INTRODUCTION

Welding is everywhere, and Lincoln Electric has been there since the beginning.

Lincoln Electric has always been a leader and innovator in the design and production of arc welding equipment and consumables. Headquartered in Cleveland Ohio, we are also a worldwide leader in robotic arc welding systems as well as plasma and oxyfuel cutting equipment. The catalog you hold in your hands contains some of the best performing, most well made and tested welders and consumables on the market today.

We are committed to your success. At Lincoln Electric, we have a global team of professionally trained Technical Sales Representatives, Application Engineers, and Customer Service Representatives ready to help you improve quality and productivity, while reducing costs. And with more than 2,000 Authorized Distributor partners, no other company is better able to serve your welding and cutting needs.

Who We Are

» The people of the Lincoln Electric Company strive to meet the goals set forth by our founders John and James Lincoln.
» Make a product you can take pride in, so the customer can too.
» Listen to the people that use your products, and always look for ways to make it better.
» Lead by design and innovation, and never accept that it can’t be improved.
» Be the best.

We’re proud to say that for over 115 years, people have chosen Lincoln Electric products. No matter where you work; from a coal mine to a skyscraper, an oil derrick to your garage, there’s a Lincoln Electric welder and consumable that can help you make it the best.
# Table of Contents

**Products and Safety** ................................................................. 4

**The Lincoln Electric Welding School**
Overview of Welding School ..................................................... 5
Welding School Class Schedule .................................................. 6

**Standard Courses**
Introduction to Welding ............................................................... 7
Shielded Metal Arc Welding ........................................................... 8
Gas Tungsten Arc Welding ............................................................ 9
Gas Metal Arc Welding - Semiautomatic ........................................ 10
Flux Cored Arc Welding .............................................................. 11
Comprehensive Program .............................................................. 12
Submerged Arc Welding ............................................................... 13

**Advanced Courses**
Motorsports - Basic Materials Program ........................................ 14
Motorsports - Advanced Materials Program ............................... 15
Aluminum Solutions - ALUM301/ALUM302 ................................. 16-17
CWI Prep Course, Seminar and Exam .......................................... 18
Qualification and Certification Training ........................................ 19

**Technical Training Programs**
Overview of Technical Training .................................................. 20

**Professional Seminars**
Blodgett’s Seminars on the Design of Welded Connections ............. 21
Welding Educator’s Workshop ..................................................... 22
Beyond The Booth Instructor Course .......................................... 23
Regional Programs ................................................................. 24

**Distributor Training Programs**
International Basic and Advanced Distributor Training .................. 25
Field Service Shop Training ....................................................... 26

**Robotics Training Programs**
Automation School Training ...................................................... 27
Basic Robotic Programming ...................................................... 28
Advanced Robotic Programming ............................................... 29
Robotic Service Training .......................................................... 30
CRAW Prep Course and Exam .................................................. 31
WeldPRO™ - Offline Robot Programming .................................... 32
VRTEX® Customer Training ..................................................... 33
REALWELD® Customer Training ............................................ 34

**Registration Information**
Online Course Registration ....................................................... 35
Hotel and Contact Information .................................................. 36

**Educational Materials**
Arc Welding Process Training Materials .................................... 37
James F. Lincoln Foundation and The Arc Welding Bookshelf .......... 38-39
Full Line of Equipment, Consumables and Accessories

Welding Products
Lincoln Electric is the world leading manufacturer of arc welding equipment, consumables and accessories for stick, TIG, MIG, flux cored and submerged arc welding, as well as oxyfuel and plasma cutting. We manufacture a full line of products for welding schools, light to heavy duty metal fabricators, maintenance shops, home use, etc. Lincoln Electric’s product line includes:

» Welding equipment
» Welding consumables
» Accessory equipment and parts
» Cutting equipment
» Automation
» Weld Fume Control
» Gas apparatus by Harris Products Group

Educational Discounts
Lincoln Electric offers a large discount to welding educational institutions on our complete line of products. The Lincoln Educational Discount is applied through sales to schools by our network of welding distributors. Contact your local Lincoln Electric Sales Office for more details.

Where to Get More Details
For complete details on all Lincoln Electric welding products, see our website at www.lincolnelectric.com and/or request a copy of our Product Catalog [E1.10]. Or contact your local Lincoln Technical Sales Representative to discuss the most appropriate Lincoln Electric products for your particular school or other welding applications.

Arc Welding Safety — Materials and Products

At Lincoln Electric, we are committed to providing teachers and students with products, information and resources designed to ensure safety in the classroom and on the job site. These resources include:

» Welding helmets, welding safety glasses, welding gloves, welding clothing, welding gloves and other safety equipment
» Weld fume control solutions including extraction and filtration systems
» Welding safety video series
» Welding safety FAQs
» Arc welding safety posters, brochures, data sheets and DVDs

ANSI Z49.1 Safety Document
The American Welding Society offers a FREE download of the American National Standard Institute’s “Safety in Welding, Cutting, and Allied Processes” document [ANSI Z49.1:2012]. This is the welding industry’s comprehensive reference on safety. This document is a must for every welding school, fabricator and home hobbyist. Get your free copy today at: www.aws.org/technical/facts.

Environmental Systems for Welding Schools
Some welding applications (welding school booths, welding in confined spaces, etc.) may warrant additional safety precautions from welding fumes, such as using fume extraction equipment. Lincoln Electric offers a full line of environmental systems for schools and welding shops. Product solutions vary from single or dual arm units to multi-arm centralized fume extraction systems. Some of the advantages of a system by Lincoln Electric are:

» Expert technical assistance available from one company on all your welding products — equipment, consumables and fume extraction
» Follow OSHA and AWS guidelines
» Reduce energy costs by indoor recirculation vs. exhausting to outside
» Provide source capture using lightweight user-friendly arms
» Offer working lamp and arc sensor technology options
» Variable speed fans increase or decrease based on demand
» Sound-absorbing boxes and in-line duct silencer lessen noise
» Custom central systems designed to your specific application

For More Information, Contact:
Lincoln Electric Automation™  •  Phone: 800-833-9353 (WELD) or 216-383-2667  •  Email: automation@lincolnelectric.com
Overview of Welding School

School Offering
Lincoln Electric has one of the oldest and most prestigious welding schools in the United States. Founded in 1917, the school has taught over 150,000 students from around the world. On staff are eleven full-time, professional instructors with a wealth of knowledge and experience. Many of them also teach courses off-site, as well as provide trackside welding support at the top motorsports racing events in the U.S., including Indianapolis 500, Daytona 500, etc.

Lincoln Electric’s Welding School offers a variety of classes, from a 6 week Basic course to an advanced 15 week Comprehensive Program, as well as 1 week classes on specific welding processes, certification or customized programs. Classes run from 8:00 a.m. – 2:30 p.m. daily, 5 days per week and 50 weeks per year. Students spend about 20% of their time in the classroom and 80% in the booth learning to weld. Instructor to student ratio is kept small to provide plenty of individual help. A large supply of steel plate is provided so students spend all their time learning to weld, not cutting and preparing practice coupons.

Benefits of Attending
» Work with highly trained and qualified instructors who are committed to your success
» Learn and practice welding in a safe working environment
» Receive a Lincoln Electric Welding School graduation certificate upon successful completion of the course
» Combine your new welding skills with Lincoln Electric’s excellent reputation in the industry for producing quality students to help improve your chances of landing a great welding job
» Network with other students in the welding industry
<table>
<thead>
<tr>
<th>Course</th>
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Introduction to Welding

INTRO101 - Course Description
Designed to instruct welders in welding safety and welding techniques utilizing various processes like Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and plasma cutting.

Course Content
Day 1
Introduction to welding safety and the Fill Freeze and Fast Fill groups of electrodes. One half of the stick lecture will be today. Weld with 6013 flat and horizontal sheet metal. Weld with 7024-1 flat and horizontal 3/8 inch to 1/2 inch plate, single pass and three pass.

Day 2
Second half of stick lecture. Cover Fast Freeze (6010 and 6011), and low hydrogen groups of electrodes. Weld flat and vertical up with both groups of electrodes.

Day 3
Basic MIG lecture. Weld short arc, globular, spray, and pulse spray.

Day 4
Basic TIG lecture. Weld on steel and stainless steel.

Day 5
Plasma cutting.

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Course starting time is 8:00 a.m. - 2:30 p.m., Monday thru Friday.
30 Clock Hours: Lab - 25, Class - 5

Offering Code: INTRO101
Course Fee: $575.00
Registration Fee: $50.00

2018 Course Dates:
May 7 - 11
October 1 - 5
Shielded Metal Arc Welding

SMAW 101 - Course Description
Designed to instruct welders in welding safety with an overview of basic weld symbols, SMAW electrode types and selection, classification of electrodes, power sources and polarity. There will be discussions on advantages and limitations of electrodes as well as different welding techniques. Welding will take place on various mild steel thicknesses in all positions.

SMAW 201 - Course Description
Designed to instruct welders in arc welding safety and the Shielded Metal Arc Welding process (SMAW - Stick). The course lasts 6 weeks, involving approximately 180 hours of booth instruction, lecture and practice.

Course Content
Week 1
Introduction to welding safety and electrodes: types, selection, classification and qualification.
30 Clock Hours: Lab - 25, Class - 5

Week 2
Discussion of power source: types, selection and duty cycle as well as cable sizing, arc blow and welding symbols.
30 Clock Hours: Lab - 26, Class - 4

Week 2 Welding Test

Week 3
Discussion of electrodes: advantages, limitations, and vertical-up vs. vertical down in addition to certification and qualification test training.
30 Clock Hours: Lab - 27, Class - 3

Week 4
Discussion of non-destructive testing, fillet gauge use and weld size determination as well as a review of low hydrogen electrode procedures and techniques.
30 Clock Hours: Lab - 28, Class - 2

Week 5
Practicing all of the manipulative arc welding techniques learned during the prior four weeks.
30 Clock Hours: Lab - 29, Class - 1

Week 5 Welding Test. Final Exam and Evaluation

Week 6
Introduction to oxyfuel safety and oxyfuel processes: cutting and welding. Welding done on bevel plates with E7018; stringers vs. weave.
30 Clock Hours: Lab - 29, Class - 1

Offering Code: SMAW101
Course Fee: $550.00
Registration Fee: $50.00
2018 Course Dates:

Offering Code: SMAW201
Course Fee: $2,100.00
Registration Fee: $100.00
2018 Course Dates:
October 1 - November 9

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

• Ankle High, Steel-Toe, Safety Shoes
• Safety Glasses w/ Side Shields
• Welding Jacket
• Welding Gloves
• Welding Cap
• Welding Helmet
• Welpen® Pliers
• Channelocks® or Vise-Grip®
• Wire Brush
• Chipping Hammer

Please download, complete and bring Enrollment form with you on the first day of class.
Gas Tungsten Arc Welding

GTAW101 - Course Description
Designed to instruct welders in welding safety and the Gas Tungsten Arc Welding process (GTAW - TIG). The course lasts 1 week, involving approximately 30 hours of booth instruction, lecture and practice.

Course Content
» Learn fundamentals of GTAW (TIG) for steel, stainless steel and aluminum.
» Welding procedures are taught on aluminum, carbon and stainless steels.
» Welding consists of edge, corner, lap and fillet welds in all positions.
» Welding is limited to regular thin flat material, which does not include thick plate, pipe or other irregular shapes.
30 Clock Hours: Lab - 26, Class - 4

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)
- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.

