

Competition Guidelines and Updates:

We are excited for the upcoming SkillsUSA Individual Welding Contest on March 28th and 29th. Per the first update, we are doing a two-day format. On Thursday, March 28th, we will be starting at 11 AM with a quick conversation and lunch, then followed by our Steel widget and written test. We will then start at 8 AM for the Oxy-Fuel and our aluminum widget on Friday, March 29th. Please planning on arriving 15 minutes early both days.

Lastly, we will be doing our pre-competition meeting the week of March 11th through the 15th via teams. **All competitors must attend at least one of these sessions.**

Times:

March 11th: 4:30 PM TO 5:00 PM

March 12th: 4:30 PM TO 5:00 PM

March 13th: 5:30 PM TO 6:00 PM

March 14th: 12:30 PM TO 1:00 PM

March 15th: 8:00 AM TO 8:30 AM

Please join virtually from the following link.

https://teams.microsoft.com/l/meetup-join/19%3ameeting_MzllMzA4YjQtNGY5MC00MzU3LTkxZjctODFINDEyThiYTaw%40thread.v2/0?context=%7b%22Tid%22%3a%2202ebdd84-0955-400e-bd10-d34dd3015f80%22%2c%22Oid%22%3a%22b0d8823c-fc42-47f4-a436-d992ff23cf6b%22%7d

EQUIPMENT AND MATERIALS

Welding Equipment (will be provided)

- a) GMAW – Power Wave C300
- b) FCAW – Flextec 350X/LF-72
- c) SMAW - Flextec 350X
- d) GTAW – Dynasty 280
- e) OFC

Filler Material (to be provided by Lincoln Electric)

- a) GMAW: ER70S-6 .035"
- b) FCAW: E71T-1 .045"
- c) SMAW: E7018 1/8" & E6010 1/8"
- d) GTAW: ER4043 1/16" & 3/32"

Base Material (will be provided)

- a) Steel Project Kit to be provided by Weldermade
- b) Aluminum Project Kit to be provided by Weldermade
- c) OFC plate included

For additional practice kits, please visit weldermade.com.

Supplied by the competitor.

- 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; face shield headgear 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) Soapstone with or without holder or silver streak pencil
- k) Scribe without magnet
- l) Compass
- m) Protractor
- n) Combination square set or speed square
- 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 pliers or diagonal cutting pliers
- u) 6-inch (152 millimeters) needle nose pliers – welpers permissible
- v) Chipping hammer
- w) Carbon steel wire brush
- x) Stainless steel wire brush
- y) Friction lighter (striker) and tip cleaner
- z) All competitors must create a one-page resume. See “Resume Requirement” below for guidelines.

NOTE: Only items (a.-z.) below may be used during the competition. Using any tools other than those listed items (a.-y.) below will result in a points deduction for each infraction throughout the competition. Powered Tools of any type and cellphones are prohibited in the contest. Any questions regarding tools must be asked at the orientation prior to the competition.

RESUME REQUIREMENTS

Competitors MUST create a one-page resume to submit online. Please submit this no later than 7:00 AM on March 29th, 2024. Please email to kevin_lannoch@lincolnelectric.com . Failure to submit a resume will result in a point reduction. Your resume must be saved as a PDF file type using file name format of “Last Name_First Name.” For example, “Amanda Smith” would save her resume as Smith_Amanda.

PROHIBITED DEVICES

Cell phones and powered tools are **NOT** allowed in the competition area

Penalties for Prohibited Devices

If a competitor's electronic device makes noise or if the competitor is seen using it at any time during the competition, judges will document and review. If confirmed that the competitor used the device in a manner which compromised the integrity of the competition, the competitor's scores may be canceled.

COMPETITION GUIDELINES

1. Competitors must correctly use the welding equipment during the competition. This also includes following all safety guidelines during the competition; including the wearing of uniform, safety glasses, and closed-toe shoes at all times. The judges may stop a competitor at any section of the competition if they deem a competitor's manner to be hazardous to either themselves or others. Such a stoppage shall be documented as a warning. If the competitor is warned a second time, he or she may be disqualified for that section of the competition.
2. As soon as the competitors enter the competition area — as defined by the welding lab— no communication shall occur between the competitors or between the competitors and anyone else, except as directed by the competition chair, technical committee members or judges. Any such communication may result in the competitor being disqualified from that section of the competition.
3. All instructors and spectators must stay outside the competition area.
4. This competition will be testing GMAW-Carbon Steel , FCAW-Carbon Steel, SMAW-Carbon Steel, GTAW-Aluminum, Oxy Fuel Cutting-Carbon Steel, & Written Exam.
 - a. **Tacking, GMAW, FCAW, SMAW Written Test will be 25 minute rotations on Thursday.**
 - b. **OFC and GTAW will be 30 minutes rotations on Friday.**
5. Welding and cutting instructions will be provided to the competitors and specified on the Welding Procedure Specifications (WPS).
6. Once the part has been tacked up, it must stay on its base during all welding. The infraction will result in a point deduction, if they're caught rotating it.
7. Contestants must remain at their workstation until the end of each rotation and then promptly go to the next station.
8. Contestants must remain at their workstation until the end of each rotation and then promptly go to the next station. If a contestant finishes early during a rotation, they are to remain at their work station. Infractions will result in a point deduction. Contestants are allowed to keep a water bottle with them throughout the competition. (See full list of what's allowed above)
9. Evaluation of the completed project will be judged visually based on included criteria.


