TEPS Report & Abstract

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INTRO-101 Introduction to Welding Course
Lincoln Electric Welding Technology and Training Center
Cleveland, OH
October 19-23, 2026

Overview:

The INTRO 101: Introduction to welding course at the Lincoln Electric Welding Technology and Training Center is a highly regarded course for teaching the fundamentals of SMAW, GMAW, and TIG welding. Having the opportunity to enroll in this course provided me with formal welding training that is immediately applicable to teaching Production Systems in Metal at CHS.

Images of INTRO 101:




LINCOLN ELECTRIC
WELDING DEBRIS


KYLE
Wright



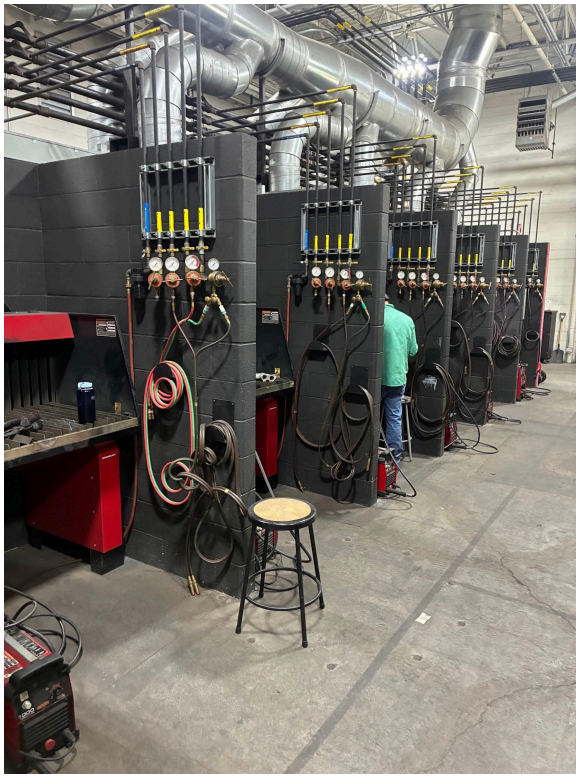

Wright


SMAW
GTAW
POWER WAVE
LINCOLN ELECTRIC



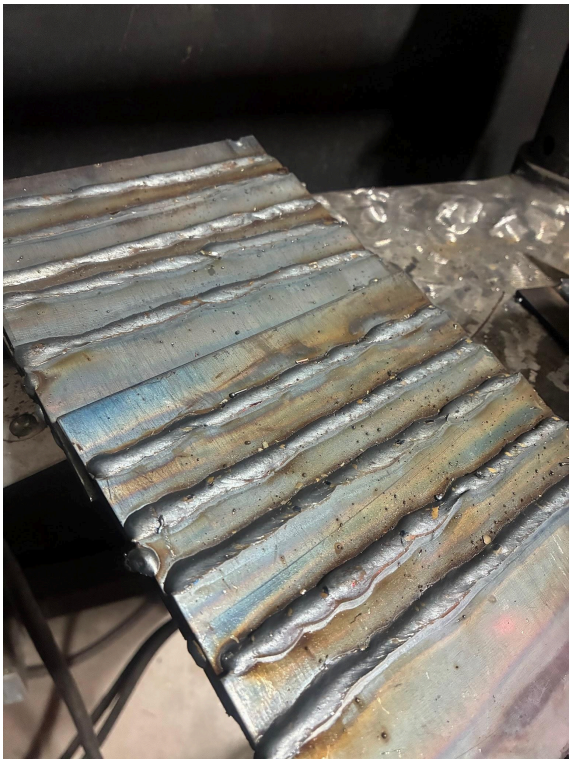



LINCOLN ELECTRIC
WELD SCHOOL
THE RED ZONE
LINCOLN ELECTRIC





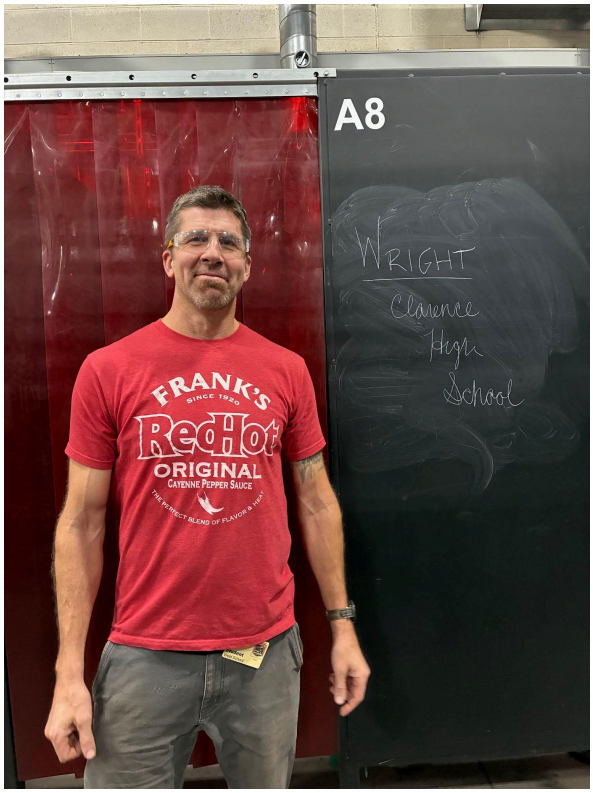

Wright






FABRICATOR
ENGINEER
WELDER
MAKE YOUR MARK.
WELCOME TO THE LONGEST RUNNING WELDING SCHOOL IN THE WORLD
TECHNICIAN
EDUCATOR




A8
WRIGHT
Clarence
High
School
FRANK'S
RedHot
ORIGINAL
CAYENNE PEPPER SAUCE



Curriculum Work:

Ways that my experience in INTRO 101 will improve my Production Systems in Metal curriculum:

1. Shop Safety
    a. After working in the Lincoln lab I will be modifying the welding curtain setup at CHS to resemble the setup at the Lincoln Lab to provide better visual shielding.
    b. To teach safe welding practices, Lincoln uses several videos in addition to discussion that I will now be using at CHS.
    c. I learned about the important differences between primary and secondary shock risk factors when welding.
2. Educational Resources
    a. The instructors at Lincoln provided me with instruction, several welding instruction manuals and welding consumables catalogs that help identify the ideal types of welding electrodes for various applications in the CHS lab.
    b. We were introduced to Lincoln's LEEPS (Lincoln Electric Educational Partner Schools) program, and Clarence's local Lincoln rep. Participating in this program can save hundreds of dollars per year on the cost of welding consumables for CHS.
    c. We learned about various applications of shielding gasses used in MIG and TIG welding, and how incorporating CO2 as a shielding gas can save money for our program.
    d. We spent a lot of time learning to identify various characteristics of welds and how to adjust welding variables to improve weld quality. This is a very challenging skill to develop without the opportunity to have in-person training.
    e. During the course we had the opportunity to tour the manufacturing facility at Lincoln Electric. The shop safety protocols and infrastructure that Lincoln has established are extremely impressive. With the exception of the engines for fuel driven welders, Lincoln fabricates nearly all the components of their welders and welding consumables on site.

3. Skill Development
