

# SkillsUSA National Welding Competition

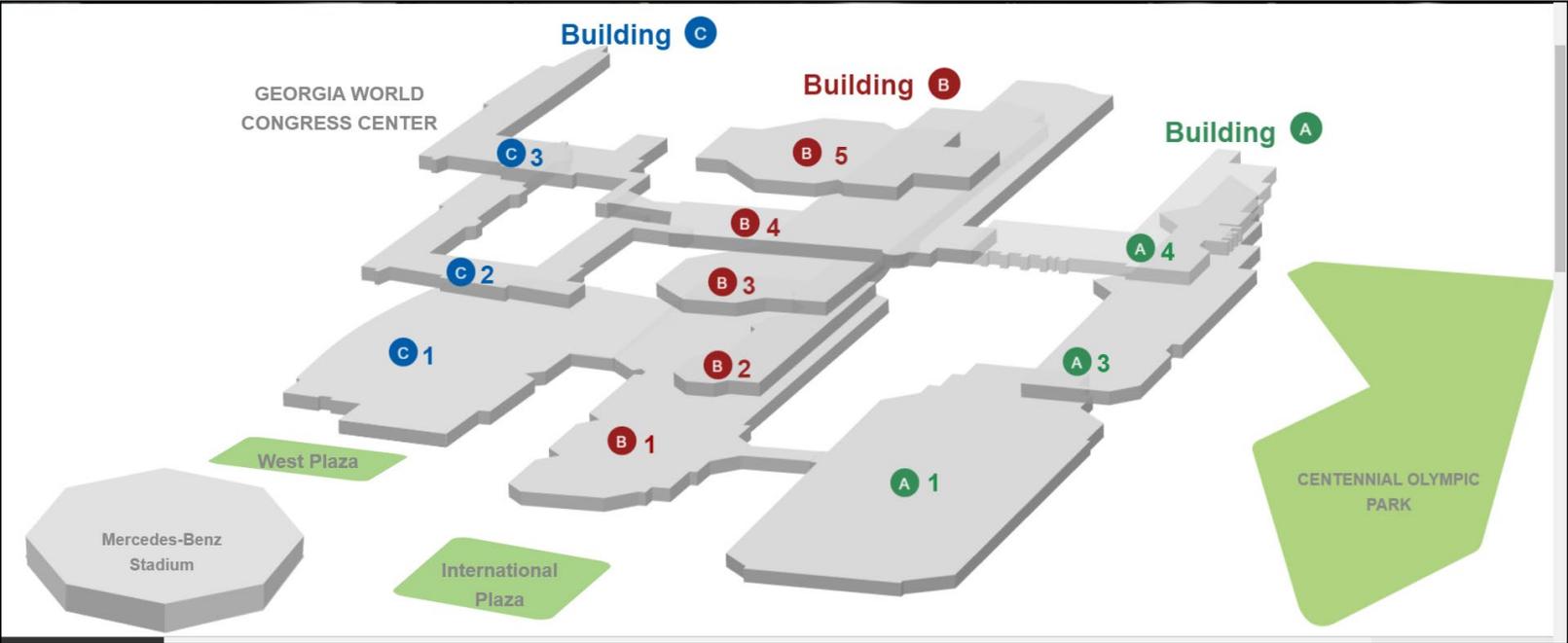
OVERVIEW OF THE WELDING COMPETITION

JUNE 2022 – ATLANTA, GA

# AGENDA

- WELCOME
- FLOOR PLAN OF THE GWCC (GEORGIA WORLD CONGRESS CENTER)
  - ORIENTATION/DEBRIEF
  - COMPETITION AREA
- COMPETITION
  - DRAWINGS
  - OXY-FUEL CUTTING PROJECT
  - VISUAL INSPECTION TEST
- CONTEST UPDATE
  - LINK
- TOOL LIST
- PRACTICE KITS
  - WELDERMADE
- WRAP UP
  - Q&A – KEEP YOUR QUESTIONS TO THE END OF THE PRESENTATION AND USE THE CHAT

