SOUTHWEST TECH
SOUTHWEST TECHNICAL COLLEGE

TEWT 1000 - Introduction to Welding and Cutting (2 Credits)

Course Description

This course will serve students as an introduction to the welding industry. General welding shop safety, thermal cutting processes, basic welding terminology, and arc welding basics will be discussed.

Course Objectives

- Demonstrate safety as it relates to welding and manufacturing.
- Perform cuts using thermal cutting processes.
- Identify and define basic welding terminology.
- Demonstrate safe set-up of arc welding equipment.
- Perform basic welds on carbon steel.
- Demonstrate clear communication in the workplace.
- Demonstrate effective workplace habits and attitudes.

Course Outline

- Electrical and Shop Safety
- Oxyfuel Safety
- Oxyfuel Cutting
- Shielded Metal Arc Welding Safety
- SMAW Pad of Beads
- SMAW Fillets

Textbook & Reading Materials

Cengage Unlimited Subscription, Cengage
Symbols for Welding EW-342
Blueprint Reading for Welders and Fitters EW-459

Assignments and Assessments

Orientation
Orientation Acknowledgement
Post- Secondary Welding Safety Disclosure Rev 2025.pdf
Welding Safety Course Introduction and Guidelines
READ Chapter 02: Safety in Welding
Chapter 02: Review Questions
LEARN IT: Chapter 02: Overview
Chapter 02 Practice Test
Chapter 02: Flashcards
Fire & Electrical Safety
LE: Electric Shock (Video-Combined)
LE: Grounding (Video)
LE: GFCI (Video)
Electrical Safety
LE: SDS (Video)
Hazard Communication and Safety Data Sheets (SDS)
Hand Tools
LE: Personal Protective Equipment (Video-Combined)
Shop PPE
Personnal Protective Equipment
Personnal Protective Equipment (PPE)
Helmet R,eview
Noise in the Workplace
Radiation
Slip, Trip, and Fall Hazards
Burns and Ventilation
Bloodborne Pathogens (BBPs)
First Aid in a Welding Environment
Eyewash Stations
Poisons and Poisonous Gases
Fumes and Welding Gases
Ventilation
LE: Warning Labels (Video)
LE: Fire & Explosions (Video-Combined)
Fire Safety and Fire Prevention
Back Injuries and Ergonomics
Cylinders
Stainless Steel and Aluminum
Lockout-Tagout (LOTO)
LE: Engine Driven Equipment (Video)
LE: Engine Exhaust (Video)
Tool and Equipment Safety
LE: Work Areas (Video)
LE: Confined Spaces (Video)
FactSheet - 11 Hot Work in Confined Spaces .pdf
The Color of Safety (Texas A&M).pdf
OSHA Sign Classification Table.pdf
Environ mental Safety and Pollution Prevention
NAPA Lockout/Tagout: When Everyone Knows (Video)
FactSheet - 18- Lock Out TagOut .pdf
FactSheet - 14 Graphic Symbols for !Precautionary Lables .pdf
Hazard Communication and Safety Data Sheets (SOS)
Final Exam
Checkpoint Meeting Module 1
Welcome to Oxy- Fuel: Safety First
READ Chapter 07: Flame Cutting
Chapter 07: Review Questions
Chapter 07 Practice Test
LEARN IT: Chapter 07: Overview
Chapter 07: Flashcards
Checkpoint Meeting Module 2
Cutting St raight Lines
Lab Time
Cutting Beveled Lines
Lab time
Cutting Shapes
Lab time
Checkpoint Meeting Module 3
READ Chapter 04: Shielded Metal Arc Welding of Plate
Chapter 04: Review Questions
LEARN IT: Chapter 04: Overview
Chapter 04 Practice Test
Chapter 04: Flashcards
READ Welding in t he Real World
Shielded Metal Arc Welding-Striking an Arc
Shielded Metal Arc Welding-Welding Effect
Shielded Metal Arc Welding-Electrode Angles
Shielded Metal Arc Welding-Settiing Current
Shielded Metal Arc Welding-Welder and Plate Positioning
Shielded Metal Arc Welding-Lap Joint 2F Position
Shielded Metal Arc Welding-Tee Joint 2F Position
SMAW Final Exam
Checkpoint Meeting Module 4
The Five Essentials
Cont rolling the Arc
Shop PPE- SMAW
Lab Time
Surfacing Beads Flat Position
Checkpoint Meeting Module 5
Lap Joint 2F
Lab Time
Tee joints 2F
Lab Time
Work Ethic Assessment
Checkpoint Meeting Module 6
End of Course Survey

Subject to change. Please consult your Canvas course for the most current instructions and updates.

