NTC Welding Contest - 2026

REGISTRATION

The Online Registration form will be available at:
https://www.ntc.edu/calendar/2026/05/07/high-school-welding-competition
You'll also find key dates and the agenda for the day on that page.

ENTRY DIVISIONS

Prizes will be awarded in three separate divisions – Utilitarian entries, Artistic entries, and First-Time Competitor entries.
All entries must conform to the project parameters listed below.

UTILITARIAN

Utilitarian projects serve a specific function. (can crusher, bench vise, grill, etc.)

ARTISTIC

Artistic projects have a purely aesthetic value. (abstract or representational sculpture, scale models, etc)

FIRST-TIME COMPETITOR

This division is for individuals or teams whose members **have not previously entered the NTC Welding Contest**. Teams that include a past participant are not eligible for this division. First-Time Competitor entries can be either utilitarian or artistic.

PROJECT PARAMETERS

TEAMS

Participating teams may have a 1 - 6 members. Schools can have multiple teams.

FABRICATION

Your project must include fillet welds and at least one groove weld.
Welding, cutting and forming processes may be manual, semi-automatic, or CNC.

SIZE

Your *assembled* project's overall footprint must be 30 cubic feet or smaller. ** See SIZE LIMITATION illustration.*

FINISHING

Do not grind your finished welds or paint your project. Your welds must be visible so that the judges can evaluate them.

DOCUMENTING YOUR PROJECT – ELECTRONIC PORTFOLIO

Document your project to show the steps you took from beginning to end. Your portfolio can include photos, video, drawings, and/or written descriptions. Use Google Slides or Microsoft Powerpoint to create your electronic portfolio. A sample portfolio will be available for reference. Submit your portfolio by the deadline listed in "Key Dates".

Photos/Video/Drawings/Documents in your electronic portfolio must include the following:

- Your school, team name, team members, instructor, and the division you're entering.
- The inspiration and intent behind your project
- The function of your project (Utilitarian Entries)
- Conformance of your project to the size requirement
- Your project timeline and the steps you took
- The processes, tools, and techniques you used in your project
- Your fit up before welding, and the methods you used to preserve critical dimensions and geometric features such as squareness, straightness, flatness, perpendicularity, etc.
- Your weld processes, quality and size
- The challenges you encountered and solutions you employed

PRESENTING YOUR PROJECT

At NTC, each team will give a 2 to 3 minute presentation about its project for the contest judges. The judges will review portfolios before the event. The presentation gives the judges a chance to look at the project in more detail, and ask about your design, process steps, fabrication challenges and solutions.