# OVERALL FLOOR PLAN AT THE GWCC



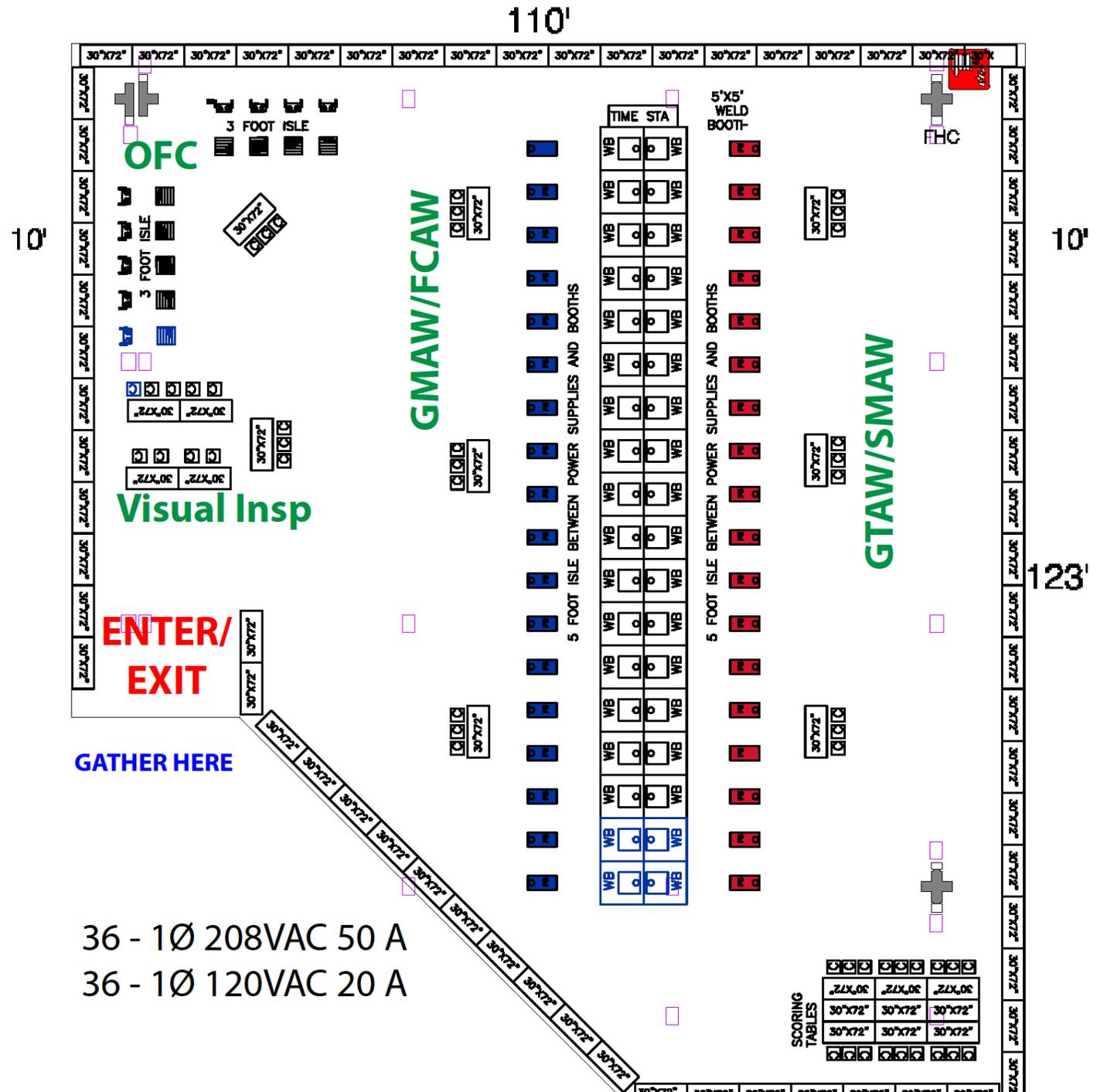
# ORIENTATION/ DEBRIEFING ROOMS



# COMPETITION AREA



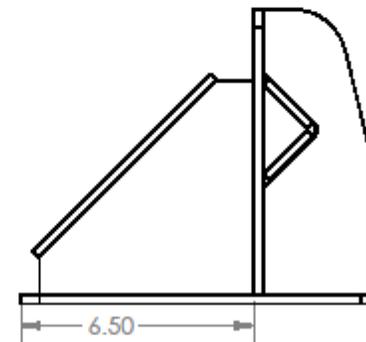
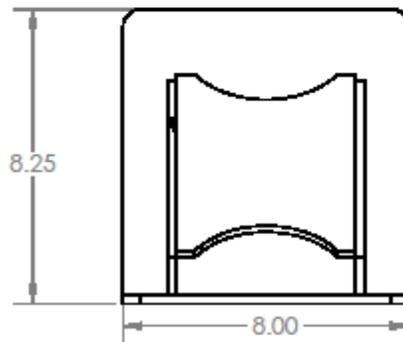
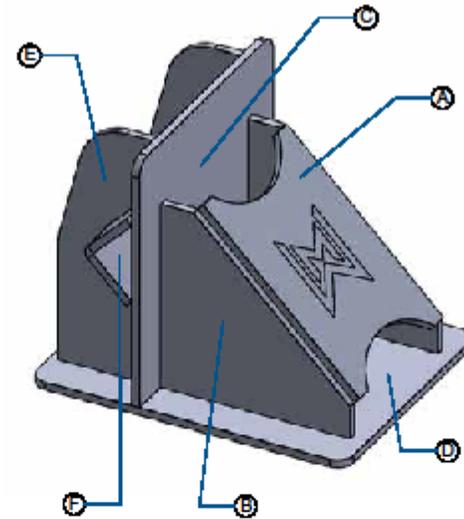
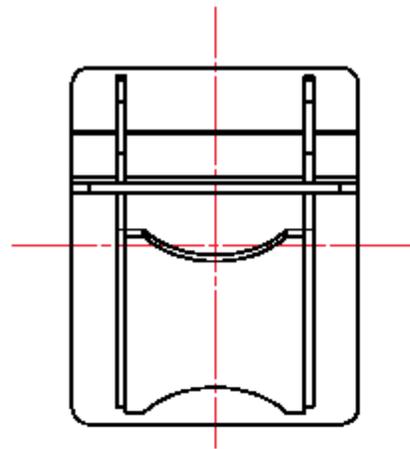
# WELDING COMPETITION FLOOR PLAN



# WELDING PROJECT DRAWINGS

- 4 PROJECT DRAWINGS
- 4 ROTATIONS
- 1 HOUR FOR EACH PROJECT

# DRAWING 1



ID	QTY.	DESC.
A	1	0.25 x 5 x 7
B	2	0.25 x 6 x 6 Triangle
C	1	0.25 x 8 x 8
D	1	0.25 x 10 x 8
E	2	0.25 x 8 x 3
F	1	0.25 x 2 x 2 x 8 Angle Part

ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED

1. TACK COMPLETE ASSEMBLY IN ANY POSITION.

2. WELDING TO BE COMPLETED WITH PLATE D FLAT TO THE TABLE.

3. ALL VERTICAL WELD TO BE WELDED IN THE UPHILL PROGRESSION.

4. WELD #4 WELD COMPLETE ASSEMBLY TO PLATE D ALONG OUTSIDE PERIMETER

TITLE:



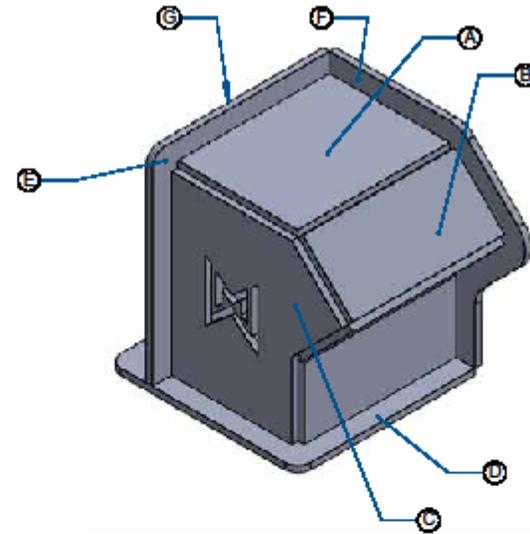
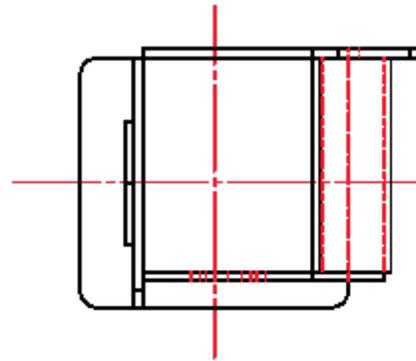
Welding Contest

DWG. NO.

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SHEET 1 OF 1

# DRAWING 2



ID	QTY.	DESC.
A	1	0.25 x 6 x 4.75
B	3	0.25 x 6 x 2.8
C	1	0.25 x 6.75 x 7 logo
D	1	0.25 x 7 x 7.5
E	1	0.25 x 7 x 8
F	1	0.25 x 7.25 x 8
G	1	0.25 x 4" Hexagon

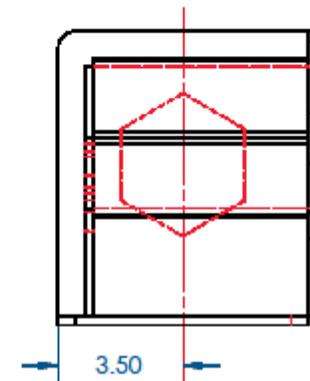
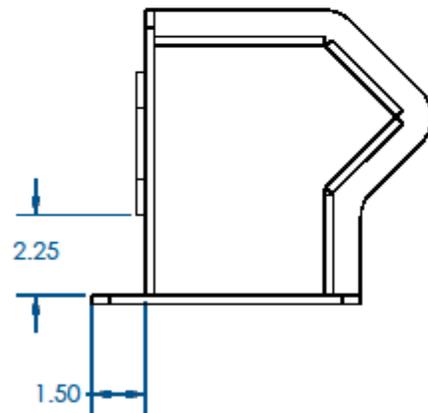
ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED

1. TACK COMPLETE ASSEMBLY IN ANY POSITION.

2. WELDING TO BE COMPLETED WITH PLATE D FLAT TO THE TABLE.

3. ALL VERTICAL WELDS TO BE WELDED IN THE UPHILL PROGRESSION.

4. OUTSIDE CORNER TO JOIN PLATES C TO PLATES A AND B IN FOUR PLACES



TITLE:



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# DRAWING 3

The drawing includes the following views and dimensions:

- Top View:** Shows a rectangular frame with a central vertical slot. A dimension of 1.25 is indicated for the width of the side rails.
- Isometric View:** Shows the 3D assembly with callouts A through G pointing to various components.
- Front View:** Shows the assembly from the front. A dimension of 2.00 is indicated for the height of the top rail.
- Side View:** Shows the assembly from the side, highlighting the vertical support structure.

