

# Field Training Catalog





**YOUR FIELD TRAINING TEAM**

Howard Davis

205-296-2739

hdavis@brasfieldgorrie.com

Elsa Penso

205-873-1691

epenso@brasfieldgorrie.com

CJ Curtis

321.202.6046

ccurtis@brasfieldgorrie.com

Taylor Carter

470.553.5414

tcarter@brasfieldgorrie.com



## CONTENTS

Industrial Carpentry

Basic Field Engineer

Supervision 100

Supervision 200

Project Team Development

Foreman Development

Field Engineering Development

CAD 101

CAD 201

Revit 101

Revit 201

Qualified Rigger and Signal Person

# INDUSTRIAL CARPENTRY

## CURRICULUM



### PURPOSE

Our DOL-approved Industrial Carpenter Program uses the National Center for Construction Education and Research's NCCERconnect platform and provides the opportunity for our entry-level employees to become certified through the NCCER in the role of Industrial Carpenter. Our NCCER- accredited Field Training Center delivers this program through distance learning and on-the-job training. The one-year curriculum includes incentives for participants to complete the training and become certified by the NCCER.

### SPECIFIC OBJECTIVES

- Introduction to Brasfield & Gorrie's safety culture and safety policies
- Introduction to Brasfield & Gorrie's history and company culture
- Learn to read and use measurement tools properly
- Learn the basic principles of forming concrete including foundations, vertical and horizontal formwork
- Learn how to properly use hand and power tools
- Learn basic construction math skills

### PARTICIPATION

- Participants are nominated by their Superintendent

### BOOKS AND MATERIALS

- NCCER CORE Curriculum
- Carpentry Levels 1, 3, and 4

### SCHEDULE OF TOPICS

ORIENTATION DAY (in person class)	<ul style="list-style-type: none"> <li>▪ Safety</li> <li>▪ Overview of Industrial Carpentry Program Online/ Performance requirements</li> <li>▪ History of Brasfield &amp; Gorrie</li> <li>▪ Setup/overview of how to use the iPad</li> <li>▪ Setup Email account</li> <li>▪ Setup NCCERconnect</li> <li>▪ How to complete NCCER module coursework</li> </ul>
1 <sup>st</sup> QUARTER (Online)	<ul style="list-style-type: none"> <li>▪ Core: Basic Safety</li> <li>▪ Core: Introduction to Construction Math</li> <li>▪ Core: Introduction to Hand Tools</li> <li>▪ Core: Introduction to Power Tools</li> <li>▪ Core: Introduction to Construction Drawings</li> <li>▪ Core: Introduction to Basic Rigging</li> <li>▪ Core: Basic Communication Skills</li> <li>▪ Core: Basic Employability Skills</li> <li>▪ Core: Introduction to Material Handling</li> </ul>
2 <sup>nd</sup> QUARTER (Online)	<ul style="list-style-type: none"> <li>▪ Level 1: Orientation to the Trade</li> <li>▪ Level 1: Building Materials, Fasteners, and Adhesives</li> <li>▪ Level 1: Hand and Power Tools</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Level 1: Introduction to Construction Drawings, Specification, and Layout</li> <li>▪ Level 1: Floor Systems</li> <li>▪ Level 1: Wall Systems</li> <li>▪ Level 1: Ceiling Joist and Roof Framing</li> <li>▪ Level 1: Introduction to Building Envelope Systems</li> <li>▪ Level 1: Basic Stair Layout</li> </ul>
<p>PERFORMANCE WEEK (In-person class)</p>	<p>DAY 1</p> <ul style="list-style-type: none"> <li>▪ Overview of different Wall Form systems</li> <li>▪ Construct Wall Form with block-out, rebar, and keyway</li> </ul> <p>DAY 2</p> <ul style="list-style-type: none"> <li>▪ How to layout an Anchor Bolt Template</li> <li>▪ Construct Footing and Set Anchor Bolts</li> <li>▪ Stair Layout</li> <li>▪ Layout Stringer</li> </ul> <p>DAY 3</p> <ul style="list-style-type: none"> <li>▪ Qualified Rigger and Signal Person Training</li> </ul> <p>DAY 4</p> <ul style="list-style-type: none"> <li>▪ Overview of module coursework completed</li> <li>▪ Participants will take a preassessment to help see what modules they need to study.</li> <li>▪ Register for access to 4<sup>th</sup> quarter curriculum</li> </ul>
<p>3<sup>rd</sup> QUARTER (Online)</p>	<ul style="list-style-type: none"> <li>▪ Level 3: Properties of Concrete</li> <li>▪ Level 3: Rigging Equipment</li> <li>▪ Level 3: Rigging Practices</li> <li>▪ Level 3: Trenching and Excavating</li> <li>▪ Level 3: Reinforcing Concrete</li> <li>▪ Level 3: Foundations and Slabs-on-Grade</li> <li>▪ Level 3: Vertical Formwork</li> <li>▪ Level 3: Horizontal Formwork</li> <li>▪ Level 3: Handling and Placing Concrete</li> <li>▪ Level 3: Tilt-Up Wall Panels</li> </ul>
<p>4<sup>th</sup> QUARTER (Online)</p>	<ul style="list-style-type: none"> <li>▪ Level 4: Site Layout One: Differential Leveling</li> <li>▪ Level 4: Site Layout Two: Angular and Distance Measurement</li> <li>▪ Level 4: Advanced Roof Systems</li> <li>▪ Level 4: Advanced Wall Systems</li> <li>▪ Level 4: Advanced Stair Systems</li> <li>▪ Level 4: Introduction to Construction Equipment</li> <li>▪ Level 4: Introduction to Oxyfuel Cutting and Arc Welding</li> <li>▪ Level 4: Site Preparation</li> <li>▪ Level 4: Fundamentals of Crew Leadership</li> </ul>
<p>GRADUATION WEEK (In-person class)</p>	<p>Day 1</p> <ul style="list-style-type: none"> <li>▪ Industrial Carpenter Written Exam</li> <li>▪ Industrial Carpenter Performance Exam</li> </ul> <p>Day 2</p> <ul style="list-style-type: none"> <li>▪ Graduation Ceremony</li> </ul>

