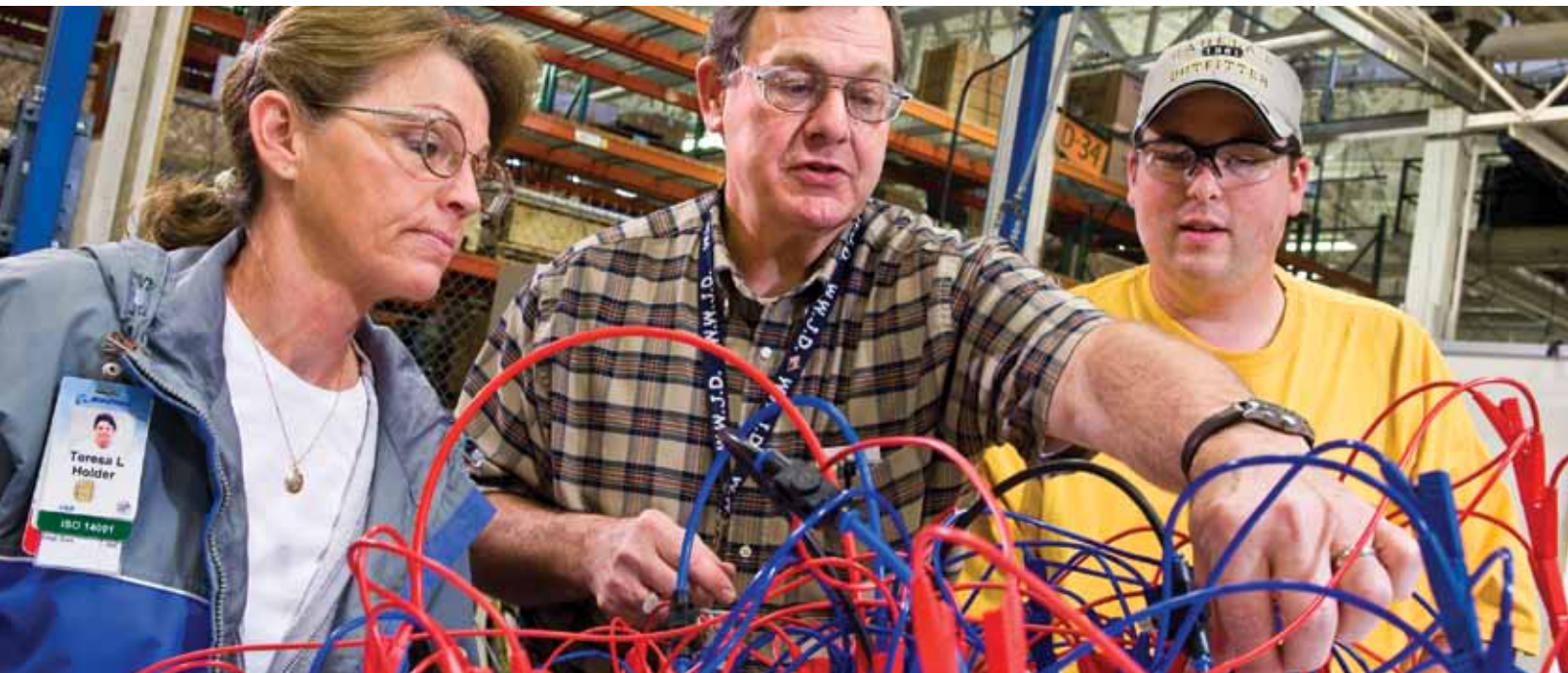


# Class act

Craft College helps Boeing employees gain the skills needed to maintain—and quickly repair—thousands of production machines

By Dan Ivanis and photos by Marian Lockhart/Boeing



**A**cross Boeing, tens of thousands of production-related machines, some big enough to fill a room, are vital to the company's vast businesses and production systems.

Occasionally, machines break down or don't always perform to specification, and when that happens the consequences can be widespread. In Boeing's Commercial Airplanes factories, for example, the production cycle could be compromised, leading to scrapped parts, rework, additional costs, schedule slips and unhappy customers.

But Boeing's Craft College is helping keep machine downtimes to a minimum. It is a comprehensive training program for the mechanics, technicians, plumbers, millwrights, oilers and others who maintain, diagnose and fix these machines.

Before Craft College, this type of training was scattered and inefficient, according to Mike DePew, senior manager of Equipment Services for Boeing Fabrication's facility in Auburn, Wash. "The number of classes Boeing offered could be

printed on the back of a business card," he said.

Not anymore. An estimated 5,200 Boeing employees have taken Craft College classes over the past five years, or about 20 students per week.

Craft College, a cooperative effort between Boeing's Learning, Training and Development organization and Fabrication's Equipment Services, is based in Auburn—no surprise since the vision for the program came from DePew. It was started seven years ago with the aim of improving machine maintenance in the Auburn Fabrication plant. Since then, the college has been growing across the company.

The Fabrication facility could be the poster child for the Craft College program's success. The site has some 3,800 machines, and since the college opened, the Fabrication facility has enjoyed an annual 10 percent year-over-year reduction in the number of hours machines are down, or unavailable, due to both planned and unplanned maintenance.

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– James Fleming, electronics and numerical control teacher, Craft College

“Our planned downtimes are shorter and we have less unplanned downtime because we know what we are doing,” said DePew, a 25-year Boeing employee who began his career as a numerical control mechanic working on the same types of machines.

Craft College has a few designated classroom labs in the Puget Sound area. But nearly all of the program’s hands-on simulators are portable, so that classes can be taught anywhere. Although it is based in Auburn, Craft College caters to Boeing employees throughout the United States. Its instructors regularly teach classes in Southern California, St. Louis, Mesa, Ariz., Huntsville, Ala., Portland, Ore., Wichita, Kan., and other locations including Alaska and Hawaii.

The curriculum combines textbook and hands-on learning with entry-level, midlevel and advanced courses, some of which lead to professional certifications.

“They teach me what I need to know and don’t go over stuff I already know,” said Tim White, a numerical control mechanic at the Auburn Fabrication site who has received several professional certifications through his studies with Craft College. “They do a good job of giving us what we need to do our jobs.”

James Fleming, who teaches electronics and numerical control for Craft College, said the aim of the program is to “get the right person the right training at the right time.”

“Our goal is to teach our people not only how a machine works but why,” said Fleming, also a former numerical control technician with 25 years experience. “Once they develop that understanding,



they are able to work on a number of machines more easily and with a minimum of additional training.”

In 2008, Craft College won a best practice award for launching a learning program from Corporate University Xchange, a national provider of corporate university research, benchmarking and advisory services. Craft College uses Lean+ tools and principles, such as just-in-time delivery, flexible production and continuous improvement to keep costs down and deliver its classes efficiently. All classes are developed in modules, which allows training about particular machines to be broken out and delivered in critical situations.

“The machines and technology we’re

talking about are evolving constantly,” DePew said. “Our classes evolve with the technology, and our employees will as well. Some of them will take the same class three or four times during their career, just so they can stay current.”

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**PHOTOS:** (Left) Rickey Rodeffer (center), an instructor in Boeing’s Craft College, uses a simulator to help Teresa Holder (left) and Tim White, numerical control mechanics in Commercial Airplanes, learn more about pneumatic systems. (Above) Craft College instructor James Fleming (left) helps Sam Wong, a numerical control technician in Commercial Airplanes, align a Cincinnati T-35 five-axis milling machine.