

# TRAINING FOR 21ST CENTURY JOBS

*“Technology has revolutionized the manufacturing industry. Today’s, employees need to know computer, math and technology skills, and our demand for advanced technical skills is going to be even bigger in the next ten years.” — Paul Hogoboom, president and CEO, P&J Machining*

## A new generation of jobs

In the sky above an Eastern Washington farm, a drone flies through the air to survey crops. On the ground, a farmer uses a GPS-guided tractor to precisely apply fertilizer to specific areas of a field.

In an office, cybersecurity specialists outsmart hackers to help protect consumer information and business intelligence.

In a manufacturing plant, a designer uses a 3D printer to turn computer-created digital models into solid objects, layer by layer. Mind becomes matter.

In a medical lab, technicians help scientists parse DNA sequences for personalized, predictive health care that is revolutionizing medical research.

In an aerospace manufacturing center, specialists use ultrasonic testing to make sure airplane wings and parts meet the highest precision and safety standards.

And on rooftops across Washington, experts install solar panels to harness the energy of the sun.

A new generation of careers is emerging in Washington state and our community and technical colleges are training students to fill them. Students get precisely the training employers want and then land good jobs in their communities, or they pursue even higher levels of education.



Students learn drone technology at Everett Community College.

## The reinvention of traditional jobs

Traditional skilled trades are also changing in Washington. To see the changes between yesterday’s skilled-trade careers and today’s, consider P&J Machining, an aerospace supply company in Puyallup. There, employees work on a pristine shop floor surrounded by computers and robotic equipment. Where workers once used manual machines, today they use computerized equipment. Instead of pulling levers and pushing buttons, employees run machines from a screen.

This contrast between past and present is the reason community and technical colleges are so important in Washington. As skilled trades emerge and evolve, employees are being asked to understand higher levels of math, use analytical skills, troubleshoot problems and master technology more than before. Current employees need to refresh and update skills as much as college students need to learn them.

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## Education that builds

Community and technical colleges provide the training people need to start or advance their careers in Washington's high-demand fields.

Students can take a class or two to polish professional skills. Or, they can earn a certificate to use immediately and then, over time, earn more certificates that build toward a degree.

The degrees also build upon each other. Students who earn two-year professional-technical degrees can add two more years of upper-level courses at a community or technical college to earn an applied bachelor's degree. Classes are offered online, at night and on the weekends for students juggling family and careers.

Every college job-training program has an advisory committee made up of employers and skilled workers. These committees keep colleges up-to-date on industry and workforce needs, employment forecasts, industry trends and new technologies.

Community and technical colleges also partner with employers to provide customized, affordable short-term training. Employees can learn at colleges or the work site with costs offset by tax breaks or matching funds.



## Degrees of degrees

Many of Washington's fastest growing occupations require less than a bachelor's degree. These "middle-level" jobs pay good salaries and employers are looking to hire. For example, yearly salaries range from \$47,409 to \$66,411 for aircraft mechanics and service technicians; \$41,845 to \$59,519 for mechanical engineering technicians and \$80,705 to \$93,695 for dental hygienists.<sup>1</sup>

The median annual income of the typical associate degree graduate in Washington is \$40,424, 33 percent more than someone with a high school diploma alone.<sup>2</sup>

Employers report a high demand for this "mid-level" of education. The credentials most often reported as difficult to find in applicants include professional-technical diplomas or certificates (59 percent), professional-technical associate degrees (54 percent) and bachelor's degrees (52 percent). By offering certificates, associate degrees, and applied bachelor's degrees, community and technical colleges respond to the need at all levels.<sup>3</sup>

Washington's economy thrives when its people have a chance to learn, grow and change with the times. Community and technical colleges deliver the latest skills to the doorsteps of Washington communities, helping people respond to the realities of a changing world.



### Sources:

1. Workforce Training and Education Coordinating Board website, Washington Career Bridge, at [www.careerbridge.wa.gov](http://www.careerbridge.wa.gov) on Nov. 13, 2015. Based on Washington State Department of Employment Security data.

2. Workforce Training and Education Coordinating Board, State Board for Community and Technical Colleges and Washington Student Achievement Council. (October 2013). A Skilled and Educated Workforce, 2013 Update. Olympia.

3. Ibid.