



**Welding Technology  
& Training Center**  
Course Catalog

**2023**

# Make Your Mark in Welding With a Hand from Lincoln Electric

Founded in 1895, Lincoln Electric has been a leader and innovator in the design and production of arc welding equipment and consumables since the beginning of the welding industry. Headquartered in Cleveland, Ohio, we are also a worldwide leader in robotic arc welding systems as well as plasma and oxyfuel cutting equipment.

With over a century of leadership in welding education, our education team is committed to your career success.

- The Lincoln Electric Welding Technology & Training Center is a world-class training facility for welders and those who train welders, filled with the latest in booth and classroom equipment and practices.
- Our expert instructors are trained to instruct you on the science as well as the practice of welding, so that you understand why you perform a particular weld as well as how best to do it.
- Our Comprehensive Program covers every major arc welding process and material type as well as oxyfuel and plasma cutting, preparing you to tackle a number of welding certifications.
- Our programs extend to seminars and workshops for the professional development of various roles in the the welding community.
- Custom Training is available to any company's production team to learn more about new technologies, equipment or master a weld for qualification.



**Join the elite welders that pass through our training programs each year, prepared to face the challenges of the welding and fabrication industry.**

**Prices, policies and dates listed in this guide are subject to change. Please check current prices and class dates at: <http://classes.lincolnelectric.com>**

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## MyLincoln Education Portal

### Welding Products

Lincoln Electric is the world's 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 and more. Lincoln Electric's product list includes:

- » Welding equipment
- » Welding consumables
- » Personal protection equipment
- » Accessory equipment and parts
- » Cutting equipment
- » Robotics
- » Fume control systems
- » Gas apparatus by Harris® Products Group

### Educational Discounts

- » Lincoln Electric offers educational discounts to qualified teaching facilities on eligible welding equipment and other products. The Lincoln Educational Discount is applied through sales to schools by our network of welding distributors.
- » In addition, welding instructors and industry trainers are eligible for substantial savings on 1-2 week welding process classes.

### FREE Resources

- » Posters
- » Decals
- » Welding training videos
- » Welding guides
- » Technical documents
- » Lesson plans



## Welding Gear + Tools + Consumables



## Fume Extraction Units + Filters



## Harris® Products



## Guns + Accessories

>>> IT PAY\$  
TO BE ON THE  
**PORTAL!**



- 1 Register to participate in the MyLincoln Education Portal: [www.lincolnelectric.com/educationportal](http://www.lincolnelectric.com/educationportal)
- 2 Log in to the portal to order consumables, gear, parts and accessories. Special pricing applies to online orders only.
- 3 Lincoln Electric will ship the order directly to your school. Free Standard Shipping on orders over \$500.

### MyLincoln Educational Portal

offers teaching facilities (schools, job corps, unions and correctional facilities) FREE educational resources and exclusive education pricing on welding program supplies. Through the web-based portal, instructors can access lesson plans, safety materials, videos and posters- in addition to the deep discounts and **FREE** shipping on orders over \$500, premium welding consumables, gear, guns, Harris® products, fume extraction units and much more! **Questions? Call: 888.610.1095**

► Start saving! Register today:  
[www.LincolnElectric.com/EducationPortal](http://www.LincolnElectric.com/EducationPortal)

### Where to Get More Details

For complete details on all Lincoln Electric welding products, see our website at [www.lincolnelectric.com](http://www.lincolnelectric.com) and/or request a digital copy of our product catalog [E1.10]. For Questions, contact us at [educationalsales@lincolnelectric.com](mailto:educationalsales@lincolnelectric.com), or your local Lincoln Electric Technical Sales Representative.



## Arc Welding Safety – Materials and Products

### Lincoln Electric Safety Materials - [www.lincolnelectric.com/safety](http://www.lincolnelectric.com/safety)

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 and other safety equipment
- » Weld safety video series
- » Weld safety FAQs
- » Weld fume control solutions
- » 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 Institutes'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/standards/page/free-downloads](http://www.aws.org/standards/page/free-downloads).

### 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 weld fume control 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 control 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 control systems
- » 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 which increase or decrease based on demand
- » Sound-absorbing boxes and in-line duct silencer lessen noise



**For More Information, Contact:** Phone: 216-383-2667 · Email: [weldfumecontrol@lincolnelectric.com](mailto:weldfumecontrol@lincolnelectric.com) · [www.lincolnweldfumecontrol.com](http://www.lincolnweldfumecontrol.com)

# Overview of Welding School

## School Offerings

Lincoln Electric operates the longest running welding school in the world. Founded in 1917, the school has taught over 150,000 students from the United States and abroad. Our professional staff of instructors bring a wealth of knowledge and experience to every classroom and lab experience.

Lincoln Electric’s Welding School offers a variety of classes, from a two-day Weekend With Metal course to an advanced 16 Week Comprehensive Program, as well as one-week classes on specific welding processes, certification or customized programs.

**Unless otherwise indicated, courses are held 8:00 a.m. – 4:00 p.m. Monday-Thursday, 50 weeks per year.**

Students spend about 40% of their time in the classroom and 60% in the booth learning to weld. The instructor-to-student ratio is kept low to provide plenty of individual guidance. 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

- » Learn welding from a proven industry leader and operator of the longest continually operating welding training program in the world.
- » Train at a major hub for welding research and development at Lincoln Electric’s global headquarters campus.
- » Access career fairs and potential welding jobs through Lincoln Electric’s career board.
- » Practice on the most advanced welding equipment and the best consumables in the industry.
- » Work with highly trained and qualified instructors who are committed to your success.
- » Learn and practice in a safe working environment. Receive a Lincoln Electric Welding School graduation certificate upon successful graduation of the course. Combine your new welding skills with Lincoln Electric’s reputation for producing quality students to improve your chances of landing a great welding job.
- » All classes are conducted at the Lincoln Electric Welding Technology and Training Center unless indicated otherwise.

## WELDING INSTRUCTORS



Kelly Bean



Vince Casella



Travis Edmonds



Scott Galippo



Charlie LaRiche



Bill Miller

## OFFICE STAFF

Matt Albright ..... Manager of Application Engineering  
 Charlie LaRiche ..... Supervisor of Welding Instruction  
 Keith Anderle ..... Student Information System Administrator  
 Heather Shadle ..... Education Services Coordinator

# 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](http://www.lincolnelectric.com).

1. Click **EDUCATION** from the home page and select **TRAINING PROGRAMS**
2. Select **WELDING CLASSES & SEMINARS**
3. Select **WELDING SCHOOL, SEMINARS/WORKSHOPS, DISTRIBUTOR TRAINING or SERVICE SCHOOL**
4. Select a course

## Registration and Payment Questions?

Contact the Lincoln Electric Education Team  
 Phone: +1 (844) 818-6038  
 Email: [weldtraining@lincolnelectric.com](mailto:weldtraining@lincolnelectric.com)

## Service School Questions?

Contact Carmen Becker  
 Phone: +1 (216) 838-2310  
 Email: [carmen\\_becker@lincolnelectric.com](mailto:carmen_becker@lincolnelectric.com)

## International Training Questions?

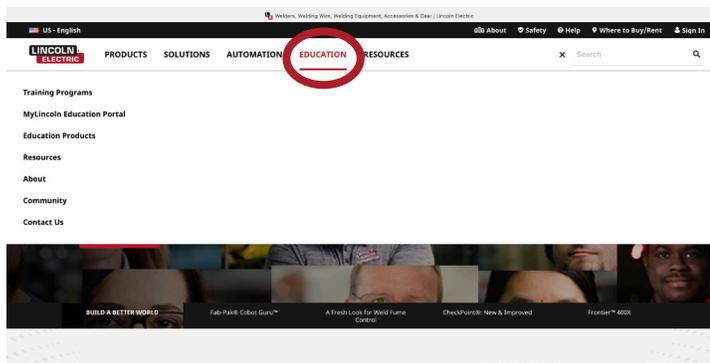
Contact Customer Experience:  
 Email: [customer\\_experience@lincolnelectric.com](mailto:customer_experience@lincolnelectric.com)

## Automation School Questions?

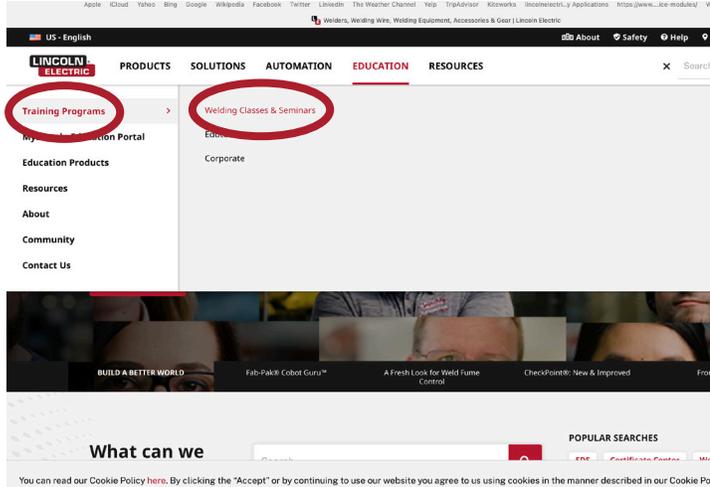
Phone: +1 (888) 935-3878  
 Class dates are subject to change or cancellation. Visit <https://www.lincolnelectric.com/en/Education/Training-Programs/Corporate/Robotic-Automation-Training> for current class dates.



