

BUILDING A FUTURE WORKFORCE

FOR ALL LEARNERS:

How Public and Land-grant Universities and Urban Serving Universities Drive Innovative Solutions



ASSOCIATION OF
PUBLIC &
LAND-GRANT
UNIVERSITIES



Coalition of
Urban Serving Universities

ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES (APLU)

APLU is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada, and Mexico. With a membership of 244 public research universities, land-grant institutions, state university systems, and affiliated organizations, APLU's agenda is built on the three pillars of increasing degree completion and academic success, advancing scientific research, and expanding engagement. Annually, its 201 U.S. member campuses enroll 4.2 million undergraduates and 1.2 million graduate students, award 1.2 million degrees, employ 1.1 million faculty and staff, and conduct \$46.8 billion in university-based research.

COALITION OF URBAN SERVING UNIVERSITIES (USU)

The Coalition of Urban Serving Universities (USU) is a president led organization committed to enhancing urban university engagement to increase prosperity and opportunity in our nation's cities and to tackling key urban challenges. The Coalition includes (40) public urban research universities representing all U.S. geographic regions across 25 states. Annually, member campuses enroll over 1 million undergraduate and graduate students. The USU agenda focuses on creating a competitive workforce, strengthening student success, building strong communities, and improving the health of a diverse population. The Coalition of Urban Universities (USU) has partnered with the Association of Public and Land-grant Universities (APLU) to establish an Office of Urban Initiatives, housed at APLU, to jointly lead an urban agenda for the nation's public universities.

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EXECUTIVE SUMMARY

Access to post-secondary education continues to be a critical driver of upward mobility, providing bachelor's degree holders higher wages and greater opportunities for advancement throughout their lifetimes. Yet a rapidly changing economy, shifting demographics and needs of students, increasing but still low completion rates,¹ and a growing demand for 21st Century Skills are compelling higher education leaders to test new models for higher education that provide opportunities for life-long learning, more flexible education and career pathways, and opportunities to learn, apply, and communicate a broader, interdisciplinary set of skills.

These new models are being built in partnership with employers, community colleges, workforce boards, and other important education and workforce stakeholders. Their success requires that higher education institutions become more flexible in their approach to earning credit toward degree programs and other credentials, and that higher education institutions become more innovative in their curricular design.

The sheer size and scope of the need for new skills goes beyond the ability of any single institution to meet that demand in most regions. Partnerships among education stakeholders are essential to ensure that all students obtain job-relevant skills; that they can reach their career goals through a

variety of pathways; and that they have the support required to overcome barriers to their progress.

Many students need the flexibility to gain the skills needed for short-term job opportunities while earning credit for a longer-term degree. Others have valuable skills from experiences such as the military, volunteering, or starting a business that should be recognized with college credit. Some students will want the assurance that their current path can lead to a graduate degree. This type of flexibility will provide students from many backgrounds opportunities to fulfill their career aspirations.

Innovation and experimentation to enhance opportunities for students is essential to meeting these needs. Our traditional model of higher education began to incorporate important innovations that include opportunities to learn 21st century skills, work-and-learn models, and interdisciplinary study programs. It has also begun to incorporate greater skills transparency through employer-verified credentials and digital badges. And some universities are making better use of technology to personalize education to improve student success. Universities must continue to experiment and innovate while learning from success as well as failure.

¹ Among beginning postsecondary students in 2011-2012, 60 percent of students enrolled in a public 4-year university completed a Bachelor's degree within 6 years, with another 6 percent completing an Associate's degree; among those enrolled in a public 2-year college in that year, 18 percent completed an Associate degree within 6 years and another 13 percent completed a Bachelor's degree within 6 years. According to IPEDS, the 6-year completion rate for all first-time, full-time students is 50%, which has increased by only four percentage points over the past ten years. Sources: Ma, Jennifer, Pender, Matea, and Welch, Meredith. 2019. Education Pays, 2019: The Benefits of Higher Education for Individuals and Society. New York: The College Board. <https://research.collegeboard.org/pdf/education-pays-2019-full-report.pdf>.



