

APSM 177A: TITLE 24 MECHANICAL ACCEPTANCE TESTING

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Units:	2.5
Hours:	32 lecture, 8 laboratory per quarter (40 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- A successful student will be able to describe the requirements of the CA MATT (Mechanical Acceptance Test Technician) Certification.
- A successful student will be able to successfully complete the NEMIC MATT Certification Test.

Description

Students will explain the requirements of the California Title 24 energy code. Students will perform all Title 24 mechanical acceptance tests required in non-residential mechanical systems. Students will achieve NEMIC Mechanical Acceptance Test Technician certification.

Course Objectives

The student will be able to:

1. Describe the history of California's Title 24 energy code
2. Describe the requirements of the Mechanical Acceptance Test Technician certification
3. Describe the difference between Title 24, Part 1, and Title 24, Part 6
4. Describe the use and purpose of the Title 24 Nonresidential Compliance Manual
5. Describe the use and purpose of the Title 24 NA7 Appendix
6. Describe the use and purpose of the mechanical compliance forms
7. Describe the use and purpose of the mechanical acceptance forms
8. Successfully complete the NEMIC MATT certification test

Course Content

1. Describe the history of California's Title 24 energy code (Lec)
2. Describe the requirements of the Mechanical Acceptance Test Technician certification
 - a. Define the regulation that requires certified mechanical acceptance testing (Lec)

- b. Describe the certification process (Lec)
 - c. Define document author, certified technician, responsible person, certified employer, certified provider (Lec)
3. Describe the difference between Title 24, Part 1, and Title 24, Part 6
 - a. Describe the Title 24 Administrative Code (Lec)
 - b. Describe the Title 24 Energy Code (Lec)
 4. Describe the use and purpose of the Title 24 Nonresidential Compliance Manual
 - a. Find reference in the manual for a given test situation (Lec and Lab)
 5. Describe the use and purpose of the Title 24 NA7 Appendix (Lec)
 6. Describe the use and purpose of the mechanical compliance forms (Lec)
 7. Describe the use and purpose of the mechanical acceptance forms (Lec)
 - a. Describe the MCH-01-E form and its importance to acceptance testing (Lec and Lab)
 - b. Describe the MCH-03-E form and its importance to acceptance testing (Lec and Lab)
 - c. Describe the testing requirements to complete forms MCH-02-A through MCH-18-A (Lec and Lab)
 - d. Perform acceptance testing on lab HVAC equipment (Lec and Lab)
 - e. Properly complete a Mechanical Certificate of Acceptance test form (Lec and Lab)
 8. Successfully complete the NEMIC MATT certification test (Lec and Lab)

Lab Content

1. Perform acceptance testing on lab HVAC equipment

Special Facilities and/or Equipment

1. Laboratory with sheet metal test and balance tools and sample system components
2. Personal protective equipment
3. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Results of written quizzes and tests
Responses in class discussions
Comprehensive certification examination
Demonstration of assigned skills to acceptable level per instructor

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Demonstration
Lab assignments followed by discussion

Representative Text(s) and Other Materials

International Training Institute for the Sheet Metal and Air Conditioning Industry. Functional Performance Testing of HVAC Systems. 2015.

Auvil, Ronnie J.. HVAC Controls Systems, 4th ed.. 2017.

These are the standard sheet metal textbooks/workbooks used for this course. Although they may not be within five years of the required published date, they are the most current books used when teaching this course.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Sample reading assignment: Read instructions for Mechanical Certificate of Acceptance test forms 1-18
2. Sample writing assignment: Properly complete a Mechanical Certificate of Acceptance test form

Discipline(s)

Sheet Metal