

# SkillsUSA Tennessee PS Virtual Interview Contest

## Welding Technican

SkillsUSA is focused on preparing students for career success. With the changes in our world, it is now more important than ever that you know not only how to interview for your future career, but how to do it in a virtual format.

Starting in summer 2020, SkillsUSA Tennessee Postsecondary is hosting statewide Virtual Interview Contests in all industry sectors!

### Virtual Interview Contest Process:

**Step #1:** All chapters will receive “*How to Prepare for Virtual Interviews*” training packet created by the SkillsUSA Tennessee PS State Director

**Step #2:** Students practice virtual interviewing skills with their instructor. Create a professional resume geared towards the job description included. Participate in a virtual in-class competition to determine top 3 overall students in their program area.

**Step #3** The top 3 students from each program submit their recorded virtual skills demonstration interviews and their professional resumes to the state director to be judged by industry professionals.

*\*Scenarios and detailed instructions are included in this packet*

**Step #4** The Top 10 finalists from each sector will be notified of their scheduled time to interview in using *Microsoft Teams* with a panel of industry professionals from their sector. Interviews will be recorded, and once all are scored the overall winners will be awarded Gold, Silver, and Bronze medals.



# Welders, Cutters, and Welder Fitters

## Job Summary and Responsibilities:

Welders operate welding equipment in order to join metal workpieces together. They can use fusion welding processes based on different techniques and materials. They also perform simple visual inspection of welds.

## Required Competencies:

### Occupational Competencies

- **Oxy-fuel welding torch:** Operate a cutting torch fueled by oxyacetylene gas safely to perform welding processes on a workpiece.
- **Arc welding techniques:** Apply and work with a variety of techniques in the process of arc welding, such as shielded metal arc welding, gas metal arc welding, submerged arc welding, flux-cored arc welding, and others.
- **Welding equipment:** Use welding equipment to melt and join together pieces of metal or steel; wear protective eyewear during the working process.
- **Test run:** Perform tests putting a system, machine, tool or other equipment through a series of actions under actual operating conditions in order to assess its reliability and suitability to realize its tasks, and adjust settings accordingly.
- **Metal active gas welding:** Weld metal, mostly steel, workpieces together using active gas mixtures such as concoctions of argon, carbon dioxide and oxygen.
- **Precision metalworking techniques:** Comply with precision standards specific to an organization or product in metalworking, involved in processes such as engraving, precise cutting, welding.
- **Tungsten inert gas welding:** Weld metal workpieces together by tungsten inert gas (TIG) welding. This arc welding process welds metal workpieces using the heat generated between an arc of electricity struck between a non-consumable tungsten metal electrode. Use an argon or helium inert gas to shield the weld from atmospheric contamination.
- **Metal inert gas welding:** Weld metal workpieces together using inert gasses or gas mixtures such as argon and helium. This technique is usually used for welding aluminum and other non-ferrous metals.
- **Torch temperature for metal processes:** Experience with ideal temperature of tools and machinery equipped with torches to perform various metal processing on workpieces.
- **Welding techniques:** Familiarity with the different methods of welding together pieces of metal using various equipment, such as oxygen-acetylene welding, gas metal arc welding and tungsten inert gas welding.
- **Fuel gas:** Knowledge of the various qualities, hazards and applications of gaseous fuels, such as oxy-acetylene, oxy-gasoline, oxy-hydrogen and others.
- **Types of metal:** Experience with qualities, specifications, applications and reactions to different fabricating processes of various types of metal, such as steel, aluminum, brass, copper and others.
- **Quality standards:** Familiarity with the national and international requirements, specifications and guidelines to ensure that products, services and processes are of good quality and fit for purpose.
- **Metal thermal conductivity:** Knowledge of the property of metals to conduct heat.
- **Flammable fluids:** Experience with the behavior of liquids and gasses that represent a serious explosion and fire danger, and their appropriate handling systems and effective storage.

## Foundational Competencies

- **Critical Thinking:** Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Operation and Control:** Controlling operations of equipment or systems.
- **Monitoring:** Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Reading Comprehension:** Understanding written sentences and paragraphs in work related documents.
- **Active Listening:** Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Judgment and Decision Making:** Considering the relative costs and benefits of potential actions to choose the most appropriate one.

## Preferred Competencies:

## Occupational Competencies

- **Non-ferrous metal processing:** Various processing methods on non-ferrous metals and alloys such as copper, zinc and aluminum.
- **Cutting technologies:** The variety of cutting technologies, such as software or mechanics, guiding cutting processes through lasering, sawing, milling etc.
- **Mechanics of vessels:** The mechanics involved in boats and ships. Understand the technicalities and participate in discussions over related topics in order to solve problems related to the mechanics.
- **Metal joining technologies:** The various technologies used for the joining and assembling of fabricated metal workpieces.
- **Ferrous metal processing:** Various processing methods on iron and iron-containing alloys such as steel, stainless steel and pig iron.
- **Aircraft mechanics:** Technicalities over mechanics in aircrafts and related topics in order to perform a wide range of repairs in aircrafts.
- **Manufacturing of small metal parts:** The manufacture of metal cable, plaited bands and other articles of that type, un-insulated or insulated cable not capable of being used as a conductor of electricity, coated or cored wire as well as barbed wire, wire fencing, grill, netting, cloth etc. Manufacture of coated electrodes for electric arc-welding, nails and pins, chain and springs (except watch springs): as well as leaves for springs.
- **Mechanics of motor vehicles:** The way energy forces interact and affect components in motor vehicles such as cars, buses, invalid carriages and other motorized vehicles.
- **Manufacturing of metal containers:** The manufacture of reservoirs, tanks and similar containers of metal, of types normally installed as fixtures for storage or manufacturing use. The manufacture of metal containers for compressed or liquefied gas.
- **Manufacturing of steel drums and similar containers:** The manufacture of pails, cans, drums, buckets, boxes, through metalworking processes.
- **Types of metal manufacturing processes:** Metal processes linked to the different types of metal, such as casting processes, heat treatment processes, repair processes and other metal manufacturing processes.
- **Defense system:** The various weapons and weapon systems used to protect citizens and to harm or shield incoming enemies and enemy weapons.

