

BOONE CAREER AND TECHNICAL CENTER ADULT WELDING SYLLABUS

SCHOOL: Boone Career and Technical Center
ADDRESS: 3505 Daniel Boone Parkway, Suite B, Foster, WV, 25081
URL: www.gobctc.com
INSTRUCTOR: Brandon Geer
office hours 2:00-3:00PM M-F
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(304)369-4586
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COURSE DESCRIPTION Welding is a leader of today's high tech approach to manufacturing. Students will learn several different welding processes including: SMAW, GMAW, FCAW and GTAW along with oxy fuel cutting and plasma cutting. This class is a hands-on class and highly project oriented. The student is required to participate in Project Based Learning. The student will learn many welding related skills in the program including Safety, Welding math, Fabrication techniques, material handling, problem solving, team work, hand tools, and power tools. This course is competency based and self-paced.

BCTC MISSION Boone Career and Technical School enriches lives by providing occupational education, training, and cultural opportunities for lifelong learning and professional success in local, regional, and global communities.

COURSE GOALS AND OBJECTIVES This course will prepare motivated students to immediately enter the workforce in the welding industry, along with articulation of credit to approved post-secondary institutions. This course is a two-year program with core welding techniques taught during the first tier. The second tier advances to more opportunities to perfect welding skills which includes the promotion of projects such as trailers, mining equipment and art projects.

During the 2 years, students will have the opportunity to obtain 2 industry certifications. Students will work toward 9 state welding certifications. The student is expected to act in a professional and ethical manner at all times.

The following are the areas covered during the Adult Welding Program; students will progress at their own pace by completing performance test in the skills needed to proceed, upon completion of said skills/ Process you will be eligible to participate in the practical welding exam to obtain the WV State welding certification.

BCTC Welding (Tier I)

- I. Basic Safety
- II. Construction Math
- III. Introduction to Hand Tools
- IV. Introduction to Power Tools
- V. Materials Handling/ Forklift
- VI. Welding Safety
- VII. Oxy-fuel Cutting
- VIII. Plasma Arc Cutting
- IX. Welding drawings/ Welding symbols
- X. Base Metal Preparation
- XI. Weld Quality

- XII. SMAW-Equipment and Setup
 - XIII. SMAW- Electrodes
 - XIV. SMAW – Beads and Fillet Welds
 - XV. SMAW Groove Welds with Backing
 - XVI. SMAW – Open V-Groove Welds
 - XVII. GMAW- Equipment and Setup
- BCTC Welding (Tier II)
- XVIII. GMAW- filler metals
 - XIX. GMAW- Beads and Fillet Welds
 - XX. GMAW- Groove welds
 - XXI. FCAW- Equipment and Setup
 - XXII. FCAW- Filler metals
 - XXIII. FCAW – Beads and Fillet welds
 - XXIV. FCAW- Groove Welds
 - XXV. GTAW-Beads and Fillet Welds
 - XXVI. GTAW – Groove Welds

BCTC Pipe Welding

- XXVII. Pipe cutting and fit up techniques
- XXVIII. SMAW- Pipe
- XXIX. GMAW- Pipe
- XXX. FCAW- Pipe
- XXXI. GTAW-Pipe
- XXXII. Aluminum- Basic concepts

**ATTENDANCE
POLICY AND
GRADE
REDUCTION**

Boone Career and Technical Center Places a high priority on attendance because the attendance pattern established by the student in school often sets an attendance pattern for employment. To benefit from the primary purpose of the school experience, it is essential that each student maintain regular and punctual attendance. Class attendance is necessary for learning and academic achievement as well as for developing the habits of **punctuality, dependability, and self-discipline demanded by business and industry.** Regular attendance in the Career Center’s labs is essential to allow students to fully participate in class instruction, discussion and skill development. Absences beyond eight days per semester are considered excessive. Both excused and unexcused absences are charged in the student total.

Absences beyond eight (8) per semester are considered excessive. At eight (8) absences, excused or unexcused, the student will be called into a conference with the school counselor or principal. Each additional absence will require a conference with the school counselor or principal. The student will have an opportunity to make up the work, with credit, according to the Boone County Schools and WV Department of Education Policies.

Grading is based on testing and the evaluations of welds/cuts according to the NCCER and AWS SENSE curriculum.

DRUG TESTING

Boone Career and Technical Center has developed a drug testing program similar to

POLICY those found in the welding industry. Each student will be subject to a drug test upon entering the welding program at Boone Career and Technical Center. Each month random drug test will be administered and approximately 10% of the students will be tested each month.

CALL-IN POLICY Students will be required to notify the instructor in advance if they are planning to miss a day of class. If a student does not know in advance that they will be absent they will be required to call in using one of the following methods; call-in (304)369-4585, writing it down on the absence calendar, or message the instructor on live Grades, or email.

STUDENT ASSESSMENT Assessment for this course will be performance tests; both destructive and non-destructive tests will be administered. Students will be required to complete 3 passing practice specimens in each position before advancing to the state certification test.

