



# Flat Shielded Metal Arc Welding / WELD 1040 COURSE SYLLABUS Spring Semester 2016(201614)

Semester: Spring 2016  
Course Title: Flat Shielded Metal Arc Welding  
Course Number: WELD 1040  
Credit Hours/ Minutes: 4 / 5000  
Class Location: Room #6106  
Class Meets: M/T/W/R 1:00 – 2:30 pm  
CRN: 40197

Instructor: Mr. Chris Cumbee  
Email Address: ccumbee@southeasterntech.edu  
Day Instructor: Mr. Chris Cumbee  
Office Location: Room 6106 Bldg. 6  
Office Hours of Day Instructor: Mon. through Thur. 7 – 8 am  
Email Address: ccumbee@southeasterntech.edu  
Phone: 478-289-2325

**REQUIRED TEXT:** None

**REQUIRED SUPPLIES:** Spiral notebook, pen, highlighter, welding helmet, clear safety glasses, welding gloves, ear plugs, chipping hammer, half round file with tang, wire brush, wire cutters, Shade 5 cutting glasses, striker, Vice grips, combination square, torpedo level, ball peen hammer, 12" Crescent Wrench, 12' tape measure and a 4 ½" angle grinder. **All students must have these items by the 2<sup>nd</sup> day of class; no exceptions.**

**PRE-REQUISITES:** None

**CO-REQUISITES:** All Required, WELD 1000 Introduction to Welding Technology

**COURSE DESCRIPTION:** Introduces the major theory, safety practices, and techniques for shielded metal arc welding (SMAW) in the **flat position**. Qualification tests, flat position, are used in the evaluation of student progress toward making industrial standard welds.

**MAJOR COURSE COMPETENCIES:**

1. SMAW safety and health practices
2. Fundamental SMAW Theory
3. Basic Electrical Principles
4. SMAW Machines and Set Up
5. Electrode Identification and Selection
6. Materials Selection and Preparation
7. Production of Beads and Joints in the Flat Position

**COURSE OUTLINE:** Flat SMAW Safety and Health practices, Selection and Applications of Electrodes for Flat SMAW, Flat SMAW Joints, and Flat SMAW Specification.

**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.

**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 the Special Needs Office. Swainsboro Campus: Jan Brantley (478) 289-2274 - Vidalia Campus: Helen Thomas Room 108 (912) 538-3126.

**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 Jan Brantley, Room 1208 Swainsboro Campus, 478-289-2274, or Helen Thomas, Room 108 Vidalia Campus, 912-538-3126, to coordinate reasonable accommodations.*

**MAKEUP GUIDELINES (Tests, quizzes, homework, projects, etc...):** All welding assignments must be completed by the last evening of class.

**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](http://www.southeasterntech.edu).

**GRADING POLICY**

Welding Assignments 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 1040— FLAT SHIELDED METAL ARC WELDING**  
**Spring Semester 2016 Lesson Schedule**

Date	Chapter / Lesson	Content	Assignments Tests	*Competency Area
Jan. 11	SMAW Set Up and Electrode Selection	First day of class/Class Introduction— Syllabi, Outline, Rules, Regulations Coverage, Library Resources and tour. SMAW Set Up and Electrode Selection	Refresher of proper SMAW Set Up and Electrode Selection by instructor.	1,2,3,4,5,6 A,B,D
12	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	Instructor demonstrates welding a padded plate using 7018 electrodes. Students practicing padded plate.	1,2,3,4,5,6 A,B,D
13	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1,2,3,4,5,6 A,B,D
14	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1,2,3,4,5,6,A,B, D
18	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1,2,3,4,5,6 A,B,D
19	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1,2,3,4,5,6 A,B,D
20	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1,2,3,4,5,6 A,B,D
21	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1F Padded Plate 7018 Electrodes	1,2,3,4,5,6 A,B,D
25	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Instructor demonstrates welding T-Joints using 7018 Electrodes. Students practicing T-Joints.	1,2,3,4,5,6 A,B,D
26	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Students practicing T-Joints.	1,2,3,4,5,6 A,B,D
27	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Students practicing T-Joints.	1,2,3,4,5,6 A,B,D
28	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Students practicing T-Joints.	1,2,3,4,5,6 A,B,D
Feb. 1	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Students practicing T-Joints.	1,2,3,4,5,6 A,B,D
2	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Students practicing T-Joints.	1,2,3,4,5,6 A,B,D
3	T-Joints – 1F Fillet Welds 7018 Electrodes	T-Joints – 1F Fillet Welds 7018 Electrodes	Students practicing T-Joints.	1,2,3,4,5,6 A,B,D



