

WELDING TECHNOLOGY

MASTER PLAN OF INSTRUCTION

2026 – 2027

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MISSION

The mission of Fort Myers Technical College is to provide high quality career and technical training, in order to prepare students for current and emerging industries, delivered by a professional and caring staff in a positive learning environment.

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The Welding Technology program includes classroom and practical experiences in the cutting or joining of metal parts through the application of intense heat, using gas welding or electric arc welding equipment. Selection of proper torch tips and filler rods, adjustment of gas pressure and flame according to size and characteristics of metal are covered. Flame cutting and use of equipment introducing a shield of inert gas (MIG –TIG) around the electric arc to prevent oxidation will be covered. Metal fabrication is included in the program and will contain instruction in metals gauging and the use of cut off shears, brake, drill press, and punch and rollers. Blueprint reading and steel layout will be covered. Emphasis is placed on safety and interpretation of blueprints and layouts.

PROGRAM MISSION

The mission of the Welding Technology program is to prepare students for employment or advanced training in the welding industry.

PROGRAM STANDARDS

- Demonstrate an understanding and apply workplace safety and workplace organization skills.
- Demonstrate basic knowledge of industrial and manufacturing processes.
- Describe and identify metals and their properties accurately.
- Demonstrate and apply basic knowledge of drawing and interpreting AWS welding symbols.
- Apply basic oxy-fuel gas cutting principles and practices.
- Create a product using basic oxy-fuel gas cutting principles and practices.
- Apply intermediate oxy-fuel gas cutting principles and practices.
- Demonstrate plasma arc cutting principles and practices.
- Demonstrate a basic understanding of shielded metal arc welding (SMAW).
- Create a product using basic shielded metal arc welding (SMAW) principles and practices.
- Apply basic shielded metal arc welding (SMAW) skills.
- Demonstrate and apply Carbon Arc Gouging (GAC) principles and practices.
- Apply visual examination skills.
- Create a product using Carbon Arc Gouging and basic shielded metal arc welding (SMAW) principles and practices.
- Demonstrate an understanding of employability skills and career opportunities related to the welding industry.
- Apply intermediate shielded metal arc welding (SMAW) skills.
- Create a product using intermediate shielded metal arc welding (SMAW) principles and practices.
- Apply basic gas metal arc welding (GMAW) skills.
- Apply intermediate gas metal arc welding (GMAW) skills.
- Apply basic flux-core arc welding (FCAW) skills.
- Apply intermediate flux-core arc welding (FCAW) skills.
- Apply basic gas tungsten arc welding (GTAW) skills.
- Apply intermediate gas tungsten arc welding (GTAW) skills.
- Demonstrate and apply basic pipe welding principles and practices.
- Apply relevant technology to workplace scenarios to aid productivity.
- Interpret and express interpersonal communication.
- Interact with others to accomplish workplace goals.
- Manage personal behavior to maximize productivity and professional growth.
- Find, assess and apply to job opportunities.
- Communicate personal competence, character and fit for a job opportunity.
- Cultivate and leverage relationships to professionally advance.

ESSENTIAL TRAINING TASKS

Physical Requirements

Student must have:

- Good hand to eye coordination
- Must be able to work in hot, dirty conditions
- Must be able to lift and carry 50 lbs.

- Must be able to communicate with others
- Must be able to move freely to observe and evaluate project requirements

Cognitive Requirements

- Measure accurately
- Understand basic instructions, written and oral

ACCOMMODATIONS

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's IEP or 504 plan or post-secondary student's accommodations plan to meet individual needs to ensure equal access. Post-secondary students with disabilities must self-identify, present documentation, required accommodations if needed, and develop a plan with their post-secondary service provider. Accommodations received in post-secondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology, and special communication systems. Documentation of the accommodations requested and services provided are maintained in a confidential file.

