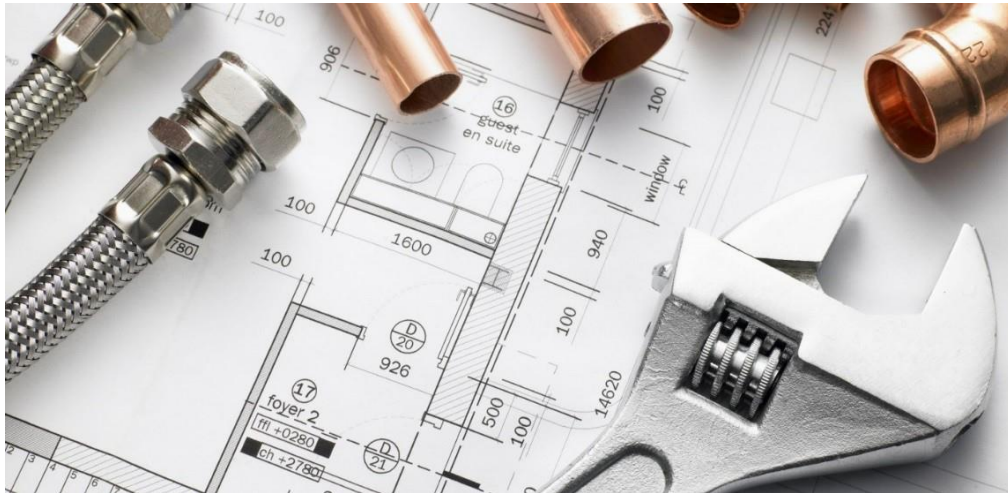


# PLUMBING

## MASTER PLAN OF INSTRUCTION

2023 - 2024

Mike Mayes, Instructor



### 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 nor 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, and Title VII Civil Rights Act of 1964 including, Title IX of the United States Education Amendments of 1972, Age Discrimination in Employment Act of 1967 (ADEA), Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act of 1973, Florida Civil Rights Act of 1992, Genetic Information Nondiscrimination Act of 2008, Americans with Disabilities Act of 1990 (ADA) and the Amendment Act of 2008 (ADAAA), 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. As required by Florida's Educational Equity Act, the Superintendent shall submit an annual equity report addressing the District's educational and employment practices. The School Board of Lee County, Florida, prohibits retaliation by any District personnel against a person for reporting, filing or being a witness in a discrimination (including harassment) charge, complaint, investigation or lawsuit associated or in connection with this policy. Established grievance procedures and appropriate discrimination complaint forms are available from the Office of Civil Rights & Equity, Academic and Student Support Services or the Equity Coordinator at each school. Complaints/inquiries regarding compliance with these regulations may be submitted in writing to: For Employees: Office of Civil Rights & Equity Compliance at (239) 337-8134 or at [CivilRightsEquity@leeschools.net](mailto:CivilRightsEquity@leeschools.net). For Students: Office of Positive Prevention at (239) 939- 6858.

Lack of English language skills will not be a barrier to admission and participation. The District may assess each student's ability to benefit from specific programs through placement tests and counseling, and, if necessary, will provide services or referrals to better prepare students for successful participation.



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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. Complementary training includes CPR, OSHA 10 and industry specific certifications provided by manufacturers' representatives.

### **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 PHILOSOPHY**

Student success is dependent on each student's determination and commitment. Individual and group work is evaluated and students receive feedback on both technical performance and employability. This program is designed to prepare students to enter the workforce with the knowledge and confidence to succeed.

### **PROGRAM CONTENT**

The Plumbing program is a planned sequence of instruction consisting of four occupational completion points (OCP). The structure will allow students to complete specified portions of the program for employment or to remain for advanced training. A student who completes the applicable competencies at any occupational completion point may either continue with the training or become an occupational completer.

#### **The program covers the following topics:**

- Introduction to Plumbing Profession
- Jobsite Safety
- Care & Use of Tools
- Plumbing Mathematics
- Architectural and Plumbing Drawings
- Plumbing Codes
- Drainage, Waste, and Vent Systems Installation/Repair/Maintenance
- Water Distribution System Installation/Repair/Maintenance
- Fixture Installation
- Residential & Commercial Plumbing System Repairs
- Employability Skills
- Entrepreneurship & Communication Skills

### **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 work day.
- Lift and carry 25 pounds for at least 2/3 of the work day.

