, MATH 1850U, ELEE 2530U or MATH 2860U)	MECE 2420U Solid Mechanics I (MECE 2230U)	MECE 2430U Dynamics (MATH 1850U, MECE 2230U)	MECE 2860U Fluid Mechanics (PHY 1010U, MATH 1020U)	STAT 2800U Statistics and Probability for Engineers (MATH 1020U)
3-1	ENGR 3011U Introduction to Railway Systems	MANE 3120U Thermo-mechanical Processing of Materials (MANE 2220U)	MANE 3190U Manufacturing and Production Processes (MANE 2220U, MECE 2420U)	MECE 3030U Computer-Aided Design (MECE 2310U, MECE 2420U)	MECE 3270U Kinematics and Dynamics of Machines (ENGR 2020U or MECE 2430U)	MECE 3350U Control Systems (ELEE 2210U or ELEE 2790U or METE 2010U, MATH 2860U, MECE 2430U)
3-2	ENGR 3360U Engineering Economics	MANE 3300U Integrated Manufacturing Systems (MANE 3190U)	MANE 4190U Principles of Material Removal Processes (MANE 3190U)	MANE 4600U Additive Manufacturing (MANE 3190U, MECE 3030U)	MECE 3220U Machine Design (MECE 2310U, MECE 2420U, MECE 3270U)	METE 4200U Industrial Automation
4-1	ENGR 4022U Railway Safety and Signalling (ENGR 3011U)	ENGR 4111U Capstone Systems Design I (Successful completion of all program-respective courses in years one through three)	MANE 4110U Design for Manufacturing (MANE 3190U)	MANE 4390U Modeling Manufacturing Systems (MANE 3300U)	METE 4280U Robotics & Automation (MECE 3350U or METE 3400U)	Liberal Studies Elective
4-2	ENGR 4033U Railway Rolling Stock (ENGR 3011U)	ENGR 4044U Railway Systems Operation and Maintenance (ENGR 3011U)	ENGR 4222U Capstone Systems Design II (ENGR 4111U)	ENGR 4760U Ethics, Law and Professionalism for Engineers	MANE 4045U Quality Control (STAT 2800U)	