APPT 179: CHILLERS/SPECIAL SYSTEMS/HVACR STAR REVIEW

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Units:	4.5
Hours:	36 lecture, 63 laboratory per quarter (99 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service 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 student will be able to demonstrate air/water chillers related to cooling.
- A student will be able to apply sizing methods to cooling tonnage.

Description

Provides students with a working knowledge of pipe drafting and blueprint reading for heating, ventilation and air conditioning (HVAC) systems. Hands-on activities include applying airside, waterside and pressure testing systems.

Course Objectives

The student will be able to:

a. Apply airside balancing skills and computations related to HVAC systems
b. Apply waterside balancing skills and computations related to HVAC systems

Course Content

a. Applying airside
    i. Blueprint reading
    ii. HVAC pressure testing
    iii. Leak testing
b. Applying waterside
    i. Blueprint reading
    ii. Water leak/testing
    iii. Junior Mechanic test and review

Lab Content

Students will work individually and in teams in the lab, which includes:

a. Applying mechanical principles related to the function and design of mechanical systems
b. Applying electrical principles related to the function and design of electrical systems
c. Pressurizing (air and water) and testing an HVAC system
d. Reviewing safety procedures for chiller and boiler systems

Special Facilities and/or Equipment

1. Laboratory with overhead projector
2. Personal protective equipment/calculator
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:

Written examination
Hands-on demonstration
Chapter quizzes
Group and classroom participation

Method(s) of Instruction

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

Lecture
Discussion
Laboratory
Demonstration

Representative Text(s) and Other Materials

HVAC Star Review binder (learning materials and study guide for HVAC STAR exam)

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

a. Readings from the course textbook
    i. Exam preparation guide
    ii. Categories A, Junior Mechanics practice review
b. Writing assignments include:
    i. Student study report on the results of testing (air and water) for HVAC systems
    ii. Students take the State License Certified Exit Exam for Journeyman HVAC Service Technician

Discipline(s)

Air Conditioning, Refrigeration, Heating