Offering Code: GTAW101
Course Fee: $600.00
Registration Fee: $50.00

2018 Course Dates:
May 29 - June 1
June 4 - 8
July 23 - 27
October 15 - 19
December 3 - 7
December 17 - 21
Gas Metal Arc Welding – Semiautomatic

GMAW101 - Course Description
Designed to instruct welders in welding safety and the Gas Metal Arc Welding process (GMAW - MIG). The course lasts 1 week, involving approximately 30 hours of booth instruction, lecture and practice.

Course Content
» Learn fundamentals of GMAW (MIG).
» Instruction on the metal arc transfers of short circuiting, globular, spray arc, pulsed spray arc, Power Mode and Surface Tension Transfer®.
» Learn how various shielding gases affect gas metal arc welding.
» Individual booth time will be dedicated to welding on mild steel, stainless steel and aluminum in all welding positions.
30 Clock Hours: Lab - 26, Class - 4

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)
- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Offering Code: GMAW101
Course Fee: $550.00
Registration Fee: $50.00

2018 Course Dates:
April 30 - May 4
June 11 - 15
July 23 - 27
October 1 - 5
November 12 - 16
December 3 - 7

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.
Flux-Cored Arc Welding

FCAW101 - Course Description
Designed to instruct welders in welding safety and the Flux-Cored Arc Welding process (FCAW) for both self-shielded (Innershield®) and gas-shielded (Outershield® and UltraCore®) methods.

Course Content
» Learn fundamentals of FCAW Self-Shielded (Innershield®).
» Learn fundamentals of FCAW Gas-Shielded (Outershield®).
» Weld on 10 gauge through 1 inch thick material in all positions.
» Use a variety of electrodes, wire feeders and power sources.
» Typical joint designs used in construction and shipbuilding are welded, which consist of fillet, lap, groove and butt welds.
» Final weld tests are on 1 inch bevel plate vertical up with and without a backin bar.

30 Clock Hours: Lab - 26, Class - 4

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Offering Code: FCAW101
Course Fee: $550.00
Registration Fee: $50.00

2018 Course Dates:
October 8 - 12

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.
Comprehensive Program

Course Description
Designed to instruct welders in arc welding safety and all of the common welding processes. The course lasts 20 weeks and involves more than 600 hours of hands-on instruction. Personal Protection Equipment (PPE) gear pack is included and provided on the first day of class.

Course Content
» Comprehensive Shielded Metal Arc Welding (6 weeks)
» Comprehensive Pipe (API or ASME) (6 weeks)
» Comprehensive Plasma, Oxyfuel, Alloy and Hardfacing (2 weeks)
» Comprehensive Gas Tungsten Arc Welding (2 weeks)
» Comprehensive Basic Gas Metal Arc Welding (2 weeks)
» Comprehensive Basic Flux-Cored Arc Welding (2 weeks)

Personal Protection Equipment (PPE) and Tools Required for Class:
(Included is a complete personal protection equipment Welding Gear Ready-Pak® ($500.00 value). Student must supply his/her own steel-toe safety shoes.)
· Welper® Pliers
· Channellocks® or Vise-Grip®
· Wire Brush
· Chipping Hammer

Course Fee: $9,050.00
Registration Fee: $500.00

2018 Course Dates:
May 14 - September 28
June 25 - November 9
July 16 - December 7
July 30 - December 21

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.
Submerged Arc Welding

SAW101 - Course Description
Designed to instruct welding personnel in arc welding safety and the submerged arc welding process (SAW). This course lasts 1 week, involving approximately 30 hours of booth instruction, lecture and practice.

Course Content
» Arc welding safety for SAW process.
» Learn fundamentals of SAW.
» Conventional SAW systems will be used, including the NA-3, NA-5, LT-7, Flextec® 650 and DC-1000.
» Weld with single and twin wire equipment systems.
» Wire and flux applications, polarity and troubleshooting of weld defects are discussed.
» Power Wave® AC/DC 1000® systems will be used, including the MAXsa™ 10 controller and Cruiser® tractor.
» Experience firsthand how Power Wave® waveform technology can help you gain significant increases in productivity and quality over conventional SAW technology.

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Offering Code: SAW101
Course Fee: $600.00
Registration Fee: $50.00

2018 Course Dates:
October 22 - 26

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.
Motorsports – Basic Materials Program

What Is It?
Five day technical program limited to 18 attendees that is approximately 30% classroom and 70% hands-on.

The primary focus of this course is on basic motorsports materials and applications (GMAW, GTAW, Oxyfuel, and Plasma Cutting) including aluminum and stainless steel. In addition to these concepts, new technologies will be introduced, which include Waveform Control Technology® and Precision TIG® technology.

Purpose
To enhance your knowledge of current thinking in arc welding safety, processes, instruction, concepts, equipment and consumables, as well as your welding skills.

Course Content
- Day 1 - Safety and Gas Tungsten Arc Welding (TIG)
- Day 2 - Gas Metal Arc Welding (MIG)
- Day 3 - Alloy (Metallurgy, Identification, Classification, Preheating)
- Day 4 - Alloy (Aluminum and Stainless Steel)
- Day 5 - Oxyfuel, Plasma Cutting, Open Lab and Plant Tour, and TIG Kit with Gas Lens Parts.

40 Clock Hours: Lab - 32, Class - 8

Time: 8:00 am to 4:00 pm

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Offering Code: MTRS301
Course Fee: $735.00
Registration Fee: $110.00

2018 Course Dates:
May 14 - 18
August 6 - 10
September 17 - 21

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.
Motorsports – Advanced Materials Program

It is highly recommended that students attend the Motorsports Basic Materials Program course (MTRS301) prior to enrolling in this course.

What Is It?
Five day technical program limited to 18 attendees that is approximately 30% classroom and 70% hands-on.

The primary focus is on advanced motorsports materials and applications utilizing the Gas Tungsten Arc Welding (GTAW) process including materials like chrome-moly, inconel, magnesium and titanium. In addition to these concepts, new technologies will be introduced, which include Waveform Control Technology® and Precision TIG® technology.

Purpose
To enhance your knowledge of current thinking in arc welding safety, processes, instruction, concepts, equipment and consumables as well as your welding skills.

Course Content
» Day 1 - Safety, GTAW (TIG) Chrome-moly
» Day 2 - GTAW (TIG) Titanium
» Day 3 - GTAW (TIG) Inconel
» Day 4 - GTAW (TIG) Magnesium
» Day 5 - New Products, Open Lab and Plant Tour

Time: 8:00 am to 4:00 pm

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap

- Welding Helmet
- Welper® Pliers
- Channellocks® or Vise-Grip®
- Wire Brush
- Chipping Hammer

Offering Code: MTRS302*
Course Fee: $1,000.00
Registration Fee: $125.00

2018 Course Dates:
May 21 - 25
August 13 - 17
September 24 - 28

Please Note: If a student desires to practice on different types of welds, and/or materials other than those offered, material must be provided by student.
Aluminum Solutions:
Practical Training for Welding Aluminum Alloys

Aluminum has become increasingly prevalent in a number of manufacturing industries because it delivers an improved strength to weight ratio over steel and is corrosion resistant. Yet, welding aluminum can be difficult compared to other materials. Lincoln Electric has organized these seminars to help you enhance your understanding and welding skills to achieve aluminum alloy welding success.

ALUM301 - Course Description
Learn about the latest welding technology with hands-on practical application demonstrations and lectures for Practical Training in Welding Aluminum Alloys.

Topics will include:
» Improve your GMAW and GTAW aluminum welding skills through extensive practical application
» Overview of various welding process modes: CV, Power Mode, Pulse and AC Pulse
» Learn how to properly set up weld tests for various parameters and positions
» Tour Lincoln Electric’s state-of-the-art manufacturing facilities, R&D Tech Center and Automation Division
» Qualification Test Training for AWS D1.2 Standard
» A Lincoln Electric Certificate of Completion will be issued on successful completion of the training

Offering Code: ALUM301
Course Fee: $495.00
2018 Course Dates:
October 30 - November 2

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)
• Ankle High, Steel-Toe, Safety Shoes
• Safety Glasses w/ Side Shields
• Welding Jacket
• Welding Gloves
• Welding Cap
• Welding Helmet
• Welper® Pliers
• Channellocks® or Vise-Grip®
• Wire Brush

ALUM302 - Course Description
Learn about the latest welding technology with hands-on practical application demonstrations and lectures for Advanced Training in Welding Aluminum Alloys.

Topics will include:
» Improving productivity and efficiency in aluminum welding
» Review of current best practices and practical knowledge on welding aluminum alloys
» The latest advanced welding processes that can be applied to aluminum

Offering Code: ALUM302
Course Fee: $495.00
2018 Course Dates:
November 6 - 8

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)
• Ankle High, Steel-Toe, Safety Shoes
• Safety Glasses w/ Side Shields
• Welding Jacket
• Welding Gloves
• Welding Cap
• Welding Helmet
• Welper® Pliers
• Channellocks® or Vise-Grip®
• Wire Brush
### ALUM301 - Course Content

<table>
<thead>
<tr>
<th>DAY 1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction &amp; Outline</td>
</tr>
<tr>
<td>Aluminum Metallurgy</td>
</tr>
<tr>
<td>Aluminum GMAW</td>
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<tr>
<td>Metal Preparation - Classroom and Hands-on</td>
</tr>
<tr>
<td>Shop Discussion - Parameters, Techniques, Setup Machines, Tools Required, etc.</td>
</tr>
<tr>
<td>GMAW Hands-on Welding -</td>
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<tr>
<td>How Basic Parameters Change Results</td>
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<tr>
<td>Practical Welding</td>
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</tbody>
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<table>
<thead>
<tr>
<th>DAY 2:</th>
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</thead>
<tbody>
<tr>
<td>Basic AWS Code Requirements for Welder Qualification</td>
</tr>
<tr>
<td>Basic Aluminum Troubleshooting - Porosity, Feeding and Weld Cracking</td>
</tr>
<tr>
<td>GMAW Process Comparisons; CV and Power Mode&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>GMAW Process Comparisons; Pulse and Pulse-on-Pulse&lt;sup&gt;*&lt;/sup&gt;</td>
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<tr>
<td>Practical Welding</td>
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</tbody>
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<table>
<thead>
<tr>
<th>DAY 3:</th>
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<tbody>
<tr>
<td>Review of Testing - Position, Parameters, Requirements, Type of Testing, and Preparation of Test Specimens</td>
</tr>
<tr>
<td>Overview of Welding Techniques per Position</td>
</tr>
<tr>
<td>Practical Welding (All Positions) - Instructors will be available for questions and tips</td>
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<tr>
<td>Test Plate Welding</td>
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<thead>
<tr>
<th>DAY 4:</th>
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<tbody>
<tr>
<td>Instruction on Testing - Position, Parameters, Requirements, Type of Testing, and Preparation of Test Specimens</td>
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<tr>
<td>Practical Welding (all positions)</td>
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<tr>
<td>Test Plate Welding</td>
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### ALUM302 - Course Content

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<thead>
<tr>
<th>DAY 1:</th>
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<tbody>
<tr>
<td>Introduction &amp; Outline</td>
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<tr>
<td>Aluminum Alloys Designation and Temper System</td>
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<tr>
<td>Aluminum Physical Properties</td>
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<tr>
<td>Metal Preparation for Welding</td>
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<tr>
<th>DAY 2:</th>
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<tbody>
<tr>
<td>Filler Alloy Selection</td>
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<tr>
<td>Gas Tungsten Arc Welding</td>
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<td>Gas Metal Arc Welding</td>
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<tr>
<th>DAY 3:</th>
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<tbody>
<tr>
<td>Filler Alloy Selection</td>
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<tr>
<td>Gas Tungsten Arc Welding</td>
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<tr>
<td>Gas Metal Arc Welding</td>
</tr>
</tbody>
</table>
**CWI Prep Course, Seminar and Exam**

**CWI401 - Lincoln Electric CWI Prep Course**
This is a course taught by the Lincoln Electric Welding School to give you an extra week of low cost preparation for the American Welding Society’s (AWS) Certified Welding Inspector (CWI) Seminar and Exam. Included in the program are demonstrations and discussions of the various welding processes, including but not limited to metallurgy, discontinuities, preheat, welding symbols, etc. It is offered the week before the AWS CWI Seminar.

