



WELD 1000 Introduction to Welding Technology

COURSE SYLLABUS

Fall Semester 2019 (202012)

COURSE INFORMATION

Credit Hours/Minutes: 4/4500
Class Location: Jenkins County HS
Class Meets: M-F High School appointed time
CRN: 20328

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Mr. Jason McDonald
Email Address: [Jason McDonald jmcdonald@southeasterntech.edu](mailto:jmcdonald@southeasterntech.edu)
Office Location: EDC/Room 105
Office Hours: By appointment only
Phone: 912-538-3180
Fax Number: 912-538-3156
Tutoring Hours (if applicable):

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

Welding Principles and Applications 8th Edition by Larry Jeffus

REQUIRED SUPPLIES & SOFTWARE

Each student should have the following: Spiral notebook, pen, pencil, highlighter, long sleeve shirt or welding jacket, pair of work boots, welding helmet, gloves, safety glasses, vice grips, 4 ½" grinder, wire brush, chipping hammer and wire cutters. 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

This course provides an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards.

MAJOR COURSE COMPETENCIES

1. Industrial Safety and Health Practices
2. Hand Tool and Power Machine Use
3. Measurement
4. Welding Career Potentials
5. Oxyacetylene Welding Safety and Use
6. Oxyacetylene Welding Practices
7. Brazing

PREREQUISITE(S)

All required

COURSE OUTLINE

Industrial Safety and Health Practices; Hand Tool and Power Machine use; Measurement; Laboratory Operating procedures; Welding Career potentials; and Introduction to Welding Codes and Standards.

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.

STUDENTS WITH DISABILITIES

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact the appropriate campus coordinator to request services.

Swainsboro Campus: [Macy Gay, \(mgay@southeasterntech.edu\)](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210

Vidalia Campus: [Helen Thomas, \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165

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 make arrangements with the appropriate campus coordinator.

Swainsboro Campus: [Macy Gay, \(mgay@southeasterntech.edu\)](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210

Vidalia Campus: [Helen Thomas, \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165

It is strongly encouraged that requests for consideration be made **PRIOR** to delivery and early enough in the pregnancy to ensure that all the required documentation is secured before the absence occurs. Requests made after delivery **MAY NOT** be accommodated. The coordinator will contact your instructor to discuss accommodations when all required documentation has been received. The instructor will then discuss a plan with you to make up missed assignments.

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" (Withdrawn) is assigned for the course(s) when the student completes the withdrawal form.

Students who are dropped from courses due to attendance after drop/add until the 65% point of the semester will receive a "W" for the course.

Important – Student-initiated withdrawals are not allowed after the 65% point. Only instructors can drop students after the 65% point for violating the attendance procedure of the course. Students who are dropped from courses due to attendance after the 65% point will receive either a "WP" (Withdrawn Passing) or "WF" (Withdrawn Failing) for the semester.

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.

WORK ETHICS

Instruction in the development of good work habits (work ethics) which aid in job retention and advancement is included in this course. This instruction will include weekly activities on a topic related to work ethics.

Included are behaviors such as arriving for classes or meetings on time; completing work satisfactorily and on time; responding positively to supervision; following directions correctly; adhering to policies/regulations; using tools and resources properly; observing safety provisions; and working effectively as part of a team. A separate work ethics grade will be assigned and will count 5% of the course grade.

The Technical College System of Georgia instructs and evaluates students on work ethics in all programs of study. Ten work ethics traits have been identified and defined as essential for student success: appearance, attendance, attitude, character, communication, cooperation, organizational skills, productivity, respect, and teamwork. Students will be required to take a work ethics exam as marked in the lesson plan. A grade of 70 or better is required to complete the work ethics requirements for this class.

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 (TCSG) and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, gender, 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 nondiscrimination policy encompasses the operation of all technical college-administered programs, federally financed programs, educational programs and activities involving admissions, scholarships and loans, student life, and athletics. It also applies to the recruitment and employment of personnel and contracting for goods and services.

All work and campus environments shall be free from unlawful forms of discrimination, harassment and retaliation as outlined under Title IX of the Educational Amendments of 1972, Title VI and Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1967, as amended, Executive Order 11246, as amended, the Vietnam Era Veterans Readjustment Act of 1974, as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990, as amended, the Equal Pay Act, Lilly Ledbetter Fair Pay Act of 2009, the Georgia Fair Employment Act of 1978, as amended, the Immigration Reform and Control Act of 1986, the Genetic Information Nondiscrimination Act of 2008, the Workforce Investment Act of 1998 and other related mandates under TCSG Policy, federal or state statutes.

