BUTLER COUNTRY AREA VOCATIONAL TECHNICAL SCHOOL
WELDING TECHNOLOGY

Mr. Jacob Hughes, Instructor

FIRST YEAR STUDENT WELDING SYLLABUS

Grading System

- Daily Work Ethic Grade = 40%
- Projects = 40%
  - Detailed on next page
- Theory Work = 20%

Daily Work Ethic

- Students must complete Shop Orientation and Safety Protocol before beginning projects
- Students must be dressed according to dress code to work in the shop
- Students receive 10 points daily for attendance, attention to detail, work ethic, participation, cleanliness, safety, and overall professionalism. Failure to meet these requirements will result in a loss of points, per discretion of instructor.

Theory Work

- Unit 100: Occupational Orientation and Safety
- Unit 200: Principles of Welding
- Unit 300: Blueprint Reading
- Unit 400: Visual Examination, Inspection, and Testing
- Unit 500: Shield Metal Arc Welding (SMAW)
- Unit 900: Introduction to Manual Oxy-fuel Systems
- Unit 1000: Mechanized Oxy-Fuel Gas Cutting (OFC)
- Unit 1100: Manuel Plasma Arc Cutting (PAC)
- Unit 1200 Manual Air Carbon Arc Cutting (CAC-A)
- NOCTI Test Prep
    - Phase 1 of NOCTI Instruction

Enrichment Periods

- Students will be allowed 1 enrichment period, per nine weeks.
- Length of enrichment period depends on how many projects are in the nine weeks. (Typically, 1-2 weeks, at the end of the grading period.)
- Students will be allowed to make up any project within that grading period.
- Students are to keep track and store the grades they were given, and must turn that graded paper in to receive the new grade.

FIRST YEAR STUDENT PROJECT LIST

All first year students are to complete all listed projects throughout the school year. Students may learn at their own pace, but projects must be formally evaluated for students to improve. If no projects are turned for evaluation by the target date, project will be graded as a 0. Students may submit up to 3 attempts for a project grade.

Students could possibly complete list faster than timeline given. As students advance and maintain proficiency, they may be subject to more advanced projects, depending on progression rate. Projects will be added on at instructor's discretion.

Shield Metal Arc Welding (SMAW) Projects

All welding is on a steel plate using 3/32" & 1/8" 6010 or 7018 electrodes

Task: Strike arc and button weld

- Flat (1): 6010 + 7018

Task: Pad Bead Welding

- Flat (1): 6010 + 7018
- Horizontal (2): 7018
- Vertical (3): 7018
- Overhead (4) 7018

Task: Lap Joint

- Horizontal (2): 6010 +7018

Task: Fillet Weld T-Joints – Multiple Thickness

- 1F: 6010 + 7018
- 2F: 6010 + 7018
- 3F: 7018
- 4F: 7018

Task: Groove Welds w/ Backing – 3/8" Thickness : 7018

- 1G
- 2G

- 3G
- 4G

Task: Groove Welds w/ Backing – 1"
Thickness: 7018 (Certifications)

- 1G
- 3G

Task: Square open roots: 6010

- 1G

Task: Groove Welds w/ Open Groove –
3/8" 6010 root, 7018 fill and cover

- 1G

Task 507: American Welding Society (AWS) Testing

- Available for qualified students who desire to become an AWS Certified Welding
- Testing opportunities available at the end of every 9 weeks for qualified students, at instructor's discretion.

Manual Oxyfuel Gas Cutting (OFC) Projects

All oxy-fuel torch projects are done with a steel plate

- Task 905: Straight Cutting
- Task 906: Shape Cutting
- Task 907: Bevel Cutting
- Task 908: Piercing

Mechanized Oxyfuel Gas Cutting (OFC) Projects

All oxy-fuel torch projects are done with a steel plate

- Task 1001: Perform safety inspections of mechanized OFC equipment.
- Task 1002: Make minor external repairs to mechanized OFC equipment.
- Task 1003: Set up and operate mechanized OFC equipment on steel.

- Task 1004: Perform straight mechanized OFC operations on steel.
- Task 1005: Perform bevel mechanized OFC operations on steel.

Manual Plasma Arc Cutting (PAC) Projects

All plasma torch projects are done with a steel plate

- Task 1101: Perform safety inspections of PAC equipment.
- Task 1102: Make minor external repairs to PAC equipment.
- Task 1103: Set up and operate manual PAC operations on ferrous and nonferrous materials.
- Task 1104: Perform shape PAC operations on ferrous and nonferrous materials.
- Task 1105: Perform gouging and scarfing PAC operations to remove base and weld metal on ferrous and nonferrous materials.

Manual Air Carbon Arc Cutting (CAC-A) Projects

- Task 1201: Perform safety inspections of CAC-A equipment.
- Task 1202: Make minor external repairs to CAC-A equipment and accessories
- Task 1203: Set up and operate manual CAC-A gouging and cutting operations on steel.
- Task 1204: Perform gouging and scarfing operations to remove base and weld metal on steel.

Measuring and basic fabrication principles will be included and tested often in the first-year project list. Students are also required to keep a binder with all projects and important records.

Grading Scale:

90-100% - A

80 – 89% - B

70 – 79% - C

60 – 69% - D

0 – 59% - F

Binder Policy: Students are expected to maintain a binder throughout the year. Instructor will inform students of any papers needed to be kept. A hard copy binder will be available to check at any time. Binder grades will be assessed every 9 weeks.

Make Up Policy: Students who are absent are responsible for checking with instructor to see what was missed. The binder is expected to be kept up to date. Instructor will provide student with all missed material.

Late Policy: Any late project will be a deduction of 1 letter grade per day. Open communication is encouraged, as things do come up in life.

Leadership Grade: Students who are progressing at a faster pace are encouraged to help other students who may be struggling. Leadership can also be doing extra, such as organizing material or going above and beyond cleaning. Leadership grade will be added to those who meet this criteria, while students who do not will be exempt.