*Student is responsible for providing their own code book.*

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**AWS CWI Seminar and Exam**
Lincoln Electric is a host site for the American Welding Society’s (AWS) Certified Welding Inspector (CWI) seminar and examination. In the seminar you will be taught by an AWS instructor how to reference AWS code, examine welds and prepare for the CWI exam on that following Saturday (proctored by AWS).

*Seminar starts at 1:00 p.m. on Sunday.* Please register for the seminar and exam through AWS.

*Note: You must register 8 weeks prior to CWI exam date in order to reserve your spot.*

**Requirements**
Contact Lincoln Electric Welding School and download CWI packet from http://www.aws.org/certification/CWI or call AWS at 800-443-9353 ext. 273 to register for exam.

*Note: 5 year detailed work history must be completed before testing. Not a Résumé.*

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**Offering Code:** CWI401  
**Course Fee:** $350.00  
**Registration Fee:** $50.00

**2018 Course Dates:**
May 7 - 11  
July 9 - 13  
October 22 - 26

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**Seminar and Exam Fee:**  
(For fees, please contact AWS)

**2017 Seminar Dates:**
May 14 - 20  
July 16 - 22  
October 29 - November 4

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Qualification and Certification Training

Qualification Test Training
Shielded Metal Arc Welding
Additional training is available to graduates of the Lincoln Basic Plate and Sheet Metal Welding who wish to take an operator qualification test for AWS structural code work, and to graduates of the Lincoln Pipe Welding Course who wish to take similar tests for ASME (vertical-up) or API (vertical down) code work. Welders with equivalent experience may also qualify for this training.

Flux-Cored Arc Welding Self-Shielded/Gas-Shielded
Classes are available to companies and/or individuals who want to practice welding techniques for passing an operator qualification test or procedure qualification test. This course is also designed to give the proper application skills to an instructor for in-plant training of FCAW-S (Innershield®) and/or FCAW-G (UltraCore®).

Qualification Test Training
» AWS Test Semiautomatic Flux-Cored Arc Welding Self-Shielded
» 3/8 in. AWS Fillet Test Shielded Metal Arc Welding
» AWS Test Shielded Metal Arc Welding
» ASME Test Shielded Metal Arc Welding
» ASME/API Pipe Welding
» Low Hydrogen Pipe
» API Butt/Branch/Sleeve

Please Note for Qualification Courses
» One week is usually sufficient for anyone with welding experience in the process being tested.
» Customers must furnish plate of the type to be used in practicing for the qualification tests.
» The cost of testing ranges from $150.00 to $300.00 for AWS, ASME or API codes and is paid directly to an independent testing laboratory where the test sample is taken. Actual test costs vary throughout the country depending upon the facility.

Training/Certification
The Lincoln Electric Welding School can meet your needs for customized training and/or certification at Lincoln Electric Corporate in Cleveland, Ohio or at your particular location.

Please Note: Actual testing done by an independent testing facility.

AWS Test Semiautomatic FCAW
Course Fee: $550.00
Registration Fee: $50.00

3/8" AWS Fillet Test-SMAW (stick)
Course Fee: $550.00
Registration Fee: $50.00

AWS/ASME Test-SMAW (stick)
Course Fee: $550.00
Registration Fee: $50.00

ASME or API Pipe Welding Test
Course Fee: $650.00
Registration Fee: $50.00

Low Hydrogen Pipe Welding Test
Course Fee: $650.00
(certification fee extra)
Registration Fee: $50.00

MIG, FCAW
Course Fee: $550.00
Registration Fee: $50.00

TIG
Course Fee: $600.00
Registration Fee: $50.00

Any Questions? Contact our Weld School +1-844-818-6038

Personal Protection Equipment (PPE) and Tools Required for Class:
(Welding Gear can be purchased on site. Student must supply his/her own steel-toe, safety shoes.)

- Ankle High, Steel-Toe, Safety Shoes
- Safety Glasses w/ Side Shields
- Welding Jacket
- Welding Gloves
- Welding Cap
- Welding Helmet
- Welper® Pliers
- Channellock® or Vise-Grip®
- Wire Brush
- Chipping Hammer
Overview of Technical Training

Training Offering
Lincoln Electric has a long history of providing customers with expert training on our various products, as well as general arc welding fundamentals. Our technical trainers have many years of experience in the welding industry and a very comprehensive knowledge of Lincoln Electric products and welding processes. They also have backgrounds in technical sales and/or technical support.

Lincoln Electric’s Technical Training group offers a variety of seminars and workshops, ranging from basic welding fundamentals training to high level programs on welding design issues, Advanced Power Wave™ solutions, etc. We conduct various “train the trainer” seminars for welding educators. We also provide training for our authorized distributors who are at all levels of experience. Programs are held at both our headquarters in Cleveland, Ohio and in the field. Students spend about 50% classroom time and 50% hands-on lab time. Also included are tours of Lincoln Electric’s manufacturing and R&D facilities.

The Technical Training group also produces state-of-the-art training curriculums and materials for teaching arc welding. Many of this is available at a “no charge” basis for welding instructors.
Blodgett’s Seminars on the Design of Welded Connections

For over 60 years, Lincoln Electric has hosted design seminars that have provided the attendees with ideas of how to make welded products more dependable, lower in cost, and welded in a safe manner. Thousands of engineers have attended these seminars, made popular by Dr. Omer W. Blodgett after whom the seminars are named. Two application-focused design seminars are offered.

**BLOD401 - Design of Welded Connections: Steel Structures**

This seminar is for individuals who design steel structures, such as buildings, bridges and towers. Attendees typically include structural engineers and others associated with welded structures, such as fabricators, erectors and inspectors. AISC 360 and AWS D1.1 standards are used to support the engineering principles presented in the course. Connections subject to static, cyclic and seismic loading are reviewed. Specific topics include the following:

- Weld Process Basics
- Basics of Welded Connections
- Details of Welded Connections
- Principles of Connection Design
- Welded Connections for Cyclic Service
- Welded Connections for Seismic Service
- How to Achieve Ductile Behavior
- Distortion: Causes and Cures
- Welding Metallurgy: Why Connections Crack and Tear
- "Listen to the Steel": (Learning From Failures)
- Fracture Mechanics: Theory and Practical Applications
- Practical Solutions to Common Construction Challenges
- Cost Reduction Ideas
- Welding Demonstration
- Plant Tour

**Offering Code:** BLOD401  
**Course Fee:** $695.00  
**2018 Steel Structures Course Dates:**  
- September 11 - 14

**BLOD402 - Design of Welded Connections: Steel Weldments**

This seminar is for individuals who design equipment used for construction, agriculture, material handling and other general purposes. Attendees typically include design engineers and those associated with the production of steel weldments, such as manufacturing and welding engineers. AWS D14 standards are used to support the engineering principles presented in the course. Connections subject to static, cyclic and shock loading are reviewed, with concentrated emphasis on cyclic loading (fatigue). Specific topics include the following:

- Weld Process Basics
- Basics of Welded Connections
- Details of Welded Connections
- Principles of Connection Design
- Theory of Fatigue of Welded Connections
- Design of Fatigue Resistant Welded Connections
- Designing for Shock Loading
- Designing for Torsional Loading
- Distortion: Causes and Cures
- Welding Metallurgy: Why Connections Crack and Tear
- "Listen to the Steel": (Learning From Failures)
- Cost Reduction Ideas
- Welding Demonstration
- Plant Tour

**Offering Code:** BLOD402  
**Course Fee:** $695.00  
**2018 Steel Weldments Course Dates:**  
- March 20 - 23
- May 1 - 4
- October 23 - 26

**SEMINAR LEADER**  
**Duane K. Miller, Sc.D., P.E.**  
Manager, Engineering Services and Welding Design Consultant

Dr. Miller is a recognized authority on the design of welded connections. His enthusiastic teaching style and technical expertise have resulted in him being a much sought after speaker around the world. He is currently the Chair of the AWS D1 Structural Welding Committee, a member of the AWS D14 Committee, and a member of the AISC Specifications Committee. He has received numerous awards, including the AISC TR Higgins Lectureship Award and AISC Lifetime Achievement Award. He is a three times recipient of the AWS Silver Quill Award for excellence in his published work.
Welding Educator’s Workshops

Who Is It For?
This course is geared for welding instructors who want to take welding education to the next level.

What Is It?
The program is a four day seminar, with an optional fifth day. The workshop is limited to 24 attendees that is approximately 60% classroom and 40% hands-on.

WEW301 - Original Welding Educator’s Workshop
This course will focus on utilizing new technologies to increase teacher competencies and knowledge related to welding and classroom principles.

WEW302 - Advanced Welding Educator’s Workshop
This course will focus on advanced technologies used in the welding industry and how they can be employed in a welding education program. Relevance around new technologies and classroom training to real world applications will be shared. A focus on Power Wave® technology and advanced trainers will be emphasized throughout this training.

Each of these classes will give you the tools to develop more interactive curriculum, an understanding of all career pathways in welding, and ways to integrate STEM into your program.

What’s Included?
» Morning snack and lunch daily
» Group dinner one night
» Plant tours
» Library of Lincoln Electric resources
» All welding consumables and coupons
» Certificate and souvenir

“Welding with the Experts”
If interested, you are invited to stay through Friday to weld with Lincoln Electric Welding Instructors to further sharpen your skills. Times for welding will be from 8:00 a.m. to noon.

Offering Code: WEW301
Course Fee: $350.00
2018 Course Dates:
April 2 - 6
July 9 - 13
August 6 - 10
October 15 - 19

Offering Code: WEW302
Course Fee: $350.00
2018 Course Dates:
April 9 - 13
July 30 - August 3
August 13 - 17
October 29 - November 2
Beyond The Booth Instructor Course

Who Is It For?
This course is designed for new welding instructors entering the classroom for the first time. Current welding instructors will also benefit from learning new instructional techniques and ways to engage students at a higher level.

What Is It?
A five day course limited to 48 participants that will be taught by both current welding instructors and guest instructors.

This course will cover curriculum design, lesson plan development, lab management, presentation skills, classroom management and more. The course is intended for new welding instructors at both the high school and community college levels. Participants will leave this workshop with the tools for a successful year teaching welding education.