TUITION

Tuition is charged for adult students at a rate established by the Florida legislature; tuition is waived for eligible high school dual-enrolled students. Current tuition and fee information is available from Student Services and is due prior to the first day of each payment period. Failure to pay all fees due at the time class begins will result in the student not being able to attend class and/or clinical.

CLASS SCHEDULE

Classes meet Monday through Friday from 8:00 A.M. until 2:30 P.M. Lunch breaks are 30 minutes in length. This amounts to 30 hours of classroom instruction per week.

ATTENDANCE POLICY

In an effort to develop appropriate employability skills, FMTC students are expected to attend all class sessions. As is expected in the workplace, when it is necessary to be absent due to illness or emergency situations, all students are to notify the instructor on or before the date of the absence. The student attendance policy for each post-secondary program is consistent with industry standards.

Campus attendance is kept via a computerized system. It is the responsibility of the student to **log in and out** in order to receive credit for class time. This allows the school to keep accurate attendance records for the actual number of hours and minutes attended.

All students are expected to be in attendance at least 90% of their scheduled hours during each payment period. Students failing to maintain the 90% attendance standard may not be permitted to continue in their program and may be withdrawn.

Absences and Tardies

A student who is absent for 6 consecutive class sessions, without prior approval and without contacting the instructor, will be withdrawn from enrollment in his/her program.

Students who are late for class, including returning late from lunch, must notify their instructor and clock in upon arrival. Students who leave school early must notify their instructor and clock out. This time out of class is recorded as time absent and is counted against the required 90% attendance.

Adult students who know they will be out of school for an extended period of time may apply for a Leave of Absence. Students who exercise a Leave of Absence may have to extend their time in their program and pay additional fees.

Leaving Campus During School Hours

Students must notify their instructor when leaving campus early. This is for the safety of students, to accurately track time, and to allow the instructor to best utilize instructional resources. Students may leave campus for lunch provided they return

in the time allotted.

PLAN OF INSTRUCTIONAL PRACTICES

Teaching Methods

The Welding Technology program combines classroom study (study modules, films, and slide study materials) with hands-on welding in the shop area. Program standards require competency levels to be completed with at least 75% accuracy. The Welding Technology program uses A.W.S. welding standards for work appraisal and welding performance standards.

Safety

Safety equipment and clothing requirements:

1. Eye protection, safety glasses with side shields – clear lens. If the student requires the use of personal prescription glasses, he or she will need a set of prescription safety glasses rated to 1 level of Z-87.1.
2. FMTC Welding Uniform Shirt (included in tuition and fees)
3. Blue jeans
4. Safety shoes, protective toe style (shoes must cover the ankle)
5. Welding jacket

Evaluation

Class performance, quizzes, tests, attendance, portfolio assessments, completion of project assignments, decision-making, work habits, achievement of entry-level competencies, and other methods are used for evaluation.

Work-Based Activities

Work-based learning activities play an integral part of the curriculum of FMTC's career-technical training programs. These activities are planned with two objectives in mind. First, the activity provides students with the opportunity to develop and apply 'real world' experience using the knowledge and skills attained in the program. Second, the activity provides the instructor with objective input from potential employers or customers of program graduates. Each work-based activity has a written instructional plan outlining objectives, experiences, competencies, and evaluation required during the activity.

Work-based activities are program specific and may include:

- Unpaid in-school shop activities to provide customer service opportunities under the direct supervision of the program instructor.
- Unpaid job shadowing experiences that may include in-school or off-campus employer-based experiences under the supervision of a qualified employer representative who is working closely with the program instructor.
- Paid or unpaid cooperative training experiences conducted at the employer's work location under the supervision of a qualified employer representative and under the direction of the program instructor.

Cooperative Education (Co-Op)

Cooperative training is coordinated by the instructor and career specialist. Co-Op is for students who have shown competence in program training that indicates readiness for placement in an on-the-job program. To be eligible for a Co-Op experience, students must have completed at least 75% of the required program hours. Requirements may differ for those receiving VA Benefits. Veterans will be accepted into the program in accordance with the Department of Veterans Affairs' approved program.