CERTIFICATE / COURSE REQUIREMENTS Attendance and Class Participation
Involvement/ participation in project based learning
Progression through the required skills/ welding process
Following Shop Safety and Housekeeping Duties
Following all policies and procedures

- CERTIFICATIONS**
- 9- WV State Welding Certifications
 - OSHA 10 Hour
 - Fork Lift Operator

COURSE		BCTC Welding (Tier I)
CALENDAR	Week1	Orientation- Policies and procedures
(Timeline for skills check offs)	Week 2	Basic and Welding Safety
Students who attend regularly and possess determination should be on track with this skills check off timeline.	Week 2-3	Oxy Fuel Cutting
	Week 4	Plasma Arc Cutting and Air Carbon Arc Cutting
If a student should fall behind they will be afforded the opportunity to work at their own pace, as mastery of each skill/ process is required to move to the	Week 5-7	SMAW – Equipment and Setup
	Week 8	SMAW E7018 Beads
	Week 9-11	SMAW E7018 Padding Plate
	Week 11-12	E7018 1F Welds
	Week 13-14	E7018 2F Welds
	Week 15-16	E7018 3F Welds
	Week 17-18	E7018 4F Welds
	Week 19-20	SMAW E7018 2G Welds with Backing
	Week 21-22	SMAW E7018 3G Welds with Backing
	Week 23-24	SMAW E7018 4G with Backing
	Week 25	SMAW E7018 WV State Certification Test w/Backing
	Week 26-27	SMAW E6010 Padding Plate
	Week 28	SMAW E6010 1F Welds
	Week 29	SMAW E6010 2F Welds
	Week 30	SMAW E6010 3F Welds
	Week 31	SMAW E6010 4F Welds
	Week 32-34	SMAW E6010 and E7018 2G Welds w/o Backing
	Week 35-36	SMAW E6010 and E7018 3G Welds w/o Backing

next.

Week 37-38 SMAW E6010 and E7018 3G Welds w/o Backing
Week 39-40 SMAW E6010 and E7018 4G Welds w/o Backing
Week 41-42 SMAW E6010 and E7018 WV State Certification Test w/o Backing
Week 43-44 Re-test/Re teach- destructive and non-destructive testing

BCTC Welding (Tier II)

Week 1-2 GMAW Beads
Week 3-4 GMAW padding plate
Week 5-6 GMAW 1F Welds
Week 7-8 GMAW 2F Welds
Week 9-10 GMAW 3F Welds
Week 11-12 GMAW 4F Welds
Week 13-14 GMAW 2G Welds
Week 15-16 GMAW 3G Welds
Week 17-18 GMAW 4G Welds
Week 19-20 GMAW WV State Certification Test
Week 21-22 FCAW Beads
Week 23-24 FCAW padding plate
Week 25-26 FCAW 1F Welds
Week 27-28 FCAW 2F Welds
Week 29-30 FCAW 3F Welds
Week 31-32 FCAW 4F Welds
Week 33-34 FCAW 2G Welds
Week 35-36 FCAW 3G Welds
Week 37-38 FCAW 4G Welds
Week 39-40 FCAW WV State Certification Test
Week 40-44 Basic GTAW

BCTC Pipe Welding

Basic pipe fitting techniques
Pipe Cutting and fit-up
6G pipe 6010 and 7018 concepts/practice
6G pipe 6010 and 7018 WV State Certification Test
6G pipe GMAW concepts/ practice
6G pipe GMAW WV State Certification Test
6G pipe FCAW concepts/ practice
6G pipe FCAW WV State Certification Test

INSTRUCTOR INFORMATION

Mr. Geer is instructing in his fifth year. He has worked in the welding and fabricating industry; in mining, oil field and shop fabrication settings. During this time, Mr. Geer has acquired vast knowledge and expertise in this area. Mr. Geer is American Welding Society (AWS) certified welder in SMAW (plate/pipe) GMAW (plate/pipe), FCAW (plate/pipe), and GTAW (plate/pipe). Mr. Geer holds 2 associate degrees in IT and Networking and is currently working toward a BA at Marshall

Welcome to the field of Welding and Fabrication. In this program you will be introduced to many of the welding and fabricating techniques being used in the industry today. This is a hands-on program where most of the instruction is based around projects and practicing different welding techniques in the welding booth and in real world situations.

You will also be exposed to certifications that will allow you to go immediately into the workforce with acquired credentials. The welding and fabrication fields have many yearly openings in this and the surrounding areas, as well as openings nationwide; giving accredited students career options across the nation. Welding and fabricating can be a very lucrative and rewarding career for the dedicated student. I look forward to teaching you the skills needed to obtain a career in the welding and fabricating field.

*Sincerely,
Brandon Geer
Adult Welding Instructor*

**RESOURCES
AND READINGS**

- NCCER Core Curriculum
- NCCER Welding Level 1
- NCCER Welding Level 2
- AWS Welding Journals

The instructor reserves the right to make adjustment to this syllabus as needed.

Title IX ADA 504 Notice

Boone Career & Technical Center (BCTC) does not discriminate on the basis of race, color, religion, national origin, gender, sexual orientation, disability, age, or marital status in any of its policies, procedures or practices as required by Title IX, Section 504, and ADA regulations. For inquiries concerning Title IX, please contact the BCS Safe Schools Director Anthony Tagliente at 304-369-8276 or ataglient@k12.wv.us.

For inquiries concerning 504/ADA, please contact the Director of Exceptional Children Mary Knapp, at 304-369-8245 or mknapp@k12.wv.us. Inquiries may also be submitted in writing to the following Director's at Boone County Schools 69 Avenue B Madison, WV 25130.

Syllabus Signature Sheet

NOTE TO STUDENTS:

I am excited about getting to know you. We have a lot to cover, but I know with perseverance and dedication, you will do well. I am available in my office from 2:00 PM- 3:00 PM Monday through Friday, if you need extra help or have any questions. ***You can also reach me at (304) 369-4585, or brandon.geer@k12.wv.us***

Please read, sign, and return this sheet to verify that you have read/ reviewed the Adult Welding Course Syllabus and agree to adhere to the policies of this class, school, county and State. Thank you!

*****SIGN AND RETURN THIS SHEET*****

I read, understand, and agree to the objectives, Project Based Learning, grading procedures, classroom policies, rules, drug testing policy, Attendance/Call in Policy, of the BCTC Adult Welding Program

Student's name: _____ (Please print)

Student's signature: _____ Date: _____