What’s Included?
» Morning snack and lunch daily
» Group dinner one night
» Plant tours
» Library of Lincoln Electric resources
» All welding consumables and coupons
» Certificate and souvenir

Offering Code: BTB301
Course Fee: $695.00

2018 Course Dates:
June 11 - 15
July 16 - 20
July 30 - August 3
Regional Programs

Lincoln Electric conducts several training seminars at various locations around North America that have been arranged by our local District Sales offices. Courses vary in length from 1/2 day to one week. These programs cover various topics, including, but not limited to, State Welding Educator Workshops, Power Wave® technologies seminars, Power Wave® AC/DC 1000® seminars, Distributor Training programs and Service School programs.

Requirements
Depending upon the course, there may be minimum attendance and/or fee requirements.

For more information on course dates and type(s) of training being provided locally, please contact your Lincoln Electric District Sales office.

Regional Programs: Contact the Lincoln Electric District Sales office nearest you. Visit our website: www.lincolnelectric.com for a complete office listing with locations and phone numbers.
International Basic and Advanced Distributor Training

What Are They?
Two comprehensive, no-charge, two-week international distributor training programs held at our world headquarters in Cleveland, Ohio, U.S.A., which focus exclusively on Lincoln Electric’s North American product line offering. Training is conducted 8:00 a.m. to 5:00 p.m. daily and in the ENGLISH LANGUAGE only. The two programs are held on an alternating year basis (starting in 2017).

The Basic course has a strong hands-on welding focus as you learn about arc welding fundamentals and the main arc welding and cutting processes. The program is 50% classroom instruction and 50% hands-on product set-up and welding time. Classroom time also includes considerable product knowledge training.

The Advanced course is more focused on product knowledge training, with strong emphasis on the advanced technology Power Wave® product line and other newer products and technologies. It also includes some hands-on welding time.

Who Is It For?
The Basic course is intended for authorized Lincoln Electric international distributors only of all experience levels. Most attendees are newer to the welding industry and the program gives them an excellent foundation in arc welding fundamentals and welding processes, as well as some strong product knowledge training. However, this course is also ideal for more experienced people who wish to gain more hands-on welding training.

The Advanced course is meant for authorized Lincoln Electric international distributors only with at least two years of welding industry experience and/or who completed the Basic course. This program will increase their knowledge and comfort level with selling more advanced technology products, such as the Power Wave® product line.

Questions?
Please contact Customer Experience with any questions at: customer_experience@lincolnelectric.com.

Course Fee:
FREE

2018 Dates - Basic
No programs are scheduled in 2018

2018 Dates - Advanced
September 10 - 21
http://www.cvent.com/d/mtqcj4

What Are The Main Topics Covered?
Basic Program
» Arc welding safety
» Arc welding fundamentals, including types of welds and joints, welding variables and their effects, types of power sources, basic metallurgy, base material types, etc.
» Fundamentals of the main arc welding and cutting processes (SMAW, GTAW, GMAW, FCAW, SAW, OFC, PAC)
» Hands-on welding with each process
» Equipment and consumable product knowledge training
» Various plant tours

Advanced Program
» Arc welding safety
» Arc welding fundamentals, including inverter power sources, basic metallurgy, filler metal selection, why do welds crack, etc.
» Comprehensive Power Wave® training, including several lab exercises
» New product training
» Low alloy and high alloy products
» Automation welding and cutting products training
» Submerged Arc welding
» Pipe welding solutions
» Welding cost reduction fundamentals
» Various plant tours

What’s Included
» Lunch daily and refreshments at morning and afternoon breaks
» One night’s dinner per week
» Electronic copy of presentations
» Certificate and group picture
» Welding gear
Field Service Shop Training

What Is It?
Lincoln Electric offers a variety of training courses for our network of authorized field service shops. The courses cover detailed instruction on how to troubleshoot and repair various Lincoln Electric welding equipment. They also include discussions on basic electricity and welder components, basic circuitry and theory of operation. In addition there are instructions on using Lincoln Electric’s Service Navigator software and completing warranty repair claims. The classes are approximately 50% classroom instruction and 50% hands-on demonstrations and practice in the repair lab. The courses are offered at both our world headquarters in Cleveland, Ohio and at various District Sales Office locations throughout North America.

Who’s It For?
These courses are intended for the service and repair personnel at all authorized field service locations. Courses vary from standard training for newer, less experienced technicians, to advanced training on high technology products and robotics for veteran technicians. New product courses are also offered to keep your shop updated on the latest Lincoln Electric equipment.

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Date</th>
<th>Training Location</th>
<th>Class Days</th>
<th>Course Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>LASF Certification</td>
<td>March 19 - 23</td>
<td>Cleveland, OH</td>
<td>Monday - Friday</td>
<td>$350.00</td>
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<tr>
<td>(5 Days)</td>
<td>May 7 - 11</td>
<td>Cleveland, OH</td>
<td>$350.00</td>
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<td></td>
<td>August 13 - 17</td>
<td>Cleveland, OH</td>
<td>$350.00</td>
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<tr>
<td></td>
<td>October 15 - 19</td>
<td>Cleveland, OH</td>
<td>$350.00</td>
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<tr>
<td>LASF Re-Certification</td>
<td>May 22 - 24</td>
<td>Atlanta, GA</td>
<td>Tuesday - Thursday</td>
<td>$300.00</td>
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<tr>
<td>(3 Days)</td>
<td>July 31 - August 2</td>
<td>Denver, CO</td>
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<td></td>
<td>August 21 - 23</td>
<td>Moline, IL</td>
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<td></td>
<td>September 11 - 13</td>
<td>Calgary, AB, CA</td>
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<tr>
<td></td>
<td>November 6 - 8</td>
<td>Dallas, TX</td>
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<tr>
<td>Power Wave® Technology</td>
<td>April 10 - 12</td>
<td>Cleveland, OH</td>
<td>Tuesday - Thursday</td>
<td>$300.00</td>
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<tr>
<td>(3 Days)</td>
<td>October 2 - 4</td>
<td>Terrabonne, QC, CA</td>
<td>$375.00</td>
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<td></td>
<td>December 4 - 6</td>
<td>Sacramento, CA</td>
<td>$375.00</td>
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<tr>
<td>Engine Driven Technology</td>
<td>April 24 - 26</td>
<td>Tulsa, OK</td>
<td>Tuesday - Thursday</td>
<td>$300.00</td>
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<tr>
<td>(3 Day)</td>
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*Registration Fee of $25 applies to all classes

All Registration For Lincoln Electric Service School is Online. Go to: www.lincolnelectric.com/serviceschool
For Questions or Complete Information: Contact our Service School Coordinator at: (216) 383-2310 or (888) 935-3877 or www.lincolnelectric.com/serviceschool
Automation School Training

Course Offerings/Prerequisites
All courses are conducted in a lecture-lab format. Since seating capacity is limited, early registration is advised. Students attending any Advanced Robotic Programming Course are expected to have successfully completed the Basic Robotic Programming Course.

Transportation will be furnished to and from Lincoln each day only to the Lincoln authorized hotel [Cleveland schools only]. If you are staying in another location you will be responsible for your own transportation.

If you are attending our Power Wave® or Robotic Service Shop Courses, we suggest that you take the Entry Level Standard Course Exam found at the Lincoln Electric website. This exam will evaluate your electrical skill level necessary to pass the course. The Standard Level Test can be found on the Service School page: http://www.lincolnelectric.com/en-us/education-center/seminars-and-workshops/Pages/service-school.aspx.

All registration and questions for Lincoln Electric Automation School Training is via phone at 1-888-935-3878. A confirmation email will be sent once registration is complete. Please note that classes fill up quickly. Register at least 6 weeks in advance of the course start date in order to assure the best chance of getting into the class of your choice. Courses will be held if three or more students enroll. All cancellations must be done via email at least 10 days prior to the class start date. Any cancellations with less than one week notice from the course start date will be charged the course fee.

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Date</th>
<th>Training Location</th>
<th>Class Days</th>
<th>Course Fee</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Robotic Programming</td>
<td>Weekly (Non-Holiday)</td>
<td>Cleveland, OH</td>
<td>Monday - Wednesday</td>
<td>$1,600.00 Each additional day- $400.00</td>
<td>None</td>
</tr>
<tr>
<td>Advanced Robotic Programming</td>
<td>March 12 - 16 May 14 - 18 July 9 - 13 October 29 - November 2 December 3 - 7</td>
<td>Cleveland, OH</td>
<td>Monday - Friday</td>
<td>$2,800.00</td>
<td>Basic</td>
</tr>
<tr>
<td>Robotic Service Training</td>
<td>April 9 - 13 July 23 - 27 November 5 - 9</td>
<td>Cleveland, OH</td>
<td>Monday - Friday</td>
<td>$2,000.00</td>
<td>None</td>
</tr>
<tr>
<td>CRAW Seminar Training</td>
<td>June 25 - 27/28 October 22 - 24/25</td>
<td>Cleveland, OH</td>
<td>Monday - Wednesday/Thursday</td>
<td>$2,000.00</td>
<td>Basic/Advanced</td>
</tr>
<tr>
<td>WeldPRO™ Training</td>
<td>March 22 - 23 May 3 - 4 June 21 - 22 August 16 - 17 October 18 - 19</td>
<td>Cleveland, OH</td>
<td>Wednesday - Thursday</td>
<td>$2,500.00</td>
<td>Basic/Advanced</td>
</tr>
<tr>
<td>Customer On-Site Weld Pro™ Training</td>
<td>TBD</td>
<td>Customer Site</td>
<td>2 day min.</td>
<td>$2,500/day</td>
<td>Basic/Advanced</td>
</tr>
<tr>
<td>VRTEX® Customer Training</td>
<td>February 6 - 7 April 10 - 11 June 19 - 20 August 7 - 8 October 16 - 17 November 11 - 12</td>
<td>Cleveland, OH</td>
<td>Tuesday – Wednesday</td>
<td>Free</td>
<td>None</td>
</tr>
<tr>
<td>REALWELD® Customer Training</td>
<td>February 8 - 9 April 12 - 13 June 21 - 22 August 9 - 10 October 18 - 19 December 13 - 14</td>
<td>Cleveland, OH</td>
<td>Thursday</td>
<td>Free</td>
<td>None</td>
</tr>
</tbody>
</table>

Notes:
- Additional training options including Touch Sensing, Thru-Arc Seam Tracking, and Vision will be covered on Thursday and Friday of the Basic training week. Check availability of Basic Training Program during holiday weeks (typically no class).
- All classes end by Noon Friday.
- CRAW class length depends on number of attendees (3-4 days).
- WeldPro™ Training does not include customer model of system.

* Cancellations made within two weeks of the class start date will not be refunded.
Basic Robotic Programming

Course Duration
The duration is 3 days. Frequency of course offering weekly Monday through Wednesday. If you have purchased additional options such as Touch Sensing, and Thru-Arc-Seam-Tracking, you will be scheduled for 1-2 additional days for these options.

Robotic Programming Training Course Prerequisites
The robotic programming training course is conducted on a combination lecture-laboratory basis. Typically, students are grouped (2) per robot and work as a team in performing the hands-on exercises. The course is intensive. Students attending are expected to have some experience in one or more of the following:

Welding, Electrical, Computer, C.N.C
Prior robot programming experience is a plus. Assignments are made which require some evening study. The proper selection of the employees to be trained and their interest in being trained are critical success factors in any robot installation.

