

APPRENTICESHIP - STEAMFITTING AND PIPEFITTING TECHNOLOGY

Program Description

The Associate in Science in Steamfitting & Pipefitting Technology degree program is conducted in partnership with the Pipe Trades Training Center apprenticeship program. The apprenticeship program is 5 years in duration, requiring a minimum of 9,000 hours of on-the-job training. After 5 years of classroom instruction and paid work experience, students are recognized as journeymen within the Pipe Trades industry and work to protect our environment by properly installing and maintaining piping and equipment for complex heating and air conditioning and special industrial piping systems.

The apprenticeship program, which includes coursework, lab work, and on-the-job training, involves learning about the assessment, installation, maintenance, and repair of different types of pipe systems, effective and safe tool use, material applications, related mathematics and science, and storage. The Associate in Science in Steamfitting & Pipefitting Technology degree builds on the Certificate of Achievement in Steamfitting & Pipefitting Technology by adding requirements for general education courses and electives.

Students are admitted into the Pipe Trades Training Center apprenticeship program based on obtaining a passing (75%) score on the Pipe Trades Entrance Exam, which measures the student's ability in math and mechanical reasoning. Students who pass the entrance exam are selected from an applicant waiting list, the order of which is established by the date the entrance exam was taken and the test score.

Learn more about the program on the [Apprenticeship website](#).

Program Learning Outcomes

- In compliance with applicable standards and codes, students will demonstrate ability to install and remove piping and equipment for complex heating and air conditioning applications and special industrial piping systems, such as those used in semiconductor, biotechnology, and power generation facilities.
- In compliance with applicable standards and codes, students will demonstrate ability to maintain, extend, and/or alter piping and equipment for heating and air conditioning, and for special industrial piping systems, such as those used in semiconductor, biotechnology, and power generation facilities.

Career Opportunities

Graduates will be employable as: Foreman, General Foreman, Superintendent, Project Manager, Estimator, Detailer, Building Trades Inspector, Building Trades Instructor, and/or a Union Business Agent/Business Manager in the semiconductor, biotechnology, power generation, healthcare, education, water treatment, and food and beverage processing industries. Students earning an associate degree will increase their marketability and employment opportunities. Admission to apprenticeship courses is limited to apprentices registered with the California Division of Apprenticeships Standards, according to the California Labor Code, Section 3074.3.

Award Type(s)

- AS = Associate in Science Degree
- CA = Certificate of Achievement

Units Required

- Major: 67
- Certificate(s): 67

Associate Degree Requirements

Code	Title	Units
English Proficiency		
Select one of the following:		
ENGL 1A	COMPOSITION & READING	5
ENGL 1AH	HONORS COMPOSITION & READING	5
ESLL 26	ADVANCED COMPOSITION & READING	5
or equivalent		
Ethnic Studies		
Any course in the ETHN (Ethnic Studies) subject code, currently approved for Area F of CSU GE and Area 7 of IGETC		
Mathematics Proficiency		
College-level math course at or above the level of Intermediate Algebra		

A minimum of 90 units is required¹ to include:

- Completion of one of the following general education patterns: Foothill General Education, CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC)
- Core courses (67 units)

¹ Additional elective course work may be necessary to meet the 90-unit minimum requirement for the associate degree.

Note: All courses pertaining to the major must be taken for a letter grade. In addition, a grade of "C" or better is required for all core courses used for the degree or certificate.

Core and Support Courses

Code	Title	Units
Core Courses		
APPT 129	SPECIAL TOPICS	3.5
APPT 130	REVIEW & TURNOUT	3.5
APPT 134B	INDUSTRIAL SAFETY	4.5
or APPT 134C	OSHA 30/REFRIGERATION & ELECTRICITY	
APPT 139A	PROCESS PIPING	3.5
APPT 139B	MEDICAL GAS INSTALLATIONS	3.5
APPT 141	SF 101 BASIC STEAMFITTING SKILLS	7
APPT 142	SF 102 RELATED MATH, DRAWING & RIGGING	3.5
APPT 143	SF 201 STEAMFITTER CUTTING & WELDING	5
APPT 143A	BEGINNING CUTTING, FIT-UP & WELDING	2
APPT 144A	SF 202A RELATED SCIENCE	3
APPT 145	SF 301 ADVANCED TRADE MATH FOR STEAMFITTERS	7

APPT 146	SF 302 STEAM TECHNOLOGY	7
APPT 147A	SF 401A HYDRONIC SYSTEMS	3.5
APPT 147B	SF 401B INDUSTRIAL RIGGING	3.5
APPT 148	SF 402 ADVANCED DRAWING & BLUEPRINT READING	7
Total Units		67

Elective Courses

These courses are recommended to fulfill the additional elective requirements to reach 90 units for the degree as they augment the major.

Code	Title	Units
CWE 60A	OCCUPATIONAL WORK EXPERIENCE: APPRENTICE	10.5

Note: Additionally, students who complete the core courses will satisfy Foothill GE Area III, Natural Sciences; Area IV, Social & Behavioral Sciences; Area V, Communication & Analytical Thinking; Area VI, United States Cultures & Communities; and Area VII, Lifelong Learning.

Certificate Requirements

Certificate of Achievement in Steamfitting and Pipefitting Technology

- Units: 67

The certificate of achievement is awarded upon completion of the core courses. General education courses are not required.

Currently offered at: San Jose.