# BASIC FIELD ENGINEER CURRICULUM



## PURPOSE

Our Basic Field Engineering class is designed to help a rodman gain the skills necessary to transition into the role of field engineer. Participants attend four one-week sessions over a one-year period at the Field Training Center.

## SPECIFIC OBJECTIVES

- Introduction to Brasfield & Gorrie's history and company culture
- Understand Brasfield & Gorrie's safety culture and safety policies
- Learn construction math and how to apply to layout principles
- Learn to read construction drawings
- Learn basic instrument usage and maintenance
- Understand and apply construction layout best practices
- Introduction to the latest construction layout technologies

## PARTICIPATION

- Participants are nominated by their Superintendent or Field Engineer
- Employees in the role of rodman are preferred; if open seats remain the class is open to all field employees

## BOOKS AND MATERIALS

- Construction Surveying and Layout (textbook)
- NCCER Core Curriculum and Basic Layout

## SCHEDULE OF TOPICS

WEEK 1 (BFE-W1)	<ul style="list-style-type: none"><li>▪ Introduction to the Basic Field Engineer Program</li><li>▪ Introduction to Construction Math</li><li>▪ Introduction to Surveying</li><li>▪ Using a Builder's Level to Close a Loop</li><li>▪ Geometry</li><li>▪ Introduction to Plan Reading</li></ul>
WEEK 2 (BFE-W2)	<ul style="list-style-type: none"><li>▪ Cleaning and Calibrating Equipment</li><li>▪ Coordinate Geometry</li><li>▪ How to Perform a Traverse</li><li>▪ Using a Total Station to Perform a Traverse</li><li>▪ Reading Plans and Building a Scale Replica Model</li></ul>
WEEK 3 (BFE-W3)	<ul style="list-style-type: none"><li>▪ Layout Techniques</li><li>▪ Creating a Control Network</li><li>▪ Applying Coordinate Systems to a Building</li><li>▪ Setting up and Using a Rotating Laser for Excavation</li><li>▪ Radius Geometry</li></ul>
WEEK 4 (BFE-W4)	<ul style="list-style-type: none"><li>▪ Traverse, Inverse, and Point Creation Review</li><li>▪ Test Review</li><li>▪ Test and Graduation</li></ul>

# SUPERVISION 100

## CURRICULUM



### PURPOSE

Supervision 100 was developed in house to give lead craft people the skills necessary to progress to the foreman level. Participants attend five two-day sessions over a one-year period, gaining exposure to information from subject matter experts from across our company and within our industry.

