



Welding & Metal Fabrication

Instructor Information:

Instructor: Bob Throndsen
Classroom number: 425-348-2235
Email: throndsenrm@mukilteo.wednet.edu
Attendance line: 425-348-2222
Main office number: 425-348-2220

Class Hours:

- Mornings: 7:55 to 10:25 AM
- Afternoons: 11:10 to 1:40 PM

Contact Information:

- The best time to contact me is between 6:00 AM to 7:40 AM.
- The best way to contact me is by email, response time will be within 24 hours (unless a non-school day).
- If you need to speak to me in person or would like to visit our shop please make an appointment and make sure you check in at the main office.
- The Weld Shop is the first door in Building 2.

✓ ***Sno-Isle TECH follows Mukilteo School District policies and procedures.***

✓ ***If there is snow; please follow your schools district's out of district transportation policy.***

✓ ***Sno-Isle TECH Skills Center is a closed campus and is administered by Mukilteo School District and follows MSD School Board Policies and Procedures.***

Certificate opportunities:

21st Century skills for soft skills and welding

Progress towards American Welding Society certificate

Progress towards WABO – Washington Association of Building Officials

Progress towards Associates Degree in Welding at Everett CC

OSHA 10 card will be available for a \$10.00 fee

Course Information:

Course is offered for the 2019-2020 school year

Length of program: 1 – 2 years

Occupational/elective high school credits: 3 per year

CTE dual credit through Everett CC*:

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| Weld 190 Oxyacetylene Welding | 5 credits |
| Weld 191 Basic Arc Welding | 5 credits |
| Weld 192 Advanced Arc Welding | 5 credits |
| Weld 194 TIG Arc Welding | 5 credits |
| Weld 195 MIG Arc Welding | 5 credits |
| Weld 196 Flux Cored Arc Welding | <u>5 credits</u> |

30 credits total

Sessions offered: AM 7:55 AM - 10:25 AM, Monday-Friday

PM 11:10 AM - 1:40 PM, Monday-Friday

*If all requirements and paperwork are completed on time through EvCC, and the student has maintained an 80% or better overall grade for the year.

Course description:

This industry-based shop environment is designed for the student who would like to receive a general metal working background as a foundation for continuing education or a trade-vocational career. This one/two-year program can “SPARK” an interest in the trade of welding and metal fabrication. Welding, fabrication and safety are taught with a blend of lecture, assignments and hands-on competencies that maintain the student’s interest and foster a deeper appreciation of the trade. Students work in a classroom and shop environment developing skills in many types of welding: stick, wire feed, heli-arc, flux core, etc. Oxy fuel cutting, hand plasma arc, computerized plasma arc and basic fabrication are also introduced. You will learn how to take pride in your work as you are signing your name with every weld. The welding team keys to success consist of a strong work ethic, positive attitude, and the ability to follow and understand written and verbal instructions. Basic math and measuring skills, plus the ability to be self-directed and to work safely, both independently and as a team member are also essential skills to succeed in this program.

Learning Objectives:

Students learn to cut and join metal using gas torch, arc and wire-feed welding equipment; repair broken metal parts on machinery, equipment, boats and structures. Students can be prepared to meet industry certification requirements as a certified welder upon successful completion of the program.

Students will learn: shielded metal arc welding (SMAW), gas tungsten arc welding (GTAW), gas metal arc welding (GMAW), flux-core arc welding (FCAW), air carbon arc cutting, plasma arc cutting, and Oxy-fuel gas cutting and welding.

Course Expectations:

- Students will be asked to verbally relate what they have learned to their peers in a group discussion format.
- Students will be assigned written work and reading assignments that will reinforce the lesson plans.
- After thorough reviews, students will be given hands-on assignments.
- Full scale individual projects and all class welding projects will bolster objectives.
- Written exams will be given to assess student learning objectives.
- The instructor will demonstrate proper safety, and the physical skills that students will need to learn.
- The instructor will then guide students individually until they have acquired acceptable industry proficiency.
- Students will be asked to perform skills individually for assessments.
- Every assessment will be geared to meet or exceed industry standards.

Course Materials:

The course is covered by competency packets and curriculum printed from multiple sources.