Photo Courtesy of Virginia Commonwealth University School of Engineering

While these innovations are essential to meeting the needs of non-traditional students, they will also benefit those on a more traditional higher education path who will be better prepared to thrive in a rapidly changing work environment and economy.

in November 2021, this learning community welcomes membership from cohorts of university leaders committed to driving greater career success for students and economic prosperity for regions.

APLU is committed to convening its members to share, test, and scale successful models through the introduction of a learning community called ***Addressing the Future of the 21st-Century Workforce: Sharing and Scaling Successful Innovation***. A partnership between APLU's Commission on Economic and Community Engagement and Council on Academic Affairs and the Coalition of Urban Serving Universities, the learning community offers institutions an opportunity to learn from each other and drive new partnerships, flexibility, and innovation into credentials and degrees. Launching

THE CHALLENGES

Access to post-secondary education continues to be a critical driver of upward mobility. As the country recovered from the Great Recession, the economy added 11.6 million jobs from January 2010 to January 2016. While only 1 percent of those jobs went to workers with a high school diploma or less, 40 percent went to workers with a bachelor's degree and about 33 percent went to those with graduate degrees.² This continued a trend in which workers without degrees shifted to low-wage occupations such as food preparation and services as middle-skill, middle-wage jobs disappeared. Innovation, automation, and international trade led to an increasing concentration of high-wage, high-education jobs on one end, and low-wage, low-education jobs on the other.³ The most recent analysis, in 2019, of the correlation between wages and education by the College Board

reaffirmed previous findings about the strong correlation between education and wages. The analysis found that the median annual earnings of a full-time worker with some college and no degree was about \$5,800 higher than the median annual earnings of a high school graduate; a worker holding an associate degree earned about \$9,600 more than someone with a high school diploma, while a bachelor's degree recipient (with no advanced degree) earned about \$24,900 more than a high school graduate.

A bachelor's degree recipient earned about \$24,900 more than a high school graduate.

The continuation of this economic polarization calls for increasing access to the economic mobility higher education provides. But this will require that universities

adapt to three related trends:⁴

- 1. A rapidly changing economy generating vast training needs;**
- 2. The shifting demographics and needs of students; and**
- 3. A growing demand for 21st century skills.**

Adapting to these trends and meeting the needs of learners and employers requires a new model for higher education that provides opportunities for life-long learning; more flexible education and career pathways; and opportunities to learn, apply, and communicate a broader, interdisciplinary set of skills.

A Rapidly Changing Economy

The pandemic accelerated the polarization of the workforce by education level, reinforcing the importance of a college degree to economic resilience. While many factors influenced who lost their job during the

² Carnevale, Anthony P, and Tamara Jayasundera. "America's Divided Recovery: College Haves and Have-Nots." Washington, DC: Georgetown, University Center on Education and the Workforce, 2016. <https://cew.georgetown.edu/cew-reports/americas-divided-recovery/>.

³ Autor, David and Reynolds, Elizabeth. (2020, July 16). The nature of work after the COVID crisis: Too few low-wage jobs. Brookings. <https://www.brookings.edu/research/the-nature-of-work-after-the-covid-crisis-too-few-low-wage-jobs/>

⁴ Ma, Jennifer, Pender, Matea, and Welch, Meredith. 2019. Education Pays, 2019: The Benefits of Higher Education for Individuals and Society. New York: The college Board. <https://research.collegeboard.org/pdf/education-pays-2019-full-report.pdf>

pandemic, education was a key driver. Those with a college degree were less likely to become unemployed or to leave the labor force, widening existing inequalities in the economy.⁵ Firms adopted emerging technology to adapt to the pandemic-induced shortage of labor and, as the crisis abates and workers seek reemployment, firms will likely find that some of these technologies continue to pay dividends, displacing additional workers.⁶

At the same time, employers continue to report concerns about the lack of worker preparation, with nearly 40 percent of employers reporting they were unable to attract workers with the skills necessary to be successful.⁷ Many workers realize they need new job skills; a recent survey of workers reported strong interest in reskilling and upskilling, citing loss of income during the pandemic and concerns about the impact of new technology on demand for their skills.⁸ Higher

education provides a pathway for these students to gain more in-demand skills and to fill the urgent skills needs of employers.