### SPECIFIC OBJECTIVES

- Understand Brasfield & Gorrie’s history and company culture
- Understand Brasfield & Gorrie’s safety culture and know how to apply safety policies
- Learn how to manage and influence employees’ safety performance
- Understand and apply Brasfield & Gorrie’s personnel management principles
- Use and understand basic planning skills to plan for safety, production, and quality
- Be able to quantify man hours, volumes and other quantities associated with our industry
- Obtain complete understanding of Brasfield and Gorrie’s expectations for the foreman role

### PARTICIPATION

- Lead Craftspeople are nominated for this course by their Superintendent
- General Superintendents select participants from those nominees

### SCHEDULE OF TOPICS

SESSION 1 (100-1)	<ul style="list-style-type: none"> <li>▪ Role of Foreman</li> <li>▪ Planning for Safety: JSSP/CWP/Introduce Safety Dept.</li> <li>▪ Construction Math: Quantities/right triangles/slopes/trenching</li> <li>▪ Reading Plans</li> <li>▪ Reading specifications and submittals</li> <li>▪ Mobilization</li> <li>▪ Site work</li> <li>▪ Leveling principles</li> <li>▪ Reading a soils report</li> </ul>
SESSION 2 (100-2)	<ul style="list-style-type: none"> <li>▪ Basic concrete PPT</li> <li>▪ Review “ACI Guide to Quality Concrete”</li> <li>▪ Planning, placing, and quantifying Rebar</li> <li>▪ Foundation formwork</li> <li>▪ Figuring volumes</li> </ul>
SESSION 3 (100-3)	<ul style="list-style-type: none"> <li>▪ Vertical Formwork: Crew Size/Amount of Forms/Pour Heights/Tolerances/Quantities</li> <li>▪ Horizontal Formwork: Types of Slabs/Types of Forms/Shoring/Re-Shoring/Re-Use Quantities/Crew Size</li> <li>▪ Cranes and Hoisting: Types/Capacities/Set up/Planning/Production/Dismantling</li> <li>▪ Planning Activity (Cozy Condo): In Groups/Crew Size/Schedule</li> <li>▪ Tilt Wall Construction</li> <li>▪ Precast Construction: Architectural/Structural</li> </ul>
SESSION 4 (100-4)	<ul style="list-style-type: none"> <li>▪ Qualified Rigger and Signal Person: Practical and Written Testing</li> <li>▪ Steel Erection/Welding</li> </ul>

SESSION 5 (100-5)

- Masonry
- Cutting/Welding Activity
- Quality Control
- Building Envelope
- Drywall Framing and Hanging
- Doors and Hardware
- MEP
- Motivating Employees
- Legal/HR: Hiring policies/Ethics
- General Superintendent talk: Going Forward/Expectations/Leadership



# SUPERVISION 200

## CURRICULUM



### PURPOSE

Supervision 200 was developed in house to give Foremen and Field Engineers the skills necessary to progress to the Superintendent level. Participants attend five two-day sessions over a one-year period, learning from subject matter experts from across our company and within our industry.