STEEL PRINT

This will be the print used for the competition on Thursday. Students will be provided copies with specified welds.

PART	DESCRIPTION	QTY.
A	7" x 6" x .25	1
B	6" x 6" x .25	1
C	5" x 4" x .25	1
D	7" x 5.75" x .25	1
E	2.5" circle .25	1
F	3.75" x 5.75" x .25	1

ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED
ALL WELD PROCESSES/PROCEDURES ASSIGNED BY TECHNICAL COMMITTEE

- 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.
- Weld #7 WELD COMPLETE ASSEMBLY B&C

TITLE:
STATE

SkillsUSA.
WELDING CONTEST

DWG. NO.
SMAW,GMAW,FCAW-G

weldermade.com SHEET 1 OF 1

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ALUMINUM PRINT

This will be the print used for the competition on Friday. Students will be provided copies with specified welds.

The drawing includes a front view with dimensions 1.00 (width of the top flange), 5.00 (height of the vertical plate), and 5.00 (width of the base). A 3D perspective view shows components A, B, C, D, and E. A detailed view of the base shows a circular hole with a diameter of 2.00 and various chamfered edges (#1 to #6) with dimensions like 0.125, 0.1875, and 0.1875/2-5.

ID	QTY.	DESC.
A	1	0.125 x 5 x 5
B	1	0.125 x 4 x 5
C	1	0.125 x 2 Dia.
D	1	0.125 x 5 x 5 Gusset
E	1	0.125 x 4 x 7

ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED

- TACK 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.
- NO POST WELD CLEANING ALLOWED

TITLE: STATE

 Welding Contest
 DWG. NO.
 GTAW - Aluminum

STATE SUSAT SHEET 1 OF 1

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OFC PRINT

This will be the print used for the competition on Friday.

Item	Qty.	Description
A	1	0.25 x 6 x 6.5

ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED

NOTE: PERFORM A SQUARE CUT ALONG DASHED LINE

 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	SkillsUSA Welding Contest	
	TITLE PAC or OFC	
	SIZE A	
		SHEET 1 OF 1

SCORING BREAKDOWN

	Weight
GMAW Widget	17.50%
FCAW Widget	17.50%
SMAW Widget	17.50%
GTAW Widget	17.50%
Oxy-Fuel Widget	15.00%
Written Exam	15.00%
TOTAL WEIGHT	100.00%

JUDGING GUIDELINES

Note: For GMAW & FCAW contestants will be checked during welding to ensure they are within the limits of the WPS regarding WFS & volts. For SMAW there will be in- weld checks on amps and correct electrode and lastly, we will be checking GTAW for amperage within the WPS.

CONTESTANT NUMBER (1000'S/3000'S)	
Welding # (1-34)	

S M A W	Has the surface slag, spatter, and smoke been removed from all of the joints and surrounding area?	
	Is the Project assembled in accordance to the drawing?	
	Does the overall workmanship display consistency among all welds? (ALL WELDS MUST BE GENERALLY CONSISTENT WITH NO SIGNIFICANT DISCONTINUITIES)	
	Weld #?) Craters Cross Section. All craters should be filled to provide the specified weld size, except for the end of the intermittent fillet welds outside of their effective length. Are the weld craters completely filled to the weld size?	
	Weld #?) Overall bead width not to exceed 1/16 in. variation in width (from max to min) for any weld face. Does the weld meet this requirement?	
	Weld #?) Porosity. No visible porosity is acceptable. Does the weld(s) meet this requirement	
	Weld #?) Undercut. Not to exceed 1/32 in depth for a total accumulated length of 1/2" per weld. Does the welds meet this requirement?	
	Weld #?) Undersized Welds. Weld Size not to be larger by anything greater than 1/16" anywhere along the weld length and no smaller than specified on the drawing. Does the weld size meet this requirement?	
	Weld #?) Weld Profiles. Fillet welds can slightly concave, flat, or slightly convex with the crown not to exceed 3/32" above flat. Groove welds can be flush with an even crown not to exceed 3/32". Does this weld meet this requirement?	
	Weld #?) Weld/Base metal Fusion. Complete fusion shall exist between base and weld metal. Does the weld display complete fusion with no cold lap?	
Weld #?) There shall be no arc marks outside the weld area. Does the weld meet this requirement		
TOTAL		

CONTESTANT NUMBER (1000'S/3000'S)	
Welding # (1-34)	