Students should have experience in GMAW and welding processes. The basic robot programming class is geared towards programmers responsible for maintaining their systems.

Course Objectives
Participants will be able to:
» Safety precautions while programming and operating the robot system
» Fundamental of teach pendant and arc tool programming language
» Structured programming language techniques and edit commands
» Instructional commands and menu structure
» Operator controls and indicators on the teach pendant and operator panel
» Correct positioning of the robot using the teach pendant and various motion types
» Welding program structure and operation including straight line, circles, and weaving fundamentals
» Proper editing procedures and programs commands and functions
» Basic error recovery
» Torch and wrist alignment checks
» How to setup a Tool Center Point
» Home program, Zero program
» Backing up programs to a memory card
» Setting up a jog frame
» Wait and timer instructions
» Program copy, delete, comment and write protect
» Torch cleaning program (option)
» Password protect (option)
» Turntable (option)

Course Fee:
$1,600.00
($400.00 for each additional day)

2018 Course Dates:
Weekly (Non-Holiday)

Any Questions?
Contact our Automation School Coordinator at: (888) 935-3878

NOTE: Attendees with robotic vision are required to supply their own laptop for the training program. The laptop should not have security blocks.
Advanced Robotic Programming

Course Duration
The duration is 5 days.
Frequency of course offering 4 times per year.

Course Description
A 5-day training program covering advanced tasks and procedures that an operator, technician, engineer or programmer needs to maximize productivity and quality with a Lincoln/FANUC®-RJ-Series Robotic Welding System. Class size is limited to 12 participants.

Course Prerequisites
The person attending must have completed the Lincoln Electric Automation Basic Robotic Programming Course.

Course Objectives
» Edit programs while another is running
» Make temporary adjustments to weld points to compensate for batch runs
» Make on-the-fly changes to weld procedures
» Copy/Shift programs to new locations to reduce programming time.
» Add explanatory text to programs including custom alarm messages
» Full controller memory backup and restore
» Use tool offset utility to minimize programming when changing to new style of torch
» Use Find, Replace, Copy and Paste commands
» Setup the Reference Position Utility to establish a safe position for the robot
» Change weld procedures in the middle of weld
» Monitor weld command and feedback signals
» Use Test Cycle to speed up the programming testing process
» Use logic instructions to simplify programming of parts with multiple, similar weld joints
» Setup/incorporate a User Frame into programming
» Fast Start
» APPLIED ROBOTIC WELDING:
  · Modes of Metal Transfer
    - Short-Arc Transfer
    - Globular Transfer
    - Axial Spray Transfer
    - Pulsed Spray Metal Transfer
    - Surface Tension Transfer* [STT®]
    - Power Mode
    - RapidArc™
    - Pulse-on-Pulse*
    - Tandem MIG®
    - Synchronized Tandem MIG*  

Course Fee:
$2,800.00

2018 Course Dates:
March 12 - 16
May 14 - 18
July 9 - 13
October 29 - November 2
December 3 - 7

Any Questions?
Contact our Automation School Coordinator at: (888) 935-3878

Course Objectives, con’t.
· Effects of Variables
  · Torch angles
  · Various shielding gases
  · Current density
  · Electrode efficiency
  · Deposition rate
  · Electrode extension and Contact Tip To Work Distance (CTWD)
· Recognition and Recovery from Common Weld Discontinuities
  · Porosity
  · Spatter
  · Undercut
  · Incomplete Fusion/Inadequate Penetration
  · Incorrect weld shape and size
· Basic System Maintenance

Note: Cancellations made within two weeks of the class start date will not be refunded.
Robotic Service Training

Course Duration
The duration is 5 days.
Frequency of course offering 2 times per year.

Course Description
An intensive training program covering schematic level theory, disassembly and reassembly, as well as electrical troubleshooting on a Fanuc® robot and controller.

This course is intended for persons who must perform electrical and mechanical maintenance and troubleshooting as well as performing preventative maintenance.

Prerequisites
Students should have previous training with electrical/electronics, previous training/or experience in related field involving mechanical disassembly, repair and assembly.

Daily Schedule
DAY 1
» Registration and Welcome
» Robotic Safety Considerations
» Basic Programming Lab
» Motion Fundamentals
» Program Editing
» Weld Programming
» Preventative Maintenance
» Using a Memory Card to Download/Upload Programs
DAY 2
» Tool Frame Setup
» Setup and Operation of Torchmate Option
» Power Wave® Setup
» Operator Stand/Safety Equipment Setup and Operation
» Home Program
» Zero Program
DAY 3
» Overview of Robot Controller and Mechanical Arm Unit
» Block Diagram-Level Theory of Operation
» Schematic-Level Theory of Operation
» Disassemble and Detail of Robot Controller
» Fault Assessment/Troubleshooting
DAY 4
» Mastering/Calibration of Robot Arm
» Full Controller Memory Backup and Restore
» Installing Software
» Replacing Motors and Encoders
DAY 5
» Auxiliary Axis
» Local Stop Circuit
» Review

Course Fee:
$2,000.00

2018 Course Dates:
April 9 - 13
July 23 - 27
November 5 - 9

Any Questions?
Contact our Automation School Coordinator at: (888) 935-3878

Note: Cancellations made within two weeks of the class start date will not be refunded.
CRAW Prep Course and Exam

The Lincoln Electric Company is pleased to offer Certification for Robotic Arc Welding (CRAW) program for Operators and Technicians. This certification allows welding personnel employed in various welding sectors to measure themselves against standards for their occupation. It also signifies that the CRAW Operator or Technician has demonstrated the capability of working with various codes, standards, and specifications. Since proof of active practice or re-examination is required every three years, certification also signifies that the CRAW Operator or Technician is current with the welding industry.

AWS CRAW Exam
Lincoln Electric is a host site for the American Welding Society’s (AWS) Certified Robotic Arc Welder (CRAW) seminar and examination. In the seminar you will be taught by a certified instructor how to reference AWS code and prepare for the CRAW exam. (Proctored by an AWS Certified Weld Inspector).

Seminar is limited to 8 attendees. You can register for the seminar and exam through Lincoln Electric Automation Division.

Requirements
Contact Lincoln Electric Automation Division and download CRAW packet from http://www.aws.org/certification/CRAW.

Please Note: Detailed work history must be completed before testing. Not a Résumé.

Lincoln Electric CRAW Prep Course
This course offered by the Lincoln Electric Automation Division gives you an extra 2 days of low cost preparation for the AWS CRAW exam. Included in the program are demonstrations/discussions of the various welding processes, a discussion and review of AWS D16.1-4, and an overview of practice questions. It is offered the day before the exam. Register for the CRAW Prep Course through the Lincoln Electric Welding School.

Course Fee:
$2,000.00

2018 Course Dates:
June 25 - 27/28
October 22 - 24/25

Any Questions?
Contact our Automation School Coordinator at: (888) 935-3878
TECHNICAL TRAINING PROGRAMS

WeldPRO™ – Offline Robot Programming

Course Duration
The duration is 2 days. Frequency of the course is 4 times per year. Onsite training taught on an as-requested basis.

Course Description
WeldPRO™ is FANUC® Robotics’ plug-in to the RoboGuide off-line programming tool, allowing users to simulate a robotic arc welding process in 3-D space. Driven exclusively by a FANUC® Robotics Virtual Robot Controller, WeldPRO™ is empowered with the most accurate program teaching tools and cycle time information available in any simulation package.

A user can easily navigate through WeldPRO™ to create complete workcells by importing actual tooling and workpiece CAD files. Anyone familiar with programming a FANUC® robot will be able to easily create new weld paths with proper torch angles and process parameters. All programs and settings from the virtual workcell can be transferred to the real robot to decrease installation time.

Prerequisites
The person attending must have completed the Lincoln Automation Basic Robotic Programming and System Training Course.

Main Topics
» Software Introduction – Getting Started with WeldPRO™ Roboguide Features
» Creating Workcells – Using The Workcell Creation Wizard
» The Cell Browser
» End of Arm Tooling
» Using the Navigation – Zooming, Panning and Rotating the View
» Jogging the Robot
» Using the Move to Quick Bar – Move to Retry Function
» Adding Objects Using the Cell Browser – Selecting Objects and Using the Objects Property Page
» Working with Fixtures
» Working with Parts – Creating a Robot Program
» Automatic Path Generation (Cad to Path) – Using Features and Segments
» Running a Program
» Using the Virtual Teach Pendant
» Workcell Calibration
» Building a Positioner – Building an Aux Axis and Programming a Positioner
» Defining Coordinated Pairs – Procedure to Use Actual Robot Data
» Using the FANUC® License Manager
» Setting Weld Angles
» Programming Circles

Course Fee:
$2,500.00 at Lincoln Electric
$2,500.00 per day on site
(2 day minimum required)

2018 Course Dates:
March 22 - 23
May 3 - 4
June 21 - 22
August 16 - 17
October 18 - 19

Any Questions?
Contact our Automation School Coordinator at: (888) 935-3878
VRTEX® Customer Training

VRTEX301

Who Is It For?
This course is designed for professionals and educators who teach welding using the VRTEX virtual reality training tool. Let Lincoln Electric show you how to put the latest education technologies to work!

What is It?
A FREE two-day seminar limited to 15 attendees that is approximately 50% classroom and 50% hands-on.

Location:
Lincoln Electric Welding Technology & Training Center
22800 Saint Clair Avenue
Cleveland, OH 44117

RSVP and More Information:
http://classes.lincolnelectric.com/modules

What is Included & Attire:
Welding Personal Protection Equipment (PPE) - helmet, jacket, gloves - will be provided. Your own personal appropriate welding apparel is required – long pants, steel toe shoes, etc.

Offering Code: VRTEX301
Course Fee: FREE

2018 Course Dates:
April 10 - 11
June 19 - 20
August 7 - 8
October 16 - 17
December 11 - 12

DAY 1:
Welcome and Safety
Introduction to VRTEX and Hands-On: Demo
Welding Procedure Specification (WPS)
Break
Hands-On Lab 1: Basic Operations
Instructor Mode
Changing Tolerances
Lunch
Automation Tour
Hands-On Lab 2: Changing Tolerances

DAY 2:
VRAW Curriculum – Education Services
Upgrades
Hands-On Lab 3: Upgrades
Break: Travel To Corporate Headquarters
Machine Division Tour
Lunch
Preventive Maintenance and Troubleshooting
Break
Complete Labs
Survey and Program Close
REALWELD® Customer Training

RWELD301

Who Is It For?
These courses are intended to allow new REALWELD® customers to get familiar with the system’s components, calibration, operation and system administration.

What is It?
A FREE two-day seminar limited to 15 attendees that is approximately 50% classroom and 50% hands-on.

Location:
Lincoln Electric Welding Technology & Training Center
22800 Saint Clair Avenue
Cleveland, OH 44117

RSVP and More Information:
http://classes.lincolnelectric.com/modules

What is Included & Attire:
Welding Personal Protection Equipment (PPE) - helmet, jacket, gloves - will be provided. Your own personal appropriate welding apparel is required – long pants, steel toe shoes, etc.

