



## **WELD 1010 Oxyfuel and Plasma Arc Cutting**

### **COURSE SYLLABUS**

### **Fall Semester 2018**

#### **COURSE INFORMATION**

Credit Hours/Minutes: 4/4500

Class Location: Room 416

Class Meets: T, R 9:30-12:00

CRN: 20226

#### **INSTRUCTOR CONTACT INFORMATION**

Instructor Name: Mr. Michael Crumpler

Email Address: [Michael.Crumpler@mcrumpler@southeasterntech.edu](mailto:Michael.Crumpler@mcrumpler@southeasterntech.edu)

Vidalia Campus/Office Location: Room 417

Office Hours: Tuesday and Thursday 7:00 – 2:30 p.m.

Phone: 912-538-3257

Fax Number: 912-538-3156

Tutoring Hours (if applicable): See instructor to schedule an appointment

#### **SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK**

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php) (<http://www.southeasterntech.edu/student-affairs/catalog-handbook.php>).

#### **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.

Students should not share login credentials with others and should change passwords periodically to maintain security.

#### **COURSE DESCRIPTION**

WELD 1010 – Oxyfuel and Plasma Arc Cutting introduces the fundamental principles, safety practices, equipment, and techniques necessary for metal heating and oxyfuel 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 oxyfuel cutting techniques, oxyfuel 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 Oxyfuel Cutting Techniques
4. Oxyfuel 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 oxyfuel cutting. Topics include: metal heating and cutting principles, safety procedures, use of cutting torches and apparatus, metal heating techniques, manual and automatic oxyfuel cutting techniques, and oxyfuel 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" (Failing 0-59) 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 Helen Thomas, 912-538-3126, [hthomas@southeasterntech.edu](mailto:hthomas@southeasterntech.edu), 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 advise me and make appropriate arrangements with Helen Thomas, 912-538-3126, [hthomas@southeasterntech.edu](mailto:hthomas@southeasterntech.edu).

## WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% point of the term in which student is enrolled (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 for the course(s) when the student completes the withdrawal form.

Important – Student-initiated withdrawals are not allowed after the 65% point. After the 65% point of the term in which student is enrolled, the student has earned the right to a letter grade and will receive a grade for the course. Please note: Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" being assigned.

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

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 assessed due to the withdrawal. A grade of "W" will count in attempted hour calculations for the purpose of Financial Aid.

## 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:

<p><b>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</b></p>	<p><b>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</b></p>
<p>Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1<sup>st</sup> Street, Vidalia Office 108 Phone: 912-538-3126 Email: <a href="mailto:hthomas@southeasterntech.edu">Helen Thomas</a> <a href="mailto:hthomas@southeasterntech.edu">hthomas@southeasterntech.edu</a></p>	<p>Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1<sup>st</sup> Street, Vidalia Office 138B Phone: 912-538-3230 Email: <a href="mailto:ljonas@southeasterntech.edu">Lanie Jonas</a> <a href="mailto:ljonas@southeasterntech.edu">ljonas@southeasterntech.edu</a></p>

