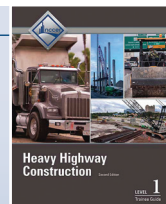


# Heavy Highway Construction

## L1 HEAVY HIGHWAY CONSTRUCTION



LEVEL 1

REVISED!

### Curriculum Notes

- 230 Hours (Includes 80 hours of *Core Curriculum* which is a prerequisite for completion and must be purchased separately. See p. 14 for ordering information.)
- Revised: 2017, Second Edition
- Basic Rigging (Module ID 00106-15) from *Core* is required for Level 1 completion.
- Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at [www.nccer.org/irc](http://www.nccer.org/irc).

### PAPERBACK

ISBN

Trainee Guide: \$67

978-0-13-498617-3

### MODULES

All of the modules listed below are included in the Trainee Guide. The following ISBN and pricing information is for ordering individual modules only.

#### Orientation to the Trade (7.5 Hours)

Trainee \$20 ISBN 978-0-13-448575-1  
 Instructor \$20 ISBN 978-0-13-448574-4  
 (Module ID 36101-17) Introduces the trainees to careers, equipment, and processes used in the construction of highways and bridges.

#### Identification of Equipment Used in Heavy Highway Construction (10 Hours)

Trainee \$20 ISBN 978-0-13-448579-9  
 Instructor \$20 ISBN 978-0-13-448578-2  
 (Module ID 36111-17) Describes the types of heavy equipment, utility equipment, and cranes used in the construction of bridges and highways. Trainees will be expected to recognize the equipment and describe its use.

#### Heavy Highway Construction Safety (5 Hours)

Trainee \$20 ISBN 978-0-13-448577-5  
 Instructor \$20 ISBN 978-0-13-448576-8  
 (Module ID 36110-17) Reviews the safety hazards and precautions associated with construction of highways and bridges. It also emphasizes the importance of following safety procedures in order to prevent accidents and injuries associated with working in hazardous places/conditions.

#### Work-Zone Safety (5 hours)

(Module ID 75104-13; from *Field Safety*)  
 Trainee \$20 ISBN 978-0-13-340361-9  
 Instructor \$20 ISBN 978-0-13-340370-1

#### Soils (10 Hours)

(Module ID 22308-13; from *Heavy Equipment Operations Level Two*)  
 Trainee \$20 ISBN 978-0-13-340328-2  
 Instructor \$20 ISBN 978-0-13-340338-1

#### Site Work (20 Hours)

(Module ID 22210-13; from *Heavy Equipment Operations Level Two*)  
 Trainee \$20 ISBN 978-0-13-340326-8  
 Instructor \$20 ISBN 978-0-13-340336-7

#### Excavation Math (17.5 Hours)

(Module ID 22207-13; from *Heavy Equipment Operations Level Two*)  
 Trainee \$20 ISBN 978-0-13-340323-7  
 Instructor \$20 ISBN 978-0-13-340334-3

#### Interpreting Civil Drawings (20 Hours)

(Module ID 22209-13; from *Heavy Equipment Operations Level Two*)  
 Trainee \$20 ISBN 978-0-13-340325-1  
 Instructor \$20 ISBN 978-0-13-340335-0

#### Rigging Practices (15 Hours)

(Module ID 38102-18; from *Basic Rigger*)  
 Trainee \$20 ISBN 978-0-13-498801-6  
 Instructor \$20 ISBN 978-0-13-498802-3

#### Crane Safety and Emergency Procedures

(25 Hours)  
 (Module ID 21106-18; from *Mobile Crane Operations, Level One*)  
 Trainee \$20 ISBN 978-0-13-498819-1  
 Instructor \$20 ISBN 978-0-13-498818-4

#### Basic Principles of Cranes (15 Hours)

(Module ID 21102-18; from *Mobile Crane Operations, Level One*)  
 Trainee \$20 ISBN 978-0-13-498816-0  
 Instructor \$20 ISBN 978-0-13-498815-3

#### Crane Communications (10 Hours)

(Module ID 53101-18; from *Signal Person*)  
 Trainee \$20 ISBN 978-0-13-498800-9  
 Instructor \$20 ISBN 978-0-13-498814-6

## L2 HEAVY HIGHWAY CONSTRUCTION

LEVEL 2

### Curriculum Notes

NEW!

- 207.5 Hours
- Published: 2017
- Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at [www.nccer.org/irc](http://www.nccer.org/irc).
- For more information, visit [www.nccer.org/book-updates](http://www.nccer.org/book-updates).

### PAPERBACK

ISBN

Trainee Guide: \$97

978-0-13-498811-5

### MODULES

All of the modules listed below are included in the Trainee Guide. The following ISBN and pricing information is for ordering individual modules only.