2018 Course Dates:
February 8 - 9
April 12 - 13
June 21 - 22
August 9 - 10
October 18 - 19
December 13- 14

DAY 1:
Introductions and Safety Video
Introduction to REALWELD System
User Demo and components of the REALWELD System
Hands-on Lab 1: Instructor Set-up, Create and Maintain Welding Procedure Specification (WPS), Curriculum and Users
Calibration
Lunch
Hands-on Lab 2: User Operation
Hands-on Import/Export
Review, Program Close

DAY 2:
Day 1 Review / Educational Services
REALWELD® Desktop Setup/ Import - Export
Hands-on Lab 3: Desktop Setup/ Import - Export
Break
Demo - Creating Master Weld / Hands-on Lab 4
Machine Division / Weld School Tour (optional)
Lunch
Demo - Changing Audio and Adding Supplemental Material / Hands-on Lab 5
Review / Quiz / Survey / Program Close
Online Course Registration

Registration Information
Register online for all Lincoln Electric training courses, including Professional Seminars, Distributor Training Programs, Service School Courses, Robotic Training Courses, and Welding School Courses.

How To Register
Register for all courses with a few simple steps:
Go to the Lincoln Electric website at www.lincolnelectric.com.

1. Click EDUCATION from the home page and select WELDING SCHOOL
2. Select REGISTER FOR CLASSES
3. Select FIND A COURSE
4. Select COURSE CATALOG

Registration and Payment Questions?
Contact the Lincoln Electric Weld Team
Phone: +1 844 818 6038
e-mail: weldtraining@lincolnelectric.com

Service School Questions?
Contact Carmen Becker
Phone: (216) 383-2310
e-mail: carmen_becker@lincolnelectric.com

International Training Questions?
Contact Customer Experience at:
customer_experience@lincolnelectric.com

Automation School Questions?
Phone: (888) 935-3878
For Welding School Attendees
For students staying long term, several residents near the Lincoln Electric Welding School have rooms for rent. Prices range from $40 to $100 per week—room only, no board. Contact the Lincoln Electric Welding School for a list of homes. Make arrangements in advance of your arrival in Cleveland. Meals are available at nearby restaurants. Lincoln Electric’s cafeteria serves noon meals at a very reasonable price.

For Technical Training Program Attendees
A block of rooms is reserved at one of the following hotels for each seminar. After registering online, you must contact the hotel directly to make your specific room reservations. Lincoln Electric has negotiated a discounted rate for you.

Crowne Plaza Playhouse Square
1260 Euclid Avenue
Cleveland, OH 44115
Phone: (216) 615-7500
Fax: (216) 615-3355
Shuttle service available
Approx. 10 miles from Lincoln Electric

Hilton Garden Inn - Mayfield
700 Beta Drive
Cleveland, OH 44143
Phone: (440) 646-1777
Approx. 9 miles from Lincoln Electric.
Ask for Lincoln Electric Rate

Doubletree Hotel - Cleveland
Downtown/Lakeside
1111 Lakeside Avenue E
Cleveland, OH 44114
Phone: (216) 928-3230
Ask for Lincoln Electric’s rate.
Daily rate includes free hot breakfast buffet.

Stonehill Hotel - Eastlake
35000 Curtis Boulevard
Eastlake, OH 44095
Phone: (440) 953-8000
Fax: (440) 953-1706
Website: www.stonehillhotels.com
Shuttle service available
Approx. 8 miles from Lincoln Electric

The Lincoln Electric Company
22800 St. Clair Avenue
Cleveland, OH 44117-1199

The Lincoln Electric
Welding School
Phone: +1-844-818-6038
Fax: +1-216-383-8088
email: weldtraining@lincolnelectric.com

The Lincoln Electric Company
Technical Training Department
Phone: +1-844-818-6038
Fax: +1-216-383-8025
email: weldtraining@lincolnelectric.com
Arc Welding Process Training Materials

The Lincoln Electric Company is dedicated to the advancement, training and safe practice of the art and science of arc welding.

One of the main initiatives in this effort is the production and distribution of some of the most effective training materials in the industry. These materials are made available for little or no cost to welding instructors and include:

U/LINC® Curriculum
» Stop spending your time developing curriculum
  – Use U/LINC AWS SENSE and state competency-aligned materials
» Over 1000 lesson plans, student assessments, lab activities, videos and presentations
» Course Builder module makes curriculum planning easy
» Know exactly which state competencies will or will not been met by your program
» For more information visit:
  education.lincolnelectric.com/ulinc

Other Training Materials
» Posters, welding & process guides, and books
» Order posters individually or as the *Educators Poster Pack (BK-296).

For more information,
to register or to order visit;
education.lincolnelectric.com
James F. Lincoln Foundation

The Arc Welding Bookshelf
The James F. Lincoln Arc Welding Foundation was created through a deed of trust “to encourage and stimulate scientific interest in and scientific study, research and education in respect of the development of the arc welding industry through advance in the knowledge and design and practical application of the arc welding process.” As a contribution to scientific progress and to promote industrial progress through education, the Foundation produces and publishes books and other educational materials as a non-profit service to the industry.

JFLF Overview
The James F. Lincoln Arc Welding Foundation is a non-profit, welding education organization founded in 1936 to promote welding as a better method of joining metals and to promote welding as a career choice. Today numerous low cost welding educational textbooks, videos, DVDs, teaching aids and no cost periodicals and technical papers are available through the Foundation.

In addition, the JFLF awards over $45,000 in cash and prizes each year to the winners of its welding design project contests, as well as the state and national SkillsUSA welding competition winners. See their website, www.jflf.org for details on specific contest rules, regulations and application forms.
James F. Lincoln Foundation Arc Welding Bookshelf
A Few of the Popular Textbooks and Videos

The Procedure Handbook of Arc Welding (PH)
14th Edition
Published by The James F. Lincoln Arc Welding Foundation
With over 500,000 copies of previous editions published since 1933, the Procedure Handbook is considered by many to be the “Bible” of the arc welding industry. The hardbound book contains over 750 pages of welding information, techniques, procedures, photographs, drawings and charts. Much of this material has never been included in any other book. A must for all welders, supervisors, engineers and designers. Many welding instructors will want to use the book as a reference for all students.

Metals and How to Weld Them (MHW)
2nd Edition
by T.B. JEFFERSON and GORHAM WOODS
This book describes the internal structure of metals and its relation to mechanical and physical properties and weld ability. This dual purpose textbook and reference manual is written in non-technical language so students, welders, supervisors, engineers and educators will easily understand all data. The 400 page book is 6”x9” with gold embossed hard cover.

Arc Welded Projects, Vol. V (AP-V)
Published by The James F. Lincoln Arc Welding Foundation
The projects described in this 200 page book represent the range of entries submitted in the James F. Lincoln Arc Welding Foundation Award Programs both as to the type and size of the project, and the nature of the descriptive information included. Each project is detailed, including prints and bills of material, so the do-it-yourself person can understand and build these helpful projects. It also provides great ideas for welding school class projects. Arc Welding Projects I through IV also available.

Learn To Weld—The Lincoln Way: An excellent visual guide for shielded metal arc welding. This tape concentrates on the fundamental techniques of horizontal, vertical up, and overhead welding. Safety section and technical welding guides included. Running Time: 18 minutes. ED201 DVD, $10.00

Welding—Making It Happen: An excellent video portraying how welding affects our daily lives. Great for teachers and career counselors with students, parents, and the general public. Produced by N.E.M.A. Running Time: 16 minutes. ED204 DVD, $10.00

Welding Safety: Thorough presentation on general shop safety, hazards in the workplace, and information on the subject of welding safely. MC15-156 Interactive DVD, Pay $5.00 S & H. only

Introduction to Semiautomatic Wire Welding: Provides the fundamental expertise necessary to successfully apply both gas-shielded and flux-cored welding wire. Running Time: 41 minutes. ED221 DVD, $10.00

Basic Electricity for Arc Welding: Introduces the beginning welder to basic component parts and terminology of arc welding. Running Time: 9 minutes. ED222 DVD, $10.00

Introduction to Inverter Technology: Inverters reflect the trend in industry for greater efficiency and higher quality welding machinery with inverters being designed to satisfy that demand. Running Time: 28 minutes. ED223 DVD, $10.00
INTRODUCTION
Welcome to the Lincoln Electric Welding School. We know that you have many options when choosing a welding school, and we thank you for choosing ours.

The information on the following pages applies to attendees of the Lincoln Electric Welding School located at 22800 Saint Clair Avenue in Cleveland, Ohio. Please familiarize yourself with this information prior to your first day of class. Should you have any questions, please contact the Lincoln Electric Welding School at 844-818-6038 or weldtraining@lincolnelectric.com.
ENTRANCE REQUIREMENTS
All attendees must be 18 years of age or older.

LOCATION
Lincoln Electric Welding School classes are conducted at Welding Technology and Training Center (WTTC) global headquarters at 22800 St. Clair Ave, Cleveland OH 44117.

HOURS
8:00 a.m. – 2:30 p.m. Monday through Friday. Instructors’ office hours are between 3:00 - 4:00 p.m. Monday through Friday. Hours are subject to change.

TOURS
Tours are offered by appointment Tuesday, Wednesday, and Thursday 1:00 p.m. to 3:00 p.m. Please call the Lincoln Electric Welding School office at 844-818-6038 ahead of time to schedule an appointment. Closed-toe shoes must be worn.

CAFETERIA
The cafeteria is available to students Monday through Friday during the following hours:

- 8:00 a.m. to 2:30 pm
- Lunch will be ½ hour (check with instructor)

ALLOWED WELDING TIME
No welding or grinding will be allowed when the fume extraction system is off. Welding is restricted to the welding “arm” in the booth. No welding or grinding will be allowed before 8:00 am or during the lunch period. No extra time will be allotted after class for welding or grinding.

LEGAL HOLIDAYS
The following are the recognized holidays on which the Lincoln Electric Welding School will be closed:

- Good Friday
- Memorial Day
- 4th of July
- Labor Day
- Thanksgiving Day
- Christmas Day
- New Year’s Day

During these holiday weeks, the normal class hours will be extended. The Lincoln Electric Welding School will close for the last two weeks of December.
ATTENDANCE POLICY

Attendance will be taken at the start of each class. Our attendance policy is driven by the expectations of industry: While 100% attendance is ideal, students must be in attendance for at least 90% of each program or course attempted in order to be awarded a certificate of completion for the program or course. In the event that the student cannot attend class, the student is expected to notify his/her instructor or the Lincoln Electric Welding school personnel immediately by phone or email or both.

Students are to contact the school or their instructor during the hours of 7:30 am – 4:00 pm Monday through Friday at 844-818-6038 or by email weldtraining@lincolnelectric.com.

A student who fails to attend at least 90% of classes in the attempted program or course will not receive their certificate of completion and will not be eligible for a refund. Leaving early can cause the student to be considered absent. Attendance is mandatory on the first day of class.

Exceptions to the above may be made at the instructor’s discretion.

Absence policy requiring the student to reschedule at students own expense:

- Absence on the first day of a class
- 1 week class: Absence exceeds 3 hours
- 2 week class: Absence exceeds 6 hours
- 6 week class: Absence exceeds 18 hours
- More than 10% of any given seminar, program, or customized course
- 3 tardy instances during one class and/or program

Students who are more than 5 minutes late after the class has started will be considered tardy. All absences are recorded in 15 minute increments.

