



PROGRAM DESCRIPTION

Pre-Apprenticeship and Apprenticeship Programs for Advanced Manufacturing

Founding Partners



**FOR MORE INFORMATION CALL
SBWIB (310) 970-7700**

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PROGRAM DESCRIPTION

INTRODUCTION

The field of Advanced Manufacturing, and more specifically Aerospace & Defense Manufacturing, is facing multiple workforce and pipeline development challenges. The need to develop a pipeline of skilled workers as well as to upskill the existing workforce are frequently identified as key challenges due to: increasing number of current and near-term retirements draining the knowledge base; lack of sufficient numbers of millennials interested in the fields of engineering and manufacturing; increased customer demands; pricing pressures and the need to develop new products and utilize new technologies.

In response, the Aero-Flex Unilateral Apprenticeship Committee (A-F UAC) was formed with three major objectives in mind:

1. Develop an employer-driven pre-apprenticeship and registered apprenticeship framework that would meet the workforce development needs common to its industry partners
2. Provide a customized layer to allow each employer to design (*flex*) its own program within the framework.

In this manner, the Aero-Flex Program meets not only the needs of industry, but of each participating manufacturer.

Background

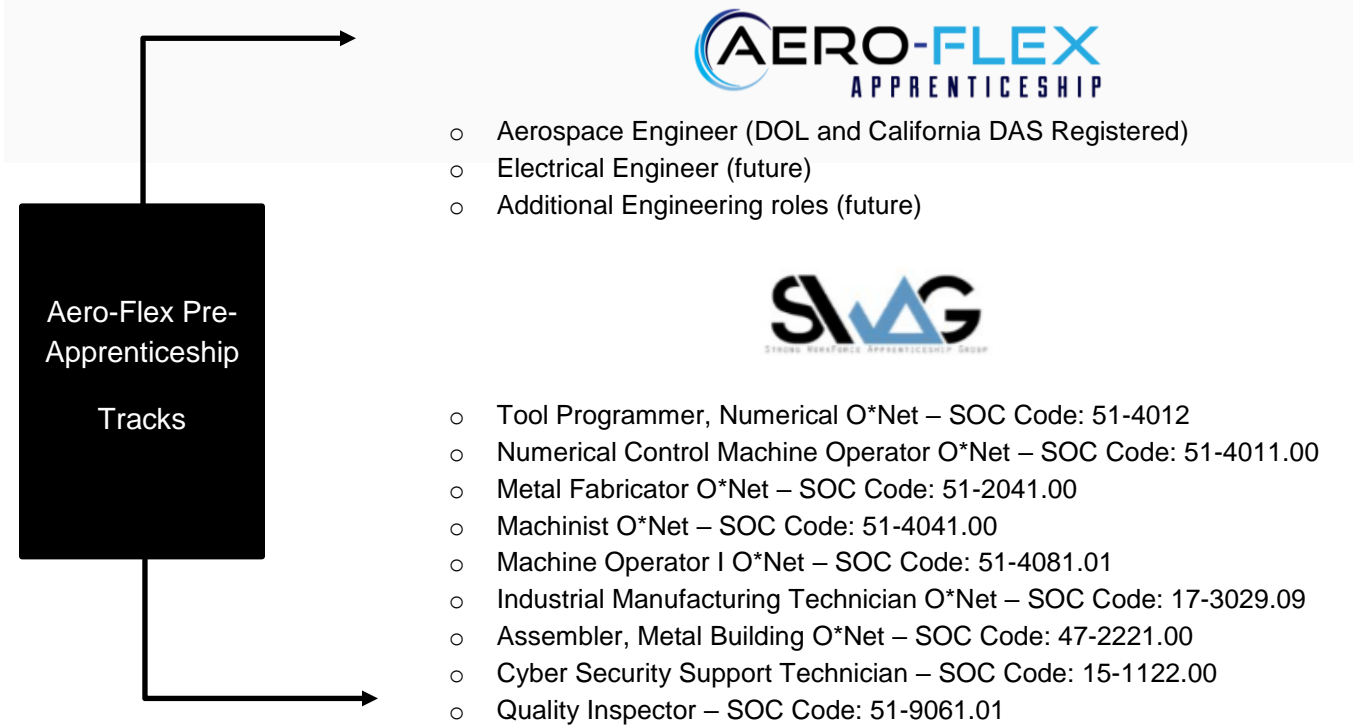
There are many programs, internships and academies aimed at engineering and manufacturing across California. The Aero-Flex Program seeks to connect these relevant programs and models as well as to create a new channel of skill development. Aero-Flex Programs seek to serve high school and post-secondary students, veterans, returning service personnel as well as other under-served or under-employed populations, new hires and incumbent workers. These current and future employees have access to a structured entry point into advanced manufacturing career pathways.