The Technical College System and Technical Colleges shall promote the realization of equal opportunity through a positive continuing program of specific practices designed to ensure the full realization of equal opportunity.

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

| | |
|--|---|
| American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer | Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer |
| Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 165 Phone: 912-538-3126 Email: Helen Thomas hthomas@southeasterntech.edu | Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1 st Street, Vidalia Office 138B Phone: 912-538-3230 Email: Lanie Jonas ljonas@southeasterntech.edu |

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 |
|-----------------------|------------|
| Written Tests | 95% |
| Work Ethics | 5% |

GRADING SCALE

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

WELD 1000 Introduction to Welding Technology

Fall Semester 2019 Lesson Plan

Aug – August Sep – September Oct – October

| Date | Chapter | Content | Assignments & Tests Due Dates | Competency |
|-------------|--|--|--|---------------------|
| Aug 2 | Introduction to Welding Technology Power Point | First day of class/Class Introduction—Syllabi, Outline, Rules, Regulations Coverage, Welding acronyms and terminology | Discuss and define welding acronyms: | 1,2,3,4,5,6,7,A,B,C |
| 5 | Chapter 1 Intro. To Welding | Welding defined, Uses of Welding, Welding Processes, Occupations, Careers | Quiz on Welding Acronyms. | 1,2,3,4,5,6,7,A,B,C |
| 6 | Chapter 2 Safety | Welding Safety: Burns, MSDS, Work Clothing, Fire Protection, Storing and Handling Gas Cylinders, Welding Equipment. | Instructor will show students the locations of the First Aid Kits, Fire Extinguishers, Manifold System, Welding Gases | 1,2,3,4,5,6,7,A,B,C |
| 7 | Chapter 3 Shielded Metal Arc Welding | Shielded Metal Arc Welding Equipment, Safety, Operation and Set Up, Duty Cycle, Welding Cables, Electrode Holders | Demonstration of Shielded Metal Arc Welding given by instructor. | 1,2,3,4,5,6,7,A,B,C |
| 8 | Chapter 4 Shielded Metal Arc Welding of Plate | Shielded Metal Arc Welding of Plate, Current Settings, Electrode Size, Arc Length, Stringer Beads, Electrode Manipulation, Butt, Tee, Corner, Lap and Edge Joints. | Students in lab practicing Shielded Metal Arc Welding techniques | 1,2,3,4,5,6,7,A,B,C |
| 9 | Chapter 5 Shielded Metal Arc Welding of Pipe | Shielded Metal Arc Welding of Pipe, Preparation and Fit Up, 1G, 2G, 5G and 6G welding positions. | Demonstration will be given by instructor on Shielded Metal Arc Welding of pipe. | 1,2,3,4,5,6,7,A,B,C |
| 12 | Chapter 5 Shielded Metal Arc Welding of Pipe | Shielded Metal Arc Welding of Pipe, Preparation and Fit Up, 1G, 2G, 5G and 6G welding positions. | Demonstration will be given by instructor on Shielded Metal Arc Welding of pipe. | 1,2,3,4,5,6,7,A,B,C |
| 13 | Chapter 7 Flame Cutting | Flame Cutting, Metals, Eye Protection, Oxyfuel Cutting, Set Up, Hand Cutting, Layout | Demonstration will be given by instructor on Oxyfuel Cutting and brazing. Students will practice Oxyfuel Cutting set up and hand cutting techniques. | 1,2,3,4,5,6,7,A,B,C |
| 14 | Chapter 7 Flame Cutting | Flame Cutting, Metals, Eye Protection, Oxyfuel Cutting, Set Up, Hand Cutting, Layout | Students will practice Oxyfuel Cutting set up and hand cutting techniques. | 1,2,3,4,5,6,7,A,B,C |
| 15 | Chapter 7 Flame Cutting | Oxyfuel Cutting – Pipe Cutting, Track Torch | Demonstration given by instructor using an Oxyfuel Pipe Beveler and Track Torch. | 1,2,3,4,5,6,7,A,B,C |
| 16 | Chapter 10 Gas Metal Arc Welding | Gas Metal Arc Welding Equipment, Set Up and Operation, Metal Transfer, Filler Metal Specifications, Deposition Rates | Demonstration will be given by instructor using the Gas Metal Arc Welding process. | 1,2,3,4,5,6,7,A,B,C |
| 19 | Chapter 11 Gas Metal Arc Welding | Gas Metal Arc Welding, Flow Rates, Electrode Extension, Gun Angle, Shielding Gas, Modes of Transfer | Students will be in lab practicing Gas Metal Arc Welding. | 1,2,3,4,5,6,7,A,B,C |