Those needing to upskill and reskill include not only those without a college degree, but also those who already have a degree but need to learn additional skills and adapt to changes in technology and shifts in labor demand. One goal of these new innovations is to give traditional and nontraditional students an orientation toward lifelong learning, a broad-based set of skills that enable them to adapt, and a higher education system that continues to serve them throughout their career.

The sheer size and scope of the need for new skills dwarfs the ability of any single higher education institution to meet a region's demand. Some economists predict that only 58 percent of workers are likely to return to their pre-COVID-19 jobs.⁹ The least economically secure workers

in the economy will feel these impacts most acutely. To offer these workers opportunity to recover and thrive, universities must be prepared to meet these vast needs for retraining.

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of workers are likely to return to their pre-COVID-19 jobs.

These needs intensify the skills gap that already existed prior to the pandemic. For example, a recent Deloitte report estimated that in manufacturing alone, approximately 2.4 million positions would go unfilled between 2018 and 2028 due to a lack of qualified workers, with a **potential economic impact of \$2.5 trillion.**¹⁰

⁵ Daly, Mary C., Shelby r. Buckman and Lily M. Seitelman. "The Unequal Impact of COVID-19: Why Education Matters." Federal Reserve Bank of San Francisco. Accessed August 17, 2021. <https://www.frbsf.org/economic-research/publications/economic-letter/2020/june/unequal-impact-covid-19-why-education-matters/>.

⁶ Autor, David, and Elisabeth B. Reynolds. "The Nature of Work after the COVID Crisis: Too Few Low-Wage Jobs," July 16, 2020. <https://www.brookings.edu/research/the-nature-of-work-after-the-covid-crisis-too-few-low-wage-jobs/>.

⁷ <https://www.ced.org/reports/growing-the-american-workforce>

⁸ <https://www.shrm.org/resourcesandtools/hr-topics/organizational-and-employee-development/pages/report-pandemic-drives-workers-desire-to-learn-new-job-skills.aspx>

⁹ Barrero, J. M., Bloom, N., & Davis, S. J. (2020). COVID-19 Is Also a Reallocation Shock (No. w27137). National Bureau of Economic Research. <https://doi.org/10.3386/w27137>

¹⁰ <https://www2.deloitte.com/us/en/pages/manufacturing/articles/future-of-manufacturing-skills-gap-study.html>



Photo Courtesy of the Internet of Things Security Lab at Florida International University's College of Engineering & Computing Engineering Center

The Shifting Demographics and Needs of Students

The population of college students is rapidly changing,¹¹ reflecting the need for higher skill levels and the loss of well-paying jobs that do not require a degree. Aside from becoming more racially diverse,¹² college students also skew older, lower income, and

more likely to work than in previous decades. From 1989 to 2008, between 70 and 80 percent of undergraduates were employed. About 40 percent of undergraduates and 76 percent of graduate student work at least 30 hours per week. Twenty-five percent of all working-learners are employed full time and enrolled in college full time; 19

percent of them have children, and one third of those workers are 30 or older.¹³ Many working-learners also struggle to meet the financial commitments of paying for college while supporting themselves and their families as they work toward their educational goals.

¹¹ Dedman, Ben. "College Students Are More Diverse Than Ever. Faculty and Administrators Are Not." Text. Association of American Colleges & Universities, March 1, 2019. <https://www.aacu.org/aacu-news/newsletter/2019/march/facts-figures>.

¹² Dedman, Ben. "College Students Are More Diverse Than Ever. Faculty and Administrators Are Not." Text. Association of American Colleges & Universities, March 1, 2019. <https://www.aacu.org/aacu-news/newsletter/2019/march/facts-figures>.

¹³ Carnevale, Anthony P, Nichole Smith, Michelle Melton, and Eric W. Price. "Learning While Earning: The New Normal." Washington, D.C: Georgetown, University Center on Education and the Workforce, 2015.

In the wake of the pandemic, many non-traditional students are seeking less time-intensive credentials that help them upskill and improve their competitiveness in the labor market by supplementing an existing degree or taking advantage of alternative and flexible pathways to earning an undergraduate degree. Meeting these challenges while supporting both traditional and non-traditional learners in a diverse economic, social, and educational landscape is an increasingly complex endeavor. It requires that universities identify new strategies and practices for meeting diverse students' needs for earning 21st century skills and competencies.