1



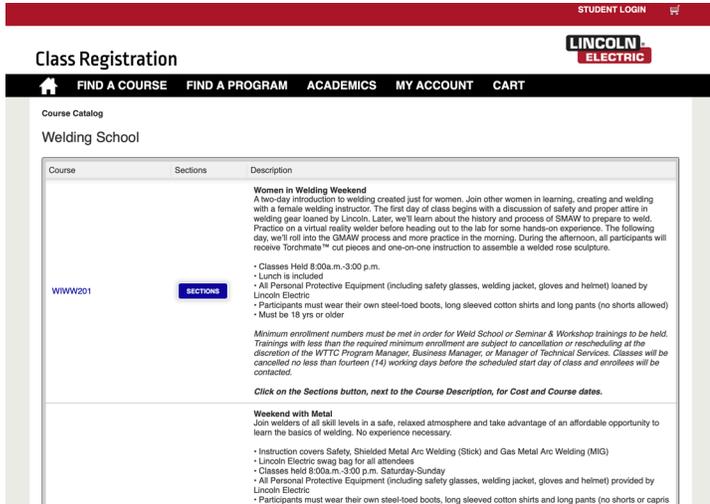
2



3



4



**16 WEEK COMPREHENSIVE PROGRAM**  
**Code: COMP**  
**Duration: Sixteen Weeks**  
**Course Fee: \$9,360.00 / Registration Fee: \$125.00**

|                |            |   |            |
|----------------|------------|---|------------|
| COMP_23_01_16W | 1/16/2023  | - | 5/5/2023   |
| COMP_23_02_16W | 2/13/2023  | - | 6/2/2023   |
| COMP_23_03_16W | 7/10/2023  | - | 10/27/2023 |
| COMP_23_04_16W | 8/21/2023  | - | 12/15/2023 |
| COMP_23_05_16W | 10/16/2023 | - | 3/10/2024  |

**API PIPE**  
**Code: API101**  
**Duration: Six Weeks**  
**Course Fee: \$3,510.00 / Registration Fee: \$125.00**

|              |            |   |            |
|--------------|------------|---|------------|
| API101_23_02 | 6/5/2023   | - | 7/13/2023  |
| API101_23_03 | 10/30/2023 | - | 12/14/2023 |

**ASME PIPE**  
**Code: ASME101**  
**Duration: Six Weeks**  
**Course Fee: \$3,510.00 / Registration Fee: \$125.00**

|               |            |   |            |
|---------------|------------|---|------------|
| ASME101_23_02 | 6/5/2023   | - | 7/13/2023  |
| ASME101_23_03 | 10/30/2023 | - | 12/14/2023 |

**INTRODUCTION TO WELDING**  
**Code: INTRO101**  
**Duration: Four Days**  
**Course Fee: \$750.00 / Registration Fee: \$50.00**

|                |           |   |           |
|----------------|-----------|---|-----------|
| INTRO101_23_01 | 1/30/2023 | - | 2/2/2023  |
| INTRO101_23_02 | 3/27/2023 | - | 3/30/2023 |
| INTRO101_23_03 | 6/26/2023 | - | 6/29/2023 |
| INTRO101_23_04 | 8/21/2023 | - | 8/24/2023 |
| INTRO101_23_05 | 11/6/2023 | - | 11/9/2023 |

**GAS METAL ARC WELDING**  
**Code: GMAW101**  
**Duration: Four Days**  
**Course Fee: \$750.00 / Registration Fee: \$50.00**

|               |            |   |           |
|---------------|------------|---|-----------|
| GMAW101_23_01 | 1/23/2023  | - | 1/26/2023 |
| GMAW101_23_02 | 2/27/2023  | - | 3/2/2023  |
| GMAW101_23_03 | 5/1/2023   | - | 5/4/2023  |
| GMAW101_23_04 | 7/17/2023  | - | 7/20/2023 |
| GMAW101_23_05 | 9/25/2023  | - | 9/28/2023 |
| GMAW101_23_06 | 10/30/2023 | - | 11/2/2023 |

**GAS TUNGSTEN ARC WELDING**  
**Code: GTAW101**  
**Duration: Four Days**  
**Course Fee: \$800.00 / Registration Fee: \$50.00**

|               |           |   |           |
|---------------|-----------|---|-----------|
| GTAW101_23_01 | 1/30/2023 | - | 2/2/2023  |
| GTAW101_23_02 | 3/6/2023  | - | 3/9/2023  |
| GTAW101_23_03 | 5/8/2023  | - | 5/11/2023 |
| GTAW101_23_04 | 7/24/2023 | - | 7/27/2023 |
| GTAW101_23_05 | 10/2/2023 | - | 10/5/2023 |
| GTAW101_22_06 | 11/6/2023 | - | 11/9/2023 |

**INTRODUCTION TO BASIC PLATE & SHEET METAL ARC WELDING**  
**Code: SMAW101**  
**Duration: Four Days**  
**Course Fee: \$750.00 / Registration Fee: \$50.00**

|               |           |   |           |
|---------------|-----------|---|-----------|
| SMAW101_23_01 | 3/13/2023 | - | 3/16/2023 |
|---------------|-----------|---|-----------|

**MAINTENANCE ALLOYS**  
**Code: ALLOY101**  
**Duration: Four Days**  
**Course Fee: \$750.00 / Registration Fee: \$50.00**

|                |           |   |           |
|----------------|-----------|---|-----------|
| ALLOY101_23_01 | 5/8/2023  | - | 5/12/2023 |
| ALLOY101_23_02 | 9/18/2023 | - | 9/21/2023 |

**FLUX CORED ARC WELDING**  
**Code: FCAW101**  
**Duration: Four Days**  
**Course Fee: \$750.00 / Registration Fee: \$50.00**

|               |           |   |            |
|---------------|-----------|---|------------|
| FCAW101_23_01 | 4/17/2023 | - | 4/20/2023  |
| FCAW101_23_02 | 10/9/2023 | - | 10/12/2023 |

**BASIC MOTORSPORTS**  
**Code: MTRS301**  
**Duration: Five Days**  
**Course Fee: \$1,190.00 / Registration Fee: \$100.00**

|               |           |   |           |
|---------------|-----------|---|-----------|
| MTRS301_23_01 | 1/30/2023 | - | 2/3/2023  |
| MTRS301_23_02 | 5/15/2023 | - | 5/19/2023 |
| MTRS301_23_03 | 9/18/2023 | - | 9/22/2023 |

**ADVANCED MOTORSPORTS**  
**Code: MTRS302**  
**Duration: Five Days**  
**Course Fee: \$1,190.00 / Registration Fee: \$100.00**

|               |           |   |           |
|---------------|-----------|---|-----------|
| MTRS302_23_01 | 2/6/2023  | - | 2/10/2023 |
| MTRS302_23_02 | 5/22/2023 | - | 5/26/2023 |
| MTRS302_23_03 | 9/25/2023 | - | 9/29/2023 |

**WEEKEND WITH METAL**  
**Code: METAL101**  
**Duration: Two Days (Sat/Sun)**  
**Course Fee: \$300.00 / Registration Fee: \$50.00**

|                |            |   |            |
|----------------|------------|---|------------|
| METAL101_23_01 | 2/18/2023  | - | 2/19/2023  |
| METAL101_23_02 | 5/6/2023   | - | 5/7/2023   |
| METAL101_23_03 | 8/5/2023   | - | 8/6/2023   |
| METAL101_23_04 | 10/14/2023 | - | 10/15/2023 |

**WEEKEND GAS TUNGSTEN ARC WELDING**  
**Code: GTAW104**  
**Duration: Two Days (Sat/Sun)**  
**Course Fee: \$300.00 / Registration Fee: \$50.00**

|               |            |   |            |
|---------------|------------|---|------------|
| GTAW104_23_01 | 11/11/2023 | - | 11/12/2023 |
|---------------|------------|---|------------|



## COMP - 16 Week Comprehensive Program

### Course Description

#### 480 Clock Hours, 16 Weeks, 48 CEUs

Designed to instruct welders in arc welding safety and all of the common welding processes. The course lasts 16 weeks and involves more than 400 hours of hands-on instruction. A PPE gear ready-pak is included and provided on the first day of class.

### Course Content

- » Blueprint Reading & Safety Training (1 week)
- » Cutting, Heat Treating, Bronzing and Oxyfuel (1 week)
- » Shielded Metal Arc Welding (6 weeks)
- » Gas Metal Arc Welding (3 weeks)
- » Gas Tungsten Arc Welding (2 weeks)
- » Flux-Cored Arc Welding (2 weeks)
- » Certification Testing (1 week)

**Duration:** 16 Weeks

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$9,360.00

**Registration Fee:** \$125.00

### Course Dates:

COMP\_23\_01 1/16/2023 - 5/5/2023

COMP\_23\_02 2/13/2023 - 6/2/2023

COMP\_23\_03 7/10/2023 - 10/27/2023

COMP\_23\_04 8/21/2023 - 12/15/2023

COMP\_23\_05 10/16/2023 - 3/10/2024



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear and tools are included with tuition. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.*

## API Pipe

### Course Description

#### 180 Clock Hours, 6 Weeks, 18 CEUs

Designed to introduce welders to the Shielded Metal Arc Welding (SMAW) process of welding pipe to meet the API (vertical down) welding code, students are taken from basic pipe welding methods to advanced pipe welding techniques relating to butt joints using cellulosic and low-hydrogen electrodes in accordance with API 1104 code. During advanced instruction, students will be working with schedule 40, 12-inch pipe. Lasting 6 weeks, this course provides 180 hours of booth instruction, lecture and practice. Upon completion of this course, students should have developed the skills for a career in the API piping industry.

**Prerequisite:** Before entering this class, students must have experience in welding and make passing welds on a sample test plate that includes vertical and overhead welds with E6010 and E7018 electrodes.

**Duration:** 6 Weeks

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$3,510.00

**Registration Fee:** \$125.00

#### Course Dates:

API101\_23\_02 6/5/2023 - 7/13/2023

API101\_23\_03 10/30/2023 - 12/14/2023



#### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.

