

## L1 CONCRETE FINISHING

LEVEL 1

### Curriculum Notes

- 160 Hours (Includes 72.5 hours of *Core Curriculum*, which is a prerequisite for Level 1 completion and must be purchased separately. See p. 11 for ordering information.)
- Published: 1998
- A Spanish translation is available. Please see NCCER's online catalog for more information.
- Instructor's Guide includes access code to download TestGen software, module exams, and performance profile sheets from [www.nccerirc.com](http://www.nccerirc.com).

### PAPERBACK

ISBN

Trainee Guide: \$67

978-0-13-010246-1

Instructor's Guide: \$67

978-0-13-010249-2

### MODULES

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

#### Introduction to Concrete Construction and Finishing (10 Hours)

Trainee \$20 ISBN 978-0-13-010253-9  
 Instructor \$20 ISBN 978-0-13-010263-8  
 (Module ID 23101) Provides an introduction to the methods and procedures used in concrete finishing. Introduces terms of the trade and tools and equipment used to place, finish, and cure concrete. Explains methods and techniques for constructing concrete structures.

#### Safety Requirements (5 Hours)

Trainee \$20 ISBN 978-0-13-010254-6  
 Instructor \$20 ISBN 978-0-13-010264-5  
 (Module ID 23102) Explains safety requirements for concrete construction and finishing. Provides information on OSHA requirements with regard to hazard communication, fall protection, and use of personal protective equipment. Covers topics such as general work site safety, use of chemicals, and safe use of hand and power tools.

#### Properties of Concrete (10 Hours)

Trainee \$20 ISBN 978-0-13-010255-3  
 Instructor \$20 ISBN 978-0-13-010266-9  
 (Module ID 23103) Introduces the properties of concrete and the components that make up the concrete mixture. Describes chemical and physical properties of cement, aggregate, and admixtures. Explains basic tests used to determine properties such as slump and ultimate strength.

#### Tools and Equipment (7.5 Hours)

Trainee \$20 ISBN 978-0-13-010257-7  
 Instructor \$20 ISBN 978-0-13-010267-6  
 (Module ID 23104) Describes tools and equipment used in the production, placing, and curing of concrete. Explains safe operation and maintenance requirements. Provides opportunities for hand tool operation and demonstration of larger pieces of power equipment.

#### Preparing for Placement (12.5 Hours)

Trainee \$20 ISBN 978-0-13-010258-4  
 Instructor \$20 ISBN 978-0-13-010268-3  
 (Module ID 23105) Details the methods and procedures used to prepare for placing concrete. Covers site layout, forms requirements, and subgrade preparation. Describes requirements for joints and reinforcement. Explains how to order concrete from a mixing or batch plant.

#### Placing Concrete (12.5 Hours)

Trainee \$20 ISBN 978-0-13-010259-1  
 Instructor \$20 ISBN 978-0-13-010269-0  
 (Module ID 23106) Presents requirements and methods for properly placing concrete. Includes information on conveying and placing fresh concrete using equipment such as wheelbarrows, pumps, and conveyors. Describes techniques for spreading, consolidating, and striking off concrete.

#### Finishing, Part One (20 Hours)

Trainee \$20 ISBN 978-0-13-010250-8  
 Instructor \$20 ISBN 978-0-13-010260-7  
 (Module ID 23107) Describes basic finishing techniques for slabs and other horizontal structures. Explains the proper use of floats, trowels, edgers, and groovers. Discusses requirements for cutting joints using different types of saws. Provides hands-on practice for finishing concrete slabs.

#### Curing and Protecting Concrete (5 Hours)

Trainee \$20 ISBN 978-0-13-010261-4  
 Instructor \$20 ISBN 978-0-13-010271-3  
 (Module ID 23108) Introduces methods and procedures used in curing and protecting concrete. Covers curing commonly performed for both horizontal and vertical placement. Describes techniques for protecting concrete during hot and cold weather.

#### Introduction to Troubleshooting (5 Hours)

Trainee \$20 ISBN 978-0-13-010262-1  
 Instructor \$20 ISBN 978-0-13-010272-0  
 (Module ID 23109) Describes problems of placing, finishing, and curing. Defines symptoms of problems and discusses their causes. Presents ways to reduce or eliminate these problems.