#### Introduction to Earthmoving (12.5 Hours)

(Module ID 22201-12; from *Heavy Equipment Operations Level One*)  
 Trainee \$20 ISBN 978-0-13-292310-1  
 Instructor \$20 ISBN 978-0-13-292317-0

#### Finishing and Grading (25 Hours)

(Module ID 22307-14; from *Heavy Equipment Operations Level Three*)  
 Trainee \$20 ISBN 978-0-13-377955-4  
 Instructor \$20 ISBN 978-0-13-377978-3

#### Trenching and Excavating (15 Hours)

(Module ID 27306-14; from *Carpentry Level Three*)  
 Trainee \$20 ISBN 978-0-13-378678-1  
 Instructor \$20 ISBN 978-0-13-378689-7

#### Plant Operations (7.5 Hours)

Trainee \$20 ISBN 978-0-13-448584-3  
 Instructor \$20 ISBN 978-0-13-448583-6  
 (Module ID 36107-17) Explains the operation of plants used to manufacture concrete and asphalt paving and describes the different types aggregates.

#### Paving (12.5 Hours)

Trainee \$20 ISBN 978-0-13-448586-7  
 Instructor \$20 ISBN 978-0-13-448585-0  
 (Module ID 36108-17) Describes paving operations, paving equipment, recycling processes, and quality control requirements for both concrete and hot-mix asphalt paving.

#### Horizontal Formwork (15 Hours)

(Module ID 27309-14; from *Carpentry Level Three*)  
 Trainee \$20 ISBN 978-0-13-378682-8  
 Instructor \$20 ISBN 978-0-13-378693-4

#### Vertical Formwork (22.5 Hours)

(Module ID 27308-14; from *Carpentry Level Three*)  
 Trainee \$20 ISBN 978-0-13-378681-1  
 Instructor \$20 ISBN 978-0-13-378692-7

#### Reinforcing Concrete (15 Hours)

(Module ID 27304-14; from *Carpentry Level Three*)  
 Trainee \$20 ISBN 978-0-13-378679-8  
 Instructor \$20 ISBN 978-0-13-378690-3

#### Working with Concrete (15 Hours)

Trainee \$20 ISBN 978-0-13-448582-9  
 Instructor \$20 ISBN 978-0-13-448581-2  
 (Module ID 36112-17) Introduces the trainees to the safety concerns associated with concrete, as well as concrete testing, concrete admixtures, and the proper procedure for placing concrete.

#### Trade Drawings One (12.5 Hours)

(Module ID 30108-11; from *Ironworking Level One*)  
 Trainee \$20 ISBN 978-0-13-215103-0  
 Instructor \$20 ISBN 978-0-13-215121-4

#### Structural Ironworking One (7.5 Hours)

(Module ID 30109-11; from *Ironworking Level One*)  
 Trainee \$20 ISBN 978-0-13-215104-7  
 Instructor \$20 ISBN 978-0-13-215122-1

#### Bridge Construction (20 Hours)

Trainee \$20 ISBN 978-0-13-448588-1  
 Instructor \$20 ISBN 978-0-13-448587-4  
 (Module ID 36201-17) Describes the common types of bridges, along with the components that make up the substructure and superstructure of a bridge. The module also discusses the types of materials used in bridge construction, presents basic surveying equipment and practices, and explains how to interpret bridge drawings.

## Heavy Highway Level 2 (continued)

### Bridge Foundations (10 Hours)

Trainee \$20 ISBN 978-0-13-448591-1  
Instructor \$20 ISBN 978-0-13-448590-4  
(Module ID 36202-17) Describes the types of footings used to support bridges, as well as various types of piles and pile-driving methods. Safety practices associated with pile driving on land and in marine environments are also covered, along with environmental protection issues.

### Bridge Formwork (22.5 Hours)

Trainee \$20 ISBN 978-0-13-448593-5  
Instructor \$20 ISBN 978-0-13-448592-8  
(Module ID 36203-17) Describes the forms used to fabricate concrete walls, columns, footings, pile caps, and other bridge structures. This module covers site-built and manufactured forming systems and includes instructions for cleaning and storing forms.

## Hydroblasting



20 Hours  
Revised: 2012, Second Edition  
Module ID 43101-12

### PAPERBACK

### ISBN

Trainee Guide: \$22

978-0-13-294870-8

Instructor's Guide: \$22

978-0-13-294915-6

- Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at [www.nccer.org/irc](http://www.nccer.org/irc).

Includes the newest waterjet safety technologies, methods, and equipment. Also provides expanded information on shrouds, shielding, chocking, and grounding.