## ASME Pipe

### Course Description

#### 180 Clock Hours, 6 Weeks, 18 CEUs

Designed to introduce welders to the Shielded Metal Arc Welding (SMAW) process of welding pipe to meet the ASME (vertical up) welding code, students are taken from basic pipe welding methods to advanced pipe welding techniques relating to the welding of the root & hot pass done with the Gas Tungsten Arc Welding (GTAW) process. Fill & cap passes may be done, based on the student's ability, with low-hydrogen stick electrode. During advanced instruction, students will be working with schedule 40 and 80, 6-inch pipe and 2-inch schedule 80. Lasting 6 weeks, this course provides 180 hours of booth instruction, lecture and practice. Upon completion of this course, students should have developed skills for careers in the pressure vessel piping fields.

**Prerequisite:** Before entering this class, students must have experience in welding and make passing welds on a sample test plate that includes vertical and overhead welds with E6010 and E7018 electrodes.

**Duration:** 6 Weeks

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$3,510.00

**Registration Fee:** \$125.00

#### Course Dates:

ASME101\_23\_02 6/5/2023 - 7/13/2023

ASME101\_23\_03 10/30/2023 - 12/14/2023



#### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.

# INTRO101 - Introduction to Welding

## Course Description

**30 Clock Hours, 4 Days, 3.0 CEUs**

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.

**Duration:** 4 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$750.00

**Registration Fee:** \$50.00

## Course Dates:

INTRO101\_23\_01 1/30/2023 - 2/2/2023

INTRO101\_23\_02 3/27/2023 - 3/30/2023

INTRO101\_23\_03 6/26/2023 - 6/29/2023

INTRO101\_23\_04 8/21/2023 - 8/24/2023

INTRO101\_23\_05 11/6/2023 - 11/9/2023

## Course Content

### Day 1

Introduction to welding safety and the Fill Freeze and Fast Fill groups of electrodes. Plasma Cutting.

### Day 2

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

### Day 3

SMAW lecture. 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 4

Basic TIG lecture. Weld on steel and stainless steel.



## Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.*

## GMAW101 - Gas Metal Arc Welding - Semiautomatic

### Course Description

#### 30 Clock Hours, 4 Days, 3.0 CEUs

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

**Duration:** 4 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$750.00

**Registration Fee:** \$50.00

### Course Dates:

GMAW101\_23\_01 1/23/2023 - 1/26/2023

GMAW101\_23\_02 2/27/2023 - 3/2/2023

GMAW101\_23\_03 5/1/2023 - 5/4/2023

GMAW101\_23\_04 7/17/2023 - 7/20/2023

GMAW101\_23\_05 9/25/2023 - 9/28/2023

GMAW101\_23\_06 10/30/2023 - 11/2/2023



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.

## GTAW101 - Gas Tungsten Arc Welding

### Course Description

**30 Clock Hours, 4 Days, 3.0 CEUs**

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

**Duration:** 4 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$800.00

**Registration Fee:** \$50.00

### Course Dates:

GTAW101\_23\_01 1/30/2023 - 2/2/2023

GTAW101\_23\_02 3/6/2023 - 3/9/2023

GTAW101\_23\_03 5/8/2023 - 5/11/2023

GTAW101\_23\_04 7/24/2023 - 7/27/2023

GTAW101\_23\_05 10/2/2023 - 10/5/2023

GTAW101\_22\_06 11/6/2023 - 11/9/2023



## SMAW101 - Introduction to Basic Plate & Sheet Metal Arc Welding

### Course Description

**30 Clock Hours, 4 Days, 3.0 CEUs**

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.

**Duration:** 4 Days

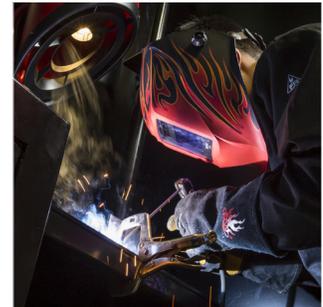
**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$750.00

**Registration Fee:** \$50.00

### Course Dates:

SMAW101\_23\_01 3/13/2023 - 3/16/2023



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.*

## ALLOY101 - Maintenance Alloys

### Course Description

#### 30 Clock Hours, 4 Days, 3.0 CEUs

Designed to instruct welders in torch safety, torch welding, brazing and cutting, carbon arc gauging and repair, metallurgy, SMAW-stainless steel, welding dissimilar metals, cast iron repair, and hardfacing.

### Requirements:

Attendees should have prior SMAW welding experience before enrolling in this course. Participants must provide their steel-toe boots, long sleeved cotton shirts and long pants (no shorts or capris permitted). Participants must be 18 years old or older.

### Course Content

- » Torch safety
- » Torch welding
- » Brazing and cutting
- » Carbon arc gauging and repair
- » Plasma cutting
- » Metallurgy
- » SMAW- stainless steel
- » Welding dissimilar metals
- » Cast iron repair
- » Hard facing

**Duration:** 4 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$750.00

**Registration Fee:** \$50.00

**Material Fee:** \$200.00

### Course Dates:

ALLOY101\_23\_01 5/8/2023 - 5/12/2023

ALLOY101\_23\_02 9/18/2023 - 9/21/2023



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.*

# FCAW101 - Flux Cored Arc Welding

**Course Description**

**30 Clock Hours, 4 Days, 3.0 CEUs**

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.

**Duration:** 4 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.

**Course Fee:** \$750.00

**Registration Fee:** \$50.00

**Course Dates:**

FCAW101\_23\_01 4/17/2023 - 4/20/2023

FCAW101\_23\_02 10/9/2023 - 10/12/2023



**Personal Protection Equipment (PPE) and Tools Required for Class:**

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.*

## MTRS301 - Motorsports – Basic Materials Program

### What Is It?

**34 Clock Hours, 1 Week, 3.4 CEUs**

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

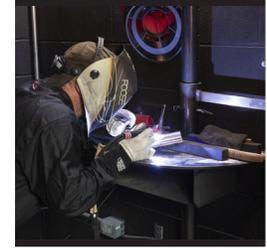
The primary focus of this course is on basic motorsports materials and applications (GMAW, GTAW, Oxyfuel, and Plasma Cutting) including aluminum and stainless steel. In addition to these concepts, new technologies will be introduced, which include Waveform Control Technology® and Precision TIG® technology.

### 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, Plant Tour, and TIG Kit with Gas Lens Parts.



**Duration:** 5 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.  
Fri. 8:00 a.m. - Noon

**Course Fee:** \$1,190.00

**Registration Fee:** \$100.00

**Material Fee:** \$200.00

### Course Dates:

MTRS301\_23\_01 1/30/2023 - 2/3/2023

MTRS301\_23\_02 5/15/2023 - 5/19/2023

MTRS301\_23\_03 9/18/2023 - 9/22/2023



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

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

**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.

## MTRS302 - 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?

#### 34 Clock Hours, 1 Week, 3.4 CEUs

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<sup>®\*</sup>, magnesium and titanium. In addition to these concepts, new technologies will be introduced, which include Waveform Control Technology<sup>®</sup> and Precision TIG<sup>®</sup> 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

**Duration:** 5 Days

**Time:** Mon-Thurs. 8:00 a.m. - 4:00 p.m.  
Fri. 8:00 a.m. - Noon

**Course Fee:** \$1,190.00

**Registration Fee:** \$100.00

**Material Fee:** \$200.00

### Course Dates:

MTRS302\_23\_01 2/6/2023 - 2/10/2023

MTRS302\_23\_02 5/22/2023 - 5/26/2023

MTRS302\_23\_03 9/25/2023 - 9/29/2023



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

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

*\*All trademarks and registered trademarks are the property of their respective owners.*

*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.*

## METAL101 - Weekend With Metal

### Course Description

#### 12 Clock Hours, 2 Days, 1.2 CEUs

Join welders of all skill levels in a safe, relaxed atmosphere and take advantage of an affordable opportunity to learn the basics of welding. Instruction covers Safety, Shielded Metal Arc Welding (Stick) and Gas Metal Arc Welding (MIG).

### Requirements:

No experience necessary. All Personal Protective Equipment (including safety glasses, welding jacket, gloves and helmet) will be provided by Lincoln Electric for use during the class. Participants must wear their own steel-toed boots, long sleeved cotton shirts and long pants (no shorts or capris permitted). Participants must be 18 years old or older.



**Duration:** 2 (Sat/Sun)

**Time:** 8:00 a.m. - 3:00 p.m.

**Course Fee:** \$300.00

**Registration Fee:** \$50.00

### Course Dates:

METAL101\_22\_01 2/18/2023 - 2/19/2023

METAL101\_22\_02 5/6/2023 - 5/7/2023

METAL101\_22\_03 8/5/2023 - 8/6/2023

METAL101\_22\_04 10/14/2023 - 10/15/2023

## GTAW104 - Weekend Gas Tungsten Arc Welding

### Course Description

#### 12 Clock Hours, 2 Days, 1.2 CEUs

Designed to instruct welders in GTAW (TIG) welding safety and basic GTAW process fundamentals. Welding will be taught on mild steel and aluminum. Welding consists of edge, corner, lap and fillet welds. Welding is limited to thin material, which does not include pipe, open roots or thick plate.

**Duration:** 2 Days (Sat/Sun)

**Time:** 8:00 a.m. - 3:00 p.m.

**Course Fee:** \$300.00

**Registration Fee:** \$50.00

### Course Dates:

GTAW104\_23\_01 11/11/2023 - 11/12/2023



### Personal Protection Equipment (PPE) and Tools Required for Class:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- 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.*

# AWS Accredited Testing Facility (ATF) Welder or Welding Operator Qualification Testing



### Qualification Testing

We are proud to offer Qualification Testing through the Lincoln Welding Technology and Training Center. This testing is to evaluate the skill set of the test applicant. Weld training will be provided by the testing facility. All test applicants should arrive ready to test. The cost of the testing includes all materials required, the use of equipment as needed, along with some practice material.

