# Reinforcing Ironwork

## Level 1

### Reinforcing Ironwork Level One

<table>
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<th>Curriculum Notes</th>
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<tr>
<td>• 192.5 Hours (includes Core)</td>
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<td>• Published: 2005</td>
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<td>• Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at <a href="http://www.nccer.org/irc">www.nccer.org/irc</a>.</td>
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<tr>
<td>• A Spanish translation is available. Please see NCCER’s online catalog for more information.</td>
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<tr>
<th>PAPERBACK</th>
<th>ISBN</th>
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#### MODULES

**Concrete Reinforcement** (40 Hours)
ISBN 978-0-13-228987-0
(Module ID 39101-05) Describes the selection and use of rebar, bar supports, and welded-wire fabric. Presents general procedures for cutting, bending, splicing, and tying rebar, and placement of steel in various types of footings, columns, walls, and slabs.

**Concrete Reinforcement Safety** (15 Hours)
(Module ID 39102-05) Focuses on safety topics of particular concern to the reinforcing ironworker, including rebar-related hazards, fall protection, use of positioning devices, PPE, excavations, and lifting/carrying techniques.

**Rigging Equipment** (50 Hours)
ISBN 978-0-13-228989-4
(Module ID 39103-05) Describes the use and inspection of basic equipment and hardware used in rigging, including slings, wire, rope, chains, and attaching hardware such as shackles, eyebolts, and hooks, as well as rigging knots.

## Level 2

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<tr>
<td>• 118.5 Hours</td>
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#### MODULES

**Foundations and Flatwork** (15 Hours)
(Module ID MT101) Teaches leadership skills required to supervise personnel. Discusses principles of project planning, scheduling, estimating, and management. Presents several case studies for student participation.

**Concrete Reinforcement** (22.5 Hours)
(Module ID 39104-05) Describes basic rigging and crane hazards and related safety procedures. Provides an overview of personnel lifting and lift planning, and introduces crane load charts and load balancing. Includes instructions for rigging and lifting pipe.

**Commercial Blueprints** (20 Hours)
(Module ID 39105-05) Explains the format and content of drawings typically found in a commercial drawings package.

**Oxyfuel Cutting** (17.5 Hours)
(Module ID 39106-05) Explains the safety requirements for oxyfuel cutting. Identifies equipment and setup requirements and explains how to light, adjust, and shut down oxyfuel equipment. Explains how to perform cutting techniques that include straight line, piercing, bevels, washing, and gouging.

**Manufactured Forms** (22.5 Hours)
(Module ID 27204-01) Covers the types of manufactured forms and form hardware systems used in the construction of walls, columns, deck and roof slabs, beams and girders, culverts, and highways. Includes information on flying forms, slipforms, shoring, and architectural finishes.

**Metal Decking** (10 Hours)
(Module ID 30116) Identifies decking types and profiles and how decking is packaged, shipped, and stored. Describes erecting decking and placing concrete safely. Explains the effects of deck penetrations and damage.

**Introductory Skills for the Crew Leader** (16 Hours)
(Module ID MT101) Teaches leadership skills required to supervise personnel. Discusses principles of project planning, scheduling, estimating, and management. Presents several case studies for student participation.

**Handling and Placing Concrete** (22.5 Hours)
(Module ID 27207-01) Covers the tools, equipment and procedures required for handling, placing, and finishing concrete at the job site. Describes joints made in concrete structures, the use of joint seals, and form removal procedures. Safety procedures for handling, placing, and finishing concrete are emphasized.