

# 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 five 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: 53.5
- Certificate(s): 53.5

## Associate Degree Requirements

| Code  | Title  | Units |
|---|--|-------|
| <b>English Proficiency</b>  |  |       |
| Select one of the following:  |  |       |
| ENGL 1A   | COMPOSITION & READING  | 5     |
| ENGL 1AH  | HONORS COMPOSITION & READING   | 5     |
| ENGL 1S<br>& ENGL 1T  | INTEGRATED COMPOSITION & READING<br>and INTEGRATED COMPOSITION & READING | 8     |
| or equivalent   |  |       |
| <b>Mathematics Proficiency</b>  |  |       |
| Select one of the following:  |  |       |
| MATH 105  | INTERMEDIATE ALGEBRA   | 5     |
| MATH 180  | QUANTITATIVE REASONING   | 5     |
| or any MATH course approved for Foothill GE Area V, Communication & Analytical Thinking |  |       |

A minimum of 90 units is required<sup>1</sup> 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 (53.5 units)

<sup>1</sup> 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 |
|---------------------|---|-------|
| <b>Core Courses</b> |   |       |
| APPT 129            | SPECIAL TOPICS                                  | 3.5   |
| APPT 130            | REVIEW & TURNOUT                                | 3.5   |
| APPT 134B           | INDUSTRIAL SAFETY                               | 4.5   |
| APPT 139A           | PROCESS PIPING                                  | 3.5   |
| APPT 139B           | MEDICAL GAS INSTALLATIONS                       | 3.5   |
| APPT 141            | SF 101 BASIC STEAMFITTING SKILLS                | 5     |
| APPT 142            | SF 102 RELATED MATH, DRAWING & RIGGING          | 4.5   |
| APPT 143            | SF 201 STEAMFITTER CUTTING & WELDING            | 4.5   |
| APPT 144A           | SF 202A SCIENCE; ELECTRICITY & AIR CONDITIONING | 2.5   |
| APPT 145            | SF 301 ADVANCED TRADE MATH FOR STEAMFITTERS     | 4.5   |
| APPT 146            | SF 302 STEAM TECHNOLOGY                         | 4.5   |
| APPT 147A           | SF 401A HYDRONIC SYSTEMS                        | 2.5   |

|                    |  |             |
|--------------------|--|-------------|
| APPT 147B          | SF 401B INDUSTRIAL RIGGING                     | 2.5         |
| APPT 148           | SF 402 ADVANCED DRAWING & BLUEPRINT<br>READING | 4.5         |
| <b>Total Units</b> |  | <b>53.5</b> |

## Certificate Requirements

### Certificate of Achievement in Steamfitting and Pipefitting Technology

- Units: 53.5

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

Currently offered at: San Jose.