### Certification Testing

As an Accredited Testing Facility, we are authorized to perform welder or welding operator testing and offer AWS Certifications which are nationally recognized through the AWS National Registered Database. These tests are identical to the Qualifications tests listed above, but allow the test applicant to be entered into the AWS Database as a Certified Welder. There is an additional \$85 fee for AWS Certifications.

### Tests can be conducted using any of the following:

- » SMAW
- » GMAW
- » FCAW
- » GTAW
- » SAW

### Testing and certifications can also be tested in accordance with any globally recognized welding codes:

- » AWS D1.1 – Structural Steel
- » AWS D1.2 – Aluminum
- » AWS D1.3 – Sheet Steel
- » AWS D1.5 – Bridge
- » AWS D1.6 – Stainless
- » AWS D14.1 – Crane Welding
- » ASME Sec IX – Pressure Vessel
- » API 1104 – Pipelines
- » CWB – Canadian Welding Bureau
- » ISO International Standards
- » And More



### 3/8" AWS Limited Thickness Testing

Qualification: \$400.00

### 1.00" AWS Unlimited Thickness Testing

Qualification: \$450.00

### GMAW or GTAW Fillet Weld Testing on 10-18 gauge

Qualification: \$250.00

### Pipe Welding Test

Qualification: \$500.00

### Training/Certification/Qualification

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

**Requirements:** Please review the requirements listed in the 2023 Lincoln Electric Welding Technology and Training Center Course Catalog or on the registration site.

Lincoln Electric Welding School students will receive testing discounts.

### Contact Our Testing Facility at:

+1 (216) 383-4865 or email us at:

ATF@LincolnElectric.com

### Personal Protection Equipment (PPE) and Tools Required for Testing:

(Welding gear can be purchased on site. Student must supply their own steel-toe safety shoes and tools.)

- 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® Pliers
- Wire Brush
- Chipping Hammer

## Overview of Technical Training Services

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 Services group offers a variety of seminars and workshops, ranging from basic welding fundamentals training to high level programs on welding design issues and advanced Power Wave solutions. The team conducts 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 Services group also produces state-of-the-art training curriculum and materials for teaching arc welding. Many are available on a "no charge" basis for welding instructors.

### TECHNICAL TRAINERS



*Padraic Bean*



*Ben Bradbury*



*Charles Cross*



*Kelsey Garrett*



*Chris Kish*



*James Mosman*



*Branden Muehlbrandt*



*Joe Ochnser*



*Alex Tocco*



*Basil Wilber*

# 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.



## TTS401 - Design of Welded Connections: Steel Structures

**36 Clock Hours, 4.5 Days, 3.6 CEUs**

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

**Duration:** 4.5 Days

**Time:** Mon.-Thurs. 8:00 a.m. - 5:00 p.m.  
Fri. 8:00 a.m. - Noon

**Course Fee:** \$980.00

**Registration Fee:** \$100.00

**Steel Structure Course Dates:**

TTS401\_23\_01 7/31/2023 - 8/4/2023

## TTS402 - Design of Welded Connections: Steel Weldments

**36 Clock Hours, 4.5 Days, 3.6 CEUs**

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

**Duration:** 4.5 Days

**Time:** Mon.-Thurs. 8:00 a.m. - 5:00 p.m.  
Fri. 8:00 a.m. - Noon

**Course Fee:** \$980.00

**Registration Fee:** \$100.00

**Steel Weldment Course Dates:**

TTS402\_23\_01 4/24/2023 - 4/28/2023

TTS402\_23\_02 10/16/2023 - 10/20/2023

## VRTEX301 - VRTEX® Welding Simulator User Training

### 15 Clock Hours, Two Days, 1.5 CEUs

Courses are intended to be user training sessions for those that have purchased a VRTEX Trainer. It is highly recommended the attendee has access to the Training System during the session.

### What is it?

Two day, hands on training session for professionals and educators who utilize the VRTEX training systems in their weld training courses.

### Purpose

Enhance user/instructor knowledge of machine set up and hardware, software functionality and how to incorporate the virtual reality welding similar into curriculum or everyday training.

**It is highly recommended that attendees have access to a VRTEX® welding simulator during the virtual training sessions.**

**Duration:** 2 days **Time:** See Registration **Course Fee:** FREE

**Course Dates:**  
T.B.D.

### Course Content

- » Introduction to using virtual reality for welding training
- » Machine Set Up and stand positions
- » Administrator Mode/Reporting
- » Welding Procedure Specifications
- » Basic Operation: Selecting a process GMAW/FCAW, SMAW, GTAW, weld type and position
- » Advanced Features: Using visual cues, adjusting tolerance levels, restarts (tie-ins)
- » Integrating Lesson Mode



## Welding Educator's Workshops

### Who Is It For?

This curriculum is geared towards the welding instructors who want to take welding education to the next level by providing industry recognized certifications for their students.

### What Is It?

This program is a 4.5 day seminar. The workshop is limited to 24 attendees. By utilizing the LEEPStart / NC3 course curriculum, the focus is on instructor certification. Performance welds in SMAW, GMAW, FCAW and GTAW processes will be performed and assessed to increase and verify instructor competencies and knowledge related to technical and practical principles of welding. This course is approximately 60% classroom and 40% hands-on. A personal laptop computer is required.

### WEW301 - Welding Educator's Workshop

#### 34 Clock Hours, 4.5 Days, 3.4 CEUs

This course will focus on utilizing new technologies to increase teacher competencies and knowledge related to welding and classroom principles.

### "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.



**Duration:** 4.5 Days

**Time:** Mon.-Thurs. 8:00 a.m. - 4:30 p.m.  
Fri. 8:00 a.m. - Noon

**Course Fee:** \$1,190.00

**Registration Fee:** \$100.00

### Course Dates:

WEW301\_23\_01 6/19/2023 - 6/23/2023

*Personal Protection Equipment (PPE) and Tools Required for Class:*  
Student must supply their own steel-toe safety shoes and tools.

## BTB301 - Beyond The Booth Instructor Course

### Who Is It For?

#### 34 Clock Hours, 1 Week, 3.4 CEUs

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?

- » Certificate of Completion
- » All welding consumables and coupons
- » Library of Lincoln Electric resources
- » Morning snack and lunch daily
- » Group dinner one night
- » Plant tours



**Duration:** 5 Days

**Time:** Mon.-Thurs. 8:00 a.m. - 4:00 p.m.  
Fri. 8:00 a.m. - Noon

**Course Fee:** \$1,190.00

**Registration Fee:** \$100.00

### Course Dates:

BTB301\_23\_01 6/5/2023 - 6/9/2023

## LEEPS™/LEEPStart Programs

### What are the LEEPS™ and LEEPStart Programs?

Lincoln Electric Education Partner Schools - or LEEPS™ - is Lincoln Electric's Welding Certification Program in partnership with the National Coalition of Certification Centers (NC3). Designed for institutions looking to offer a full slate of stackable welding certifications focused on career preparation, the LEEPS™/LEEPStart program combines a comprehensive set of instructional tools, resources, and the support needed to meet today's welding challenges. For more information please visit our LEEPS page. <https://www.lincolnelectric.com/en/Education/Training-Programs/Educators/LEEPS-Program>



### Requirements

- » Sign up for Lincoln Electric's Education Portal
- » Complete Lincoln Electric's Trainer-the-Trainer Course
- » \*Teach with VRTEX™ virtual welding simulators
- » Register as an NC3 Start or Leadership School (depending on program)
- » \*Equip school with 80% Lincoln Electric welding equipment

\*not required for LEEPStart program

For further information, please reach out to [leeps@lincolnelectric.com](mailto:leeps@lincolnelectric.com)



### NC3 Train the Trainer Courses

Lincoln Electric is a host site for a variety of NC3 Train-the-Trainer courses. Additional information and registration can be found on NC3's website. <https://www.nc3.net/training/>



# Robotic Automation 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 Electric from authorized Lincoln Electric partner hotels in Cleveland daily. If you are staying in another location you will be responsible for your own transportation.

If you are attending our 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: <https://www.lincolnelectric.com/en/Education/Training-Programs/Corporate/Robotic-Automation-Training>

**Please contact the Lincoln Electric Automation School at 1-888-935-3878 for all questions and registrations.**

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.

## INSTRUCTORS



Scott Bard



Joe Medves



Brandon Kula

### Notes:

- » All classes end by Noon Friday.
- » WeldPro™ Training does not include customer model of system.

<sup>(1)</sup> Cancellations made within two weeks of the class start date will not be refunded.

### AUTOMATION SCHOOL COURSES

| Course Name                                       | Date   | Training Location | Class Days                        | Course Fee | Prerequisite          |
|---|--|-------------------|-----------------------------------|------------|-----------------------|
| <b>Basic Robotic Programming</b>                  | Weekly<br>(Non-Holiday)  | Cleveland, OH     | Monday - Friday<br>(5 day course) | \$2,590.00 | None                  |
| <b>Intermediate Robotic Programming</b>           | 2/23/2023 - 2/27/2023<br>3/13/2023 - 3/17/2023<br>5/8/2023 - 5/12/2023<br>7/17/2023 - 7/21/2023<br>9/18/2023 - 9/22/2023<br>11/6/2023 - 11/10/2023   | Cleveland, OH     | Monday - Friday<br>(5 day course) | \$2,990.00 | None                  |
| <b>Advanced Robotic Programming<sup>(1)</sup></b> | 2/13/2023 - 2/17/2023<br>4/10/2023 - 4/14/2023<br>6/12/2023 - 6/16/2023<br>8/14/2023 - 8/18/2023<br>10/16/2023 - 10/20/2023<br>12/4/2023 - 12/8/2023 | Cleveland, OH     | Monday - Friday<br>(5 day course) | \$2,990.00 | Basic<br>Intermediate |
| <b>Robotic Service Training<sup>(1)</sup></b>     | 2/27/2023 - 3/3/2023<br>5/22/2023 - 5/26/2023<br>8/21/2023 - 8/25/2023<br>12/11/2023 - 12/15/2023  | Cleveland, OH     | Monday - Friday<br>(5 day course) | \$2,990.00 | Basic<br>Intermediate |

# Basic Robotic Programming

## Course Duration

The frequency of the course is weekly, Monday through Friday. 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 Welding, Electrical, Computer or CNC processing.