| Date | Chapter | Content | Assignments & Tests Due Dates | Competency |
|-------------|--|---|---|---------------------|
| 20 | Chapters 12, 13 Flux Cored Arc Welding | Fillet Welds, Groove Welds | Demonstration using the Flux Cored Arc Welding process to be given by instructor, students practicing Flux Cored Arc Welding. | 1,2,3,4,5,6,7,A,B,C |
| 21 | Chapters 12, 13 Flux Cored Arc Welding | Fillet Welds, Groove Welds | Demonstration using the Flux Cored Arc Welding process to be given by instructor, students practicing Flux Cored Arc Welding. | 1,2,3,4,5,6,7,A,B,C |
| 22 | Chapters 12, 13 Flux Cored Arc Welding | Fillet Welds, Groove Welds | Demonstration using the Flux Cored Arc Welding process to be given by instructor, students practicing Flux Cored Arc Welding. | 1,2,3,4,5,6,7,A,B,C |
| 23 | Chapters 12, 13 Flux Cored Arc Welding | Fillet Welds, Groove Welds | Demonstration using the Flux Cored Arc Welding process to be given by instructor, students practicing Flux Cored Arc Welding. | 1,2,3,4,5,6,7,A,B,C |
| 26 | Chapters 16, 17, 18 Gas Tungsten Arc Welding | Gas Tungsten Arc Welding Equipment, Operation and Set Up, Tungsten, Shielding Gases, Tungsten | Demonstration using the Gas Tungsten Arc Welding process to be given by instructor, students practicing Gas Tungsten Arc | 1,2,3,4,5,6,7,A,B,C |
| 27 | Chapters 16, 17, 18 Gas Tungsten Arc Welding | Gas Tungsten Arc Welding Equipment, Operation and Set Up, Tungsten, Shielding Gases, Tungsten Shaping, Remote Controls | Demonstration using the Gas Tungsten Arc Welding process to be given by instructor, students practicing Gas Tungsten Arc Welding | 1,2,3,4,5,6,7,A,B,C |
| 28 | Chapters 16, 17, 18 Gas Tungsten Arc Welding | Gas Tungsten Arc Welding Equipment, Operation and Set Up, Tungsten, Shielding Gases, Tungsten Shaping, Remote Controls | Demonstration using the Gas Tungsten Arc Welding process to be given by instructor, students practicing Gas Tungsten Arc Welding | 1,2,3,4,5,6,7,A,B,C |
| 29 | Chapters 16, 17, 18 Gas Tungsten Arc Welding | Gas Tungsten Arc Welding Equipment, Operation and Set Up, Tungsten, Shielding Gases, Tungsten Shaping, Remote Controls | Demonstration using the Gas Tungsten Arc Welding process to be given by instructor, students practicing Gas Tungsten Arc Welding | 1,2,3,4,5,6,7,A,B,C |
| 30 | Chapter 19 Gas Tungsten Arc Welding of Pipe | Gas Tungsten Arc Welding of Pipe, Torch Angle, Filler Rod Manipulation, Gas Flow, Tungsten Contamination | Demonstration using the Gas Tungsten Arc Welding process to be given by instructor, students practicing Gas Tungsten Arc Welding | 1,2,3,4,5,6,7,A,B,C |
| Sep 2 | Holiday | No Class | No Class | Holiday |
| 3 | Chapter 19 Gas Tungsten Arc Welding of Pipe | Gas Tungsten Arc Welding of Pipe, Torch Angle, Filler Rod Manipulation, Gas Flow, Tungsten Contamination | Demonstration using the Gas Tungsten Arc Welding process to be given by instructor, students practicing Gas Tungsten Arc Welding | 1,2,3,4,5,6,7,A,B,C |
| 4 | Chapter 20 Welding Cost, Codes, Standards | Welding Cost, Codes, Standards, Specifications, Structural and Pipe Welding | Lecture, Students in lab practicing welding processes. | 1,2,3,4,5,6,7,A,B,C |
| 5 | Chapter 20 Welding Cost, Codes, Standards | Welding Cost, Codes, Standards, Specifications, Structural and Pipe Welding | Lecture, Students in lab practicing welding processes. | 1,2,3,4,5,6,7,A,B,C |
| 6 | Chapter 20 Welding Cost, Codes, Standards | Welding Cost, Codes, Standards, Specifications, Structural and Pipe Welding | Lecture, Students in lab practicing welding processes. | 1,2,3,4,5,6,7,A,B,C |
| 9 | Chapter 21 Reading Technical Drawings | Types of drawings, special views, lines, dimensioning, graph paper, computers and drawings | Instructor will demonstrate proper welding techniques for welder certification. | 1,2,3,4,5,6,7,A,B,C |
| 10 | Chapter 21 | Types of drawings, special views, | Instructor will demonstrate proper welding | 1,2,3,4,5,6,7,A,B,C |

