



# TECHNOLOGICAL SKILLS CHALLENGES

EXPLORE  
YOUR **INTERESTS.**  
DISCOVER  
YOUR **FUTURE.**  
CREATE  
YOUR **CAREER.**

## 2026 DSBN REGIONAL WELDING SKILLS CHALLENGE SECONDARY LEVEL SCOPE

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### **PURPOSE OF THE CONTEST:**

To test and evaluate the various safety-oriented welding and fitting skills of DSBN's students, and to determine the student who will move up to represent the DSBN at Ontario Technological Skills Competition

### **EVENT DETAILS:**

**Date:** Wednesday March 4, 2026 (If snow day, resume Thursday March 5th)  
**Time:** 8:00am - 4:00pm (competition ends at 3 PM)  
**Location:** Niagara College, Welland Campus  
Lunch is provided

**ENTRY:** Please connect with a teacher advisor at your school to complete your registration for this competition to be eligible to participate.

## SKILLS AND KNOWLEDGE TO BE TESTED:

- general safety on arc welding, safe working habits
- selection of arc welding electrodes by their CSA metric classifications
- selection of welding variables
- shielding gases for GMAW
- blueprint reading ability
- transfer of measurements and other information from blueprint to the project
- layout, position, fit and tack weld components
- welding with various processes, SMAW, GMAW
- cleaning of finished welds

### Practical Test

#### **Project #1 - Mild Steel Structure (6 hrs)**

SMAW (flat, horizontal, vertical, overhead)  
3F, (vert. up) E4918 / E7018, 2.5 and/or  
3.2mm  
5F, E4918 / E7018, 2.5 and/or 3.2mm  
2G – E6010/ root, E7018 filler and cap  
1G- E4918 / E7018, 2.5 and/or 3.2mm

GMAW (flat, horiz, vert)  
1G root, fill and cap  
2G  
3F, (vert. up)  
ER 49S-6, 0.9mm (0.035")  
75% Ar +25%Co<sub>2</sub>

#### **EQUIPMENT, MATERIALS, TOOLS, AND SUPPLIES:**

##### **Supplied by Committee:**

All power sources, consumables, and test materials. Materials may be plates or pipes. PLEASE REVIEW THE DRAWING CAREFULLY

##### **Supplied by Competitor:**

Tape measure (Inches/millimeters)	Chipping Hammer	Scrap Plate
Soapstone	Wire Brush	Divider
Scriber, pen, pencil	Cold chisel	Striker
12" Set Square	Centre Punch	protractor/ combination square set
Vice Grip, Clamps, magnets	Hammer	

## All Personal Protective Equipment listed below

### SAFETY REQUIREMENTS:

Safety is a priority at the DSBN Technological Skills Challenges. At the discretion of the judges and technical chair, any competitor can be removed from the competition site for not having the proper safety equipment and/or not acting in a safe manner. Hosted at Niagara College, their safety procedures must also be respected and followed.

1. **It is mandatory for all competitors and teacher advisors to wear CSA approved eyewear (including side shields for prescription eyewear) AT ALL TIMES. \***
2. Competitors must bring a welding helmet with a minimum of a #10 lens. \*
3. **It is mandatory for all competitors and teacher advisors to wear CSA approved footwear. \***
4. All competitors must come with appropriate gloves. \*
5. NO food or drink allowed in the welding lab (lunch provided in another room)
6. Proper shop attire is to be worn (Fire Resistant welding jacket (**Skills Ontario regional and provincial require leather jacket**) and pants, no loose straps, baggy sleeves etc.). Nor any item deemed unsafe by competition judges. \*

\*Competition judges will have final authority on matters of safety.

7. Ear protection can be worn but is not required.

### CLOTHING REQUIREMENTS:

Competitors are to be dressed in clean and appropriate attire with DSBN Technology Skills shirts if possible.

### PROJECT AND COMPETITION EXPECTATIONS:

Competition drawings will be provided. Of the 6-hour time frame, the first hour will be used for set-up and fitting/tacking of the project assembly evaluated at 10%

### JUDGING CRITERIA:

	Percentage of evaluation
<b>Safety</b>	10%
<b>Fitting</b>	20%
<b>SMAW</b>	42%
<b>GMAW</b>	28%
	100%

**TRANSPORTATION:**

Students are responsible for their own transportation. Please be on time or you risk forfeiting your spot.

**TEACHER'S ROLE:**

Instructors are expected to acquaint their student participants with all of the enclosed guidelines. Teachers supervising must accompany their students and can visit any time during the competition but may not assist competitors during the challenge. Time is allowed to help your students with initial machine set up. Niagara College staff are not responsible for supervising DSBN students.

**SPECIAL INSTRUCTIONS OR GUIDELINES:**

- **Attendance at the Orientation is required**
- Latecomers will not be allowed to enter the competition.
- Butane lighters are not allowed in the welding area.
- Grinding is not permitted.
- **Contact with advisors/teachers/coaches/parents is not permitted during contest time and will be handled at the discretion of the Technical Chair**

**SAFETY GLASSES AND STEEL TOES!**

All teachers and students must always wear safety boots and glasses in the Welding Shop at Niagara College.

**FAILURE TO DO SO WILL LEAD TO REMOVAL OF TEACHER OR STUDENT.**

**COMPETITION AGENDA:**

Time	Task	Limit
8:00am - 8:30am	Registration and tool drop	
8:30am - 8:40am	Orientation & Opening Remarks	
8:40am - 3:00pm	Projects	6hrs
11:30am - 12:00pm	Lunch (mandatory break) Will be provided by the DSBN	

**\*\* Each competitor will be given a number by their coordinator upon registration at the location and will be judged anonymously during the competition.**