## 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

- » Safety precautions while programming and operating the robot system
- » Fundamentals 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 program commands and functions
- » Basic error recovery
- » Torch and wrist alignment checks
- » How to set up 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)



**Duration:** 5 Days

**Course Fee:** \$2,590.00

## Course Dates:

Weekly (Non-Holiday)

|           |            |
|-----------|------------|
| 1/9/2023  | 8/7/2023   |
| 1/16/2023 | 8/28/2023  |
| 1/30/2023 | 9/11/2023  |
| 2/6/2023  | 9/25/2023  |
| 2/20/2023 | 10/2/2023  |
| 3/6/2023  | 10/9/2023  |
| 3/20/2023 | 10/23/2023 |
| 3/27/2023 | 10/30/2023 |
| 4/17/2023 | 11/13/2023 |
| 4/24/2023 | 11/27/2023 |
| 5/1/2023  | 12/18/2023 |
| 5/15/2023 |            |
| 6/5/2023  |            |
| 6/19/2023 |            |
| 6/26/2023 |            |
| 7/10/2023 |            |
| 7/24/2023 |            |
| 7/31/2023 |            |

## Any Questions?

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

## Intermediate Robotic Programming

### Course Duration

The duration is 5 days.

The frequency of course offering is 6 times per year.

### Course Description

A 5-day training program that covers intermediate tasks and procedures that an operator, technician, engineer or programmer needs to take full advantage of the multiple capabilities of a Lincoln Electric/Fanuc Robotic Welding System.

### Course Prerequisites

The person attending must be proficient in basic programming techniques.

### Course Objectives

- » Use and understand JPOS and LPOS commands
- » Use PR's to make circles
- » Use PR's for math commands
- » Set up and utilize the Teach Pendant Hot Keys
- » Touch Sensing
- » Use Through the Arc Seam Tracking (TAST)
- » Full controller memory backup and restore
- » Understand the usage of Skip/label commands
- » Setup the Reference Position Utility to establish a safe position for the robot
- » Change weld procedures in the middle of a weld and monitor weld command and feedback signals
- » Ramping features while welding
- » Use logic instructions such as Registers, Position Registers, Jump-label, If, Call, and Offset to simplify programming parts with multiple, similar weld joints
- » Set up and use Checkpoint
- » Powerwave manager



**Duration:** 5 Days

**Course Fee:** \$2,990.00

### Course Dates:

1/23/2023 - 1/27/2023

3/13/2023 - 3/17/2023

5/8/2023 - 5/12/2023

7/17/2023 - 7/21/2023

9/18/2023 - 9/22/2023

11/6/2023 - 11/10/2023

### 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.*

# Advanced Robotic Programming

## Course Duration

The duration is 5 days.

The frequency of course offering is 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 Electric/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 Intermediate 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®



**Duration:** 5 Days

**Course Fee:** \$2,990.00

## Course Dates:

2/13/2023 - 2/17/2023  
 4/10/2023 - 4/14/2023  
 6/12/2023 - 6/16/2023  
 8/14/2023 - 8/18/2023  
 10/16/2023 - 10/20/2023  
 12/4/2023 - 12/8/2023

## 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.

### 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



**Duration:** 5 Days

**Course Fee:** \$2,990.00

#### Course Dates:

2/27/2023 - 3/3/2023

5/22/2023 - 5/26/2023

8/21/2023 - 8/25/2023

12/11/2023 - 12/15/2023

#### 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.*



# 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.

## INSTRUCTORS



Dennis Trnavsky

*Note: Lincoln Electric non-authorized hotels outside of Cleveland will not provide travel to the class each day. Transportation will be the responsibility of the student.*



Robert Hasan



Michael Oliver

### 2023 SERVICE SCHOOL TRAINING COURSES

| Course Name   | Date                     | Training Location  | Class Days                         | Course Fee |
|---|--------------------------|--------------------|------------------------------------|------------|
| <b>LASF Certification</b><br>(5 Days)               | LASF301_23_01 03/20/2023 | Cleveland, OH      | Monday - Friday<br>(Five Days)     | \$400.00   |
|   | LASF301_23_02 05/15/2023 |                    |                                    |            |
|   | LASF301_23_03 08/14/2023 |                    |                                    |            |
|   | LASF301_23_04 10/16/2023 |                    |                                    |            |
| <b>LASF Re-Certification</b><br>(3 Days)            | LASF302_23_01 02/14/2023 | Atlanta, GA        | Tuesday - Thursday<br>(Three Days) | \$400.00   |
|   | LASF302_23_02 06/13/2023 | Atlanta, GA        |                                    | \$400.00   |
|   | LASF302_23_03 08/22/2023 | Kansas City, MO    |                                    | \$400.00   |
|   | LASF302_23_04 11/07/2023 | Cleveland, OH      |                                    | \$300.00   |
| <b>Power Wave®/ Inverter Technology</b><br>(4 Days) | PWAV301_23_01 04/11/2023 | Calgary, AB, CA    | Tuesday - Friday<br>(Four Days)    | \$450.00   |
|   | PWAV301_23_02 04/18/2023 | Cleveland, OH      |                                    | \$400.00   |
|   | PWAV301_23_03 07/18/2023 | Tulsa, OK          |                                    | \$450.00   |
|   | PWAV301_23_04 07/25/2023 | Dallas, TX         |                                    | \$450.00   |
|   | PWAV301_23_05 08/15/2023 | Salt Lake City, UT |                                    | \$450.00   |
| <b>Engine Driven Technology</b><br>(3 Days)         | ENG301_23_01 06/20/2023  | Cleveland, OH      | Tuesday - Thursday<br>(Three Days) | \$300.00   |
|   | ENG301_23_02 09/12/2023  | Tulsa, OK          |                                    | \$400.00   |
|   | ENG301_23_03 10/10/2023  | Dallas, TX         |                                    | \$400.00   |
| <b>Online Re-Certification Test</b>                 | LASF303_23_04 01/02/2023 |                    |                                    | \$275.00   |

## Regional Programs

Lincoln Electric conducts several training seminars in North America that our local District Sales offices have arranged. These programs cover different 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. Courses vary in length from 1/2 day to one week.

### 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](http://www.lincolnelectric.com) for a complete office listing with locations and phone numbers.



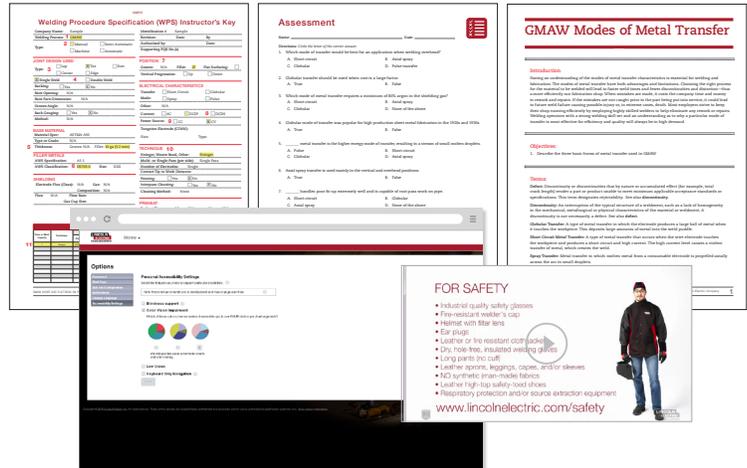
# Arc Welding Process Training Materials

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

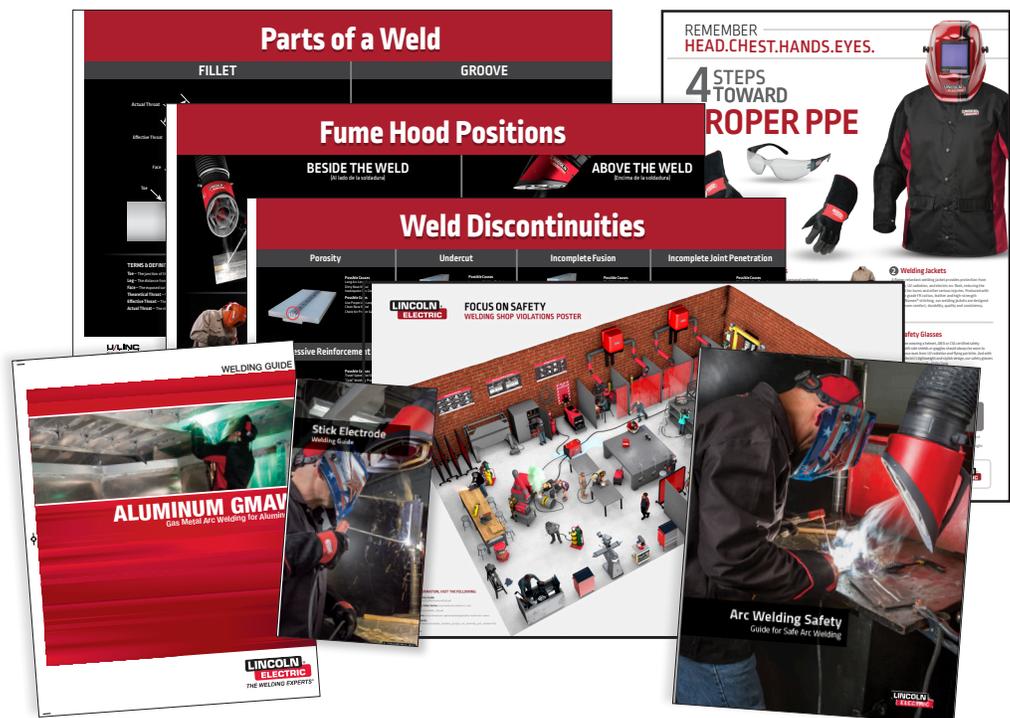
- » Stop spending your time developing curriculum
  - Use U/LINC AWS SENSE and state competency-aligned materials
- » Over 18,000 pages of lesson plans, student assessments, lab activities, videos and presentations
- » Know exactly which state competencies will or will not be met by your program
- » For more information visit: <https://www.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, contact us at [educationalsales@lincolnelectric.com](mailto:educationalsales@lincolnelectric.com)



# James F. Lincoln Foundation

## TEACH IT

### The Arc Welding Bookshelf

The James F. Lincoln Arc Welding Foundation was created *“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.”* The Foundation produces and publishes books and other educational materials as a non-profit service to the industry.

