

# Railroad Operations - Conductor Option, A.A.S.

Conductors are responsible for supervising over-the-road operation of freight trains and are in demand throughout the railroad industry. They may choose career paths leading to locomotive engineer service or railroad management. The final phase of this program consists of six weeks of full-time training provided in cooperation with the National Academy of Railroad Sciences on the campus of JCCC.

For information visit the National Academy of Railroad Sciences (<http://www.railroadtraining.com>). Hover your cursor over the "New Careers" tab and choose from the list.

**Note:** Metropolitan Community College students should seek specific counsel from the JCCC program personnel for the appropriate course plan and numbers.

Metropolitan Community College students should refer to Cooperative Program Information (<http://www.jccc.edu/cooperative>).

(Major Code 2810; State CIP Code 49.0208)

## Associate of Applied Science Degree

### First Semester

CPCA 105	Introduction to Personal Computers: Windows	1
CPCA 108	Word Processing I: MS Word*	1
CPCA 110	Spreadsheets I: MS Excel*	1
ENGL 121	Composition I*	3
MATH 130	Technical Mathematics I*	3
PHIL 124	Logic and Critical Thinking	3
RRT 120	History of Railroading	3
Total Hours		15

### Second Semester

Technical Electives (see below)		2
ENGL 123	Technical Writing I*	3
MATH 131	Technical Mathematics II*	3
PHYS 133	Applied Physics*	5
RRT 121	Railroad Technical Careers	3
Health and/or Physical Education Elective ^		1
Total Hours		17

^ Health and/or Physical Education Elective (<http://catalog.jccc.edu/spring/degrecertificates/electives/health-and-or-physical-ed-aas>)

### Third Semester

BUS 121	Introduction to Business	3
ECON 132	Survey of Economics	3
or ECON 230	Economics I	
PHIL 138	Business Ethics	1
RRT 150	Railroad Operations	3
RRT 165	Railroad Safety, Quality and Environment	3
SPD 125	Personal Communication	3
Total Hours		16

### Fourth Semester

RRTC 123	Introduction to Conductor Service*	4
RRTC 175	Conductor Mechanical Operation*	2
RRTC 261	Conductor Service*	2
RRTC 263	General Code of Operating Rules*	4

RRTC 267	Conductor Field Application*	4
Total Hours		16

## Technical Electives

AUTO 125	Introduction to Automotive Shop Practices	3
AUTO 165	Automotive Engine Repair*	4
CET 105	Construction Methods	3
CET 129	Construction Management	3
CPCA 138	Windows for Microcomputers*	1
DRAF 123	Interpreting Machine Drawings*	2
DRAF 129	Interpreting Architectural Drawings	2
ELEC 120	Introduction to Electronics	3
ELEC 126	Microcomputer A+ Preparation	4
ELEC 133	Programmable Controllers	3
ENGR 180	Engineering Land Surveying I*	3
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
HVAC 123	Electromechanical Systems	4
INDT 125	Industrial Safety/OSHA 30	3
MFAB 152	Manufacturing Materials and Processes	3
MFAB 133	Gas Metal Arc Welding (GMAW) I*	3
MFAB 240	Metallurgy	2

**Total Program Hours: 64**

## Courses

### RRTC 123 Introduction to Conductor Service\* (4 Hours)

**Prerequisites:** Admission to the JCCC railroad JCCC NARS Director Approval operations program, conductor option, or

This is an introductory course for the conductor service option within the railroad operations program. Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors. 4 hrs. lecture, demonstration/wk. Selective admission program - see a counselor about special requirements.

### RRTC 175 Conductor Mechanical Operation\* (2 Hours)

**Prerequisites:** Admission to the JCCC railroad operations program, conductor option, or JCCC NARS Director approval

This course covers mechanical operations that relate to conductor service. Upon successful completion of this course, the student should be able to describe the importance and application of freight care mechanical policies and practices to ensure safe railroad operations. 2.5 hrs. lecture/wk. Selective admission program - see a counselor about special requirements.

### RRTC 261 Conductor Service\* (2 Hours)

**Prerequisites:** Admission to the JCCC railroad operations program, conductor option, or JCCC NARS Director approval

Upon successful completion of this course, the student should be able to describe and apply railroad organization and general operations, policies and practices to ensure railroad safety and basic responsibilities of conductors. This course includes safety and the general rules with which conductors must comply and teaches the techniques and administrative procedures conductors use on the job to perform safely and effectively. 2.5 hrs. lecture/wk. Selective admission program - see a counselor about special requirements.

### RRTC 263 General Code of Operating Rules\* (4 Hours)

**Prerequisites:** Admission to the JCCC railroad operations program, conductor option, and JCCC NARS Director approval

Conductors must maintain a thorough understanding of the General Code of Operating Rules (GCOR). This course provides an in-depth study of the GCOR. Upon completion of this course, the student should be able to demonstrate abilities to apply the General Code of Operating Rules to safe and efficient train movement and operations. 4 hrs. lecture/wk. Selective admission program - see a counselor about special requirements.

**RRTC 267 Conductor Field Application\* (4 Hours)**

**Prerequisites:** Admission to the JCCC railroad operations program, conductor option or National Academy of Railroad Sciences (NARS) Director Approval

Upon successful completion of this course, the student will have observed actual operations and be able to apply skills learned in classroom-based instruction to those operations. The student will observe and perform operations under the supervision of experienced conductor mentors in an actual field location.