ID	QTY.	DESC.
A	1	0.25 x 9 x 8
B	1	0.25 x 7 x 8
C	2	0.25 x 6.5 x 6
D	1	0.25 x 3.5 x 6.5 30 deg. Bevel
E	1	0.25 x 4.5 x 6 LOGO OUT
F	1	0.25 x 3.5 x 6.5 30 deg. Bevel
G	1	0.25 x 4 x 4

**ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED**

- TACK AND COMPLETE ASSEMBLY IN ANY POSITION.
- WELDING TO BE COMPLETED WITH PLATE A FLAT TO THE TABLE
- ALL VERTICAL WELDS TO BE WELDED IN THE UPHILL PROGRESSION.

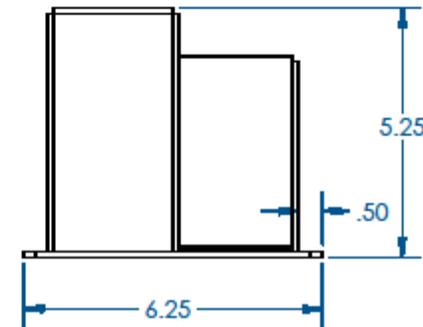
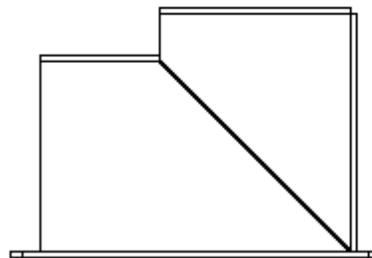
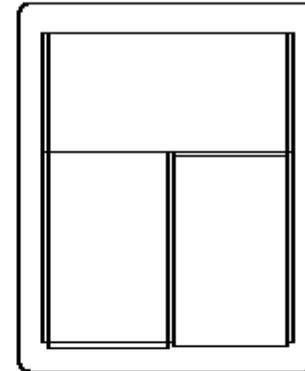
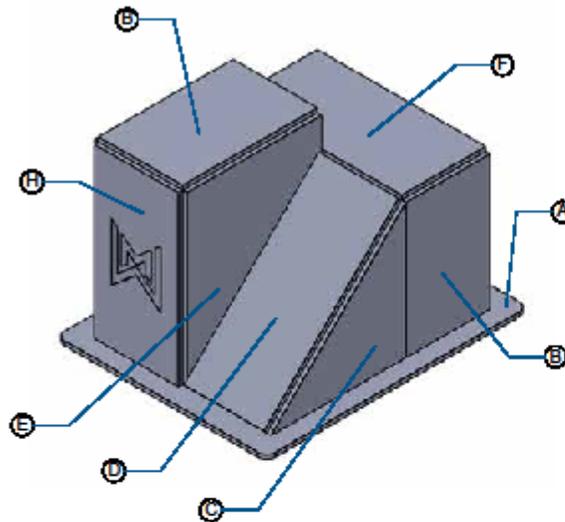
TITLE:  **SkillsUSA**  
Welding Contest

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SHEET 1 OF 1

# DRAWING 4



ID	QTY.	DESC.
A	1	.125 X 7.75 X 6.25
B	2	.125 X 2.5 X 4
C	1	.125 X 4 X 4 TRIANGLE
D	1	.125 X 2.375 X 5.65
E	2	.125 X 4 X 5 X 1 CUSTOM
F	1	.125 X 2.5 X 5
G	1	.125 X 6.5 X 4 X 2.5 CUSTOM
H	1	.125 X 2.5 X 5 LOGO

ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED

1. TACK COMPLETE ASSEMBLY IN ANY POSITION.

2. WELDING TO BE COMPLETED WITH PLATE A FLAT TO THE TABLE, AND IN SEQUENCE: 1,2,4,3,6,5

3. ALL VERTICAL WELDS TO BE UPHILL

4. NO POST WELD CLEANING

TITLE:



Welding Contest

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SHEET 1 OF 1

# OXY-FUEL CUTTING PROJECT

- 1 HOUR FOR THE PROJECT

Oxy-Fuel Station. Contestants must demonstrate safe use of oxy-fuel equipment. Each contestant will be provided with one (1) plate of mild steel 12" X 12" X 1/2" thick. Contestants should be prepared to hand cut bevels at a given degree and hand cut plate at 90 degrees, as well as lay out and cut shapes including but not limited to circles, squares, and triangles. A blueprint with exact layout will be made available at contest time.