    A. The primary goal of the course is to develop basic welding skills. We typically spent 2-3 hours a day in the classroom learning technique and setup, then 3-4 hours in the lab practicing technique with the guidance of an instructor. I was able to vastly improve my Stick, MIG and TIG welding skills during my time in the course.
    B. We were trained in the basic use of a plasma cutter for cutting the base metal we were welding. This was my first experience with plasma cutting, which I found to be significantly safer and easier than oxy/acetylene torch cutting which we currently use at CHS.

C. Preparing a Tungsten electrode is crucial to achieving a quality TIG weld. When learning to TIG weld it is very common to damage the tungsten tip, requiring it to be reconditioned. The diamond wheel setup used at Lincoln is vastly more efficient in preparing a TIG electrode than the process we currently use at CHS. I will be replicating the Lincoln setup ASAP.

Key Takeaways/Abstract:

I am truly grateful for the opportunity to take this welding course as a grantee of the Clarence Schools TEPS program. Thank you to Dr. Frahm, Dr. Overholt, Liz Dunne, Kathryn Wright and the building representatives of the TEPS committee for the time and effort you dedicate to organizing this program. This has been one of the most effective learning experiences I have participated in, second only to my student teaching experience.

Naturally, INTRO-101 was intended to develop welding skill and knowledge, and in this regard the course was outstanding. Not only did my welding skills improve drastically while participating in the course, but the learning curve in which I can improve independently has also improved. In addition to these primary benefits of the course, participation also offered several secondary benefits that are only realized through in person instruction.

Examples of this include;
1. Being able to work in a professionally designed welding environment, where I could appreciate the size and layout of the booths, hallways, consumable storage, and grinder bays. Striving to layout the CHS shop in a manner that provides the most efficient use of square footage and workflow is aided by getting to authentically work in environments such as the Lincoln Welding Center.
2. Throughout the Foyer, classroom spaces and fabrication shop, Lincoln does a fantastic job of incorporating safety messages, space differentiation, and morale boosters. This intuitively created a mentality of professionalism, quality, and purpose while in the workplace.
3. There was significant emphasis on making a grand impression when we first entered the Lincoln Electric Training Facility. The Atrium was well lit, open, clean, and featured signage that beckoned us to make the most of our opportunity to be there. This was a fantastic example of how important first impressions are in a learning environment, and how focusing on this variable can alter the mindset of students entering the classroom.

Thank you again for this opportunity. It was an extremely effective use of my time in developing depth of knowledge and physical techniques that will be immensely helpful in being a highly effective teacher.