

# 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 journeypersons 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: 67.5
- Certificate(s): 67.5

## Associate Degree Requirements

A minimum of 90 units is required<sup>1</sup> to complete the associate degree, including:

- Core courses for the major (67.5 units total)
- Completion of one of the following general education patterns:
  - Foothill College General Education
  - **Summer Session 2025 only**—CSU General Education Breadth (CSU GE Breadth)<sup>2</sup>
  - **Summer Session 2025 only**—Intersegmental General Education Transfer Curriculum (IGETC)<sup>2</sup>
  - **Beginning Fall Quarter 2025**—California General Education Transfer Curriculum (Cal-GETC)<sup>3</sup>

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

<sup>2</sup> Summer Session 2025 is the final term during which CSU GE Breadth and IGETC may be used. Please see a counselor for more information.

<sup>3</sup> Cal-GETC begins in Fall Quarter 2025. Please see a counselor for more information.

**Note:** A grade of "C" (or "P") or better is required for all core courses used for the degree or certificate. In addition, the student must obtain a minimum GPA of 2.0.

Refer to the Associate in Arts & Associate in Science Degree Requirements page for complete information about graduation requirements and catalog rights.

## Core and Support Courses

Code	Title	Units
<b>Core Courses</b>		
APPT 129	SPECIAL TOPICS	3.5
APPT 130	REVIEW & TURNOUT	3.5
APPT 134B or APPT 134C	INDUSTRIAL SAFETY OSHA 30/REFRIGERATION & ELECTRICITY	4.5
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	3.5
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
<b>Total Units</b>		<b>67.5</b>

### Elective Course

This course is recommended to fulfill the additional elective requirements to reach 90 units for the degree as it augments 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 1B, Oral Communication and Critical Thinking; Area 2, Mathematical Concepts and Quantitative Reasoning; Area 4, Social and Behavioral Sciences; Area 5, Natural Sciences (with Laboratory); and Area 7, Lifelong Learning.

## Certificate Requirements

### Certificate of Achievement in Steamfitting and Pipefitting Technology

- Units: 67.5

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

Currently offered at: San Jose.