# VISUAL INSPECTION TEST

- 20 – 25 QUESTIONS
- USING VISUAL INSPECTION TOOLS AND WELDMENTS
- 1 HOUR FOR THE TEST



# CONTEST UPDATE

<https://www.skillsusa.org/wp-content/uploads/2022/05/SkillsUSA-Welding-Competition-Update-2022.pdf>

SkillsUSA Welding Competition Update - 2022

2022 Welding Update – 5/13/2022

The following information is intended to assist you with the National SkillsUSA Welding Competition. This information provides you with the welding equipment and filler metal that will be provided by Lincoln Electric and Miller Electric/Hobart.

## **Lincoln Electric:**

### Power Source

Powerwave 300C Advanced (K4488-1)

<https://www.lincolnelectric.com/en/Products/le-na-powerwave300c?sku=K4488-1>

### Filler metals

1/8" Fleetweld 5P+ (E6010) ED032565

1/8" Excalibur 7018 MR ED032589

1/8" Jetweld 1 (E7024-1) ED010362

3/32" SuperGlaze 4043 ED031112

## **Miller Electric/Hobart**

**Millermatic® 255 MIG/Pulsed MIG Welder - 208/240V**

<https://www.millerwelds.com/equipment/welders/mig-omaw/millermatic-255-mig-welder-m30174>

**FabCO® Excel-Arc™ 71**

<https://www.hobartbrothers.com/products/product-details/?hbproductname=FabCO%20Excel-Arc%2071>

**Quantum Arc™ 6**

<https://www.hobartbrothers.com/products/product-details/?hbproductname=Quantum%20Arc%206>

# TOOL LIST



## WELDING

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### PURPOSE

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of welding.

First, download and review the General Regulations at: <http://updates.skillsusa.org>.

### ELIGIBILITY

Open to active SkillsUSA members enrolled in programs with welding as the occupational objective.

### CLOTHING REQUIREMENT

- Official SkillsUSA khaki work shirt and pants (both the shirt and pants must be 100-percent cotton).
- Black, brown or tan leather high-top work boots.

**Note:** Safety glasses must have side shields or goggles (prescription glasses may be used only if they are equipped with side shields. If not, they must be covered with goggles).

These regulations refer to clothing items that are

**Note:** Contestants must wear their official contest clothing to the contest orientation meeting.

### EQUIPMENT AND MATERIALS

1. Supplied by the technical committee:
  - a. All necessary welding equipment, filler metals and base materials.
  - b. All instructions, Welding Procedure Specifications (WPS) and prints.
  - c. The technical committee will provide on the SkillsUSA website a preview of the current year's national contest consisting of cut lists and/or partial prints no later than April 15.
2. Supplied by the contestant:
  - a. Hearing and/or ear protection.
  - b. Welding gloves — full length (gauntlet) for SMAW, GMAW and FCAW.
  - c. Welding gloves — appropriate for GTAW.
  - d. Welding cap/beanie.
  - e. Welding helmet with appropriate filter plate/lens and protective cover lens for tacking and welding; auto darkening filter plate/lens permissible. Spare filter plate and cover lens.
  - f. Cutting goggles — with shade 5 lens/cover lens for OFC/PAC; helmet with shade 5 capability permissible; faceshield head gear with shade 5 permissible. Spare filter and cover lens.
  - g. Pocket calculator.
  - h. Fillet weld gauge — standard set.
  - i. Lead pencil and/or ballpoint pen.
  - j. Soap stone with or without holder.
  - k. Scribe without magnet.
  - l. Compass.
  - m. Protractor.
  - n. Combination square set.
  - o. 10-foot (3.1 meters) minimum steel tape measure.
  - p. 16-ounce (.45 kilogram) ball peen hammer.
  - q. Center punch.
  - r. Cold chisel.
  - s. 11R or 10-inch (254 millimeters) vise grips.
  - t. 6-inch (152 millimeters) side cutting

# PRACTICE KITS



Looking for practice kits for  
SkillsUSA Nationals?