Any time that is missed will be considered an absence from the class.

MISSED ASSIGNMENTS
The opportunity to complete makeup work following an absence will be offered at the discretion of the instructor.

LEAVE OF ABSENCE
Students who require extended leave must provide written notification to the director of the Lincoln Electric Welding School. Requests for leave will be considered on a case-by-case basis.

TARDY POLICY
Our tardy policy is driven by the expectations of industry. Each class will begin promptly at the time specified on the schedule. Students are expected to be on time for class, both upon arrival in the morning and return from lunch in the afternoon. This means that students must be inside the classroom, prepared with all needed
materials, when class starts. Students who are not on time will be considered tardy. In the event that you know you will be tardy due to an emergency, you are expected to notify your instructor or the Lincoln Electric Welding School at 844-818-6038 or weldtraining@lincolnelectric.com immediately by phone or email or both. Consequences for tardies include but are not limited to:

- 1st offense: Instructor issues verbal warning
- 2nd offense: Incident is recorded in student's record
- 3rd offense: Student is dismissed from remainder of class and must reschedule at their own expense

The instructors and the director of the Lincoln Electric Welding School may grant exceptions to the above, on a case-by-case basis, as they deem appropriate.

PASSING REQUIREMENTS
During and at the end of each program, written tests and welding samples will be assessed to determine the student’s ability to successfully complete and pass each program. Weld samples are tested to AWS, ASME and API welding codes. Written tests are graded on the following scale:

- A = 100 – 90%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = 59% or below and will not pass the school’s standards.

To receive a certificate of completion for attending the Lincoln Electric Welding School, students must earn a minimum of a 70% average on exams and welded specimens.

TUITION AND FEES
Transfer of Fees
If there is a registration fee for a course, that fee is nonrefundable. However, that registration fee is transferable to another course one time with 180 days. If the registration fee is not applied to a course within 180 days, the registration fee is forfeited. If a student needs to reschedule a second time, that registration is forfeited.

If a student pays a registration fee of a higher dollar amount than the registration fee of the course it was transferred to, the difference will be allocated to the course fee.

Example: If a student pays a registration fee of $100 and needs to change the course. The new course registration fee is $50. The student will have a $50 credit that will be used for the course fee. If course fee is $500, the student would have a remaining balance of $450.
NOTIFICATION OF RIGHTS UNDER FERPA

The Family Educational Rights and Privacy Act (FERPA) affords eligible students certain rights with respect to their education records. (An “eligible student” under FERPA is a student who is 18 years of age or older or who attends a postsecondary institution.) These rights include:

1. The right to inspect and review the student’s education records within 45 days after the day the School receives a request for access. A student should submit to the school a written request that identifies the record(s) the student wishes to inspect. The school will make arrangements for access and notify the student of the time and place where the records may be inspected.

2. The right to request the amendment of the student’s education records that the student believes is inaccurate, misleading, or otherwise in violation of the student’s privacy rights under FERPA.

A student who wishes to ask the school to amend a record should write the school, clearly identify the part of the record the student wants changed, and specify why it should be changed. If the school decides not to amend the record as requested, the school will notify the student in writing of the decision and the student’s right to a hearing regarding the request for amendment.

3. The right to provide written consent before the School discloses personally identifiable information from the student’s education records, except to the extent that FERPA authorizes disclosure without consent. The School discloses education records with a student’s prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the School to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

   Family Policy Compliance Office, U.S. Department of Education,
   400 Maryland Avenue, SW, Washington, DC 20202

RELEASE OF STUDENT INFORMATION

The Lincoln Electric Welding School has not and will never release any student's personal information to any third party organization. Information will remain confidential and only be released to individuals other than the student if a signed Authorization Form is on file authorizing our staff to release information. The Student Information Authorization Form is available through the Lincoln Electric Welding School office.
LEARNER RECORDS POLICY

It is the responsibility of the Lincoln Electric Welding School to maintain training records and make them available to learners for a minimum of seven years.

Lincoln Electric Welding School Classes

Learners’ records shall be maintained by the Lincoln Electric Welding School secretary or equivalent and shall include:

- Learner’s name
- Learner’s contact information
- Assessment scores
- Learning event title
- Learning event start date
- Learning event completion date

Technical Training Classes

Learners’ records shall be maintained by the Lincoln Electric Welding School or equivalent and shall include:

- Learner’s name
- Learner’s contact information
- Learning event title
- Learning event start date
- Learning event completion date
- CEU’s awarded

The Lincoln Electric Welding School will ensure that the confidentiality of learners’ records is maintained as mandated by FERPA by familiarizing all personnel who access student records with FERPA policy.

Learners may access their records by completing the Request for Learner Records form and submitting it to the Lincoln Electric Welding School. Learners may request that their records be sent to a third party by completing the FERPA Consent Form for Disclosure to Third Parties and submitting it to the Lincoln Electric Welding School.

HOW TO REQUEST YOUR LINCOLN ELECTRIC WELDING SCHOOL LEARNER RECORDS

You may request a free copy of your learner record in person or using mail, fax, or email. To protect your confidentiality, we cannot accept requests made over the phone; requests made using email can only be accepted if a completed Request for Learner Records form is attached in PDF format.

Contact the Lincoln Electric Welding School at 844-818-6038 or weldtraining@lincolnelectric.com if you have questions about obtaining your learner records.

In Person Requests

In person requests for Lincoln Electric Welding School learner records can be made to the Lincoln Electric Welding School in the Lincoln Electric Welding School office between 8:00 a.m. and 4:00 p.m., Monday through Friday. One form of government-issued photo ID is required.
**Requests Using Mail, Fax or Email**
The completed Request for Learner Records form can be submitted as follows:

- Email to weldtraining@lincolnelectric.com; attach completed form to email as a PDF.
- Fax to 216-383-8088
- Mail to: WTTC c/o Welding School
  22800 Saint Clair Avenue
  Cleveland, Ohio 44117

Request for learner records form can be found on page 57.

**PAYMENT PROCEDURES**
Full tuition is due (2) weeks prior to the first day of class. If payment is not received, the student will be removed from the class roster. We accept VISA and MasterCard. Any questions regarding payment(s) can be directed to the Lincoln Electric Welding School at weldtraining@lincolnelectric.com.

*The verbiage in these sections is mandated by the State Board of Career Colleges and Schools: Cancellation and Settlement policy, Refund Policy, Enrollment Agreement, and Complaint or Grievance Procedure.*

**CANCELLATION AND SETTLEMENT POLICY**
If a student registers and enrolls in a course, he/she may drop the course within five calendar days after the date of enrollment. The student must request a drop online through the Lincoln Electric class registration website and a member of the Lincoln Electric Education Team will contact the student within 3 business days to process the request.

If such cancellation is made, the school will promptly refund in full all course and registration fees paid for the course and the refund shall be made no later than thirty days after cancellation. This provision shall not apply if the student has already started academic classes.

**SHIELDED METAL ARC WELDING**
There is (1) academic term for this program that is 180 clock hours in length. Refunds for tuition and refundable fees shall be made in accordance with following provisions as established by Ohio Administrative Code section 3332-1-10:

**COMPREHENSIVE PROGRAM**
There are (2) academic terms for this program that is 600 clock hours in length. Refunds for tuition and refundable fees shall be made in accordance with following provisions as established by Ohio Administrative Code section 3332-1-10:
ENROLLMENT AGREEMENT FOR ALL COURSES

(1) A student who withdraws before the first class and after the 5-day cancellation period shall be obligated for the registration fee.

(2) A student who starts class and withdraws before the academic term is 15% completed will be obligated for 25% of the tuition and refundable fees plus the registration fee.

(3) A student who starts class and withdraws after the academic term is 15% but before the academic term is 25% completed will be obligated for 50% of the tuition and refundable fees plus the registration fee.

(4) A student who starts class and withdraws after the academic term is 25% complete but before the academic term is 40% completed will be obligated for 75% of the tuition and refundable fees plus the registration fee.

(5) A student who starts class and withdraws after the academic term is 40% completed will not be entitled to a refund of the tuition and fees.

The school shall make the appropriate refund within thirty days of the date the school is able to determine that a student has withdrawn or has been terminated from a program. Refunds shall be based upon the last date of a student’s attendance or participation in an academic school activity.

COMPLAINT OR GRIEVANCE PROCEDURE

All student complaints should be first directed to the school personnel involved. If no resolution is forthcoming, a written complaint shall be submitted to the director of the school. Whether or not the problem or complaint has been resolved to his/her satisfaction by the school, the student may direct any problem or complaint to the Executive Director, State Board of Career Colleges and Schools, 30 East Broad St, Suite 2481, Columbus, Ohio, 43215, Phone 614-466-2752; toll free 877-275-4219.

Lincoln School Number: 71-02-0059T

REFUND POLICY

If the student is not accepted into the training program, all monies paid by the student shall be refunded. Refunds for books, supplies and consumable fees shall be made in accordance with Ohio Administrative Code section 3332-1-10.1.

MEDICAL EMERGENCY

All medical emergencies must be reported using the appropriate procedures. If you or someone nearby experiences an injury or other medical emergency, immediately contact an instructor or use the nearest telephone to contact Lincoln Electric’s emergency services by dialing 2222. Do not dial external emergency numbers. If you receive an injury that is not life threatening, please notify your instructor.
OTHER EMERGENCIES
The Lincoln Electric Welding School has an emergency plan in place, which will be explained to you at the start of the program.

SAFETY
All participants will be required to wear basic safety gear at all times in the Lincoln Electric Welding School. Basic PPE gear includes safety-toed footwear, safety glasses with side shields, a shirt and long pants (non-synthetic fibers only).

EQUIPMENT AND PPE GEAR
Welding will begin on the first day of class. Students must provide the following PPE gear, which they must wear at all times when welding:

- Ankle-high leather shoes with safety toes
- Safety glasses that include side shields. Prescription eyewear will be allowed as long as it includes side shield protection and meets all other safety requirements.
- Long pants (No synthetic fibers allowed; no cuffs; absolutely no shorts permitted.)
- Long sleeved shirt or welding jacket
- Welding gloves
- Welding helmet
- Head gear (A bandana or doo rag to protect head from sparks when welding out of position)
- Hearing protection (Earplugs will be provided.)

Students must also be prepared with the following materials:

- Wire brush
- Pliers
- Three-ring binder with writing utensils for class

Locks and lockers are furnished. All other equipment is the responsibility of the student. Students should furnish any personal items such as a flashlight, channel locks and/or helmet. Items such as helmets, lenses, gloves, leathers and caps are available in the Lincoln Electric Welding School store at special student prices.

Please note: The school is not responsible for articles left in lockers.

INCLUDED IN COURSE FEE
Price of classes includes: training handouts, welding consumables and steel practice coupons (also stainless steel and aluminum when applicable). If a student wishes to complete an AWS qualification/certification, additional charges will apply.
PARKING
Students will receive a temporary parking pass on the first day of class. Parking passes should be placed on the dashboard of your vehicle, visible to security. Students must observe our employee rules:

TRAVEL
Please do not make any travel arrangements until your reservation for class has been confirmed. The Cleveland Hopkins International Airport serves the Cleveland area.