Students may be returned to the program for additional training if they do not function satisfactorily on the job or when the cooperative agreement is terminated at the request of the student, parent, employer, or program instructor.

Additional information regarding cooperative training opportunities may be obtained from the program instructor or career specialist. The lack of a valid driver's license may be a barrier to obtaining a Co-Op placement.

GRADING POLICIES

Grading Categories:

Assessments	25%
Career Application	50%
Employability Skills	25%

Grading Scale: Students must maintain a minimum of a 75% grade average to progress in the program (80% is health science programs). A record of the student's progress is kept by the instructor and available to the student in the FOCUS Student Portal. High school grades for dual enrolled students are reported to the assigned high school.

90 – 100	A
80 – 89	B
75 – 79	C
< 75	Failing

Each program has an employability skills rubric based on employee expectations in the industry.

Program Progress

Students are required to complete the program of training within the hours allotted by the state of Florida for completion. The student's rate of progress will be closely monitored by the instructor to ensure program completion in a timely manner.

SATISFACTORY ACADEMIC PROGRESS

In order to receive and continue to receive financial assistance of any type, a student must maintain satisfactory academic progress. The Financial Aid department will require a progress report to be completed and submitted to the Financial Aid Office prior to each disbursement. Students are considered to be making Satisfactory Academic Progress (SAP) if they successfully complete their scheduled clock hours, achieve a specific cumulative grade average (CGA), and do not exceed the maximum time limits to complete their course of study. Each student's academic progress will be checked at 450 clock hours for students enrolled in programs one academic year or greater. Progress will be checked at the half-way point for programs less than one academic year. No SAP is required prior to the first disbursement.

REQUIREMENTS FOR CERTIFICATE

Students meeting the following requirements are awarded a full program certificate:

- 1) Mastery of 85% of program competencies as determined by the instructor
- 2) A final grade of 75% or better (80% Health Sciences) in each course
- 3) Proof of state-mandated basic skills levels
- 4) Attendance of a minimum of 90% of scheduled hours each payment period (95% of scheduled hours for some Health Science programs). Under unique circumstances, instructors in our competency-based programs have the discretion to graduate students who fall short of 90% as long as #1-3 above are met.

DRESS CODE

Required Uniform: FMTC Uniform khaki shirt, blue jeans, leather belt (must be worn at all times), boots that cover the ankle (8-inch boots preferred – Examples: Bates, Danner, Redwing), and visible FMTC student ID badge.

PROGRAM STRUCTURE

Below is a summary of the Welding Technology program structure. For more detailed information for each course, visit the FLDOE Curriculum Framework website: <https://www.fldoe.org/academics/career-adult-edu/career-tech-edu/curriculum-frameworks/2026-27-frameworks/manufacturing.stml>

OCP A Welder Assistant 1 & 2

Students completing OCP A should be able to assist a welder in basic functions in the welding field, such as grinding, clean-up, and getting materials ready.

OCP B Welder, SMAW 1 & 2

Students will have the ability to do basic welding and tacking under the guidance and supervision of a qualified person with the SMAW process.

OCP C Welder

Students may operate and preform welding in all positions and different sized wire (electrode) and cover gases and maintain machinery in the GMAW process.

TEXTBOOKS

Required textbooks for the Welding Technology program are ordered by the instructor.

REQUIRED MATERIALS

Required Tools:

- Welding helmet (auto dark)
- Welding jacket
- Stick welding gloves
- MIG welding gloves
- TIG welding gloves
- Leather material handling gloves
- Welding cap or beanie
- Lock for toolbox
- Regular safety glasses are provided by the school. If you wear prescription eyeglasses, you will be required to purchase either a set of OTG (Over-the-Glasses) Safety Glasses or prescription safety glasses.