Find them  
**HERE**  
@

[https://weldermade.com/  
collections/skills-usa](https://weldermade.com/collections/skills-usa)

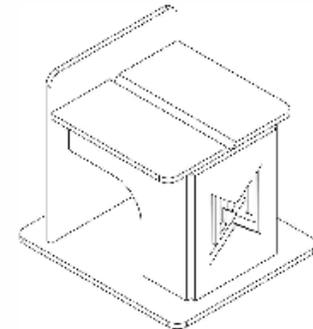
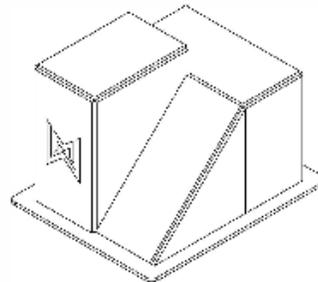
Have any questions or concerns?

Contact:

**Chandler Vincent**

(435) 232-6426

**Chandler@Weldermade.com**





American Welding Society®



## PROJECT-BASED WELDING CURRICULUM WELD-ED SKILLSUSA EDUCATORS CONFERENCE

June 21, 2022 | Atlanta, GA

Project-based learning (PBL) is an instructional approach that gives students an opportunity to practice their skills under real-world conditions. To assure an excellent educational experience for welding students using PBL, instructors need to have a variety of strategies for welding content delivery. During this information-packed half-day conference, attendees will learn the purpose, advantages, reason, and educational theory supporting Project Based Learning, actionable ways instructors can use to develop curriculum for their students, and AWS scholarships available for students.

Register today to learn how your facility can begin using the **Project Based Learning model**.

### KEYNOTE PRESENTERS

- ♦ **Rick Polanin**, *AWS President, CoPI Weld-Ed, Professor, Illinois Central College*
- ♦ **Mark Baugh**, *Professor, Weber State University*
- ♦ **James Colton**, *Professor, Pennsylvania College of Technology*
- ♦ **Dr. Jason Scales**, *Director of Education & Training, Lincoln Electric Inc.*
- ♦ **Monica Pfarr**, *Executive Director, AWS Foundation*

### AGENDA

12 PM	<b>WELCOME / INTRODUCTIONS</b> Rick Polanin, <i>AWS Pres, CoPI Weld-Ed</i>	3 PM	<b>ENGAGING STUDENTS AT A HIGHER LEVEL AND GETTING PAID FOR IT</b> Dr. Jason Scales
12:15 PM	<b>ADVANTAGES OF A WELDING PROJECT BASED CURRICULUM</b> Rick Polanin, <i>AWS Pres, CoPI Weld-Ed</i>	3:45 PM	<b>PARTICIPATING INSTRUCTOR DISCUSSION OF PROJECT BASED LEARNING</b>
1 PM	<b>PROJECT BASED LEARNING</b> Mark Baugh	4:15 PM	<b>BREAK</b>
2 PM	<b>BREAK</b>	4:30 PM	<b>AWS FOUNDATION SCHOLARSHIP OPPORTUNITIES</b> Monica Pfarr
2:15 PM	<b>ASSESSMENT WITH PROJECT BASED LEARNING</b> James Colton	5 PM	<b>WRAP-UP, EVALUATIONS</b>

**REGISTRATION IS NOW OPEN** | Visit [aws.org/pbl](https://aws.org/pbl)

PRICING: Member: \$25 | Non-Member: \$50

[aws.org](https://aws.org)

THANK YOU &  
SEE YOU IN ATLANTA, GA

QUESTION AND ANSWERS  
PLEASE USE THE CHAT TO ASK YOUR QUESTIONS