



Oxyfuel and Plasma Arc Cutting / WELD 1010 COURSE SYLLABUS Fall Semester 2016

Semester: Fall 2016

Course Title: Oxyfuel and Plasma Arc Cutting

Course Number: WELD 1010

Credit Hours/ Minutes: 4 / 4500

Class Location: Room # 411

Class Meets: Mon., Weds. 3-6:05 p.m.

CRN: 20207

Instructor: Mr. Michael Crumpler

Office Hours: Tues., Thurs. 1-2:30 p.m.

Office Location: Room 417 Main Building

Email Address: mcrumpler@southeasterntech.edu

Phone: 912-538-3257

Fax Number: 912-538-3156

Tutoring Hours: Tues., Thurs. 1-2:30 p.m.

REQUIRED TEXT: None

REQUIRED SUPPLIES: 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 – Oxyfuel and Plasma Arc 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.

MAJOR COURSE COMPETENCIES:

1. Metal heating and cutting principles
2. Safety procedures
3. Use of cutting torches and apparatus
4. Metal heating techniques
5. Metal Cutting Techniques
6. Manual and Automatic Oxyfuel Cutting Techniques
7. Oxyfuel Pipe Cutting

PRE-REQUISITE(S): All Required

CO-REQUISITES: None

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.
4. The ability to effectively utilize basic computer skills.

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.

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. **For each unexcused absence, one grade point will be deducted from your overall GPA.**

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.

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, to coordinate reasonable accommodations..

MAKEUP GUIDELINES: 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:

--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.

--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.

--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 second 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: Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era 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).

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

ACCESS TO TECHNOLOGY: Students can now access Angel, 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 at www.southeasterntech.edu.

Instructor reserves the right to change the syllabus and/or lesson plan as necessary.

GRADING POLICY

Oxyfuel Exams, Assignments,
Torch Set-Up – 100%

GRADING SCALE

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

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.*

**WELD 1010 —OXYFUEL and PLASMA ARC CUTTING
Fall Semester 2016 Lesson Schedule**

Date	Chapter / Lesson	Content	Assignments Tests	*Competency Area
Aug 15	Oxyfuel 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	C,2,3,5
17	Pressure Regulators	Pressure Regulators	Instructor will demonstrate proper regulator pressures for OFC.	C,2,3
22	Welding and Cutting Torches	Welding and Cutting Torches	Demonstration of OFC and brazing by instructor.	C,1,2,3,5
24	Welding and Cutting Torches	Welding and Cutting Torches	Students practicing oxyfuel cutting.	C,1,2,3,5
29	Welding and Cutting Torches	Welding and Cutting Torches	Students practicing oxyfuel cutting.	C,1,2,3,5
31	Welding and Heating Tips	Welding and Heating Tips	Demonstration of proper selection of welding and heating tips. Students will practice cutting and brazing techniques.	C,1,2,3,4,5,6
Sept 5	HOLIDAY	NO CLASS	NO CLASS	HOLIDAY
7	Reverse Flow and Flashback Valves	Reverse Flow and Flashback Valves	Demonstrations on reverse flow and flash back valves.	C, 2,3
12	Hoses and Fittings	Hoses and Fittings	Demonstration of proper hose selection and fittings for OFC.	C,2,3
14	Backfires and Flashbacks	Backfires and Flashbacks	Demonstration of how to reduce the risk of backfires and flashbacks.	C,2

19	Types of Flames	Types of Flames	Demonstration of how to properly adjust the flame for OFC and brazing.	C,1,2,5
21	Leak Detection	Leak Detection	Demonstration on how to detect a leak and fix and repair a damaged hose.	C,2,3
26	Manifold Systems	Manifold Systems	Demonstration of how a manifold system works.	C,1,2
28	Uses of the OFC Flame	Uses of the OFC Flame	Instructor will demonstrate various uses of the OFC flame.	C,2,4
Oct 3	Fuel Gases	Fuel Gases	Discussion of different fuel gases associated with OFC.	C,1,2
5	Metal Heating	Metal Heating	Demonstration of Metal Heating Techniques.	C,1,2,3,5,6
10	OFC of Pipe	Operation of an OFC Pipe Beveler	Demonstration of Pipe Cutting and Use of Pipe beveling equipment.	A,C,1,2,3,4,5,6,7
12	OFC	Operation of an OFC Pipe Beveler	Students practicing with Pipe Beveller.	A,C,1,2,3,4,5,6,7
17	OFC	Operation of an OFC Pipe Beveler	Students practicing with Pipe Beveller.	A,C,1,2,3,4,5,6,7
19	OFC	Operation of an OFC Pipe Beveler	Students practicing with Pipe Beveller.	A,C,1,2,3,4,5,6,7
24	Track Torches	Operation of OFC Track Torches	Demonstration given by instructor on proper use and safety of OFC Track Torch Cutting applications.	A,C,1,2,3,4,5,6
26	Track Torches	Operation of OFC Track Torches	Students practicing with OFC Track Torch.	A,C,1,2,3,4,5,6
31	Track Torches	Operation of OFC Track Torches	Students practicing with OFC Track Torch.	A,C,1,2,3,4,5,6
NOV 2	OFC	Torch Brazing	Demonstration will be given by instructor on proper torch brazing techniques; students practicing torch brazing.	A,C,1,2,3,4
7	OFC	Torch Brazing	Students practicing torch brazing.	A,C,1,2,3,4
9	OFC	Torch Brazing	Students practicing torch brazing.	A,C,1,2,3,4
14	OFC	OFC Layout and Cutting	Students will practice layout and cutting.	A,C,1,2,3,4,5,6
16	OFC	OFC Layout and Cutting	Students will practice layout and cutting.	A,C,1,2,3,4,5,6
21	OFC	OFC Layout and Cutting	Students will practice layout and cutting.	A,C,1,2,3,4,5,6
23	HOLIDAY	NO CLASS	HOLIDAY	
28	OFC	OFC Layout and Cutting	Students will practice layout and cutting.	A,C,1,2,3,4,5,6
30	OFC Final Exam	FINAL EXAM	Oxyfuel Cutting Torch Set-Up, Adjusting Regulator Pressure, Lighting and Shutting Off.	A,C,1,2,3,6

Competency Areas:

1. Metal Cutting and Heating Principles
2. Safety Procedures

3. Use of Cutting Torches and Apparatus
4. Metal Heating Techniques
5. Metal Cutting Techniques
6. Manual and Automatic Cutting Techniques
7. Oxyfuel Pipe Cutting

General Education 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.