## L2 CONCRETE FINISHING

LEVEL 2

### Curriculum Notes

- 167.5 Hours
- Published: 1999
- Instructor's Guide includes access code to download TestGen software, module exams, and performance profile sheets from [www.nccerirc.com](http://www.nccerirc.com).

### PAPERBACK

ISBN

Trainee Guide: \$97

978-0-13-014860-5

Instructor's Guide: \$97

978-0-13-014872-8

### MODULES

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

#### Properties of Concrete, Part Two (10 Hours)

Trainee \$20 ISBN 978-0-13-015047-9  
 Instructor \$20 ISBN 978-0-13-015057-8  
 (Module ID 23201) Describes the physical and chemical properties of materials used in a concrete mix. Includes descriptions of chemical and mineral admixtures, lightweight concrete, high strength concrete, flowable fill, and types of paving materials. Discusses expected results of the use of admixtures.

#### Estimating Concrete Quantities (10 Hours)

Trainee \$20 ISBN 978-0-13-015048-6  
 Instructor \$20 ISBN 978-0-13-015059-2  
 (Module ID 23202) Covers the methods and techniques used in estimating materials quantities for concrete construction. Explains the use of plans and drawings as well as math calculations. Gives example calculations for estimating quantities of concrete for curb and gutter, stairs, slab, wall footings, and columns.

#### Forming (20 Hours)

Trainee \$20 ISBN 978-0-13-015049-3  
 Instructor \$20 ISBN 978-0-13-015050-9  
 (Module ID 23203) Describes forming requirements. Includes types of forms, forming materials, use of release agents, form accessories, placement of anchors and embedments, and form removal. Highlights safety requirements with emphasis on reshoring precautions and procedures.

#### Site Concrete (30 Hours)

Trainee \$20 ISBN 978-0-13-015040-0  
 Instructor \$20 ISBN 978-0-13-015061-5  
 (Module ID 23204) Includes descriptions and techniques for forming, constructing, and finishing steps and stairs, curbs and gutters, sidewalks and driveways, and low vertical structures.

#### Architectural Finishes (20 Hours)

Trainee \$20 ISBN 978-0-13-015051-6  
 Instructor \$20 ISBN 978-0-13-015062-2  
 (Module ID 23205) Introduces architectural concrete and architectural finishes. Discusses the surface classes of architectural concrete. Includes special surface treatments, special forms, and form liners.

#### Industrial Floors (22.5 Hours)

Trainee \$20 ISBN 978-0-13-015052-3  
 Instructor \$20 ISBN 978-0-13-015063-9  
 (Module ID 23206) Describes the construction and finishing of this special class of concrete work, including special tools and finishing techniques. Explains procedures for preparation, joint layout, placing, finishing, and curing.

#### Superflat Floors (22.5 Hours)

Trainee \$20 ISBN 978-0-13-015053-0  
 Instructor \$20 ISBN 978-0-13-015064-6  
 (Module ID 23207) Presents requirements for constructing superflat floors and techniques used to achieve required results. Explains procedures for preparation, placing, finishing, and curing. Describes techniques for measuring tolerances of slabs and methods for troubleshooting during placement and finishing. Explains repair procedures.

#### Surface Treatments (12.5 Hours)

Trainee \$20 ISBN 978-0-13-015054-7  
 Instructor \$20 ISBN 978-0-13-015065-3  
 (Module ID 23208) Provides an overview of surface treatments applied to concrete structures. Includes the requirements for and application of dry shakes, self-leveling topping, epoxies, and shotcrete.

#### Quality Control (10 Hours)

Trainee \$20 ISBN 978-0-13-015055-4  
 Instructor \$20 ISBN 978-0-13-015067-7  
 (Module ID 23209) Introduces the ideas and tasks related to sampling, testing, and inspecting concrete and its component materials. Describes types of specifications, along with the standard procedures for sampling and testing concrete mix. Covers inspection procedures for forms, construction methods, and finishing.

#### Making Repairs (10 Hours)

Trainee \$20 ISBN 978-0-13-015056-1  
 Instructor \$20 ISBN 978-0-13-015068-4  
 (Module ID 23210) Explains the requirements for making repairs to concrete based on specific problems. Explains and demonstrates repair methods. Describes the use of special tools and materials.