O F C	Is the Project cut in accordance to the drawing?	
	Does the overall workmanship display consistency among all cuts (ALL CUTS MUST BE GENERALLY CONSISTENT WITH NO SIGNIFICANT DISCONTINUITIES)	
	Are all three cuts completed?	
	Does the whole cut fit in the complete GO/NO-GO Gauge?	
	Does the square fit in the square GO/NO-GO Gauge?	
	Does the circle fit in the square GO/NO-GO Gauge?	
	Does the line fit in the square GO/NO-GO Gauge?	
	Does the cut quality on the square display minimal undulations that do not exceed an inconsistency greater than 1/32"?	
	Does the cut quality on the circle display minimal undulations that do not exceed an inconsistency greater than 1/32"?	
	Does the cut quality on the line display minimal undulations that do not exceed an inconsistency greater than 1/32"?	
TOTAL		

CONTESTANT NUMBER (1000'S/3000'S)	
Welding # (1-34)	

G M A W	Has the surface slag, spatter, and smoke been removed from all of the joints and surrounding area?	
	Is the Project assembled in accordance to the drawing ?	
	Does the overall workmanship display consistency among all welds? (ALL WELDS MUST BE GENERALLY CONSISTENT WITH NO SIGNIFICANT DISCONTINUITIES)	
	Weld #??) Craters Cross Section. All craters should be filled to provide the specified weld size, except for the end of the intermittent fillet welds outside of their effective length. Are the weld craters completely filled to the weld size?	
	Weld #??) Overall bead width not to exceed 1/16 in. variation in width (from max to min) for any weld face. Does the weld meet this requirement?	
	Weld #??) Porosity. No visible porosity is acceptable. Does the weld(s) meet this requirement	
	Weld #??) Undercut. Not to exceed 1/32 in depth for a total accumulated length of 1/2" per weld. Does the welds meet this requirement?	
	Weld #??) Undersized Welds. Weld Size not to be larger by anything greater than 1/16" anywhere along the weld length and no smaller than specified on the drawing. Does the weld size meet this requirement?	
	Weld #??) Weld Profiles. Fillet welds can slightly concave, flat, or slightly convex with the crown not to exceed 3/32" above flat. Groove welds can be flush with an even crown not to exceed 3/32". Does this weld meet this requirement?	
	Weld #??) Weld/Base metal Fusion. Complete fusion shall exist between base and weld metal. Does the weld display complete fusion with no cold lap?	
Weld #??) There shall be no arc marks outside the weld area. Does the weld meet this requirement		
TOTAL		

CONTESTANT NUMBER (1000'S/3000'S)	
Welding # (1-34)	

G T A W	The GTAW Project should show no post weld wire brushing , does this project display no post weld wire brushing?	
	Is the Project assembled in accordance to the drawing ?	
	Does the overall workmanship display consistency among all welds? (ALL WELDS MUST BE GENERALLY CONSISTENT WITH NO SIGNIFICANT DISCONTINUITIES)	
	Weld #??) Are the welds placed in the proper location ?	
	Weld #??) Craters Cross Section . All craters should be filled to provide the specified weld size, except for the end of the intermittent fillet welds outside of their effective length. Are the weld craters completely filled to the weld size?	
	Weld #??) Are the welds the proper size ?	
	Weld #??) Are the welds the proper length ?	
	Are all present welds free from porosity ? No visible porosity is acceptable. Do the welds meet this Requirement?	
	Did the Welder complete 2 welds or more ?	
	Did the Welder complete 5 welds or more ?	
	For projects that have 6 or more welds completed. (For projects with less weld, or it has been wire brushed, the answer is NO.) ("Touchdowns" are when the tungsten is touched to the work piece or the filler metal and an indication can be visible as long as no post wire brushing is performed.) Is the project free from any "touchdowns"?	
	TOTAL	

CONTESTANT NUMBER (1000'S/3000'S)	
Welding # (1-34)	

F C A W	Has the surface slag, spatter, and smoke been removed from all of the joints and surrounding area?	
	Is the Project assembled in accordance to the drawing ?	
	Does the overall workmanship display consistency among all welds? (ALL WELDS MUST BE GENERALLY CONSISTENT WITH NO SIGNIFICANT DISCONTINUITIES)	
	Weld #??) Craters Cross Section. All craters should be filled to provide the specified weld size, except for the end of the intermittent fillet welds outside of their effective length. Are the weld craters completely filled to the weld size?	
	Weld #??) Overall bead width not to exceed 1/16 in. variation in width (from max to min) for any weld face. Does the weld meet this requirement?	
	Weld #??) Porosity. No visible porosity is acceptable. Does the weld(s) meet this requirement	
	Weld #??) Undercut. Not to exceed 1/32 in depth for a total accumulated length of 1/2" per weld. Does the welds meet this requirement?	
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Weld #??) There shall be no arc marks outside the weld area. Does the weld meet this requirement		
TOTAL		