

# PLUMBING

## MASTER PLAN OF INSTRUCTION

2026 - 2027

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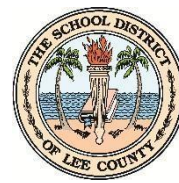
### MISSION

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.

The School Board of Lee County, Florida, does not discriminate or tolerate discrimination on the basis of: race (including anti-Semitism), color, ethnicity, national origin, sex, sexual orientation, gender identification, gender expression, disability (physical or mental), pregnancy, marital status, age (except as authorized by law), religion, military status, socioeconomic status, linguistic preference, genetic information, ancestry, or any other reason protected under applicable federal, state, or local law in the provision of educational programs, activities, or employment policies as required by: Title II, Title VI, Title VII of the Civil Rights Act of 1964, Title IX of the United States Education Amendments of 1972, (ADEA) Age Discrimination in Employment Act of 1967, (IDEA) Individuals with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, Florida Civil Rights Act of 1992, Genetic Information Nondiscrimination Act of 2008, (ADAAA) Americans with Disabilities Act of 1990 (ADA), the Amendment Act of 2008, and the Florida Educational Equity Act of 1984. The School Board also provides equal access of its facilities to youth groups, as required by the Boy Scouts of America Equal Access Act. Any sections of the District's collectively bargained, negotiated agreements dealing with hiring, promotion, and tenure will contain a statement of nondiscrimination similar to that in the Board's statement above.



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Since 1978, the Plumbing program has been an important avenue to employment in the plumbing trade. It has provided the best training in the latest materials and methods required to service and install residential and commercial plumbing systems that protect the health of the public and conserve natural resources. The active involvement of local plumbing businesses and material manufacturers keeps our training up to date so that our students' skills are always current. The FLDOE curriculum framework is the foundation of the program. In coordination with the basic framework, students will be offered the opportunity to earn the following certifications: American Heart Association CPR/First Aid/AED Certification, OSHA 10 Safety, Backflow Assembly Tester Certification, Mike Rowe Foundation Work Ethic Certification and various other manufacturer certifications.

### **PROGRAM MISSION**

The mission of the Plumbing program is to prepare students for entry level employment as a Plumbing Helper/Apprentice working under the supervision of a licensed plumbing contractor. Equal emphasis is placed on employability and technical skills. Preparing students to succeed encompasses training in technical skills, communication skills, interaction on the jobsite, personal responsibility and work ethics.

### **PROGRAM STANDARDS**

After successfully completing this program, the student will be able to perform the following:

- Describe career and training opportunities in the pipe trade industry.
- Demonstrate a basic knowledge of the pipe trade industry.
- Identify the use and care of basic tools in the pipe trade industry.
- Demonstrate the importance of health, safety and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.
- Demonstrate basic mathematics knowledge and skills.
- Demonstrate science knowledge and skills.
- Read and interpret construction documents.
- Read and interpret current pipe trade codes.
- Demonstrate knowledge of basic plumbing skills.
- Cut and join pipes.
- Demonstrate knowledge of plumbing codes.
- Read and interpret construction documents and specifications.
- Layout and coordinate a job.
- Layout and install, or (Optional) discuss and simulate, the installation of the first rough (underground).
- Layout and install, or (Optional) discuss and simulate, the installation of the second rough (first floor & above).
- Layout and install or (Optional) discuss and simulate trim out plumbing.
- Explain the importance of employability and entrepreneurship skills.
- Discuss and simulate the installation of water heating and circulating systems.
- Discuss and simulate the installation of interceptors and separators.
- Discuss and simulate the installation of a storm drainage system.
- Explain the principles of backflow cross and connection control.
- Explain the process of installing a medical gas system. (Optional)
- Explain how Liquid Propane Gas (LPG) and natural gas systems work.
- Repair, service and maintain plumbing systems.
- Explain how to connect residential plumbing to a municipal sewer lateral. (Optional)
- Apply plumbing applications to swimming pools and spas. (Optional)
- Identify solar systems and their components. (Optional)
- Adapt a solar system design. (Optional)
- Conduct a solar site assessment. (Optional)
- Maintain and troubleshoot a solar thermal system. (Optional)
- Discuss the installation of solar collectors. (Optional)
- 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**

To succeed in the Plumbing trade students must be able to:

- Stand, walk, use hands or fingers, handle or feel, reach with hands and arms, stoop, kneel, crouch or crawl talk and hear.
- Lift and carry at least 75 pounds while travelling on foot or while working on a ladder.
- Students should be capable of working in and around the following conditions: outdoor weather (hot/cold/humid), very loud noise, heavy machinery, rotating mechanical parts, high precarious places, awkward and/or confining spaces, possible inhalation of fumes or airborne particles, risk of electrical shock.
- Climb and balance at least 1/3 of the workday.
- Lift and carry 25 pounds for at least 2/3 of the workday.

### **Cognitive Requirements**

To succeed in the Plumbing trade students must be able to:

- Analyze and reason to effectively troubleshoot typical plumbing situations and problems.
- Work on projects for extended periods of time performing repetitive tasks.
- Effectively manage unforeseen issues that may arise in any plumbing project or repair.
- Speak, read, understand, and write in English.

## **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**

Classroom instruction and lectures as well as hands-on training in a plumbing shop environment are typical of the Plumbing program. Lectures will be led by the instructor, and students will be expected to participate in discussions as a class and demonstrate proficiency through quizzes and tests. Students will work alone and as a team in the shop environment and around the campus on various plumbing projects. Students are encouraged to assist each other in the learning process and become independent problem-solvers as well.

### **Safety**

A basic outline of safety standards and practices is covered in the beginning of the program along with a continuous implementation of safety principles throughout the course. Students will also have the opportunity to earn NCCER Core Safety and OSHA 10 certifications.

### **Evaluation**

Student performance will be evaluated using quizzes, tests, attendance, portfolio assessments, completion of project assignments, decision-making, work habits, and achievement of entry-level competencies, and other methods.

### **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	33%
Career Application (shop)	33%
Employability Skills	34%

**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 work shirt, FMTC hat, work pants or jeans with belt, work shoes that cover the

ankle, and visible FMTC student ID badge.

### **PROGRAM STRUCTURE**

Below is a summary of the Plumbing 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/architecture-construction.stml>

#### **OCP A            Helper, Plumber, Pipefitter**

Upon completion of OCP A, the student will be qualified to work as a plumber's apprentice/helper on most plumbing projects and repairs.

#### **OCP B            Residential Plumber**

Upon completion of OCP B the student will be qualified to work as a plumber's apprentice/helper on most plumbing projects and repairs. The student will also be qualified to work on new construction plumbing projects under the supervision of a foreman or licensed plumber.

#### **OCP C            Commercial Plumber**

Upon completion of OCP C the student will be qualified to perform basic plumbing repairs and install most fixtures and appliances while employed by a licensed plumbing contractor.

#### **OCP D            Plumbing Applications**

Upon completion of OCP D the student will be qualified to work on most residential and commercial plumbing projects and repairs while employed by a licensed plumbing contractor.

### **TEXTBOOKS**

Required textbooks for the Plumbing program are ordered by the instructor.