#### **Cognitive Requirements**

- Must be able to analyze and reason to effectively troubleshoot typical plumbing situations and problems.
- Must be able to work on projects for extended periods of time performing repetitive tasks.

- Must be able to effectively manage unforeseen issues that may arise in any plumbing project or repair.
- Must be able to 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 reasonable rate that may vary slightly from year to year and is due prior to the first day of each payment period. Current fee information is available from Student Services. Tuition is waived for eligible high school dual-enrolled students. 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. This amounts to 30 hours of classroom instruction per week. Lunch breaks are 30 minutes in length.

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

#### **Absences**

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 clock in. 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 from their program. 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.

## **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 the first week of class along with a continuous implementation of safety principles throughout the course. Students will also have the opportunity to gain certification in NCCER Core Safety and OSHA 10.

### **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**

Cooperative training is available for students and coordinated by the instructor and career specialist. Cooperative training is for students who have shown competence in program training that indicates readiness for placement in an on-the-job program. High school students participating in the cooperative job placement program must be in the 12<sup>th</sup> grade. To be eligible for a cooperative education experience, students must have completed at least one-half of the required program hours and requirements.

Student 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. Veterans will be accepted into the program in accordance with the Department of Veterans Affairs approved program.

Additional information regarding cooperative training opportunities may be obtained from the program instructor or career specialist.

## **GRADING POLICIES**

### **Grading Categories:**

Assessments	25%
Career Application (shop)	25%
Employability Skills	50%

## **Grading Scale:**

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

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. Progress must be at a rate that will allow completion of the program with the number of hours stated in the Curriculum Frameworks.

## **Work Habits**

Effective work habits are the cornerstone to successful employment. Students are expected to demonstrate productive work habits during all phases of enrollment. Instructors will work with students who need assistance in this area to improve all overall possibility for successful employment.

**Attendance:** Attends class, arrives/leaves on time; begins and ends work as expected.

**Character:** Displays loyalty, honesty, trustworthiness, dependability, reliability, initiative, self-discipline, and self-responsibility; displays a high level of effort and commitment to performing and completing work.

**Teamwork:** Respects the right of others; respects confidentiality; is cooperative; is assertive; displays a customer service attitude; seeks opportunities for continuous learning; demonstrates mannerly behavior; encourages and facilitates cooperation, pride, trust, and group identity; fosters commitment and team spirit.

**Appearance:** Displays appropriate dress, grooming, hygiene, and etiquette; wears full regulation uniform.

**Attitude:** Displays a willingness to cooperate and accept constructive criticism; sets realistic expectations; approaches assignments with interest.

**Productivity:** Is prepared for class by reading assignments and completing homework; contributes to class discussions; and involvement in lab activities (in other words, no sleeping or daydreaming). Follows safety practices; conserves and maintains equipment and supplies; keeps work area neat and clean; follows directions and procedures; makes up assignments and tests punctually; notifies proper authorities of situations presenting potential safety hazards; does not use or knowingly permit others to use tools and equipment improperly; stays on task and utilizes time constructively.

**Organization:** Manifests skill in prioritizing and managing time and stress; demonstrates flexibility in adapting to changes.

**Communication:** Communicates accurate information to others in a professional and courteous manner; displays appropriate nonverbal (eye contact, body language) and oral (listening, telephone etiquette, grammar) skills; asks pertinent questions; listens attentively to others, notifies instructor in advance of absences or tardies.

## **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 Administrator 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 (300 hours for CHCA) and prior to subsequent disbursements 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**

Certification for FULL program completion is determined by (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, and (3) proof of state-mandated

basic skills levels; (4) attendance of a minimum of 90% of scheduled program hours (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. Students meeting these requirements are awarded a full program certificate.

A record of the student's progress is kept up-to-date by the instructor and available to the student in the FOCUS Student Portal. High school grades are reported to the assigned high school.

### **DRESS CODE**

Each program at FMTC has a designated uniform.

**Uniform Required:** 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/2023-24-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 supplied by FMTC.

### **REQUIRED MATERIALS**

Notebook, Paper, Pens, Pencils, Ruler, Architect Scale, 30-60 Drawing Triangle