## BUILD IT

### Welding Project Kits

These pre-cut kits provide a fun way for students to try their hand at welding. A clear, step-by-step guide is included.

## WIN IT

### Welding Awards Program

The Foundation 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. Visit, [www.jflf.org](http://www.jflf.org) for details on specific contest rules, regulations and application forms.



Visit [JFLF.org](http://JFLF.org)



## 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

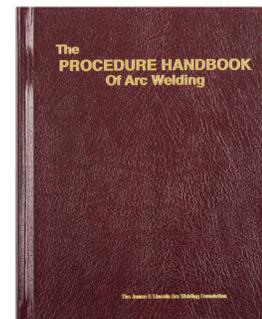
by T.B. JEFFERSON and GORHAM WOODS

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.

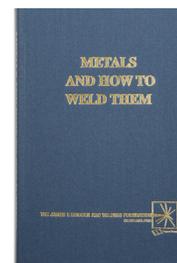
### Arc Welded Projects, Vol. V (AP-V)

Published by The James F. Lincoln Arc Welding Foundation

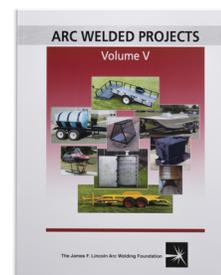
The projects described in this 200-page book represent the range of entries submitted in the James F. Lincoln Arc Welding Foundation Award Programs both as to the type and size of the project, and the nature of the descriptive information included. Each project is detailed, including prints and bills 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.



\$30



\$12.50



\$12.50

**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

# VIDEOS

**For Welding School Attendees**

For students staying long term, there are several student recommended apartments near the Lincoln Electric Welding School. Contact the Lincoln Electric Welding School for a list. Make arrangements in advance of your arrival in Cleveland.

**For Technical Training Services Attendees**

A block of rooms is reserved at one of the following hotels for each seminar. After registering online, you will receive a confirmation email with information on the hotel, including a link to the hotel booking page. 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

**Doubletree Hotel - Cleveland**

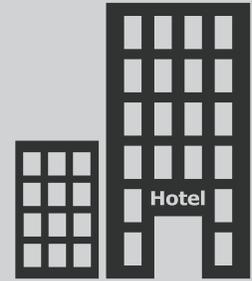
Downtown/Lakeside  
 1111 Lakeside Avenue E  
 Cleveland, OH 44114  
 Phone: (216) 928-3230  
 Ask for Lincoln Electric's rate.  
 Daily rate includes free hot breakfast buffet.

**Hilton Garden Inn - Mayfield**

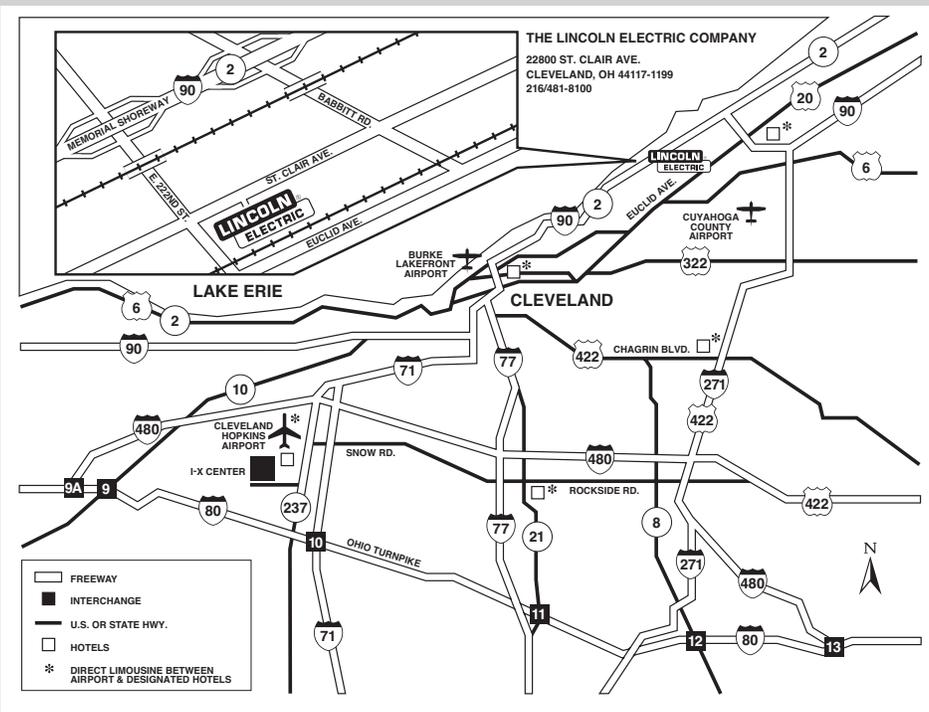
700 Beta Drive  
 Cleveland, OH 44143  
 Phone: (440) 646-1777  
 Approx. 9 miles from Lincoln Electric.  
 Ask for Lincoln Electric Rate

**Four Points by Sheraton Cleveland-Eastlake**

35000 Curtis Boulevard  
 Eastlake, OH 44095  
 Phone: (440) 953-8000  
 Fax: (440) 953-1706  
 Website: [www.marriott.com](http://www.marriott.com)  
 Shuttle service available  
 Approx. 8 miles from Lincoln Electric



**HOTELS**



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

**The Lincoln Electric Welding Technology and Training Center**

Phone: +1-844-818-6038  
 Fax: +1-216-383-8088  
 email: [weldtraining@lincolnelectric.com](mailto:weldtraining@lincolnelectric.com)

**The Lincoln Electric Company Technical Training Department**

Phone: +1-844-818-6038  
 Fax: +1-216-383-8025  
 email: [weldtraining@lincolnelectric.com](mailto:weldtraining@lincolnelectric.com)

## Welding School Policy

### Introduction

Welcome to the Lincoln Electric Welding School. We know you have many options when choosing a welding school and we thank you for choosing ours. Please review the following policies of our institution on the preceding pages. All policies listed apply to students enrolled in our programs at the Lincoln Electric Welding School. Please familiarize yourself with our policies before your first day of class.

If you have any questions regarding our policies or programs, please contact the school by phone +1 (844) 818-6038 or by email [weldtraining@lincolnelectric.com](mailto:weldtraining@lincolnelectric.com)

Nothing in this policy is intended to create a contract, including without limitation a contract of employment, either express or implied. Completion of our program should not be construed as a guarantee of employment placement of any kind.

### The Lincoln Electric Welding School Mission Statement

To Proactively Provide World Class Leadership and Support for Welding Training through Industry Leading Materials, Programs, Information and Products.

### Lincoln Electric Welding School Approvals

The Lincoln Electric Welding School is approved by the Ohio State Board of Career Colleges and Schools (School Number: 71-02-0059T) and accredited to provide International Association for Continuing Education and Training (IACET) Continuing Education Units.

### Facility Information

#### Location

Welding Technology & Training Center  
22800 Saint Clair Avenue  
Cleveland, OH 44117

#### Hours (Eastern Time)

Unless otherwise noted, classes are:  
8am-4pm Monday-Thursday

#### Instructor Office Hours:

7am-8am Monday-Thursday or by appointment.

### Tours

Tours are offered by appointment only.

Please call the Lincoln Electric Welding School office at +1 (844) 818-6038 to schedule an appointment. Closed-toe shoes must be worn.

### Cafeteria

The cafeteria is available to students Monday through Friday from 7:30 a.m. until 4:00 p.m.

### Welding Lab

The welding lab is available to students ONLY during class hours. The fume control system will be turned off before class, after class and during lunch. Students are not allowed to weld or grind when the fume control system is off. Welding is only allowed in authorized areas as indicated by the instructor.

Students are prohibited from bringing the following into the welding lab:

- Headphones / ear buds
- Food
- Beverage in an open container

### Student IDs

Student IDs will be issued on the first day of class. The ID allows a student entry to the Lincoln Electric Welding School and must be displayed at all times. On the last day of class, IDs must be returned to the instructor or the student will not receive a certificate of completion. Lost IDs must immediately be reported to the Security Desk. Students will be charged \$25 for a replacement ID.

### 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. The Lincoln Electric Welding School is not responsible for damage to a vehicle, theft of the vehicle or any part of the vehicle, or loss of personal items from the vehicle while in the parking lot.

## Holidays

The Lincoln Electric Welding School is closed on the following holidays:

- New Year's Eve/New Year's Day
- Good Friday
- Memorial Day
- 4th of July
- Labor Day
- Thanksgiving Day
- Christmas Eve/Christmas Day

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

## Course/Program Cancellation Policy

The Lincoln Electric Welding School retains the right to cancel courses/programs when the course/program does not achieve the minimum enrollment. If a course/program is cancelled by the Lincoln Electric Welding School for failure to meet minimum enrollment, the student will be notified two weeks before the course/program start date. All tuition and fees paid by the student will be refunded within 30 calendar days of the cancellation.

