Curriculum plan for High Speed Rail Engineering students 2026 - 2030

Minimum credits = 160 credits

Year | **Semester** | **Course (credits)**

Year 1

Semester 1 — 22 credits

- EN 061 034 Engineering Mechanics (3)
- EN 001 202 Engineering Drawing (3)
- GE 341 511 Computational and Statistical Thinking for ABCD (3)
- LI 101 001 English I (3)
- SC 401 206 Calculus for Engineering I (3)
- SC 501 003 General Physics Laboratory I (1)
- SC 501 005 Fundamentals of Physics I (3)
- EN 001 100 Learning Skill Development (3)

Semester 2 — 20 credits

- EN 061 007 Engineering Statistics and Design of Engineering Experiments (3)
- SC 201 005 General Chemistry (3) ⟷ SC 201 006 General Chemistry Laboratory (1)
- LI 101 002 English II (3)
- SC 401 207 Calculus for Engineering II (3)
- SC 501 004 General Physics Laboratory II (1)
- SC 501 006 Fundamentals of Physics II (3)
- EN 002 204 Engineering Materials (3)

Year 2

Semester 1 — 22 credits

- EN 413 101 Operations Research (3)
- EN 412 002 Mechanical and Materials Engineering Laboratory (1)
- EN 003 102 Work Preparation and Continuing Self-Development (3)
- LI 102 003 English III (3)
- EN 001 203 Computer Programming (3)
- EN 062 008 Fundamentals of Electrical Circuits and Power (3)
- EN 512 303 Thermodynamics I (3)
- EN 412 500 Manufacturing Processes (3)

Semester 2 — 20 credits

- EN 413 106 Production Planning and Control (3)
- EN 413 200 Quality Control (3)
- EN 412 300 Industrial Work Study and Productivity Improvement (3)
- LI 102 004 English IV (3)
- EN 062 009 Computer Application in Industrial Engineering (1)
- GE 341 512 ABCD for All Professions (3)
- EN 413 102 Maintenance Engineering (3)
- EN 413 003 Manufacturing Engineering Laboratory (1)

Summer — - credits

- EN 413 796 Practical Training in Industrial Engineering (1)

Year 3

Semester 1 — 22 credits

- EN 413 302 Safety Engineering (3)
- EN 413 400 Engineering Economy (3)
- EN 063 035 Introduction to High-Speed Railway (2)
- EN 063 010 Introduction to Railway Infrastructures (2)
- EN 063 011 Railway Location and Design (2)
- EN 063 012 Transportation Economics (2)
- EN 063 013 Principles of Transportation Planning (2)
- EN 063 014 Transportation System Analysis (2)
- EN 063 032 Intermediate Chinese (4)

Semester 2 — 22 credits

- EN 413 301 Industrial Plant Design and Facilities Planning (3)
- EN 063 018 High-speed Rail Train Traction Calculation (2)
- EN 063 019 High-speed Railway Communication Signal and Train Operation Control (3)
- EN 063 020 Railway Transportation Organization (4)
- EN 063 021 Railway Yard and Terminal (4)
- EN 063 022 Course Project of Railway Transportation Organization (2)
- EN 063 015 Introduction to Railway Locomotive and Rolling Stock (2)
- EN 063 033 Overview of China (2)

Summer — 1 credits

- EN 063 796 Practical Training in High-Speed Rail Engineering (1)

Year 4

Semester 1 — 17 credits

- EN 064 023 Project Feasibility Study and Cost Analysis and Budgeting in Industry (3)
- EN 064 016 Transportation Market and Business (2)
- EN 064 024 High Speed Railway Transportation Organization (3)
- EN 064 025 Technical Regulations of High-speed Railway Operation (2)
- EN 064 026 High-speed Rail Integrated Passenger Hub (2)
- EN 064 027 Train Scheduling Diagram with Computer (1)
- EN 064 028 Reading and Writing of Scientific and Technological Documents (2)
- EN 064 017 Introduction to Railway Electrification (2)

Semester 2 — 14 credits

- EN 064 999 High-Speed Rail Engineering Project (8)
- EN 064 029 Chinese for Railway Operation (2)
- EN 064 030 High Speed Railway Transportation Organization Experiment (2)
- EN 064 031 Innovative Lectures for High-speed Railway (2)

→ prerequisite - - → prerequisite (#) ⟷ CON