JUDGING

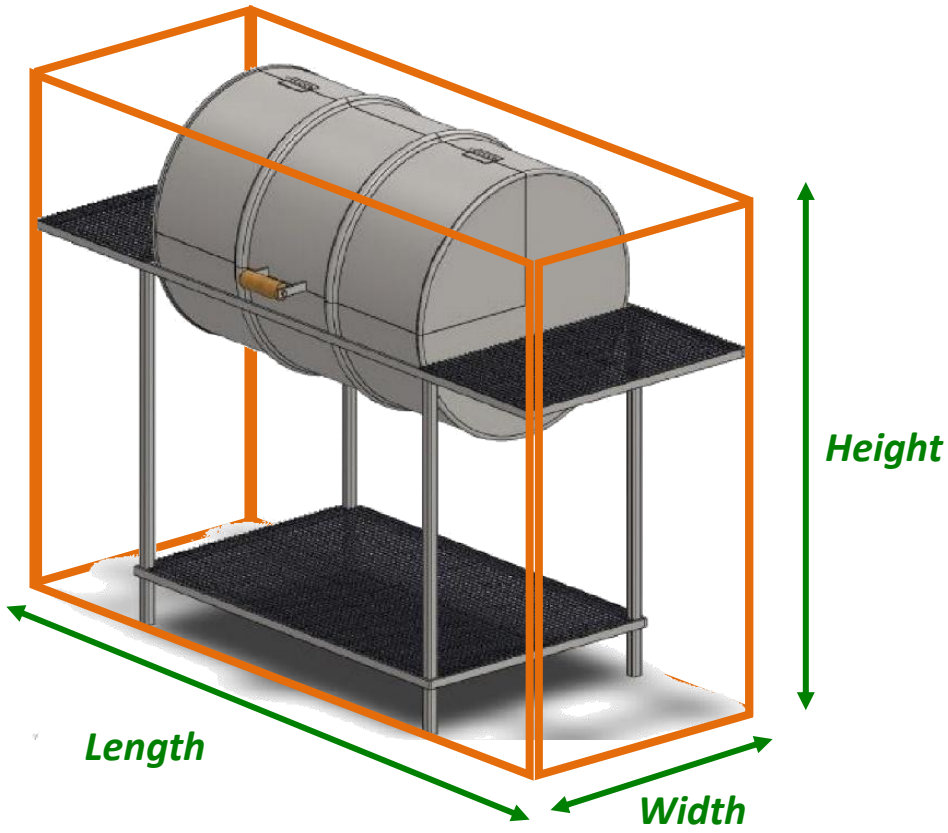
Your project will be rated in the four categories below. See "Judging Criteria" for more details.

Category	Possible Points
Design	**30**
Portfolio	**20**
Presentation	**10**
Craftsmanship	**40**
total	**100**

SIZE LIMITATION

Entries will be measured in their *fully assembled* state. The *overall footprint* must be 30 ft^3 or less. *(L x W x H)*
Here is an example …….

$$L \times W \times H \leq 30\ ft^3$$



JUDGING CRITERIA

DESIGN
Your design lends to the efficient function of your project (Utilitarian) **- or -** Your design lends to the aesthetic impact of your project (Artistic)
Your process/tool choices support your design intent
Your material/technique choices support your design intent
PORTFOLIO
Your portfolio shows the evolution of your project, from start to finish
Your portfolio details the processes, tool, and techniques you used
Your portfolio shows the function of your project
PRESENTATION
You clearly explain the inspiration and intent behind your project
You clearly describe the processes, tools, and techniques used
You reflect on challenges and lessons learned throughout the project
CRAFTSMANSHIP
Your weld processes serve your design intent, welds are free of defects
Your cut processes serve your design intent and are well executed
Your fit up preserves critical dimensions and geometric features

SCORES

Sub	Basic (C)		Good (B)		Excellent (A)			
≤ 6.5	7	7.5	8	8.5	9	9.5	10	***total***
								x 3

Sub	Basic (C)		Good (B)		Excellent (A)			
≤ 6.5	7	7.5	8	8.5	9	9.5	10	***total***
								x 2

Sub	Basic (C)		Good (B)		Excellent (A)			
≤ 6.5	7	7.5	8	8.5	9	9.5	10	***total***
								x 1

Sub	Basic (C)		Good (B)		Excellent (A)			
≤ 6.5	7	7.5	8	8.5	9	9.5	10	***total***
								x 4

TOTAL POINTS

JUDGING CRITERIA - WELDS

The following discontinuities will be considered defects for the purpose of this Contest		
Voids, Cracks & Inclusions	Undercut	Greater than 1/32” in depth, any length
	Porosity	Sum of diameters of holes equals 1/4” or more on entire project
	Cracks	Any
	Slag inclusions	Any
Size & Contour	Convexity or Concavity	3/32” or greater, any length in any location
	Unequal Leg (Fillets)	Greater than 1/16”, any length in any location
	Appropriate Size (Fillets)	Leg size = thickness of thinner member
	Underfill (Groove Welds)	Greater than 1/32” in depth, any length
	Reinforcement (Groove Welds)	Greater than 1/8”, any length
Finish	Lack of finish	Slag, wire stubs, or weld spatter in any amount