



## **WELD 1010 Oxy-fuel and Plasma Arc Cutting**

### **COURSE SYLLABUS**

### **Spring Semester 2020**

#### **COURSE INFORMATION**

Credit Hours/Minutes: 4/4500  
Class Location: Room 6107  
Class Meets: Monday through Thursday 9:31 am to 12:31 pm  
CRN: 40007

#### **INSTRUCTOR CONTACT INFORMATION**

Instructor Name: Mr. Chris Cumbee  
Office Location: Room 6106  
Office Hours: Monday through Thursday 7:00 am to 8:00 am  
Email Address: ccumbee@southeasterntech.edu  
Phone: 478-289-2325  
Tutoring Hours (if applicable): Available upon request.

#### **REQUIRED TEXT**

None

#### **REQUIRED SUPPLIES & SOFTWARE**

Shade 5 cutting glasses, leather gloves, long sleeve shirt or welding jacket, striker, Vice grips, combination square, ball peen hammer, 12" Crescent Wrench, 12' tape measure and a 4 ½" angle grinder. You will not be permitted to borrow from the Instructor or your fellow classmates.

#### **COURSE DESCRIPTION**

WELD 1010 – Oxy-fuel and Plasma Arc Cutting introduces the fundamental principles, safety practices, equipment, and techniques necessary for metal heating and oxy-fuel cutting and plasma cutting. Topics include: metal heating and cutting principles, safety procedures, use of cutting torches and apparatus, metal heating techniques, manual and automatic oxy-fuel cutting techniques, oxy-fuel pipe cutting, plasma torch and theory, plasma machine set up and operation and plasma cutting techniques. Practice in the laboratory is provided.

#### **MAJOR COURSE COMPETENCIES**

1. Safety procedures
2. Metal heating and Cutting techniques
3. Manual and Automatic Oxy-fuel Cutting Techniques
4. Oxy-fuel Pipe Cutting
5. Plasma Torch and Theory
6. Plasma Machine Set Up and Operation

## 7. Plasma Cutting Techniques

### PREREQUISITE(S)

All required

### COURSE OUTLINE

WELD 1010 – Oxyacetylene Cutting introduces the fundamental principles, safety practices, equipment, and techniques necessary for metal heating and oxy-fuel cutting. Topics include: metal heating and cutting principles, safety procedures, use of cutting torches and apparatus, metal heating techniques, manual and automatic oxy-fuel cutting techniques, and oxy-fuel pipe cutting. Practice in the laboratory is provided.

### GENERAL EDUCATION CORE COMPETENCIES

STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

### STUDENT REQUIREMENTS

Tests and assignments must be completed on the specified date. Students are also responsible for policies and procedures in the STC E-Catalog.

### ATTENDANCE GUIDELINES

Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course.

### SPECIAL NEEDS

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Macy Gay [mgay@southeasterntech.edu](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210, to coordinate reasonable accommodations.

## SPECIFIC ABSENCES

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

## PREGNANCY

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please appropriate arrangements with Macy Gay [mgay@southeasterntech.edu](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210

## WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be accessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

**Remember** - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

## MAKEUP GUIDELINES (TESTS, QUIZZES, HOMEWORK, PROJECTS, ETC...)

Makeup test will be given on the following class meeting date with an acceptable excuse approved by the instructor; any test not made up will result in the student receiving a zero.

## ACADEMIC DISHONESTY POLICY

The STC Academic Dishonesty Policy states All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the STC Catalog and Student Handbook.

## PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

### 1. First Offense

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

## 2. Second Offense

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

## 3. Third Offense

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of third offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

## STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member or citizenship status (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Macy Gay <a href="mailto:mgay@southeasterntech.edu">mgay@southeasterntech.edu</a> 478-289-2274, Building 1, Room 1210	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 138B Phone: 912-538-3147 <a href="mailto:bwilcox@southeasterntech.edu">bwilcox@southeasterntech.edu</a>

## GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on STC's website.

## ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the [STC website](#).

## TCSG GUARANTEE/WARRANTY STATEMENT

*The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.*

## GRADING POLICY

Assessment/Assignment	Percentage
Cutting Assignments	100%

## GRADING SCALE

Letter Grade	Range
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

## WELD 1010 Oxy-fuel and Plasma Arc Cutting

### Spring Semester 2020 Lesson Plan

<b>Date</b>	<b>Chapter</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
1/7/2020	Oxy-fuel Cutting Equipment, Operation and Set Up	First day of class/Class Introduction—Syllabi, Outline, Rules, Regulations Coverage, Library Resources and tour OFC Equipment and Set Up	Instructor will demonstrate proper OFC Set Up and Cutting Techniques, DVD on OFC	1,2,A,B,C
1/8/2020	Pressure Regulators	Pressure Regulators	Instructor will demonstrate proper regulator pressures for OFC.	1,6A,B,C
1/9/2020	Welding and Cutting Torches	Welding and Cutting Torches	Demonstration of OFC and brazing by instructor.	1,2,5A,B,C
1/13/2020	Welding and Cutting Torches	Welding and Cutting Torches	Students practicing Oxy-fuel cutting.	1,2,5,A,B,C
1/14/2020	Welding and Cutting Torches	Welding and Cutting Torches	Students practicing Oxy-fuel cutting.	1,2,5,A,B,C
1/15/2020	Welding and Heating Tips	Welding and Heating Tips	Demonstration of proper selection of welding and heating tips. Students will practice cutting and brazing techniques.	1,2,5,A,B,C
1/16/2020	Welding and Heating Tips	Welding and Heating Tips	Demonstration of proper selection of welding and heating tips. Students will practice cutting and brazing techniques.	1,2,5,A,B,C
1/20/2020	Holiday	No Class	No Class	No Class
1/21/2020	Hoses and Fittings	Hoses and Fittings	Demonstration of proper hose selection and fittings for OFC.	1,2,5,A,B,C
1/22/2020	Backfires and Flashbacks	Backfires and Flashbacks	Demonstration of how to reduce the risk of backfires and flashbacks.	1,2,5,A,B,C

<b>Date</b>	<b>Chapter</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
1/23/2020	Types of Flames	Types of Flames	Demonstration of how to properly adjust the flame for OFC and brazing.	1,2,5,A,B,C,D
1/27/2020	Holiday	Holiday	Holiday	Holiday
1/28/2020	Manifold Systems	Manifold Systems	Demonstration of how a manifold system works.	1,2,5,A,B,C
1/29/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
1/30/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
2/3/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
2/4/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
2/5/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
2/6/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
2/10/2020	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	1,2,5,A,B,C
2/11/2020	Fuel Gases	Fuel Gases	Discussion of different fuel gases associated with OFC.	1,2,5,A,B,C
2/12/2020	Fuel Gases	Fuel Gases	Discussion of different fuel gases associated with OFC.	1,2,5,A,B,C
2/13/2020	OFC	Operation of an OFC Pipe Beveller	Students practicing with Pipe Beveller.	1,2,4,5,A,B,C
2/17/2020	Track Torches	Operation of OFC Track Torches	Students practicing with OFC Track Torch.	1,2,4,5,6,A,B,C
2/18/2020	Track Torches	Operation of OFC Track Torches	Students practicing with OFC Track Torch.	1,2,4,5,6,A,B,C
2/19/2020	Track Torches	Operation of OFC Track Torches	Students practicing with OFC Track Torch.	1,2,4,5,6,A,B,C
2/20/2020	PLASMA ARC CUTTING	Plasma Arc Cutting Set Up and Theory	Students practicing plasma arc cutting.	1,2,5,6,7 A,B,C
2/24/2020	PLASMA	Plasma Arc Cutting Set Up and	Students practicing plasma arc	1,2,5,6,7 A,B,C

<b>Date</b>	<b>Chapter</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
	ARC CUTTING	Theory	cutting.	
2/25/2020	Metal Heating	Metal Heating	Demonstration of Metal Heating Techniques.	1,2,5,A,B,C
2/26/2020	Metal Heating	Metal Heating	Demonstration of Metal Heating Techniques.	1,2,5,A,B,C
2/27/2020	OFC Final Exam	FINAL EXAM	Oxy-fuel Cutting Torch Set-Up, Adjusting Regulator Pressure, Lighting and Shutting Off.	1,2,3,4,5,6,A,B,C

Competency Areas:

1. Safety procedures
2. Metal heating and Cutting techniques
3. Manual and Automatic Oxy-fuel Cutting Techniques
4. Oxy-fuel Pipe Cutting
5. Plasma Torch and Theory
6. Plasma Machine Set Up and Operation
7. Plasma Cutting Techniques

General Core Educational Competencies

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.