

AEROSPACE AND ADVANCED MANUFACTURING

APRIL 2018



“By most measures, Washington is the nation’s aerospace industry leader.”

*Aerospace Manufacturing Skills: Supply, Demand, and Outcomes for Washington’s Aerospace Training Programs
Annual Report, June 2017*

Making aerospace soar



Aerospace is an economic powerhouse that generates jobs and fuels our economy. Washington’s community and technical colleges produce the world-class employees needed to keep it that way.

In 2015, more than 136,000 people worked for aerospace and aerospace-related firms in Washington, making the state the largest concentration of aerospace expertise in the nation. The state’s share of aerospace employment was nearly nine times that than the aerospace share nationally.¹ To stay competitive, these companies need mechanics, machinists, programmers, assemblers and other employees trained at community and technical colleges.

All 34 of Washington’s community and technical colleges offer the aerospace, aerospace-related and advanced manufacturing training demanded by the state’s industry. This training moves well-trained workers into well-paying jobs. The number of programs offered, in fact, has grown over the last few years in order to meet industry demand for specialized employees, especially as the current workforce ages and retires each year.

Training the aerospace pipeline

The aerospace industry is more than just building airplanes. Its scope encompasses areas like avionics – which refers to aviation and electronics – mechatronics, electronics and composites. In this rapidly changing world, firms need their employees to be up-to-date on the latest trends and technology so they can stay competitive. For example, a 2011-2016 review of five aerospace-related programs found a 335 percent increase in plastics engineering technical programs, which focus mainly on composite technology.²

While the entire aerospace industry is forecast to see declining net employment, wages – which average \$108,539, more than twice the state average for all industries – are expected to continue to rise, and jobs will require more education among employees.

Career-connected learning

The Aerospace Joint Apprenticeship Committee (AJAC) designs, develops and implements career-connected learning apprenticeship programs for aerospace and manufacturing occupations. AJAC – comprised of industry employers, employees, and the International Association of Machinists and Aerospace Workers (IAM) – delivers training specific to area occupational needs, hiring instructors from industry to ensure training reflects current practices.

Apprentices take classes one night a week at a community or technical college and receive on-the-job training during the day at a company’s job site. Ten community and technical colleges³ participate in AJAC apprenticeship programs.

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Strategic, coordinated training

Center of Excellence for Aerospace and Advanced Manufacturing

Colleges share cutting-edge curricula designed jointly with aerospace leaders and industry subject-matter experts. Leading the way is the Center of Excellence for Aerospace and Advanced Manufacturing, hosted at Everett Community College. The center is a one-stop hub for the industry and experts to design curricula to be deployed system-wide. Next up for the Center of Excellence is designing an additional center focusing on unmanned aircraft. Aerospace employers and qualified workers can connect easily thanks to online tools available on the center's website at coeaerospace.com.

MechaWA Partnership Project

The Center of Excellence for Aerospace and Advanced Manufacturing is creating ways for unemployed youth with barriers to employment to start aerospace careers. With a \$3.9 million grant from the TechHire Partnership, a U.S. Department of Labor initiative, and funding from the State Board awarded through a competitive grant process, students advance through the program by demonstrating their mastery of skills, taking online skills and prior-learning assessments, and completing internships. They earn stackable certificates on their way to a degree. The project partners with Centralia College, Everett Community College, North Seattle College, Renton Technical College, Shoreline Community College and South Seattle College and area aerospace, composites and manufacturing businesses like The Boeing Company, Hexcel and Royell Manufacturing.

Advanced Manufacturing Education Center

Everett Community College's Advanced Manufacturing Education Center (AMTEC) offers short-term, stackable certificates, giving students credentials along their way to a college degree. Students work in cross-functional teams, giving them a solid foundation in the many aspects of manufacturing in an industry setting.

Sources:

1. "Aerospace Manufacturing Skills: Supply, Demand, and Outcomes for Washington's Aerospace Training Programs, Annual Report — 2016" by the Workforce Training and Education Coordinating Board and State Board for Community and Technical Colleges.
2. SBCTC analysis.
3. Bates, Bellingham, Columbia Basin, Edmonds, Everett, Lake Washington, Renton, South Seattle, Spokane and Yakima Valley.

Washington Aerospace Training and Research Center

The Washington Aerospace Training and Research (WATR) Center at Edmonds Community College works with state aerospace centers and industry partners to develop and offer short-term training certificates in aerospace manufacturing. Students quickly learn specialties like manufacturing assembly mechanic, quality assurance and composites, getting them ready for the next stage of their careers.

Composite Recycling Technology Center

At Peninsula College, students at the Composite Recycling Technology Center (CRTC) learn how to recycle uncured carbon fiber composite scraps destined for landfills into new products. The center, which opened in November 2016, is a partnership between the college, the Port of Port Angeles, and federal and state governments.

Aerospace Pipeline Committee

Created by the Legislature in 2012, the Aerospace and Advanced Materials and Manufacturing Pipeline Advisory Committee (Aerospace Pipeline Committee) monitors the aerospace industry's employment needs and works with industry partners and the community and technical college system to meet the field's demand. The committee is made up of representatives from industry, labor and education, with the majority from the aerospace industry. The committee is tasked with scanning aerospace-related training at the community and technical colleges every four years and reporting its findings to the Washington state Legislature. Reports can be found at www.wtb.wa.gov/Pubs_Publications.asp.