

# TAKING BUSINESS TO SCHOOL:

## WSU TECH AND SNAP-ON



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### Partnership Catalyst

Wichita, Kansas, is known as the “Air Capital of the World.” The city is home to several large aviation manufacturing companies and aviation maintenance centers and is one of five global aviation clusters in the United States (WSU Tech, 2021). The aerospace and aviation industry contributes \$7 billion to the state’s GDP, and Kansas has the third largest concentration of aviation workers in the country (Kansas Department of Commerce, 2021). In response to the high concentration of aviation manufacturing companies, Wichita is also home to the number one ranked aviation and advanced manufacturing training program in the nation—the National Center for Aviation Training (NCAT) at the Wichita State University Campus of Applied Sciences and Technology (WSU Tech). The NCAT facility features 220,000 square feet of state-of-the-art labs and classrooms where students prepare for careers in aviation manufacturing and maintenance. NCAT was developed in response to the local aviation industry’s desire for a facility where they could train the aviation workforce of the future; the facility has provided cutting-edge industry-driven training since 2010, thanks to strong partnerships with many aviation companies.

Snap-on was one of the businesses that partnered with WSU Tech to design and launch NCAT. Snap-on manufactures precision tools that are used in aviation and aerospace manufacturing and maintenance. WSU Tech approached Snap-on to request assistance in designing its NCAT lab facilities, with the aim of creating efficiently designed workspaces that feature industry-standard equipment and tools. WSU Tech leaders knew it was critical to partner with Snap-on and other industry partners to develop training facilities that replicated typical industry settings, to ensure that students were well-prepared for work in their future careers. Snap-on had been a WSU Tech partner for several years through supplying tools to students, but this collaboration on the design of NCAT labs represented a deepening of the partnership between the two institutions. Snap-on worked hand in hand with WSU Tech to understand the college’s needs and expectations and identify areas where Snap-on could share its expertise.

Snap-on has a strong and long-standing commitment to supporting technical education and emphasizes the importance of a true partnership between business and education. Snap-on chairman and



CEO Nicholas T. Pinchuk (2018) explained that to develop a skilled workforce, “industry needs to enable technical institutions. We must ensure that schools are using the best equipment and facilities. Industry also needs to help set standards for education so that students learn the specific skills that are necessary, that are actionable in the marketplace, and that can get them the jobs that create prosperity.” Through the Snap-on Technical Education Program, the company partners with schools and colleges to offer industry-supported curriculum and certifications, along with hands-on training using its precision tools. This business-education partnership also helps Snap-on strengthen the products and services it offers. Snap-on’s partnerships with schools, colleges and other companies provide insight into challenges that Snap-on can then address through an appropriate product or process.

### Creating Strong Business Partnerships

For more information on creating strong business partnerships, see the “Business and Community Partnerships” element of ACTE’s Quality CTE Program of Study Framework at <https://www.acteonline.org/professional-development/high-quality-cte-tools/>.



## Program Overview

WSU Tech offers a variety of programs of study in aviation manufacturing and maintenance. Most programs allow students to obtain an associate degree (two-year program), technical certificate (one-year program), or certificate of completion (one semester program). WSU Tech's aviation programs allow students to train to work in specific aspects of the aviation industry, including:

- **Aerospace Manufacturing Technology:** Trains aerospace technicians with the high-demand skills of mechanical assembly, composite fabrication, basic avionics, aircraft systems and components.
- **Aviation Maintenance Technology:** Prepares students to become aircraft mechanics through a curriculum approved by the Federal Aviation Administration (FAA); program completers are prepared to take the exam for the Airframe and Powerplant mechanic certificate from the FAA.
- **Composite Technology:** Prepares students for a career in aviation composite technologies with a curriculum that provides hands-on experience in CATIA, composite fabrication, composite repair, and lean manufacturing.
- **Electronics Technology:** Trains students in the fundamentals of electrical theory, electronic devices, digital concepts, wiring, and avionics systems; students then concentrate in radio communications, electronic measurement and instrumentation, or avionics.
- **Nondestructive Testing (NDT):** Prepares students to apply NDT techniques to the aviation industry through hands-on experience in both conventional and composite aerospace assembly methods; the program is a cooperative effort between WSU Tech and the National Institute for Aviation Research (NIAR) at Wichita State University.

From the beginning, WSU Tech and Snap-on collaborated to develop the curriculum for WSU Tech's aviation programs at NCAT. WSU Tech's instructors identified specific content knowledge students would need for their future careers in aviation, and Snap-on developed certifications that would allow students to build that foundational skill and industry-specific content knowledge. Snap-on learned that this type of partnership with education was an effective model for developing the skilled workforce needed by industry, so it partnered with other industry leaders to launch the National Coalition of Certification Centers (NC3). NC3 is a network of educational institutions and industry leaders; it develops and offers industry-recognized portable certifications built on national skill standards. WSU Tech incorporated NC3 certifications into the course curriculum. Students learn the content through their classroom and hands-on training, and following the completion of a course, they take an exam and can receive an NC3 credential that is recognized and valued by the aviation industry.

## VOICES FROM THE FIELD

Jim Hall currently serves as the dean of aviation and manufacturing at WSU Tech's National Center for Aviation Training (NCAT). He worked as a mechanic at Cessna before joining the faculty at WSU Tech; he draws on this industry experience every day as he trains students in the aviation programs.

Through Snap-on's tool purchase program, Hall's students purchase the exact same tools they learned to use in the classroom, and they leave WSU Tech with a toolbox full of quality tools they can use as they begin their careers. Hall and his fellow instructors regularly review the tool purchase list to ensure "students are getting the best tools they possibly can for the money they're spending." As a former aviation mechanic, Hall knows that the Snap-on student discount "allows them to be set for their career right off the bat with good quality tools, which makes a big difference in the aviation industry."