Classroom Hours

Mo, Tu, W, Th
12:00 PM - 4:00 PM
5:00 PM - 9:00 PM

For a full list of course hours visit: Course Schedule

Instructor Contact Information

Robert Blake — rblake@stech.edu
Christopher Durand — cdurand@stech.edu
Ethan Hollinger — ehollinger@stech.edu
McKael Stapel — mstapel@stech.edu
Jordan Noel — jnoel@stech.edu
Jacob Hartner — jhartner@stech.edu
Director, Carl Johnson — cjohnson@stech.edu

Office Hours: By appointment

Email is the preferred method of communication; you will receive a response within 24 hours during regular business hours.

Canvas Information

Canvas is the where course content, grades, and communication will reside for this course.

- stech.instructure.com
- For Canvas passwords or any other computer-related technical support contact Student Services.
- For regular Hours and Weekdays call (435) 586 - 2899.
- For after Hours & Weekends call (435) 865 - 3929 (Leave a message if no response).

Course Policies

Attendance: Students are expected to follow their schedule. Absences, tardiness, and early departures will affect your record. Maintain at least 80% attendance. If below 80%, work with the instructor to improve. Take a 10-minute break per hour; inform the instructor if you need longer. Notify the instructor ASAP if you'll be late or absent.
Grading: This is a competency based course. To complete a course, students must demonstrate competency to industry standards. This will result in a B grade. Students who perform to this standard while maintaining all standards as indicated in this syllabus will receive an A. The instructor has the right to increase a grade in extenuating circumstances.
Cell Phone / Electronics: Limit phone use to coursework. Put away devices if used for non-coursework. Headphones are allowed for music. In the welding lab, keep one ear free and when needed, use OSHA-approved hearing protection; consumer headphones are not acceptable. Take calls or check messages outside the lab and welding booths to maintain a focused work environment.
Prerequisites: Follow the course order in the welding program's sequence unless changed by instructors. Lab courses require a demonstration of skills. Skills Upgrade and Personal Interest students must show prerequisite knowledge through tests or skill demonstrations before enrolling. All students must complete the Welding Safety course before entering the welding lab.
Competencies: Complete all reading assignments and written responses to progress. Using AI or searching the internet for answers is considered cheating. Outside materials are allowed if assignments are fulfilled. Lab modules require demonstrating welding skills per American Welding Society standards. Check course parameters on Canvas. Homeschool students on a post-secondary schedule will undergo an SAP check each quarter. If progress is insufficient, they will receive a warning, then probation, similar to post-secondary students. Dismissal for low SAP means re-enrollment is only possible the next year.
Lab Rules: Students will not be permitted to enter the lab without first submitting a signed copy of the Safety and Behavior Disclosure for Welding Technology to their instructor. Students shall wear safety glasses at all times in the lab. Other PPE includes but is not limited to long pants and, no synthetics, no open-toed shoes. Steeled-toed or composite-toed that are non-slip are preferred. Each course will require specific PPE as you go through the program. We are training students for industry, and most welding businesses will require these things, it is good to start investing in them. Only water bottles with sealable lids are allowed; no other food or drink. Report injuries to an instructor immediately. Only use machines with proper permission and training. Clean your workspace and participate in group clean-ups. Violations will result in a verbal warning, a write-up, and potentially removal from the program. Egregious violations may result in immediate removal.
Industry Environment: Be ready to work in hot, cold, dirty, dusty, and noisy conditions. Speak clearly for effective communication. Maintain situational awareness to avoid impacting others or being impacted. Use and knowledge of proper PPE are mandatory for safety. While vulgar language may be used in some shops, it is not allowed in the lab. Keep your space clean to minimize hazards. Always treat everyone with consideration and courtesy.
Substance Abuse: Possession or use of controlled substances or their imitations in the welding lab, which can impair judgment or emergency response, is a severe safety violation. This disregard for safety may result in immediate withdrawal from the program. No one may work in the lab with any substance, legal or otherwise, that may impair them in any way.
Cheating: Performing a weld out of position, using incorrect parameters, or passing off another's work will result in immediate removal from the program with zero tolerance. Mistakes or confusion will receive a verbal warning, a note in the student system, and an email to the student and the director of Manufacturing. Instructors may require a weld demonstration to verify the student's work quality before passing off.