Growing demand for 21st Century Skills

Higher education leaders have always aimed not only to prepare learners to thrive in their first post-college job, but also to cultivate the skills they need to grow and adapt in the wake of a changing economy and shifting career goals. These individual gains also translate into societal gains as a broader population of degree holders provides an engine for social and economic mobility, increased tax contributions, and greater involvement in their communities.

Despite a long-term upward trend in the percentage of the population with a degree,¹⁴ employers struggle to find the workforce they need and continue to call for a broader cohort of learners with an updated set of skills. Traditional and non-traditional students are challenged to ensure they are gaining skills that are both relevant and transparent to

employers, and that they upgrade their skills as technology and employers' needs change.

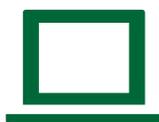
According to a recent Burning Glass report, the labor market has shifted and requires employees to enter the workforce with three foundational skill sets to maintain employability over the long haul:



Human skills such as critical thinking, collaboration, and communication;



Business-enabler skills that include digital design, communication of data, and project management; and



Digital building block skills such as managing and analyzing data.

These skills are in high demand—and that demand is not exclusively in the digital economy or the technology professions. In fact, these skills are in demand across all economic sectors, and workers who develop a range of skills across all three areas earn a wage premium over workers who do not.¹⁶

¹³ Carnevale, Anthony P, Nichole Smith, Michelle Melton, and Eric W. Price. “Learning While Earning: The New Normal.” Washington, D.C: Georgetown, University Center on Education and the Workforce, 2015.

¹⁴ According to the 2019 American Community Survey, 33.1 percent of the population 25 or over in the U.S. has a bachelor’s degree or higher; in 1980, it was only 17 percent.

¹⁵ https://www.burning-glass.com/wp-content/uploads/New_Foundational_Skills.pdf

¹⁶ https://www.burning-glass.com/wp-content/uploads/New_Foundational_Skills.pdf

IMPLICATIONS FOR PUBLIC HIGHER EDUCATION: PARTNERSHIPS, FLEXIBILITY, AND INNOVATION

Meeting these challenges requires public higher education to build partnerships with employers, community colleges, workforce boards, and other important education and workforce stakeholders to accomplish important goals for employers and students. It also requires that higher education institutions become more flexible in their approach to earning credit toward degree programs and other credentials, and it requires that higher education institutions become more innovative in their curricular design.

Partnerships

The need for a variety of new skills means that education and workforce stakeholders—K-12 schools, community colleges, public research universities, private training providers and workforce development intermediaries—must gain a shared understanding of the problem and work together on solutions. Universities must work with employers to ensure curricula aimed at specific career outcomes meet the skills requirements of those jobs; that the skills obtained are transparent to both students and employers; and that employers recognize and reward those skills. Employer partnerships can also help universities develop work-and-learn opportunities that reinforce the skills employers demand and provide all students—even those on a more traditional higher education path—valuable experience understanding a particular career.

Partnerships among higher education and workforce institutions can also help regions build flexible career pathways that



Wayne State University (WSU)

was selected to participate in a pilot program with [Microsoft's 21st Century Jobs, Skills and Employability program](#).

The goal of the pilot was to bring a small cohort of universities together to help Microsoft understand how the tech industry could address the shortage of skilled technology workers and to create economic opportunities and a talent pipeline that would strengthen cities like Detroit's ongoing revitalization. The pilot showed that industry and higher-education needed to reach a broader pipeline of learners at all levels and create accessible tools and partnerships across industries and sectors that would support lifelong learning skills. As a result, Microsoft, GitHub and LinkedIn launched the [Global Skilling Initiative](#) in June 2020 just following the onset of the pandemic.

are accessible to students from a variety of backgrounds, allowing them to find on-ramps to those career pathways regardless of their starting point, and providing the opportunity to attain skills throughout their careers. These partnerships can also ensure that as students attain valuable, employer-recognized short-term certificates, they also make progress toward a longer-term degree.

Finally, higher education-workforce stakeholder partnerships can collectively help to meet the many other needs of students to ensure they can continue on

their chosen pathways. Barriers to success in higher education include transportation, housing, child-care, and health care; higher education institutions and service providers must coordinate their outreach and services to eliminate these barriers.

