

# RAILROAD ENGINEERING TECHNOLOGY: SIGNALING AND COMMUNICATIONS, AS

**Program code:** RREN-AS-SIG

**Location:** Gateway

## Program Description

The Railroad Engineering Technology Signaling and Communications option will prepare students for employment in the railroad industry for maintaining and repairing rail line and railcars where signaling and communications systems are used. Graduates will be prepared for technical application exams commonly administered by railroad companies for entry-level signaling and switching positions. The program reflects current skills needed within job positions that require electronic and communications knowledge and skills.

## Learning Outcomes

Upon successful completion of all program requirements, graduates should be able to:

1. Demonstrate and have an understanding of typical railroad rules and regulations, including changes that are a result of accidents and imposed by Homeland Security
2. Demonstrate a basic understanding of career opportunities within the railroad industry with an Electromechanical-oriented degree
3. Demonstrate a basic understanding of the operation of railcar signaling and communication systems
4. Conduct entry-level troubleshooting and repairs on signaling and communications systems along rail lines and on railcars
5. Be prepared to take an application exam on signaling and communications skills for employment in the railroad industry

**Railroad Engineering Practicum Information:** Practicum experiences may be assigned during daytime, evening or weekend hours; assignments are subject to change based upon availability of practicum sites and numbers in groups; practicum sites could be within an hour radius of the college and may require a mandatory parking fee; students must make their own travel arrangements during the program. Practicum learning experiences are planned as an integral part of the railroad engineering technology courses, and are held at a variety of railroad settings, such as the Shoreline Trolley Museum/Branford Railway and the Railroad Museum of New England/Naugatuck Railroad.

**Criminal Background Checks & Toxicology Screening:** Practicum sites may now require criminal background checks and/or toxicology screening (drugs/alcohol) be completed on any student who will be attending a practicum rotation at those sites. Students must follow instructions for obtaining a background and/or toxicology screening at the college if necessary. Students who are found guilty of having committed a felony/misdemeanor and/or are found to have a positive toxicology screen may be prevented from participating in practicum exercises. Those who cannot participate in a practicum at an assigned facility, may not be able to complete the objectives of the course and of the program. Specific situations are reviewed by college personnel.

## Degree Requirements

Code	Title	Credits
<b>General Education Courses</b>		
ENG 1010	Composition	3
	Elective ARHX - Arts & Humanities Course	3-4
	MATH 1002 or equivalent	3-4
PHYS 1009	Fundamentals of Applied Physics (or higher)	4
ECON 1001	Principles of Macroeconomics	3
	Elective ORAX - Oral Communication Course or Elective WRIX - Written Communication II Course	3
CCS 1001	College and Career Success	3
<b>Program Courses</b>		
CENT 1016	Computer Applications for Technology	3
CENT 1026 or CENT 2010	Computer Servicing Computer Systems Software	4
RRET 1003	Fundamentals of Electricity	4
CENT 1010	Electric Circuits for Technology	4
RRET 1001	History of Railroadng	3
RRET 1020	Railroad Rules, Regulations, Standards and Practices	3
RRET 2020	Safety in the Railroad Workplace	3
RRET 2050	Railroad Signaling and Switching	4
RRET 2052	Railroad Communications	4
RRET 2054	Railroad Maintenance, Troubleshooting, and Repair	4
RRET 2095	Practicum in Passenger Railroad Technology	1
RRET 2195	Practicum in Freight Railroad Technology	1
<b>Total Credits</b>		<b>60-62</b>

- Railroad Engineering Technology, AS