High School Power School Grades: Quarter student grades will be determined by student progress percentage. Faculty will use the higher percentage of either 1) quarter progress, or 2) cumulative progress for the current training plan year. The progress percentage will be used with the grading scale to determine the minimum grade. High School Grade Scale: The following grading scale will be used to determine a letter grade from the progress percentage:

- A : 94 - 100%
- A- : 90 - 93%
- B+ : 87 - 89%
- B : 83 - 86%
- B- : 80 - 82%
- C+ : 77 - 79%
- C : 73 - 76%
- C- : 70 - 72%
- D+ : 67 - 69%
- D : 63 - 66%
- D- : 60 - 62%
- F : 0 - 59%

Additional Information

InformaCast Statement: Southwest Tech uses InformaCast to ensure the safety and well-being of our students. In times of emergency, such as weather closures and delays, this app allows us to promptly deliver notifications directly to your mobile devices. To stay informed and receive real-time updates, we encourage all students to sign up for notifications. Your safety is our priority, and staying connected ensures a swift response to any unforeseen circumstances. More information and directions for signing up are available at: https://stech.edu/emergency-notifications/

Internet Acceptable Use Policy: The student is expected to review and follow the Southwest Technical College Internet Safety Policy at: https://stech.edu/students/policies/

Student Code of Conduct Policy: The student is expected to review and follow the Southwest Technical College Student Code of Conduct Policy at: https://stech.edu/students/policies/

Accommodations: Students with medical, psychological, learning, or other disabilities desiring accommodations or services under ADA, must contact the Student Services Office. Student Services determines eligibility for and authorizes the provision of these accommodations and services. Students must voluntarily disclose that they have a disability, request an accommodation, and provide documentation of their disability. Students with disabilities may apply for accommodations, based on an eligible disability, through the Student Services office located at 757 W. 800 S., Cedar City, UT 84720, and by phone at (435) 586-2899. No diagnostic services are currently available through Southwest Technical College.

Safety and Building Maintenance: The College has developed and follows a variety of plans to ensure the safe and effective operation of its facilities and programs. The following plans are available online:
1) Facilities Operations and Maintenance Plan; 2) Technical Infrastructure Plan; and 3) Health and Safety Plan.

Withdrawals and Refunds: Please refer to the Southwest Technical College Refund Policy at:
https://stech.edu/students/policies/

Any high school or adult student, who declares a technical training objective is eligible for admission at Southwest Technical College (Southwest Tech). Program-specific admissions requirements may exist and will be listed on the Southwest Tech website. A high school diploma or equivalent is not required for admission but is mandatory for students seeking Title IV Federal Financial Aid.

Non-Discriminatory Policy: Southwest Technical College affirms its commitment to promote the goals of fairness and equity in all aspects of the educational enterprise, and bases its policies on the idea of global human dignity.

Southwest Tech is committed to a policy of nondiscrimination. No otherwise qualified person may be excluded from participation in or be subjected to discrimination in any course, program or activity because of race, age, color, religion, sex, pregnancy, national origin or disability. Southwest Technical College does not discriminate on the basis of sex in the education programs or activities that it operates, as required by Title IX and 34 CFR part 106. The requirement not to discriminate in education programs or activities extends to admission and employment. Inquiries about Title IX and its regulations to STECH may be referred to the Title IX Coordinator, to the Department of Education, and/or to the Office for Civil rights.

If you believe you have experienced discrimination or harassment on our campus, please contact the Title IX Coordinator, Cory Estes: cestes@stech.edu, (435) 865-3938.

For special accommodations, please contact the ADA Coordinator, Cyndie Tracy: ctracy@stech.edu, (435) 865-3944.
Southwest Technical College
757 West 800 South
Cedar City, UT 84720
info@stech.edu
(435) 586-2899