NO SMOKING
The Lincoln Electric Company strictly prohibits smoking on company premises, including the Lincoln Electric Welding School and training lab facilities and the parking lot. (Ask instructor for designated smoking area.)

RESTRICTED AREAS
Unless accompanied by an instructor, all areas of the distribution center are off limits. Furthermore, the Lincoln Electric Welding School or training labs should not be occupied unless accompanied by an instructor.

PERSONAL CONDUCT
All participants are expected to conduct themselves in a respectable manner at all times. Misconduct such as fighting, use of illegal drugs or alcohol, or carrying of weapons will not be tolerated and will result in automatic dismissal from the Lincoln Electric Welding School. Deliberate damage, theft, or any vandalism to tools, equipment or facilities will not be tolerated and will result in automatic dismissal from the Lincoln Electric Welding School. Students responsible for these offenses will not be eligible for a refund and will be prosecuted to the full extent of the law.

CELL PHONES AND OTHER PERSONAL DATA DEVICES
Personal data devices and electronics must be not be disruptive to the learning environment. Consistent with our company policy, personal data devices and electronics must be turned off during class. Students may be asked to leave the class if their personal data devices or electronics are disruptive or distracting. Personal data devices and electronics may not be used (or turned on) in work areas, including the Lincoln Electric Welding School, production floor, laboratory and offices. Personal data devices and electronics may be used in the cafeteria during your scheduled lunch period and before and after school.

PHOTO AND RECORDING POLICY
Pictures or videos may not be taken anywhere on company property unless approved by the Lincoln Electric Welding School manager. In addition, the use of audio recording devices is prohibited.
RE-ADMITTANCE POLICY
A student who is dismissed from the Lincoln Electric Welding School may submit to the director of the Lincoln Electric Welding School a written request for readmittance. These instances will be considered on a case-by-case basis, and readmittance will be solely at the discretion of the director of the Lincoln Electric Welding School.

PERSONAL BUSINESS
Appropriate time will be allotted throughout the course for conducting personal business. Lincoln Electric Welding School phones are for company business and therefore should not be used for personal calls. Make all personal calls using your personal phone.

DISCRIMINATION POLICY
The Lincoln Electric Welding School prohibits discrimination or making explicit references of a discriminatory nature based on gender, ethnicity, religion, age, disability, socioeconomic status, and/or sexual orientation. It is the responsibility of the Lincoln Electric Welding School to ensure that all individuals involved in the administration, development, and delivery of learning events are familiar with Lincoln Electric's discrimination policy:

The Lincoln Electric Welding School does not condone or practice discrimination of any kind pertaining to groups or individuals in regard to age, race, creed (religious affiliation), sex, ethnicity, or social status. This basic principle is the foundation for an attitude that values and respects the dignity and worth of individuals within our academic community. This educational facility recognizes inclusive strategies for persons (individuals) with physical challenges, as long as they do not interfere with student’s ability to be successful to complete and perform the functions of his/her training. This institution believes in and is committed to equal opportunity based on the fundamental reason that every person is valuable. This position is based on the inherent worth of a living human being. We respect the rights of our students to realize their potential. Beyond this, we acknowledge that the individual has a right to make every effort to produce appropriate conditions for learning, working, and striving to achieve one's own optimum usefulness in the work force and in society as a whole.

Purpose: The purpose of this policy is to ensure that all individuals involved in the administration, development, and delivery of learning events display professional conduct and abide by Lincoln Electric's discrimination policy.

Responsibilities: Lincoln Electric Welding School
Process:

- The Lincoln Electric Welding School will ensure that all individuals involved in the administration, development, and delivery of learning events receive a copy of the discrimination policy.
- The Lincoln Electric Welding School will monitor learning events including those at North American locations to ensure that all individuals involved in the administration, development, and delivery of learning events display professional conduct and abide by Lincoln Electric’s discrimination policy.
- The discrimination policy will be printed on the course syllabus that is sent to students when they register for a course.
- The Lincoln Electric Welding School will review the syllabus of each course, prior to approving the course, to verify that this policy is printed on the syllabus.

YOUR CERTIFICATE OF COMPLETION: A SOURCE OF PRIDE AND ACCOMPLISHMENT

Ask any of the graduates of the Lincoln Electric Welding School about their training. They will tell you Lincoln Electric trained people have practical training as well as understanding of theory. Lincoln Electric Welding School graduates have earned a tremendous reputation. The certificate of completion you receive will be proof of your accomplishments.

INTELLECTUAL AND LEGAL PROPERTY RIGHTS POLICY

It is the policy of the Lincoln Electric Welding School to give appropriate credit when a learning event utilizes any media that was not created by Lincoln Electric.

POLICY REQUIRING DISCLOSURE OF INSTRUCTOR’S PROPRIETARY INTEREST

It is the policy of the Lincoln Electric Welding School that any instructor’s proprietary interest in products, devices, services or materials discussed, as well as the source of any compensation related to the presentation are disclosed to learners prior to the start of the learning event.

SPARE TIME ACTIVITIES

There are many interesting things to do in Cleveland during your free time. Cleveland is home to three professional sports teams. You can enjoy the Cleveland Orchestra, Rock & Roll Hall of Fame and Museum and the Cleveland Art Museum and Gardens. Water sports, live theater and other entertainment are also available to enjoy.

If you would like to receive a complete directory of things to see and do in Cleveland, call the Ohio Tourism and Travel Bureau at 1-800-Buckeye. You can also find information on the Internet at www.cleveland.com.
LODGING
Students staying long-term may reserve a room at any of the facilities listed below and on the next page. Make arrangements in advance of your arrival in Cleveland. Meals are available at nearby restaurants.

HOTELS & LODGING SERVICES
This list is provided as a service to our WTTC students. It is not intended as a list of approved or recommended rental facilities. Students use this information at their own risk.

- Arlene and Sonny Francos: 18018 Nottingham Rd, Cleveland, OH 44119. Contact Arlene or Sonny Francos at 216-225-1367 or arleneandsonny@aol.com or visit www.arleneandsonny.com. Private residence.

- Campgrounds (Availability may vary by season)
  - Heritage Hills: 6445 Ledge Rd, Thompson OH 44086. Call 440-298-1311.
  - Willow Lake: 3935 State Route 534, Geneva OH 44004. Call 440-466-0150.

- Corporate Lodgings: Office located at 6956 Spinach Dr, Mentor OH 44060. Contact Patty at 1-800-455-1910 or visit www.corporatelodgingsneo.com

- DoubleTree by Hilton™ Hotel Cleveland Downtown/Lakeside: 1111 Lakeside Ave E, Cleveland OH 44114. Call 216-928-3230. Daily rate includes free hot breakfast buffet. Ask for Lincoln Electric's rate.

- Fox Run Apartments: 1361 Fox Run Dr, Willoughby OH 44094. Call Kim at 440-840-4566 to receive special discount rate and more information.

- Gates Mills Place: 6807 Mayfield Rd, Mayfield Hts. OH 44124. Contact Cheri Ashcraft at 216-310-5740. Apartment complex; Comprehensive Program students preferred.

- Parkway Apartments: 1215 Village Dr, Willoughby OH 44094. Call Kim at 440-840-4566 to receive special discount rate and more information.


POLICY FOR PROVIDING SUPPORT SERVICES

It is the policy of the Lincoln Electric Welding School that learners shall receive the following immediately upon registration for a learning event:

- Confirmation email: Shall include confirmation number to confirm that student has registered for class; name, date(s), and location of class along with any other relevant information, such as supplies or attire needed.
- Class syllabus: Shall include class description, topic overview, course objectives, criteria for completion and earning CEU’s, instructors' email, phone number, and office hours, along with any other relevant information, such as supplies or attire needed.

Both the registration email and the class syllabus shall include the phone number and email address for either the Lincoln Electric Welding School as appropriate, whom learners may contact for support before, during and after the learning event.

In addition, the support services available to learners shall be reviewed as part of the introductory presentation on the first day of class.

The Lincoln Electric Welding School shall ensure that the above policy is being followed by periodically reviewing the emails sent to learners upon their registration for class. Prior to approving a new class, the Lincoln Electric Welding School shall review the class material to ensure that information on support services available to learners is included in the introductory presentation given on the first day of class.

Process:

1. Learner completes registration for learning event.
2. Learner receives automatically generated confirmation email and syllabus from Cvent online registration software.
3. Support services available to learners are reviewed as part of the introductory presentation on the first day of class.
PROCESS FOR COMPLETING LEARNER RECORDS

Learner records will be completed by the Lincoln Electric Welding School using the Transcript form.

The Lincoln Electric Welding School will complete the following steps:

**Step One:** Receive learning event records from instructor(s) at the conclusion of the learning event.

**Step Two:** Enter information from learning event records into transcript form. This information shall include:

- Learner’s name
- Learner’s contact information
- Learning event title
- Learning event start date
- Learning event completion date
- CEU’s awarded, where applicable

**Step Three:** Maintain learner records according to the Learner records policy.

Individuals involved in administering learning events shall use this form to record all learner records for CEU classes.

This and other learner records shall be retained for a minimum of seven years in accordance with Lincoln Electric and FERPA policies.
REQUEST FOR LEARNER RECORDS

Complete this form to have a free copy of your learner record sent to you. To have your official records sent to another school, a business, or the like, you must complete Consent Form for Disclosure to Third Parties.

Print Name (Last, First, MI): _______________________________________________________

Program Name*: _________________________________________________________________

Program Date *(mm/dd/yyyy): ______________________________________________________

Address: _______________________________________________________________________

City: __________________________ State: __________________________ ZIP Code: __________

Home Phone: _______________________ Cell/Daytime Phone: __________________________

Email Address: _________________________________________________________________

Choose one:

☐ I currently attend a class(es) offered by the Lincoln Electric Welding School or Technical Training Department

☐ I last attended a class(es) offered by the Lincoln Electric Welding School or Technical Training Department on (mm/yy): __________________________

Indicate how you would like to receive your copies (select one):

☐ Mail __________________________ copy(ies) to me at my address as listed above.

☐ Email a pdf record to this email address:

______________________________________________________________________________

☐ Fax to this number: ___________________________ Attention: __________________________

I authorize the release of my learner records to the address/fax number/email address listed above.

Signature ___________________________ Date __________________________

*When attending an individual program rather than a Welding School course, neither student numbers nor SSN's are assigned to records. Please indicate the program name and date attended.
FERPA CONSENT FORM FOR DISCLOSURE TO THIRD PARTIES

To: Registrar Lincoln Electric Welding School

From: ____________________________________________________________

Student's First Name         Middle Initial         Last Name

Under the Family Educational Rights and Privacy Act (FERPA), the Lincoln Electric Welding School must have your consent to disclose information from your education records to third parties unless an exception applies. If you wish for the school to provide information about training you have attended to third parties such as employers, prospective employers or other schools, the school must have your consent as follows.

I hereby grant permission to the Lincoln Electric Welding School to provide copies of written records, permit inspection and review of the contents of my education records, and/or to discuss my academic performance with the following parties:

Name: __________________________________________________________

Address: __________________________________________ City, State, Zip: ____________________________

Telephone: ______________________________________________________

Name: __________________________________________________________

Address: __________________________________________ City, State, Zip: ____________________________

Telephone: ______________________________________________________

This request will remain in effect until ______________________ or until withdrawn by me in writing.

Signature ______________________________________________________ Date ______________________