- **Metal bending techniques:** Understand different techniques for the bending of metal sheets. Connect knowledge of different techniques with activities such as assembly, design, and maintenance.
- **Manufacturing of weapons and ammunition:** The manufacture of heavy weapons (artillery, mobile guns, rocket launchers, torpedo tubes, heavy machine guns), small arms (revolvers, shotguns, light machine guns), air or gas guns and pistols, and war ammunition. Also the manufacture of hunting, sporting or protective firearms and ammunition and of explosive devices such as bombs, mines and torpedoes.
- **Metal smoothing technologies:** The various technologies used for the smoothing, polishing and buffing of fabricated metal workpieces.
- **Manufacturing of tools:** The manufacture of knives and cutting blades for machines or for mechanical appliances, hand tools such as pliers, screwdrivers etc. The manufacture of non-power-driven agricultural hand tools, saws and saw blades, including circular saw blades and chainsaw blades. The manufacture of interchangeable tools for hand tools, whether or not power-operated, or for machine tools: drills, punches, milling cutters etc. The manufacture of press tools, molding boxes and molds (except ingot molds), vises and clamps, and blacksmiths' tools: forges, anvils etc.
- **Manufacturing of steam generators:** The manufacture of steam or other vapor generators, the manufacture of auxiliary plant for use with steam generators: condensers, economizers, super heaters, steam collectors and accumulators. The manufacture of nuclear reactors, parts for marine or power boilers. Also the production of pipe system construction comprising further processing of tubes generally to make pressure pipes or pipe systems together with the associated design and construction work.

### Foundational Competencies

- **Operation Monitoring:** Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Speaking:** Talking to others to convey information effectively.
- **Coordination:** Adjusting actions in relation to others' actions.
- **Mathematics:** Using mathematics to solve problems.

### Example Activities:

- Weld components in flat, vertical, or overhead positions.
- Operate safety equipment and use safe work habits.
- Lay out, position, align, and secure parts and assemblies prior to assembly, using straightedges, combination squares, calipers, and rulers.
- Examine workpieces for defects and measure workpieces with straightedges or templates to ensure conformance with specifications.
- Recognize, set up, and operate hand and power tools common to the welding trade, such as shielded metal arc and gas metal arc welding equipment.
- Weld separately or in combination, using aluminum, stainless steel, cast iron, and other alloys.
- Clamp, hold, tack-weld, heat-bend, grind or bolt component parts to obtain required configurations and positions for welding.
- Select and install torches, torch tips, filler rods, and flux, according to welding chart specifications or types and thicknesses of metals

## Pre-Recorded Skills Demonstration Scenario

### Welding Technician

For this portion of the virtual interview contest, you are to record yourself responding to the following scenario. You may choose to use props, but they are not required. You will be scored on your ability to communicate the process clearly, and to demonstrate your knowledge of the technical skill.

#### Scenario:

You have been asked by your supervisor at Dilling Group to complete the following welding task. Based on the information in the diagram, talk through your exact process from beginning to end including materials, methods, etc. that you will use to complete this task.

ID	Qty	Title
A	1	.25 x 12 x 12 Plate
B	4	.25 x 2.475 x 4.125 Plate
C	4	.25 x 3 x 5.5 Plate

ALL PROCESSES TO BE COMPLETED WITH THE MATERIALS PROVIDED

1. WELD IN ACCORDANCE WITH WPS# 101
2. TACK COMPLETE ASSEMBLY IN ANY POSITION
3. WELDING TO BE COMPLETED WITH PLATE A FLAT TO THE TABLE
4. ALL VERTICAL WELDS TO BE DOWNHILL FOR APPEARANCE PURPOSES

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES

2019 TN SkillsUSA Welding Contest	
TITLE SMAW	
SIZE A	
SHEET 1 OF 1	

<b>Skills Demonstration Scenario</b>	<b>Possible Points</b>	<b>Points Earned</b>	<b>Notes</b>
Professional Appearance/Grooming	5		
Virtual Setting: Backdrop, Lighting, Audio, Technical Quality, No Distractions	5		
Eye Contact/Body Language	5		
Demonstration of technical skill/knowledge	15		
Verbal communication skills/clarity	10		
Overall Impression	10		
Total	50		
<b>Virtual Interview</b>	<b>Possible Points</b>	<b>Points Earned</b>	<b>Notes</b>
Greeting and Introduction	5		
Professional Appearance/Grooming	5		
Eye Contact/Body Language	5		
Demonstration of knowledge of the position and technical skills required for the job	10		
Verbal Communication Skills/Clarity	5		
Presentation: Self-Confidence, Persuasiveness	5		
Preparation: Knowledge of Position Applied for and Personal History	5		
Overall Impression	10		
Total	50		
<b>Resume</b>	<b>Possible Points</b>	<b>Points Earned</b>	<b>Notes</b>
<b>Personal Information:</b> Name, address, phone & email	1		
<b>Skills:</b>	2		
<b>Education:</b> Include program of study/Major	2		
<b>Employment:</b> And/or volunteer work or list NA	1		
<b>Activities, Awards and Honors:</b> Should include SkillsUSA membership/activities	2		
<b>References:</b> Or references available upon request	1		
<b>Spelling, Punctuation &amp; Grammar</b>	1		
Total	10		
<b>More than One Page (-1pt)</b>			