### SPECIFIC OBJECTIVES

- Understand Brasfield & Gorrie's safety culture
- Learn how to manage and influence subcontractor and Brasfield & Gorrie safety performance
- Be able to communicate Brasfield & Gorrie's safety policies and culture externally
- Understand and model Brasfield & Gorrie's leadership characteristics
- Understand how to build and manage teams
- Understand and improve basic communication skills
- Utilize latest Brasfield & Gorrie technology and software
- Learn to use Brasfield & Gorrie's planning and scheduling tools and be introduced to those departments

### PARTICIPATION

- Participants are nominated by general superintendents and reviewed by the field support group

### BOOKS AND MATERIALS

- Excel workbook
- The 5 Dysfunctions of a Team

### SCHEDULE OF TOPICS

SESSION 1 (200-3)	<ul style="list-style-type: none"><li>▪ Introductions/Expectations/Company Organization</li><li>▪ Issue Laptops: Sign-in/Email/Connect/Concur</li><li>▪ Review True Blue: Operations Manual/On-site supervision/Field purchasing/Business Plan</li><li>▪ Personal Productivity</li><li>▪ The Construction Process: Business Development to Punchout/Delivery methods</li><li>▪ Communication: Written/Oral/Active listening</li><li>▪ Motivating Employees: Recruiting/Proper orientation/Pay scale</li></ul>
SESSION 2 (200-2)	<ul style="list-style-type: none"><li>▪ Owners Contract: Completion/LD's</li><li>▪ 3D Modeling</li><li>▪ Basics of Excel: Building a Spreadsheet/Work Quantities by Division</li><li>▪ Quantify Division 2 (Mini-Warehouse)</li><li>▪ Quantify Division 3 (Mini-Warehouse)</li><li>▪ Quantify Remaining Work (Mini-Warehouse)</li><li>▪ Project scheduling</li></ul>
SESSION 3 (200-3)	<ul style="list-style-type: none"><li>▪ Job Start Up</li><li>▪ Site Utilization</li><li>▪ Onboarding Subs: Start Up Meeting/Preparing for Sub's Success/Manpower</li></ul>

	<ul style="list-style-type: none"> <li>▪ QC/QA B&amp;G</li> <li>▪ Conflict Resolution</li> <li>▪ Last Planner: Planning Session (Mini-Warehouse)</li> <li>▪ Safety: Department Organization/SHEMS on computer/Safety Committees</li> </ul>
SESSION 4 (200-4)	<ul style="list-style-type: none"> <li>▪ B&amp;G Equipment and Supply: Organization/How they fit in</li> <li>▪ Managing Equipment: Maintenance/equipment logs</li> <li>▪ Selecting equipment: Estimate vs. need/production</li> <li>▪ General Equipment safety: Utilities/trenching &amp; excavating/spotters/exclusion zones</li> <li>▪ B&amp;G Cranes: overview/crane selection/estimate vs. need/crane selection/preparing for crane/operator requirements</li> <li>▪ Crane Lift Plan</li> <li>▪ Crane Safety</li> <li>▪ Training a Successor</li> <li>▪ 5 Dysfunctions of a Team Workshop</li> </ul>
SESSION 5 (200-5)	<ul style="list-style-type: none"> <li>▪ Reporting/Administration: Daily reports/quantities/payroll/project metric dashboard/transfers/living allowances/expense reports.</li> <li>▪ Company Communications: RFI's/delays/sub meetings/change orders</li> <li>▪ Human Relations Dept.: Posting/hiring/orientation/terminations/written warnings/ethics</li> <li>▪ Punchout/closeout</li> </ul>

# PROJECT TEAM DEVELOPMENT CURRICULUM



## PURPOSE

The Project Team Development class is offered every 6 months with topics developed by the Field Training Committee. It is designed to bring Project Managers and Superintendents together in a collaborative environment for the purpose of building better teams and keeping our field leaders abreast of new company led initiatives and policies, and new and innovative concepts within the construction industry.

## SPECIFIC OBJECTIVES

- Build better project teams
- Communicate corporate strategies and policy changes
- Promote peer to peer learning
- Introduce new and innovative concepts and tools within the construction industry
- Build better leaders within Brasfield & Gorrie participation
- Open to all foremen

## PARTICIPATION

- Open to all project leaders and office employees interested in attending

## OFFERINGS

- 1 full day
- Specific dates decided every 6 months by field training committee
- Offered in 7 different offices
- Multiple offerings in large offices

# FOREMAN DEVELOPMENT CURRICULUM



## PURPOSE

The Foreman Development class is offered every 6 months with topics developed by the Field Training Committee. It is designed to bring Foremen together in a collaborative environment for the purpose of building better teams and keeping our Field Leaders abreast of new company led initiatives and policies, and new and innovative concepts within the construction industry.