| Date | Chapter | Content | Assignments & Tests Due Dates | Competency |
|-------|--|---|--|---------------------|
| | Reading Technical Drawings | lines, dimensioning, graph paper, computers and drawings | techniques for welder certification. | |
| 11 | Chapter 22 Welding Joint Design and Symbols | Joint Dimensions, Welding Position, Code Requirements, Welding symbols | Instructor will demonstrate proper fit-up techniques for the five basic weldments: butt, lap, corner and edge joints | 1,2,3,4,5,6,7,A,B,C |
| 12 | Chapter 22 Welding Joint Design and Symbols | Joint Dimensions, Welding Position, Code Requirements, Welding symbols | Instructor will demonstrate proper fit-up techniques for the five basic weldments: butt, lap, corner and edge joints | |
| 13 | Chapter 24 Welding Codes and Standards | Welding Cost, Codes, Standards, Specifications, Structural and Pipe Welding | Lecture, Students in lab practicing welding processes. | 1,2,3,4,5,6,7,A,B,C |
| 16 | Chapter 24 Welding Codes and Standards | Welding Cost, Codes, Standards, Specifications, Structural and Pipe Welding | Lecture, Students in lab practicing welding processes. | 1,2,3,4,5,6,7,A,B,C |
| 17 | Chapter 26 Welding Metallurgy | Welding Metallurgy | Lecture | 1,2,3,4,5,6,7,A,B,C |
| 18 | Chapter 26 Welding Metallurgy | Welding Metallurgy | Lecture | 1,2,3,4,5,6,7,A,B,C |
| 19 | Chapter 27 Weldability of Metals | Weldability of Metals | Lecture | 1,2,3,4,5,6,7,A,B,C |
| 20 | Chapter 27 Weldability of Metals | Weldability of Metals | Lecture, Study Guides given out for Final Exam | 1,2,3,4,5,6,7,A,B,C |
| 23 | Chapter 28 Filler Metal Selection | Filler Metal Selection | Lecture; Various Filler Metals | 1,2,3,4,5,6,7,A,B,C |
| 24 | Chapter 28 Filler Metal Selection | Filler Metal Selection | Lecture; Various Filler Metals | 1,2,3,4,5,6,7,A,B,C |
| 25 | Chapter 28 Filler Metal Selection | Filler Metal Selection | Lecture; Various Filler Metals | 1,2,3,4,5,6,7,A,B,C |
| 26 | Chapter 29 | Welding Automation and Robotics | Lecture; Future of Robotics and Automation | 1,2,3,4,5,6,7,A,B,C |
| 27 | Chapter 29 | Welding Automation and Robotics | Lecture; Future of Robotics and Automation | 1,2,3,4,5,6,7,A,B,C |
| 30 | Reviewing for FINAL EXAM | Reviewing for FINAL EXAM | Reviewing for FINAL EXAM | 1,2,3,4,5,6,7,A,B,C |
| Oct 1 | FINAL EXAM | FINAL EXAM | FINAL EXAM | 1,2,3,4,5,6,7,A,B,C |

Competency Areas:

1. Industrial Safety and Health Practices
2. Hand Tool and Power Machine Use
3. Measurement
4. Welding Career Potentials
5. Oxyacetylene Welding Safety and Use
6. Oxyacetylene Welding Practices
7. Brazing

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.