Designing for Flexibility

With fewer students taking the “traditional” route of entering college directly after high school and continuing until they have obtained a bachelor’s degree, students will need additional flexibility in the future. Some will need to reskill quickly so they can begin earning to stabilize their income and their lives, but they may aspire to additional education down the road. Short-term credentials, while helping students attain employment quickly, do not automatically lead to a sustainable career. Students need the assurance that short-term training is not

only a boost toward a job providing short-term stability, but also a step on the path toward a sustainable career. Other students want to obtain additional skills so they can advance in their existing jobs. Still others may find their way to higher education after other life experiences—such as serving in the military, starting a business, or volunteering in the community—that have value and should be recognized. All these students can be served better by building additional flexibility into programs.

Responsive Pathways/Flexible Delivery:

Universities can design pathways that ensure credits earned are applied and count toward students’ degree completion. All too often, new learning paths are deemed “alternative” and treated as add-ons, elective credit, or non-credit, and do not move students toward



Photo Courtesy of John Karmen Piland; Graphic Designer/Photographer and Virginia State University

graduation. Responsive pathways also need to incorporate flexible schedules and online modes of delivery to allow students the opportunity to earn a credential while working and attending to other responsibilities.

Credit for Prior Learning: Many students already have a significant amount of experiential learning that could aid them in making progress toward a valuable credential. Institutions can work together to begin addressing the need to provide credit for prior experience other than the traditional classroom practice (i.e., military, workplace training, civic activities, volunteer services).

Aligning with Graduate Degrees: In addition to creating equitable and sustainable pathways to earn a baccalaureate degree, universities should consider which pathways should link to graduate programs that provide additional upward social and economic mobility. Learners who choose these pathways will be better positioned to advance in professions in which graduate degrees are an important path to advancement—for example, professions in biotechnology or information technology research, advanced health care professions, and advanced financial analysis.

Innovation Required

The flexibility described above is not the only innovation required to meet current challenges. Universities must draw on evidence-based, high-impact practices to provide a diverse student body opportunities to gain the skills they need, the credentials to demonstrate their skills, and the support to achieve their goals. These innovations will benefit all students regardless of the path they take to and through higher education.



provides learners with the opportunity to attain a degree through traditional and non-traditional methods. Learners can attain college credit through the traditional method of credit transfer from a regionally accredited college or university to VSU. Additionally, learners can attain credits via exams, educational experiences in the armed forces, and credit for work/life experience and learning through a personal portfolio. The program provides students with an opportunity for degree completion regardless of the student's time away from their original program major.¹⁷

Experiential Learning

The data demonstrating the need for 21st century skills suggest that higher education institutions might better serve students choosing a major and specializing in a narrow set of classroom-based skills. Some 21st Century skills are best learned from multidisciplinary capstone courses and experiential learning incorporating reflection on how experiences build these skills. Finding schedules and forms of experiential learning that work for a wide variety of students can be challenging, but many universities have found innovations that work.

Skill Transparency

Higher education institutions also need to help students signal to employers that they have earned 21st century and other skills

¹⁷ <https://www.vsu.edu/education/departments/individualized-services/undergraduate/index.php>



Photo Courtesy of University of Wisconsin Milwaukee



The University of Wisconsin-Milwaukee's (UWM) [Flexible Option](#)'s competency-based format initiative allows learners to earn a degree at their own pace, not restricted by course schedules and semesters throughout the 12-month calendar year. Students progress toward their degree by completing projects, which UWM faculty design and evaluate to demonstrate mastery of multidimensional learning outcomes (i.e., competencies). Students are provided wrap-around, proactive educational support by faculty and "success coaches." The UWM degree Flexible Option students receive is accredited to be equivalent in all ways to all UWM degrees.

that employers demand, through employer-verified credentials, digital badges, and other tools that clearly communicate what students know.

Personalized Learning

Finding ways to decrease costs while delivering high-quality and personalized education to an expanded and more diverse student body demands that public higher education embrace new models for learning and advising. Tools such as adaptive courseware can help universities advance personalized learning and improve student learning outcomes at the general education level and among students who have been traditionally underserved in higher education.