HIGHLIGHTS OF PRE-APPRENTICESHIP & REGISTERED APPRENTICESHIP

- Explore and learn about exciting careers
- Benefit from classroom, online and hands-on training
- Get a start on career-specific training with viable career pathway opportunities
- Build work-readiness skills employers desire
- Receive industry-recognized credentials
- Free membership to Society of Manufacturing Engineers
- May include paid work experience
- Opportunity to advance into a Registered Apprenticeship

**An
Employer -Centric
Earn and Learn
Model**

Pre-Apprenticeship Pathways to Registered Apprenticeship Programs.



Defining a Quality Pre-Apprenticeship

Pre-apprenticeship is defined by the Department of Labor (DOL) Employment and Training Administration (ETA) as

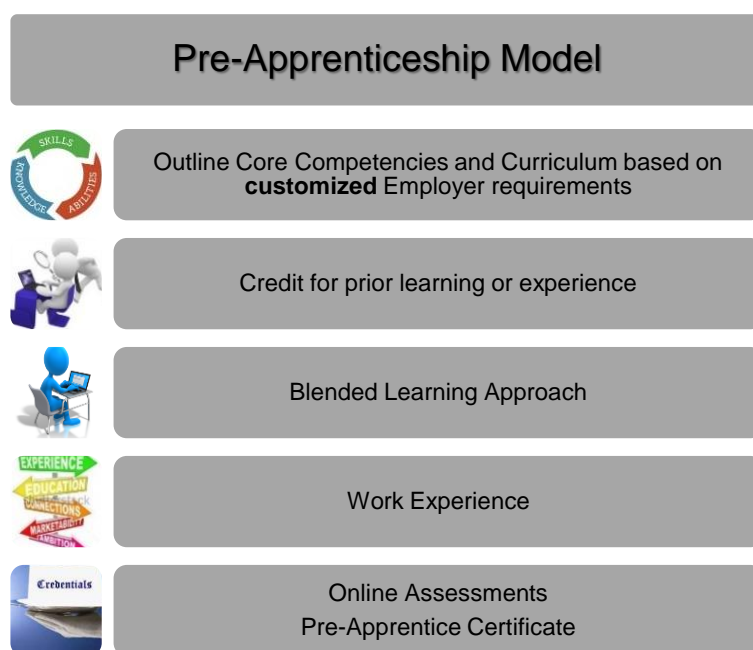
- A program or set of strategies designed to prepare individuals to enter and succeed in a Registered Apprenticeship program, along with a documented partnership with at least one, if not more, Registered Apprenticeship program(s);
- Playing a valuable role in preparing qualified entry-level workers for Registered Apprenticeship careers and/or baccalaureate degree programs, while contributing to the development of a diverse and skilled workforce;
- Utilizing a variety of unique program designs and approaches, pre-apprenticeships can be adapted to meet the needs of diverse populations being trained, the various employers and sponsors they serve, and specific opportunities within the local labor market.
- Incorporates the following elements into its framework:
 - Approved training and curriculum
 - Strategies for long-term success
 - Appropriate support services
 - Promotes greater use of registered apprenticeship
 - Meaningful hands-on training
 - Facilitated entry and/or articulation

ETA supports expanded partnership efforts in model pre-apprenticeship training that are a collaboration among:

- Registered apprenticeship sponsors
- Workforce development agencies
- Economic development agencies
- Business and industry partners
- Community colleges and other education partners
- Community and faith-based organizations
- Advocacy organizations that represent underserved populations

Aero-Flex Pre-Apprenticeship Framework

The Aero-Flex Pre-Apprenticeship provides a blended learning plan driven by employer requirements, work experience and stackable credentials that are industry-recognized and are additive to the Pre-Apprentice's resume. See the Training Plan Supplement for the list of occupational tracks available.



