

Railroad Mechanical Welding Certificate

This certificate is designed to address the training needs of railway mechanical welders. Upon successful completion of this program, you should be able to demonstrate safe operating procedures for welding applications, perform skill competencies involving a variety of processes and positions, passcode welding requirements according to AWS D15.1, and perform welding operations as needed.

JCCC's railroad industrial technology certificate program is open to BNSF employees and/or approved students.

Enrollment is subject to the approval of the BNSF Railway training director and JCCC division administrator.

(Major Code 3190; CIP Code 49.0208)

Railroad Science Program web page (<http://www.jccc.edu/academics/credit/railroad-science/>)

Program Learning Outcomes

Johnson County Community College (JCCC) is committed to offering high-quality affordable programs that focus on developing knowledge and skills conducive to life-long learning. Both the General Education Student Learning Outcomes (<https://www.jccc.edu/about/leadership-governance/administration/institutional-effectiveness-branch/outcomes-assessment/learning-outcomes.html>) and Institutional Learning Outcomes (<https://www.jccc.edu/about/leadership-governance/administration/institutional-effectiveness-branch/outcomes-assessment/institutional-learning-outcomes.html>) convey JCCC's approach to programmatic outcomes. Additionally, students who successfully complete the Railroad Mechanical Welding Certificate from JCCC will be able to:

- Demonstrate proper use the shielded metal arc welding (SMAW) and flux cored arc welding (FCAW) processes on pipe welds
- Properly use the gas metal arc welding (GMAW) and gas tungsten arc welding (GTAW) processes on sheet metal.
- Demonstrate shielded metal arc welding (SMAW) process on multi-pass groove welds in the horizontal (2G), vertical up (3G), and overhead (4G) positions.
- Properly use flux core arc welding (FCAW) process on multi-pass groove welds in the horizontal (2G), vertical up (3G), and overhead (4G) positions.

Certificate Requirements

Required Courses

Code	Title	Hours
RRIT 160	Basic Welding*	3
RRIT 162	Structural Stick Welding*	3
RRIT 164	Structural Wire Welding*	3
RRIT 166 or RRIT 168	Mechanical Welding Air Brake Pipe* Sheet Metal Welding*	3
Total Hours		12

Total Program Hours: 12

* This course has registration requirements.