**Force Majeure:** The Lincoln Electric Welding School also retains the right to postpone, interrupt or cancel courses/programs for any reason, including for causes beyond its reasonable control. These causes include, but are not limited to, Acts of God, fire, power, epidemics, pandemics, labor difficulties, compliance with government laws or regulations, embargo, tariffs, changes in market conditions, delays or shortages in transportation or inability to obtain necessary labor, Raw Materials, or manufacturing facilities from usual sources, equipment failure, or from defects or delays in the performance of its suppliers or subcontractors due to any of the foregoing enumerated causes. Upon the occurrence of any event or circumstance referenced above, The Lincoln Electric Welding School shall have the right to continue, postpone, interrupt or cancel courses at its sole discretion. Lincoln Electric will notify students of such cancellation, postponement or interruption as soon as reasonably possible. All tuition and fees paid by the student will be refunded within 30 calendar days of the course/program cancellation

if the course/program is cancelled before the start date. Courses/programs cancelled after their start date or students not returning to an interrupted course/program will be subject to the Lincoln Electric Refund Policy.

## Non-Discrimination Policy

The Lincoln Electric Welding School prohibits discrimination on the basis of race, color, gender, national origin, ethnicity, religion, age, disability, veteran status, sexual orientation, gender identity or expression, or genetic information, or any other condition or status protected by law. In addition, the School prohibits harassment based on any of these protected categories, including but not limited to sexual harassment. 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 be familiar with Lincoln Electric's discrimination policy. The School will make reasonable accommodations for individuals with known disabilities or religious needs unless doing so would result an undue hardship to the School or would create a direct threat of safety to other individuals.

The Lincoln Electric Welding School does not condone or practice discrimination of any kind pertaining to groups or individuals based on these protected categories. This policy applies to all aspects of our programs, including admissions, recruitment, advancement, instruction, evaluation, counseling and financial assistance. Our organization values and respects the dignity and worth of individuals within our academic community. This institution believes in and is committed to equal opportunity based on the fundamental reason that every person is valuable. It is our desire to have appropriate conditions for learning and working so that students can strive to achieve his or her own optimum potential in the work force and in society as a whole.

Anyone who experiences or witnesses unlawful discrimination or harassment should report his or her concerns to the Supervisor of Welding Instruction or any instructor or official of the School. The School strictly prohibits retaliation against persons for raising concerns about discrimination, sexual harassment

or harassment based on another protected category. Violation of this policy may result in disciplinary action up to and including dismissal.

### Admission Policy

Admission to the Lincoln Electric Welding School's career training programs are open to anyone with a high school diploma, GED or high school equivalency diploma.

Applicants who have received a high school diploma from an online secondary program or correspondence school may be required to provide transcripts and/or proof that the program is: A) Accredited by accrediting agency recognized by the U.S. Department of Education B) Authorized to offer online or correspondence high school diplomas by the state they are located in.

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

**Students must be 18, or 16 years of age and attending with a parent or guardian, in order to attend a non-career training course. For further information regarding non-career training admission requirements, please see the course descriptions in the catalog.**

### Accessibility Services

Eligible students seeking reasonable accommodations for their classes and/or programs at the Lincoln Electric Welding School must provide the following:

- A written request stating the accommodation they are requesting and why the accommodation is needed
- Recent diagnosis (within the past two-years) of their disability from a physician, psychologist or other qualified professional

Students are responsible for requesting accommodations and providing documentation. Reasonable accommodations will not be provided without documentation. The School will evaluate all requests for accommodations on a case-by-case basis. Questions regarding this process should be directed to the Supervisor of Welding Instruction.

### Admission Process

#### Classes/Programs:

1. Register online at:  
<https://classes.lincolnelectric.com/modules/>
2. Pay registration fee and tuition during registration
3. Student receives a confirmation email\*
4. Student attends first day of class

**\* Please note, students enrolled in Basic Plate and Sheet Metal Welding must complete the Student Consumer Information Orientation on the first day of class.**

#### Comprehensive Program:

1. Apply on-line at:  
<https://classes.lincolnelectric.com/modules/>
2. Upload high school transcript during application process
3. Pay registration fee and tuition during registration
4. Student receives an acceptance email
5. Student attends first day of class and completes the Student Consumer Information Orientation

**Students are advised not to make travel arrangements until their reservation for a course or program has been confirmed.**

#### Dismissal Policy

A student can be dismissed from a course or program based on academic achievement (poor grades), poor attendance and/or unacceptable behavior. Please see the Grade Policy (page 45), Attendance Policy (page 44) and Personal Conduct (page 48) section for further information.

#### Readmittance Policy

A student who is dismissed from the Lincoln Electric Welding School due to grades, attendance or behavior may submit a written petition to the Supervisor of Welding Instruction to be readmitted. Student petitions will be considered on a case-by-case basis and re-admittance will be solely at the discretion of the Supervisor of Welding Instruction.

Readmitted students will be required to complete a Student Improvement Plan with the Supervisor of Welding Instruction. The plan will outline the criteria for the student's continued enrollment in the program/class. Please note, the criteria for attendance and/

or grades may be more rigorous than the minimum attendance and grades listed in the Attendance and Grades policies. The readmitted student must meet the criteria listed on the Student Improvement Plan or the student will be dismissed from the program/class.

If a student is dismissed a second time from the Lincoln Electric Welding School, the student will not be allowed to re-enroll in a program/class for twelve consecutive months. After twelve months, the student will be allowed to petition the Supervisor of Welding Instruction for readmittance .

A student will not be considered for re-admittance if he/she owes a balance for a prior course/program taken at The Lincoln Electric Welding School. The student will be required to pay the balance before submitting a written petition.

### Transfer Credit Policy

Credit(s) granted at another institution cannot be utilized toward the completion of The Lincoln Electric Welding School's Comprehensive Program and/or other courses/programs.

### Attendance Policy

Attendance will be taken at the start of each class. The Lincoln Electric Welding School 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. In the event a 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. Instructors can be notified between the hours of 7:30 a.m. and 4 p.m. Monday through Friday at +1 (844) 818-6038 or by email at [weldtraining@lincolnelectric.com](mailto:weldtraining@lincolnelectric.com).

If a student meets one or more of the following criteria during their enrollment in a Lincoln Electric Welding School course or program, he/she will be dismissed from his/her enrolled program:

- The student is absent the first day of a course or program
- The student misses more than 3 hours of a 1 week course

- The student misses more than 6 hours of a 2 week course
- The student misses more than 18 hours of a course/program that is 6 weeks in length or more
- The student misses more than 10% of any given seminar or customized course
- The student is tardy 3 times during a course and/or program

The Supervisor of Welding Instruction may grant exceptions to the above policy on a case-by-case basis.

A student who is dismissed from a course/program due to attendance, grades or behavior will be subject to the Lincoln Electric Welding School Refund Policy.

The last day of attendance will be the official date of dismissal given to the student by the Supervisor of Welding Instruction.

### Excused Absence

A student enrolled in a course/program more than 100 clock hours in length who is ill or caring for ill dependents or who has a family emergency or a reasonable justification as to why they could not come to class may be eligible for an excused absence. An excused absence will not count toward the maximum amount of time a student can miss before being dismissed from a program. It is at the Supervisor of Welding Instruction's discretion as to whether a student's absence can be counted as an excused absence. Documentation may be requested when deciding whether or not a student's absence is excused.

- **A student cannot utilize an excused absence to miss the first day of class.**
- A student can only utilize 2 excused absences (equal to 2 instructional days) in a course more than 100 hours in length.

### Tardiness

Students are expected to be on time for class, both upon arrival in the morning and return from lunch in the afternoon. Each class will begin promptly at the time specified on the schedule. Students must be inside the classroom prepared with all needed materials when class starts.

Students who are more than 15 minutes late after the class has started will be considered tardy. Tardiness

is recorded as an absence in a student's attendance record. All absences are recorded in 15-minute increments.

Students who are going to be tardy due to an emergency are expected to notify their instructor or Registration at +1 (844) 818-6038.

Consequences for a student being tardy 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 retake the whole class or program at their own expense

The Supervisor of Welding Instruction may grant exceptions to the above policy on a case-by-case basis.

A student who is dismissed from a course/program due to attendance, grades or behavior will be subject to the Lincoln Electric Welding School Refund Policy. The last day of attendance will be the official date of dismissal given to the student by the Supervisor of Welding Instruction.

### Missed Assignments

If a student has an excused absence, it is their responsibility to check with the instructor as to what coursework they missed. Students who have excused absences will be allowed to make up tests and/or graded projects given when they were absent. Students with unexcused absences will not be allowed to make up coursework missed and will be given a zero for the assignment/project or test.

### Leave Of Absence

Students who require extended leave must provide written notification to the Supervisor of Welding Instruction. Requests for leave will be considered on a case-by-case basis.

### Grades

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 = 90 – 100%

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 maintain a 70% GPA on all coursework. If a student falls below a 70% GPA, he/she will be dismissed from the program.

The Supervisor of Welding Instruction may grant exceptions to the above policy on a case-by-case basis.

A student who is dismissed from a course/program due to attendance, grades or behavior will be subject to the Lincoln Electric Welding School Refund Policy. The last day of attendance will be the official date of dismissal given to the student by the Supervisor of Welding Instruction.

### Graduation Requirements

To receive a certificate of completion from the Lincoln Electric Welding School, students must be in attendance a minimum of 90% of their course or program and maintain a 70% GPA on all coursework.

### Tuition and Fees

Tuition for an individual class 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.**

### Payment

For classes under 300 clock hours, full tuition and fees are due upon registration.

Classes that are more than 300 clock hours are broken into two academic terms, but tuition payments are due in three payments.

- The first payment is due along with the registration fee upon registration.

- The second payment is due after the student has completed 150 clock hours of the program.
- The third payment is due after the student has completed 300 clock hours of the program.

**Failure to make a payment on time will result in the student being removed from the course/program.**

Payment is due in full if a student withdraws from a course/program that has already begun or is dismissed from a course/program. Course completion certifications are not released to students who have a balance on his/her account nor can they participate in any school sanctioned graduation ceremony.

