

## Railroad Structural Welding Certificate

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This certificate is designed to address the training needs of railway structural 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 D1.5 and/or D15.1, and perform welding operations as needed.

JCCC's railroad industrial technology certificate program is **open only to BNSF employees**.

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

(Major Code 4530; 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 Structural Welding Certificate from JCCC will be able to:

- Demonstrate proper weld bead sequencing on multi-pass groove welds using shielded metal arc welding (SMAW)
- Compare and contrast the advantages and disadvantages of SMAW and FCAW for pile welding.
- Demonstrate proper weld process and procedures including electrodes, pre and post heat, SMAW and FCAW for pile welding
- Demonstrate shop safety and the safety rules required when using various welding and cutting processes.

### Certificate Requirements

#### Required Courses

Code	Title	Hours
RRIT 142	Structural Pile Welding*	3
RRIT 160	Basic Welding*	3
RRIT 162	Structural Stick Welding*	3
RRIT 164	Structural Wire Welding*	3
<b>Total Hours</b>		<b>12</b>

**Total Program Hours: 12**

\* This course has registration requirements.