Hall also values the faculty training and professional development available through Snap-on and NC3. The Train-the-Trainer program provides consistency in how instructors are trained, and they in turn provide this consistent training to their own students. This means that students are learning the most accurate information about how equipment is used by industry in the workplace. And when they earn a credential from Snap-on and NC3, it validates the accuracy of their training. "The fact that Snap-on develops the curriculum, as the manufacturer of the tool, you know it's right," says Hall.

The high-quality training students receive from their instructors combined with the industry-recognized credentials they earn through Snap-on and NC3 prepares students with the skills they need to launch successful careers in the aviation industry. "My students leave the program with the certifications that were developed through this partnership that better suit them to the employers' needs, and that's what it's all about," says Hall.

WSU Tech's partnership with Snap-on is embedded in all aspects of NCAT and the aviation programs. Students learn in labs outfitted with the latest Snap-on tools and equipment, and they also receive training from instructors on how to use the tools. In addition, WSU Tech students have access to Snap-on products at a significant discount; this student discount program allows students to start their career with a foundational set of professional grade tools. The tools they purchase for their toolbox are the same tools they have used in their coursework, so they know exactly how to use them in the workplace.

In addition, Snap-on provides training and professional development for instructors and faculty through NC3. A central philosophy of Snap-on's approach to partnering with education is that it can improve the skillset of students by strengthening the skillset of teachers. WSU Tech President Sheree Utash believes this professional development for faculty is the most valuable aspect of its partnership with Snap-on. "For years, we struggled to find appropriate professional development for technical faculty," she said. NC3's Train-the-Trainer workshops for CTE instructors allow

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*Coalition for Workforce  
Development Through CTE,*  
which is addressing the skills gap challenge,  
at <https://www.acteonline.org/partners/wfd-cte/>.



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them to learn about new technologies and industry trends and to learn from other master instructors about effective ways to teach this material to students in the classroom. Utash believes the professional development that Snap-on and NC3 provide makes her faculty better instructors. When instructors return from a Train-the-Trainer workshop, Utash says, they have learned how a piece of equipment works and, most importantly, how it is used by industry in the workplace. Faculty then share this knowledge in the classroom, which adds significant value to students. “The more proficient [students] can be with various types of equipment and tools, the more prepared they will be going into the workforce,” explained Utash.

WSU Tech and Snap-on “share the same mission” of supporting both students and industry, explained Scott Lucas, vice president of aviation, manufacturing, and institutional effectiveness at WSU Tech. Both institutions are committed to preparing students with the skills they need to launch successful careers, and to build a pipeline of talent for a strong aviation industry today and in the future. And both entities recognize the importance of the other in their shared work. “Industry can’t progress without educated workers and a pipeline of skilled workforce, and education can’t exist unless they have feedback from industry,” said Barrett Crane, national sales manager with Snap-on. The two institutions learn from each other’s expertise and innovate together to develop the next generation of skilled aviation industry workers.

Student enrollment in WSU Tech’s aviation programs has more than doubled since the opening of NCAT. Enrollment grew by nearly 120%, from 445 students in 2010 to 974 students in 2019 (prior to the coronavirus pandemic). Student completion of WSU Tech’s aviation programs has increased by more than 230%, from 201 graduates in 2010 to 667 graduates in 2019. WSU Tech aviation program graduates have seen strong success in the workplace; between 2016-2019, nearly every aviation program saw more than 75% of graduates enter employment or continue their education. These data points illustrate the growth of WSU Tech’s aviation programs, particularly in the emerging fields of composite technology and nondestructive testing, and the value of students’ hands-on experience and industry-recognized certifications.

The partnership with Snap-on has transformed the culture at WSU Tech; the college now has strong relationships with industry across its programs of study, all modeled on the partnership with Snap-on. Snap-on helps WSU Tech leaders and instructors stay abreast of industry trends so they can ensure that program curriculum reflects the evolving and changing aviation industry. In addition, strengthening professional development for instructors has been critical to WSU Tech’s growth and success as an educational institution; its strong instructors train students who are highly skilled and globally competitive in the aviation industry. “A huge part of why we have accomplished what we have in the last 11 years is because of our partnership with Snap-on,” said President Utash.



## Elements of Program Success

- **Partner With Industry to Design and Evaluate Training Facilities:** Work with your business partners to design training facilities that replicate typical industry workspaces and are consistent with industry standards. This will help students become used to working in industry settings, preparing them for their future careers and making them competitive hires.
- **Incorporate Industry-Recognized Credentials into Curriculum:** Identify credentials and certifications that your business partners value and build these into your program of study curriculum. Provide education and training to students that prepares them to successfully complete certification exams.
- **Upskill Instructors through Industry-Driven Training:** Provide opportunities for your CTE instructors to participate in training or professional development that is developed in partnership with industry. These opportunities allow instructors to stay current with industry-relevant knowledge and skills, which they can pass on to their students.

## Learn More

- WSU Tech: <https://wsutech.edu/>
- National Center for Aviation Training: [https://www.wichita.edu/industry\\_and\\_defense/NIAR/ncat/ncat.php](https://www.wichita.edu/industry_and_defense/NIAR/ncat/ncat.php)
- WSU Tech Aviation Maintenance Program Overview video: <https://www.youtube.com/watch?v=Y4nZTIHkPNk>
- Snap-on: <https://www.snapon.com/>
- Snap-on Technical Education Program: <https://www.snapon.com/Industrial-Certification>
- National Coalition of Certification Centers (NC3): <https://www.nc3.net/>

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