

2023 Nebraska FFA WELDING CONTEST

DISTRICTS 3, 4, & 10

Overview

This contest will be limited to one team of four (4) members. One team member will compete for up to 45 minutes in each of the following processes: one in Shielded Metal Arc Welding (**SMAW**) one in Oxygen Acetylene Welding (**OAW**) one in Gas Metal Arc Welding (**GMAW**) and one in Gas Tungsten Arc Welding (**GTAW**)

Please see Nebraska State FFA Welding Contest rules for eligibility and general scope of state contest.

General Rules...Same as state

- No tennis or sport shoes-high top leather boots are required.
- Safety glasses have to be worn at all times even while welding. Disqualification for not wearing.
- No cell phones during contest.
- Students who do not have all their own required welding and safety equipment will not be allowed to register or participate in any part of the welding contest. Northeast Community College will not provide PPE gear or tools required of the contestant.
- Weld Proctors to decide which booth contestant is to use. Student does not decide which booth to weld in.
- Contestants may not communicate with other contestants or with your instructor during contest time.
- Only authorized personnel are allowed in the contest area before and during the contest. Instructors are prohibited from all designated contest areas and are not allowed to provide any type of communication or assistance to contestants during the contest.

Contest Schedule

Date: February 27, 2023 (Monday)

Report Location: Northeast Community College

801 East Benjamin Avenue

Norfolk, NE

Contest Location: Check in at Cox Activities Center, students will be directed to the Theatre in the Cox Activities Center for the written exam. Upon completion of the written exam, students will be escorted to the Weller Building, Room B101 and B103, for the hands-on portion of the contest. **Students must bring a clipboard for the written portion.**

Equipment and Supplies/Tool List

Gear Requirements PPE: (please mark your name on all tools and supplies!)

- Safety glasses ANSI approved – Z-87
- Welding hood
- Welding cap
- Welding gloves for the process you are welding with.
- 100% cotton shirt (not flannel, no holes) Carhartt or Wrangler type work shirt.
- Cotton slacks (jeans)
- Fire resistant or leather cape sleeves or jacket.
- Leather boots (steel toed preferred)

Tool Requirements depending on the process you are welding with:

- Carbon steel wire brush
- Slag hammer
- Needle nose pliers to cut wire.
- Regular pliers to carry hot metal around.
- Welding goggles or shaded face shield for OAW welding. Must wear safety glasses under face shield.
- Striker
- Soap Stone
- Tip cleaners
- Clipboard for test

Northeast Community College will provide power sources (Lincoln Flextec 350's with Flex Feed 84 Dual wire feeders, Lincoln Flextec 450's with LF72 wire feeders, Miller XMT's 450's with 22A wire feeders) gases and consumables. No power tools shall be used.

SHIELDED METAL ARC WELDING (SMAW)

Recommended practice to better prepare students for contest.

Weld Joints: Square Groove, Lap, T, V-Groove

Positions: Flat, Horizontal, Vertical up or down

Material: Mild steel from 3/16" to 1/4"

Electrodes: 3/32" or 1/8" ...E6010, E6013, or E7018 -- All DC+

OXYGEN ACETYLENE WELDING (OAW)

Recommended practice to better prepare students for contest. Victor torches

Weld Joints: Square Groove, Lap, T, Corner

Positions: Flat, Horizontal and Vertical up.

Material: Mild steel sheet from 1/16" to 1/8"

Filler metal: RG-45 1/16" or 3/32"

GAS METAL ARC WELDING (GMAW)

Recommended practice to better prepare students for contest.

Weld Joints: Square Groove, Lap, T, Corner, V-Groove

Positions: Flat, Horizontal, Vertical up or down.

Material: Mild steel 1/8" to 1/4"

Shielding Gas: 75% argon...25% CO2

Filler metal: .035 wire

GAS TUNGSTEN ARC WELDING (GTAW)

Recommended practice to better prepare students for contest.

Weld Joints: Lap, T, Corner, Square Groove

Positions: Flat

Material: Mild Carbon Steel 1/8"

Filler material: 1/16" or 3/32" ER70S-6

Tungsten: 3/32" provided with a #7 or #8 shielding cup (nozzle)

Contestants must use the welding consumables supplied at contest. Do not bring your own.

STUDY INFORMATION

See recommended references to study for written portion of test at Nebraska State FFA

Welding Contest web site. <https://alec.unl.edu/agedcde/welding>

Question areas will be on: safety, equipment, process set up, electrodes, welding power, procedures, terms and definitions, flames, gases and filler metals. 20-50 multiple choice questions will be related to the process contestant is welding to.

Contact Information

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