## SPECIFIC OBJECTIVES

- Build better project teams
- Communicate corporate strategies and policy changes
- Promote peer-to-peer learning
- Introduce new and innovative concepts and tools within the construction industry
- Build better leaders within Brasfield & Gorrie participation
- Open to all field engineers

## PARTICIPATION

- Open to all foremen

## OFFERINGS

- 1 full day
- Specific dates decided every 6 months by field training committee
- Offered in 5 different offices
- Multiple offerings in large offices

# FIELD ENGINEERING DEVELOPMENT CURRICULUM



## PURPOSE

The Field Engineer Development class is offered every 6 months with Topics developed by the Field Engineer Steering Committee. It is designed to bring Field Engineers together in a collaborative environment for the purpose of building better teams and keeping our Field Leaders abreast of new company led initiatives and policies, and new and innovative concepts within the construction industry.

## SPECIFIC OBJECTIVES

- Build better project teams
- Communicate corporate strategies and policy changes
- Promote peer to peer learning
- Introduce new and innovative concepts and tools within the construction industry
- Build better leaders within Brasfield & Gorrie

## PARTICIPATION

- Open to all field engineers

## OFFERINGS

- 2 full days
- Specific dates decided every 6 months by Field Training Committee
- Offered in 3 different offices

# CAD 101

## CURRICULUM



### PURPOSE

Our CAD 101 is intended to give a basic understanding of CAD programs in general and Carlson in particular. This class will start at the very basics and build up to being able to create 3D drawings. Participants attend 2 one-day in-person classes or 6 two-hour virtual sessions.

### SPECIFIC OBJECTIVES

- Introduction to the User Interface, Navigation and Customization
- Learn to Use Basic Shape Commands
- Using Elevation in Drawing
- Learn the Basic Best practices

### SCHEDULE OF TOPICS

CAD 201-DAY 1	<ul style="list-style-type: none"><li>▪ The History of CAD</li><li>▪ How to Open CAD Programs</li><li>▪ Overview of the User Interface</li><li>▪ Customization</li><li>▪ Exercises on Basic Drawing and Shapes</li></ul>
CAD 201-DAY 2	<ul style="list-style-type: none"><li>▪ Using the Basics to Create a 3D Foundation Drawing</li><li>▪ Turning a Square/Rectangle into a Cubic Shape</li><li>▪ Copying and Pasting</li><li>▪ Quality Control in Drawing</li></ul>

# CAD 201

## CURRICULUM



### PURPOSE

Our CAD 201 is intended to give an advanced understanding of CAD programs in general and Carlson in particular. This class will expand on the basic CAD knowledge brought from the CAD 101 class or previous experience. It is preferred that students complete the CAD 101 class prior to enrolling. Participants attend 2 one-day in-person classes or 6 two-hour virtual sessions.

### SPECIFIC OBJECTIVES

- Introduction to Surface Usage and Manipulation
- Understanding What Blocks are and How to Use Them
- What Are External References and When and How to Use Them
- Downloading and Understanding the Leica iCon Simulator
- Introduction to the Best practices of Using CAD

### PARTICIPATION

- Participants are nominated by their Superintendent or Field Engineer
- Employees in the role of rodman are preferred; if open seats remain the class is open to all field employees

### BOOKS AND MATERIALS

- Construction Surveying and Layout (textbook)
- NCCER Core Curriculum and Basic Layout

### SCHEDULE OF TOPICS

CAD 201-DAY 1	<ul style="list-style-type: none"><li>▪ Installing the iCon Simulator</li><li>▪ Using View Ports</li><li>▪ Creating a 'Master Template'</li><li>▪ External References</li></ul>
CAD 201-DAY 2	<ul style="list-style-type: none"><li>▪ Explanation of 'Blocks'</li><li>▪ Tempering the Explode Command</li><li>▪ Creating and Using Surfaces</li><li>▪ Cleaning up Files</li></ul>

# REVIT 101

## CURRICULUM



### PURPOSE

Our Revit 101 course is intended to give a basic understanding of the Building Modeling program Revit. This class will start at the very basics and build up to being able to create 3D building models. Participants attend two one day in person classes or 6 two-hour virtual sessions.

