APSM 151B: ESSENTIAL HVAC SERVICE SKILLS

Foothill College Course Outline of Record

Heading	Value
Units:	2.5
Hours:	30 lecture, 10 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 Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- A successful student will be able to discuss the responsible use of a typical service vehicle.
- A successful student will be able to write a sample service tag.

Description

Students gain further understanding of the roles and responsibilities of a beginning level HVAC service apprentice, including maintenance, vehicle use, documentation and professional representation.

Course Objectives

The student will be able to:
A. Review and be able to explain OJT requirements
B. Know how to be responsible with a service vehicle
C. Identify basic HVAC equipment and components
D. Safely access different types of equipment and change filters and belts
E. Understand how to write a service tag
F. Explain how to represent the company in a professional and courteous manner
G. Understand and demonstrate the safe use of basic hand tools required for air conditioning services

Course Content

A. Review and be able to explain OJT requirements
1. Perform procedures for reporting, and importance of, OJT hours (Lec and Lab)
B. Know how to be responsible with a service vehicle
1. Understand the importance of keeping and organized truck (Lec and Lab)
2. Understand how the appearance and operation of a company vehicle reflects upon the professional image of a company (Lec and Lab)
3. Understand the importance of proper maintenance of a vehicle (Lec and Lab)
4. Test the fluid levels and tire air pressure on a vehicle (Lec and Lab)
C. Identify basic HVAC equipment and components
1. Identify and explain the different types of equipment and their operation (Lec and Lab)
D. Safely access different types of equipment and change filters and belts
1. Demonstrate ability to safely perform basic preventative maintenance procedures (Lec and Lab)
E. Understand how to write a service tag
1. Demonstrate ability to write a serve tag using legible penmanship, grammar, punctuation, and use of proper terminology (Lec and Lab)
2. Understand the value of, and methods of, record keeping and their importance for billing and project management (Lec and Lab)
F. Explain how to represent the company in a professional and courteous manner
1. Demonstrate the ability to interact with customers and avoid conflicts and when avoidable to resolve them in a professional and courteous manner (Lec and Lab)
2. Describe hand tools used in Air Conditioning & Refrigeration Service (Lec and Lab)
3. Describe equipment used to install and service air conditioning equipment (Lec and Lab)
G. Understand and demonstrate the safe use of basic hand tools required for air conditioning services (Lec and Lab)

Lab Content

A. Demonstrate ability to safely perform basic preventative maintenance procedures.

Special Facilities and/or Equipment

A. Laboratory with sheet metal service tools
B. Personal protective equipment

Method(s) of Evaluation

A. Results of written quizzes and tests
B. Responses in class discussions
C. Comprehensive written final examination
D. Comprehensive final project
E. Demonstration of assigned skills to acceptable level per instructor

Method(s) of Instruction

A. Lecture
B. Discussion
C. Demonstration
D. Lab assignments followed by discussion

Representative Text(s) and Other Materials

Whitman, B., B. Johnson, J. Tomczyk, and E. Silberstein. Refrigeration and Air Conditioning Technology. 8th ed. Boston, MA: Cengage Learning, 2016.

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

A. In the textbook, read Unit 5, Tools and Equipment

B. Answer review questions from the textbook related to assigned reading

Discipline(s)

Sheet Metal, Air Conditioning, Refrigeration, Heating