We accept Visa® and Mastercard®. Any questions regarding payment(s) can be directed to the Lincoln Electric Welding School at weldtraining@lincolnelectric.com or by phone at +1 (844) 818-6038.

**Policies for Veteran Students Receiving Veteran Educational Benefits**

**Veterans Benefits**

Students who qualify for veterans' educational benefits are able to utilize their benefits to fund The Lincoln Electric Welding School's Comprehensive Program, Basic Plate and Sheet Metal Arc Welding, API Pipe and ASME Pipe classes.

**Veterans Refund Policy**

In the event that veterans or their eligible persons sponsored as students under Chapters 30, 32 and 35 of Title 38 and Chapter 1606 or Title 10 U.S. Code, fail to enter the Program or withdraw or are discontinued therefrom at any time prior to completion, the amount charged for tuition, fees and other charges shall not exceed the approximate pro rata portion of the total charges for tuition, fees and other charges that the length of the non-accredited program bears to its total length. A registration fee of \$10 need not be refundable: any amount beyond that is subject to proration and refund [CFR21.4254(c) (13)]. The pro rata portion may not vary more than 10 percent of the total costs for tuition, fees and other charges.

A copy of this policy will be provided to all students receiving educational benefits from the Veterans Administration.

**Veterans Previous Training/Education**

Prior training or education will be requested and evaluated.

**Veterans Attendance Policy\***

Attendance for Veteran students will be taken daily and evaluated every week. Veterans are required to maintain an 80% attendance based on scheduled hours of the program (non-cumulative). A student receiving VA Educational Benefits who has missed 20% of scheduled hours will be dismissed from the program and the VA will be notified.

**\*All students must meet the attendance policy listed on page 44.**

**Veterans Academic Policy**

Students will be evaluated and graded on exams and welded specimens. A student must maintain a 70% average on completed exams and welded specimens (non-cumulative). Academic performance will be evaluated every two weeks. Should a student's GPA fall below 70% during the program, the student will be placed on probation with one week to improve to 70% or better. If there is no improvement after one week, the student will be dismissed. A student receiving VA educational benefits will be dismissed and the VA will be notified. Re-entry into the program will be determined at the director's discretion.

A copy of this policy will be provided to all students receiving educational benefits from the Veterans Administration.

**Veteran's Non-Penalty Policy**

The Lincoln Electric Welding School will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from the Department of Veterans Affairs under Chapter 31 or 33.

## Right to Cancel 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/program and the refund shall be made no later than thirty calendar days after cancellation. This provision shall not apply if the student has already started the course/program.

## Refund Policy – Tuition Charges in the Event of Withdrawal/Dismissal

Academic terms are measured in increments of 300 clock hours. Any programs less than 300 clock hours in length has one academic term. The Lincoln Electric Welding School Comprehensive Program is 600 clock hours in length, which means it consists of two academic terms. Our refunds for tuition and refundable fees are made by academic term in accordance with the following provisions as established by Ohio Administrative Code section 3332-1-10:

- (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 appropriate refund will be made within thirty calendar days of the date the school is able to determine a student has withdrawn or has been dismissed from a course/program. Refunds shall be based upon the last date of a student's attendance or participation in the course/program.

Any course/program cancelled by the Lincoln Electric Welding School will result in all tuition and fees paid by the student refunded in accordance to the Course/Program Cancellation Policy on page 42.

A student who is dismissed from a course/program due to attendance, grades, or behavior will be subject to the Lincoln Electric Welding School Refund Policy. The last day of attendance will be the official date of dismissal given to the student by the Supervisor of Welding Instruction.

## Transfer of Fees

Registration fees are typically nonrefundable after five days of a student registering; however, they may be transferred to another course/program. An applicant can transfer his/her registration fee to another course/program if the school is notified before the first day of his/her original course/program. The registration is forfeited if the student needs to reschedule a second time or if the student notifies the school of his/her intent to change class/program after the original course/program has started.

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: 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.

## Data Privacy, Personal Information and Student Records

For information regarding how the Lincoln Electric Welding School collects, uses and discloses a student's personal information, please see our Student Privacy

Notice and Policy at: <https://www.lincolnelectric.com>  
The Student Privacy Notice and Policy also describes how a student requests access to their student records or authorize the disclosure of such information to a third party.

By providing your personal information to the Lincoln Electric Welding School, you hereby acknowledge, understand and agree to the nature, manner and scope in which we collect, use and disclose your personal information, as set forth in this Student Privacy Policy.

### **Personal Conduct**

All participants are expected to conduct themselves in a respectable manner at all times. Misconduct such as fighting, unprofessional behavior, hazing, harassment, actions in violation of our Non-Discrimination Policy, 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 may be prosecuted.

Not following safety procedures or utilizing equipment in an unsafe manner may also result in dismissal from the Lincoln Electric Welding School.

A student who is dismissed from a course/program due to attendance, grades or behavior will be subject to the Lincoln Electric Welding School Refund Policy. The last day of attendance will be the official date of dismissal given to the student by the Supervisor of Welding Instruction.

### **Cell Phones and Other Personal Data Devices**

Personal data devices and electronics can be utilized for classroom and lab work; however, students may be asked to discontinue use or to leave the class if their personal data devices or electronics are disruptive or distracting.

### **Photo and Recording Policy**

Pictures or videos may not be taken anywhere on company property unless approved by the Supervisor of Welding Instruction. In addition, the use of audio recording devices is prohibited.

### **Alcohol and Illegal Substances**

Students cannot consume, show evidence of having consumed, possess or use any alcoholic beverages or illegal drug(s) at the Lincoln Electric Welding School or on the surrounding property. Illegal drugs include marijuana regardless of whether the student possesses a valid medical marijuana card. A student who is taking a prescription drug that may impair their ability to function in the welding lab must notify and consult with the Supervisor of Welding Instruction.

Evidence of consumption, usage or possession of alcohol or illegal drugs will lead to expulsion from the Lincoln Electric Welding School and possible notification of law enforcement.

### **Dangerous Weapons**

Regardless of having a concealed/carry weapons license or permit, students are prohibited from carrying or having firearms or weapons in the Lincoln Electric Welding School.

### **Tobacco Policy**

Smoking, vaping and chewing tobacco are strictly prohibited in the Welding Technology and Training Center and surrounding parking lot. (Students should ask their instructor for designated smoking areas outside of the facility.)

### **Lincoln Electric Weld School Phones, Computers and Devices**

Personal calls are prohibited on Lincoln Electric Welding School phones. Likewise, students may not use School computers and devices for personal activities unless authorized in advance. The School retains the right to access all data and information on School phones, computers, and devices. Students retain no expectation of privacy when using School Phones, Computers, or Devices, or when accessing school networks and servers, such as email, on personal devices.

## Restricted Areas

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

## Grievance Procedure

All student complaints should be first directed to the school personnel involved or the Supervisor of Welding Instruction. If no resolution is forthcoming, a written complaint shall be submitted to the Supervisor of Welding Instruction. 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 +1 (614) 466-2752;  
toll free +1 (877) 275-4219.  
Lincoln Electric Welding School Number: 71-02-0059T

## Safety

All participants will be required to wear basic safety gear at all times in the Lincoln Electric Welding School. Basic Personal Protection Equipment (PPE) gear includes safety-toe footwear, safety glasses with side shields, a shirt and long pants (non-synthetic fibers only). Items such as helmets, lenses, gloves, leathers and caps may be available in the Lincoln Electric Welding School store at special student prices.

## Equipment and PPE Gear

Welding will begin on the first day of class. Students are responsible for providing 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 sleeve shirt (No synthetic fibers allowed) or welding jacket

- Welding gloves
- Welding helmet
- Head gear (A bandana or do-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

Safety information, rules, and instructions will be provided to students periodically. Students must abide by all safety rules and instructions at all times. Failure to do so may result in discipline, suspension or dismissal.

**Any optional equipment worn at the discretion of the student, example: particulate respirator masks, must be provided by the student.**

Locks and lockers are furnished by the Lincoln Electric Welding School. Students should provide any personal items such as a flashlight, Channellocks® and/or helmet. **Please note: The school is not responsible for articles left in lockers.**

## 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.

## 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,

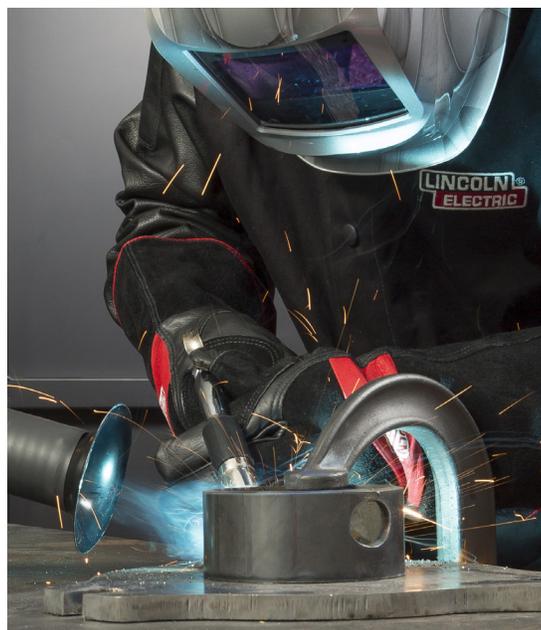
devices, services or materials discussed, as well as the source of any compensation related to the presentation be disclosed to learners prior to the start of the learning event.

**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.

**Contact and Tour Information**

The Lincoln Electric Welding Technology & Training Center  
22800 St. Clair Avenue  
Cleveland, OH 44117-1199  
Phone: +1 844 818 6038  
Fax: +1 216 383 8088  
weldtraining@lincolnelectric.com





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**ENROLL NOW**  
for upcoming classes.

#### CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that GMAWht arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.