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Introduction to Metals



Cluster: Architecture and Construction

Pathway: Welding

Course Description:

This course is designed to familiarize students with fundamentals of various metal occupations for the purpose of preparing them to select either welding, sheet metal, or machining for more highly specialized training in subsequent courses. Minimum performance requirements for this course are based on successful student completion according to the National Center for Construction Education and Research Center (NCCER) Occupation Standards and the National Institute for Metal-Forming Skills (NIMS) standards. Students who successfully complete the course in accordance with NCCER standards are eligible for registration with the NCCER National Craft Worker Registry or obtain NIMS credentials. The prerequisite for this course is Industry Fundamentals and Occupational Safety.

EOPA Statement

Students are encouraged to select a pathway beginning in ninth grade that is connected to their college and career goals. This course is one of three courses in the *name of pathway* pathway in the CTAE department. At the conclusion of the third pathway course, students will be required to take an End of Pathway Assessment. This assessment provides students an opportunity to demonstrate what they have learned by completing an on-line, nationally recognized exam. Students who complete a pathway and earn an industry credential by passing the assessment will receive a graduation cord to signify their achievement.

CAREERS, WORK ETHICS AND HISTORY OF SMAW AND OXYFUEL WELDING PROCEDURES.

Students will explore different types of careers that are available in the welding industry and list careers they judge as meaningful. They will evaluate their own skill level and determine skills needed to reach career choices through research. Students will learn the importance of good work ethics in the workplace and model that behavior. Students will learn the history of SMAW and Oxyfuel welding comparing techniques of the past to modern day techniques and equipment.

Course of Study:

Topic:	Standards:
Employability Skills	AC-IM-1
	Demonstrate employability skills required by business and
	industry.
History of the machining, welding, and	AC-IM-2
sheet-metal trade	Explore the history of the machining, welding, and
	sheet-metal trade.
Safety	AC-IM-3
	Demonstrate knowledge and practice of metals safety.
Hand and Power Tools	AC-IM-4
	Demonstrate proficiency in the use of hand and power
	tools specific to the trade.
Measuring instruments	AC-IM-5
	Demonstrate the ability to use measuring instruments specific to the metals trade.

Welding and Cutting	AC-IM-6 Demonstrate and explain the ability to safely set up and operate basic equipment for welding and cutting specific to the metal trade.
Parallel Lines	AC-IM-7 Demonstrate the ability to perform basic layout for parallel line development.
Basic layout for machined projects.	AC-IM-8 Demonstrate and explain the ability to perform basic layout for machined projects.
SKILLS USA	AC-IM-9 Examine how Skills USA is a co-curricular part of career and technical education through leadership development, school and community service projects, and competitive events.

All curriculum is from National Center for Construction Education and Research (NCCER).

Instructional materials will be followed by a NCCER written test and performance test.

If a student fails a test, he/she can retake the test to get the credentials, but not a new grade.

Retakes for credentials must be scheduled with the teacher.

Literacy Standards:

In addition to content standards, students will be responsible for showing mastery of the Common Core literacy standards. These standards will be taught using reading and writing activities related to the content area. Reading materials may include novels, technical manuals, articles or other appropriate materials as determined by the instructor.

P.R.E.P Academy Grading Policy:

Daily Grades/In Class Assignments	25%
Tests	20%
Projects/Lab Work	35%
Benchmark (Final)	20%

Make Up Work:

Students are responsible for getting their make-up work from the teacher. Make up policy is in compliance with the student hand book.

Textbook:

Students will not be issued a textbook for this class, but one will be available for classroom use.

NCCER Welding Level 1 5th Edition

Classroom Rules/Conduct:

- 1. Come to class on time with the proper materials.
- 2. Stay on task at all times during class.
- 3. Ask for permission before you do anything.
- 4. Keep hands, feet, and object to yourself.
- 5. Follow directions when they are given.
- 6. Wear appropriate clothing at all times

Computer Use:

Students will be required to access the Internet for some assignments and projects. Each student must have an Acceptable Use Policy (AUP) on file at the school. All policies in the AUP will be followed.

Students should only use the Internet when instructed for classroom purposes. Students who are caught downloading/streaming music, on inappropriate websites, attempting to bypass the server, or participating in other questionable activities will receive a referral and their computer privileges may be revoked.

Additional Information:

Always have something to write with and write on... daily.

I am an advisor for SKILLS USA. SKILLS USA is a non-profit organization that students are allowed to participate in. The club dues are \$20.00.

Syllabus and Contact Information

Please read the following statements, print your name, give your signature, and fill out the information below.

As the <u>student</u> , I have read the Ir the expectations and requireme in the classroom.	•	
Student's Printed Name	Student's Signature	Date
As the Parent/Guardian , I have reunderstand the expectations and TCCHS student to follow the rules	d requirements of the course. I d	
Parent/Guardian Printed Name	Parent/Guardian Signature	Date
Phone Numbers: Please circle th	e phone number preferred.	
Home:	Best time to call:	
Work:	Best time to call:	
Cell:	Best time to call:	
E-mail address:		