Students will be given visual materials in the form of handouts, and online curriculum. Visual aids such as projectors, computers and white boards will be implemented to help with student understanding of lesson plan concepts. Objectives for daily lessons are written clearly on the board with daily questions and general concepts written and stated to the students each day to start class discussions. The instructor will state the learning targets and give multiple examples for students to draw information from.

Lab Fee:

We currently do not have a lab fee. You are required to supply items from the classroom and shop supply list. This is not optional as you need these supplies to be successful in the program. If this presents a barrier for you, please speak to the instructor privately.

Classroom Supply List

2" notebook
1 pack notebook paper
1 pencil pouch
2 black sharpies
1 gray or silver sharpie
Several pens or pencils
12' or 16' tape measure
18" steel ruler: optional
Protractor: optional

Welding Shop Supply List

Shurelite cup striker
Extra striker flints
Welding gloves
Chipping hammer
Carbon steel wire brush
Stainless steel wire toothbrush
Oxy cutting glasses tinted:
-Shade 5 or 6
Welding helmet:
-Shade 10 at least
-Talk to the instructor for best options
Center punch
MIG plyers/wire cutters

Welding Shop Attire

Coveralls or layers of appropriate clothing
Work jeans: no shorts or sweatpants
Leathers: optional
Thick leather boots:
-NO TENNIS SHOES OR OPEN TOED SHOES
-Romeos are OK: steel-toed boots are preferred
Hats are OK: no nylon webbed trucker hats
-100% natural fibers: no synthetic materials like nylon, rayon, etc.
No jewelry
No electronic devices are allowed
Hair must be properly secured
Proper eyewear at ALL times
-First pair provided
Ear protection recommended:
-Foam ear plugs provided
Respirators are optional

Assignments and Grading:

Students will be assessed using a competency-based method that tracks their ability to demonstrate manipulative skills, cognitive skills, and employability skills. Written assessments will be given periodically throughout the year. Exams will have multiple choice, true/false, and completion problems. Most exams include math problems that may require drawings, computations, and written explanations.

- Students will need to demonstrate pre-apprenticeship workman-like skills.
- Students will need to translate verbal and written instructions to real work settings.
- Students will be expected to show conscientious safe behaviors.
- Students will need to demonstrate effective communication and leadership skills.
- Students will need to compile a portfolio of all class assignments, projects, and handouts.
- Students will be expected to complete a resume and cover letter.
- Students will be required to achieve 100% proficiency on safety exams in order to use tools and equipment.
- Students must gain 80% proficiency on all written exams to achieve industry standard.
- Ample time is allowed for homework, tests and competencies.

Sno-Isle TECH Skills Center uses Qmlativ for their student information system. Look for online parent access information in the fall.

Grades are updated regularly and are based on total points for the following:

- Attain identified knowledge, skills, and abilities as well as industry standards
- Demonstrate knowledge and application of related theory
- Demonstrate attainment of 21st century skills
- Quality of work completed
- Adherence to all safety rules and expectations
- Class work
- Daily participation in practice activities
- Homework and tests

Grading Scale: Out of total points possible
Grade Percentage Value

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|-------------------------------|
| Exceeds Standards |
| A 93-100 |
| A- 90-92 |
| Meets Standards |
| B+ 87-89 |
| B 83-86 |
| B- 80-82 |
| Approaching Standards |
| C+ 77-79 |
| C 73-76 |
| C- 70-72 |
| D+ 67-69 |
| D 60-66 |
| Does Not Meet Standard |
| F Below 60 |

Mukilteo School District does not discriminate in any programs or activities on the basis of sex, race, creed, religion, color, national origin, age, veteran or military status, sexual orientation, gender expression or identity, disability, or the use of trained dog guide or service animal and provides equal access to the Boy Scouts and other designated youth groups. The following employees have been designated to handle questions and complaints of alleged discrimination: Civil Rights Coordinator and Title IX Coordinator Bruce Hobert (425-356-1319), hobertbl@mukilteo.wednet.edu, and Section 504 Coordinator Lisa Pitsch (425-356-1277), pitschla@mukilteo.wednet.edu. Address: 9401 Sharon Drive in Everett, WA. Inquiries regarding ADA/Access issues at Sno-Isle TECH Skills Center should be directed to Maggie Bagwell, Director (425-348-2220), bagwellmm@mukilteo.wednet.edu. Address: 9001 Airport Road in Everett, WA 98204.