### 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**

<b>Assessment/Assignment</b>	<b>Percentage</b>
Cutting Assignments	100%

## **GRADING SCALE**

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

# WELD 1010 Oxyfuel and Plasma Arc Cutting

## Fall Semester 2018 Lesson Plan

Aug – August Sep – September Oct – October Nov - November

Date	Chapter	Content	Assignments & Tests Due Dates	Competency Area
Aug 14	Oxyfuel Cutting Equipment, Operation and Set Up	First day of class/Class Introduction—Syllabi, Outline, Rules, Regulations Coverage, Library Resources and tour Oxyfuel Cutting Equipment and Set Up	Instructor will demonstrate proper Oxyfuel Cutting Set Up and Cutting Techniques, DVD on Oxyfuel Cutting	1,2,3,4,5,6,7,A,B,C
16	Pressure Regulators	Pressure Regulators	Instructor will demonstrate proper regulator pressures for Oxyfuel Cutting.	1,2,3,4,5,6,7,A,B,C
21	Welding and Cutting Torches	Welding and Cutting Torches	Demonstration of Oxyfuel Cutting and brazing by instructor.	1,2,3,4,5,6,7,A,B,C
23	Welding and Cutting Torches	Welding and Cutting Torches	Students practicing oxyfuel cutting.	1,2,3,4,5,6,7,A,B,C
28	Welding and Cutting Torches	Welding and Cutting Torches	Students practicing oxyfuel cutting.	1,2,3,4,5,6,7,A,B,C
30	Welding and Heating Tips	Welding and Heating Tips	Demonstration of proper selection of welding and heating tips. Students will practice cutting and brazing techniques.	1,2,3,4,5,6,7,A,B,C
Sep 4	Reverse Flow and Flashback Valves	Reverse Flow and Flashback Valves	Demonstrations on reverse flow and flashback valves.	1,2,3,4,5,6,7,A,B,C
6	Hoses and Fittings	Hoses and Fittings	Demonstration of proper hose selection and fittings for Oxyfuel Cutting.	1,2,3,4,5,6,7,A,B,C
11	Backfires and Flashbacks	Backfires and Flashbacks	Demonstration of how to reduce the risk of backfires and flashbacks.	1,2,3,4,5,6,7,A,B,C
13	Types of Flames	Types of Flames	Demonstration of how to properly adjust the flame for Oxyfuel Cutting and brazing.	1,2,3,4,5,6,7,A,B,C
18	Leak Detection	Leak Detection	Demonstration on how to detect a leak and fix and repair a damaged hose.	1,2,3,4,5,6,7,A,B,C
20	Manifold Systems	Manifold Systems	Demonstration of how a manifold system works.	1,2,3,4,5,6,7,A,B,C
25	Uses of the Oxyfuel Cutting Flame	Uses of the Oxyfuel Cutting Flame	Instructor will demonstrate various uses of the Oxyfuel Cutting flame.	1,2,3,4,5,6,7,A,B,C
27	Fuel Gases	Fuel Gases	Discussion of different fuel gases associated with Oxyfuel Cutting.	1,2,3,4,5,6,7,A,B,C
Oct 2	Metal Heating	Metal Heating	Demonstration of Metal Heating Techniques.	1,2,3,4,5,6,7,A,B,C
4	Oxyfuel Cutting of Pipe	Operation of an Oxyfuel Cutting Pipe Beveler	Demonstration of Pipe Cutting and Use of Pipe beveling equipment.	1,2,3,4,5,6,7,A,B,C
9	Oxyfuel Cutting	Operation of an Oxyfuel Cutting Pipe Beveler	Students practicing with Pipe Beveller.	1,2,3,4,5,6,7,A,B,C
11	Oxyfuel Cutting	Operation of an Oxyfuel Cutting Pipe Beveler	Students practicing with Pipe Beveller.	1,2,3,4,5,6,7,A,B,C
16	Oxyfuel Cutting	Operation of an Oxyfuel Cutting Pipe Beveler	Students practicing with Pipe Beveller.	1,2,3,4,5,6,7,A,B,C
18	Track Torches	Operation of Oxyfuel Cutting Track Torches	Demonstration given by instructor on proper use and safety of Oxyfuel Cutting Track Torch Cutting applications.	1,2,3,4,5,6,7,A,B,C

<b>Date</b>	<b>Chapter</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
23	Track Torches	Operation of Oxyfuel Cutting Track Torches	Students practicing with Oxyfuel Cutting Track Torch.	1,2,3,4,5,6,7,A,B,C
25	Track Torches	Operation of Oxyfuel Cutting Track Torches	Students practicing with Oxyfuel Cutting Track Torch.	1,2,3,4,5,6,7,A,B,C
30	Oxyfuel Cutting	Torch Brazing	Demonstration will be given by instructor on proper torch brazing techniques; students practicing torch brazing.	1,2,3,4,5,6,7,A,B,C
Nov 1	Oxyfuel Cutting	Torch Brazing	Students practicing torch brazing.	1,2,3,4,5,6,7,A,B,C
6	Oxyfuel Cutting	Torch Brazing	Students practicing torch brazing.	1,2,3,4,5,6,7,A,B,C
8	Oxyfuel Cutting	Oxyfuel Cutting Layout and Cutting	Students will practice layout and cutting.	1,2,3,4,5,6,7,A,B,C
13	Oxyfuel Cutting	Oxyfuel Cutting Layout and Cutting	Students will practice layout and cutting.	1,2,3,4,5,6,7,A,B,C
15	Oxyfuel Cutting	Oxyfuel Cutting Layout and Cutting	Students will practice layout and cutting.	1,2,3,4,5,6,7,A,B,C
20	Oxyfuel Cutting	Oxyfuel Cutting Layout and Cutting	Students will practice layout and cutting.	1,2,3,4,5,6,7,A,B,C
22	HOLIDAY	NO CLASS	NO CLASS	HOLIDAY
27	Oxyfuel Cutting	Oxyfuel Cutting Layout and Cutting	Students will practice layout and cutting.	1,2,3,4,5,6,7,A,B,C
29	Oxyfuel Cutting Final Exam	FINAL EXAM	Oxyfuel Cutting Torch Set-Up, Adjusting Regulator Pressure, Lighting and Shutting Off.	1,2,3,4,5,6,7,A,B,C

#### Competency Areas:

1. Safety procedures
2. Metal heating and Cutting techniques
3. Manual and Automatic Oxyfuel Cutting Techniques
4. Oxyfuel 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.