### SPECIFIC OBJECTIVES

- User interface navigation and customization
- Finding and using basic shape commands
- Understanding what a family is
- Introduction into the best practices when using Revit

### SCHEDULE OF TOPICS

REVIT 101-DAY 1	<ul style="list-style-type: none"><li>▪ The History of Revit</li><li>▪ Quirks of Revit You Need to be Aware of</li><li>▪ User Interface Navigation and Customization</li><li>▪ Properties Pallet and Project Browser</li><li>▪ The Concept That Everything is Connected</li><li>▪ Navigating the Different Views</li><li>▪ Finding and Loading Families</li><li>▪ Witness Lines</li></ul>
REVIT 101-DAY 2	<ul style="list-style-type: none"><li>▪ Duplicating and Modifying Families</li><li>▪ Adding Elements</li><li>▪ Aligning Elements</li><li>▪ Making Models Coordinate Correct</li><li>▪ Splitting Slab Pours</li><li>▪ Exporting</li></ul>



# REVIT 201

## CURRICULUM



### PURPOSE

Our Revit 201 course is intended to give a more advanced understanding of the Building Modeling program, Revit. This class will pick up where the 101 class left off giving the attendee a deeper understanding of the Building Model and what can be done with it. Participants attend two one day in person classes or 6 two-hour virtual sessions.

### SPECIFIC OBJECTIVES

- Understanding the Central Model Concept
- Learn to recognize work-sharing and cloud storage
- Introduction to basic model scrubbing
- Learn how to create schedules and what these are used for

### SCHEDULE OF TOPICS

REVIT 201-DAY 1	<ul style="list-style-type: none"><li>▪ The General Rule for Central Models</li><li>▪ The How and Why of Model Scrubbing</li><li>▪ The Level of Detail Concept</li><li>▪ Organization of the Views</li><li>▪ How to Use the Visibility Graphics Overrides</li><li>▪ Schedules</li><li>▪ Adding Parameters</li><li>▪ Color Coding</li><li>▪ Linking CAD and Revit Files</li></ul>
REVIT 201-DAY 2	<ul style="list-style-type: none"><li>▪ Autodesk Point Layout Tools</li><li>▪ Connecting Pipe</li><li>▪ Slab Analysis</li><li>▪ Modifying Sub Elements</li></ul>

# QUALIFIED RIGGER AND SIGNAL PERSON CURRICULUM



## PURPOSE

Brasfield & Gorrie's Qualified Rigger and Signal Person training is designed to exceed the OSHA requirements by giving participants the OSHA requirements and company best practices. Our QR/QS training is a full day delivered either in the Field Training Center or onsite, depending on the need. Participants are given written and performance examinations at the end of each session, with successful participants receiving company credentials. This class is required for all personnel involved in hoisting activities.

## SPECIFIC OBJECTIVES

Ensure participants ...

- Are competent in the communication of hand/voice signals
- Are competent in basic rigging practices
- Know and understand Brasfield & Gorrie crane and hoisting policies
- Have a basic understanding of crane and hoisting procedures
- Learn how to properly inspect hoisting equipment

## PARTICIPATION

- Open to all employees as needed

## OFFERINGS

- 1 full day
- Specific dates decided every 6 months by field training committee
- Offered in 7 different offices
- Multiple offerings in large offices

## SCHEDULE OF TOPICS

### QUALIFIED RIGGER AND SIGNAL PERSON

- Meets or exceeds OSHA requirements for Qualified Rigger and Signal Person
- Overview of Equipment (Crawler, Hydros, Truck Cranes, Tower Cranes, Boom Trucks, and Forklifts)
- Crane Operations and Limitations
- Understand and is competent in the use of Hand and Voice Signals
- Overview of Rigging Equipment (slings, shackles and hooks)
- Understands different types of hitches
- Effects of Sling Angle
- Inspection requirements for all rigging equipment