14	Corner Joints – 1F Fillet Welds 7018 Electrodes	Corner Joints – 1F Fillet Welds 7018 Electrodes	Students practicing Corner Joints.	1,2,3,4,5,6 A,B,D
15	Corner Joints – 1F Fillet Welds 7018 Electrodes	Corner Joints – 1F Fillet Welds 7018 Electrodes	Students practicing Corner Joints.	1,2,3,4,5,6 A,B,D
16	Corner Joints – 1F Fillet Welds 7018 Electrodes	Corner Joints – 1F Fillet Welds 7018 Electrodes	Students practicing Corner Joints.	1,2,3,4,5,6 A,B,D
17	Corner Joints – 1F Fillet Welds 7018 Electrodes	Corner Joints – 1F Fillet Welds 7018 Electrodes	Students practicing Corner Joints.	1,2,3,4,5,6 A,B,D
21	Butt Joints - 1F Fillet Welds 7018 Electrodes	Instructor demonstrates welding Butt Joint using 7018 Electrodes. Students practicing Butt Joints.	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
22	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
23	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
24	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
28	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
29	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
30	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
31	Butt Joints -1F Fillet Welds 7018 Electrodes	Butt Joints - 1F Fillet Welds 7018 Electrodes	Students practicing Butt Joints.	1,2,3,4,5,6 A,B,D
Apr. 4	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Instructor demonstrates how to lay- out and weld Chain Fillet Welds using 7018 Electrodes. Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
5	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
6	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
7	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
11	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
12	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
13	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
14	Chain Fillet Welds 7018 Electrodes	Chain Fillet Welds 7018 Electrodes	Students practicing welding and laying out chain fillet welds.	1,2,3,4,5,6 A,B,D
18	Staggered Fillet Welds 7018 Electrodes	Staggered Fillet Welds 7018 Electrodes	Instructor demonstrates how to lay- out and weld Staggered Fillet Welds using 7018 Electrodes. Students practicing welding and laying out staggered fillet welds.	1,2,3,4,5,6 A,B,D
19	Staggered Fillet Welds 7018 Electrodes	Staggered Fillet Welds 7018 Electrodes	Students practicing welding and laying out staggered fillet welds.	1,2,3,4,5,6 A,B,D
20	Staggered Fillet Welds 7018	Staggered Fillet Welds 7018 Electrodes	Students practicing welding and laying out staggered fillet welds.	1,2,3,4,5,6 A,B,D

	Electrodes			
21	Staggered Fillet Welds 7018 Electrodes	Staggered Fillet Welds 7018 Electrodes	Students practicing welding and laying out staggered fillet welds.	1,2,3,4,5,6 A,B,D
25	1G Open Root Pipe	1G Open Root Pipe	Instructor demonstrates welding 1G Open Root Pipe, students practicing welding 1G Open Root Pipe	1,2,3,4,5,6 A,B,D
26	1G Open Root Pipe	1G Open Root Pipe	Students practicing welding 1G Open Root Pipe.	1,2,3,4,5,6 A,B,D
27	1G Open Root Pipe	1G Open Root Pipe	Students practicing welding 1G Open Root Pipe.	1,2,3,4,5,6 A,B,D
28	1G Open Root Pipe	1G Open Root Pipe	Students practicing welding 1G Open Root Pipe.	1,2,3,4,5,6 A,B,D

**Competency Areas:**

1. Flat SMAW Safety Practices and Health Practices
2. Selection and Applications of Electrodes for Flat SMAW
3. Flat SMAW Joints
4. Flat SMAW to Specification

**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.
- d. The ability to utilize basic computer skills.