- I. An Aero-Flex Pre-Apprentice will be enrolled through the South Bay Workforce Investment Board and any additional support services that can be provided will be offered by the SBWIB.
- II. The detailed training curriculum is available in the Training Plan Supplement however an overview of the training plan includes the following tracks (all of which can be *flexed* by the employer):

- a. Track I – Employability - Work Readiness Skills



- i. This core set of skills will prepare the pre-apprentice for the work environment.
- ii. Training will be provided in a combination of in-person and online training and will be delivered at the high school, junior college, employer site and/or Workforce Investment Board.
- iii. Blueprint I and II online assessments available

b. Track II - Industry-Specific Occupational Skills



- i. Each employer may determine which set of pre-defined competencies they want to include in their pre-apprenticeship and/or if they want to custom-select this flexible component of the curriculum.
- ii. Training may be delivered online or in a blended learning approach depending upon the competency or competencies selected by the employer and if college-credit is available

c. Track III - Work-Based learning (OJT)



- i. Each employer will provide the work-based learning experience, or on-the-job training component.
- ii. This may include project work, job shadowing and other activities as deemed appropriate by the employer.

III. **Other Benefits**

- a. Pre-apprentices who are high school and college students will receive a **free membership to SME**. This membership provides access to SME's mentor program, SME Connect, scholarships, SME knowledge and resources, competitions and more.
- b. **Credentials** – Pre-apprentices who complete the program can earn one or more industry-recognized, stackable credentials that can be added to their college application and/or resume.
- c. **Earn and Learn** - The pre-apprentice may receive wage payments throughout the work experience component and/or a stipend at completion of the program. The wages and the stipend may be paid by the employer and/or may be subsidized by SBWIB, or other partners and grant sources.



Registered Apprenticeship Programs

Aero-Flex has registered one occupation with the US Department of Labor as well as the California Division of Apprenticeship Standards. The Aero-Flex team plans to develop additional Registered and Industry Recognized Apprenticeship Programs based on employer demand.



The first occupation under Aero-Flex is AEROSPACE ENGINEER 17-2011.00 – The UAC selected Tooling U-SME to be the national sponsor of the Aero-Flex **AEROSPACE ENGINEER REGISTERED APPRENTICES PROGRAM (17- 2011.00)**; the nation's first Registered Apprenticeship for a degreed occupation in an engineering discipline.

Hybrid Program - A range of 2,000 to 4,000 hours of OJT (term defined by attainment of all competencies)

- RTI delivery flexible and can be front-loaded / Degree work
- Credit for prior learning / Degree
- Incumbent workers, retiree knowledge transfer, new grad hires, interns, veterans

AERO-FLEX PARTNERS

Education Partners

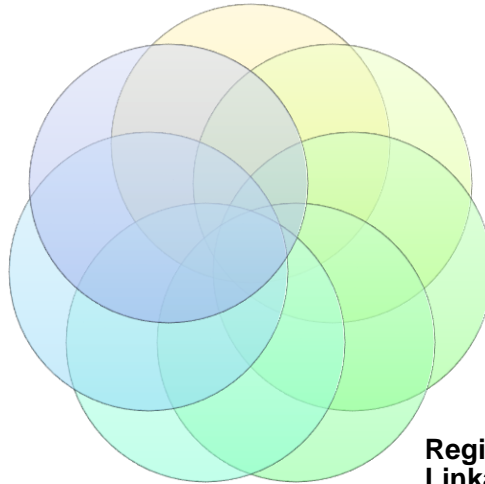
- West Los Angeles College
- El Camino College
- Other Colleges and Universities
- Tooling U-SME
- South Bay Workforce Investment Board
- HS Engineering Programs
- Employers
- Project Lead the Way

Community/Other Partners

- SME Education Foundation
- AMP SoCAL
- Los Angeles Economic Development Corporation
- Small Manufacturers Association

Employers

- A-F UAC Member Companies



Workforce System

- South Bay Workforce Investment Board
- Career Source Florida
- Career Source Brevard
- Career Source West Palm Beach

Apprenticeship Sponsor(s)/Intermediary

- Tooling U-SME
- Training Funding Partners
- Jobs for the Future

Registered Apprenticeship Linkages

- Aero-Flex Engineering Apprenticeship
- Strong Workforce Apprenticeship Group (SWAG) - College of the Canyons and Goodwill of Southern California

AERO-FLEX EMPLOYERS & PARTNERS

