

RAILROAD ENGINEERING TECHNOLOGY (RRET)

RRET 1001 History of Railroading (3 Credits)

Covers the history and traditions of railroading and the industry's role in the North American economic development.

Prerequisites: ENG 0930 or Placement into ENG 0940 or Higher

Previous: Legacy Equivalent(s): RET* 101

RRET 1003 Fundamentals of Electricity (4 Credits)

Surveys basic electricity, including generation, measurement, and analysis of networks involving DC and AC sources. The laboratory component includes electrical experiments in basic AC and DC circuits.

Previous: Legacy Equivalent(s): EET *103

RRET 1010 Careers in Railroad (2 Credits)

Provides information about technical careers in railroading to assist students to choose suitable career paths. Requires field trips that will demonstrate the relationships among technical work groups in day-to-day railroad operations.

Prerequisites: RRET 1001

Previous: Legacy Equivalent(s): RET* 110

RRET 1020 Railroad Rules, Regulations, Standards and Practices (3 Credits)

Provides participants with an overall understanding of governmental rules, regulations, standards, and practices as they apply to a railroad operation. Study includes a review of Code of Federal Regulations, Part 49, Railroad Standards and Practices Manual (AREMA) and various railroads' book of rules.

Prerequisites: RRET 1001

Previous: Legacy Equivalent(s): RET* 120

RRET 1098 Special Topics in the Fundamentals of Electricity (4 Credits)

Surveys basic electricity, including generation, measurement, and analysis of networks involving DC and AC sources. The laboratory component includes electrical experiments in basic DC and AC circuits. Three hours of lecture/three hours of laboratory.

Previous: Legacy Equivalent(s): EET 103

RRET 2020 Safety in the Railroad Workplace (3 Credits)

Covers the principles and policies governing railroad safe work practices. Upon successful completion of this course, the student should be able to describe safety policies, including the application of team processes, use and care of personal protective equipment, lockout/tag out procedures, and hearing conservations.

Prerequisites: RRET 1020

Previous: Legacy Equivalent(s): RET* 220

RRET 2030 Reading and Interpreting Railroad Diagrams (2 Credits)

Provides participants with an overall understanding of how to read and interpret railroad electrical diagrams. Course topics will include a review and discussion of the following: ladder diagrams, contractors, motor starters, motors, programmable logic controller, railroad electrical symbols.

Prerequisites: CENT 1010

Previous: Legacy Equivalent(s): RET* 230

RRET 2040 Railroad Pneumatics and Hydraulic Controls (4 Credits)

Introduces participants to the basic components, controls and functions of railroad pneumatics and hydraulics. Course topics include standard symbols, pumps, control valves, control assemblies, actuators, maintenance procedures and switching and control devices.

Prerequisite or corequisite: MECH 2034

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 240

RRET 2042 Railroad HVAC Systems (4 Credits)

Provides participants with an overview of HVAC systems used on railcars. Basic hand and specialty tools and equipment will be covered as well as basic laws of heat transfer, thermodynamics and heat load. The study of the basic refrigeration cycle and its components will be introduced.

In addition, students can qualify to obtain certification on the proper handling of refrigerants to include their effects on the environment.

Prerequisites: MECH 2034

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 242

RRET 2044 Railroad Electromechanical Troubleshooting (4 Credits)

Introduces participants to the tools, methods and techniques for troubleshooting electromechanical problems in machines and rolling stock equipment (trains).

Prerequisites: MECH 2034

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 244

RRET 2050 Railroad Signaling and Switching (4 Credits)

Provides participants a basic understanding of a railroad signal system, including track circuits and applicable federal laws/guidelines.

Prerequisites: CENT 1010 and RRET 1020

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 250

RRET 2052 Railroad Communications (4 Credits)

Introduces participants to a basic understanding of railroad communications. Course topics include frequency and pulse modulation, AM and FM transmitters and receivers, electromagnetic radiation, digital data communication, and applicable laws and regulations.

Prerequisites: RRET 2050

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 252

RRET 2054 Railroad Maintenance, Troubleshooting, and Repair (4 Credits)

Introduces students to the tools, methods and techniques for troubleshooting signal and communication problems in switch machines and communication equipment.

Prerequisites: MECH 2034

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 254

RRET 2095 Practicum in Passenger Railroad Technology (1 Credits)

Provides students with experience in electric traction motors, catenary wire systems, signaling and track repair using APTA (American Public Transportation Association) standards. Students will complete at least 50 hours of supervised practicum.

Prerequisites: RRET 2020

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 270

RRET 2195 Practicum in Freight Railroad Technology (1 Credits)

Provides students with experience in diesel-electric engines, freight railroading logistics and intermodal services, signaling upgrades and track renewal using laser-guided tamping equipment all in accordance with Northeast Operating Rules Advisory Committee (NORAC) standards. Students will also regularly inspect and help with ongoing maintenance of the rail line.

Prerequisites: RRET 2020

Additional fees may apply

Previous: Legacy Equivalent(s): RET* 271