EXAMPLES OF PARTNERSHIP, FLEXIBILITY, AND INNOVATION

Public research universities are already experimenting with a variety of approaches to meet these needs. The following examples provide evidence and inspiration to scale successful approaches and fine-tune them to meet the needs of different institutions. These examples provide just a small sample of approaches.

Skill transparency, Short-term credentials, and Digital Badges:



VCU Virginia Commonwealth University (VCU)

is the first higher education institution in the Capital Region— which includes Richmond, Washington, D.C., and Baltimore – to issue web-enabled digital badges to students completing the [Capital CoLAB Generalist Digital Tech Credential](#). This credential offers students in non-STEM degree programs marketable digital technology competencies. Students earn the credential by completing courses in various disciplines that include computers and programming, data science skills, and cybersecurity.¹⁹ Current students can enroll in the courses just like any other VCU course. VCU also cross-lists the courses through the Office of Continuing and Professional Education and permits non-creditseeking students to participate. This effort is a great skill-building program that also fosters community engagement and coalition building.



Florida International University's (FIU) [new micro-credentialing initiative](#)

provides current students and the community with new learning pathways. In their commitment to foster and develop 21st century learning, FIU has designed badges addressing skills and concepts such as initiative, financial literacy, emotional intelligence, thinking and communicating with data, and artificial intelligence to add supplemental, valuable experience for students. FIU has also remained responsive to the needs of the community, including the development of a COVID-19 Contact Tracing badge and the launch of [Cyber-CAP](#), a cyber apprenticeship program. Cyber-CAP is designed to provide learners with technical skills, on-the-job-training, support, and preparation to earn industry credentials. The program aims to prepare learners with interconnected skills and credentials to work and lead in the cybersecurity field.¹⁹



The State University of New York at Albany (UAlbany) [offers micro-credentials](#) to help

undergraduate, graduate, continuing education, and non-matriculated students develop new, relevant, and demonstrable skills that make students marketable to employers. The micro-credentials allow students to develop industry-aligned skills and competencies, documented with digital badges. These short-term credentials showcase the students'

¹⁸ <https://egr.vcu.edu/news-events/news/vcu-awards-first-digital-tech-badges-to-capital-colab-graduates.html#>

¹⁹ <https://news.fiu.edu/2019/fiu-launches-cybersecurity-apprenticeship-program>

skills to aid in their transition from college to career. Their professional pathways micro-credentials allow students to complete courses and experiences that articulate industry-aligned skills and competencies that both complement and stack into degree programs.²⁰



Indiana University-Purdue University Indianapolis' (IUPUI)

accelerated five-year bachelor's in informatics and

master's in applied data science provide learners with knowledge and skills in big data, including cloud infrastructures, data analysis, and data visualization. Learners can apply for the accelerated program in the sixth semester of their B.S. or once they have completed 75-credits. Given the growth of digital data tools and the need for skilled professionals, this baccalaureate and master's degree pathway lets learners earn dual credentials and enter the labor market a year sooner. This signals to employers their capacity for this vital work.

Credit for Prior Learning (CPL)/ Path to Degree:



Tennessee State University (TSU)

uses a [prior learning](#)

[assessment](#) model called TimeWise to shorten time-to-degree and increase the number of graduates. TSU has partnered with the Council for Adult and Experiential Learning (CAEL) and LearningCounts, an innovative online service on the program. The program assists students in developing portfolios that demonstrate earned competencies, experience, and knowledge from their work experience, armed services, or volunteer service and evaluates those portfolios for college credit.



Photo Courtesy of Tennessee State University

THE UNIVERSITY OF MEMPHIS' Memphis' (UofM)

[Finish Line](#) program

provides students with the opportunity to return to complete their degree after having earned 90 or more credit hours at a low or no cost. The Finish Line program allows students with senior standing to return to complete their degrees by taking traditional in-person or online courses and offers students Experience Learning Credit for skills gained outside the institution. The Finish Line program offers students the opportunity to determine their best path to earning their bachelor's degree, then supports them through to the finish line.

Flexible Delivery:



The University of Pittsburgh's (Pitt)

[College of General Studies \(CGS\)](#)

partners with other schools and colleges at the University of Pittsburgh to offer courses in various disciplines and convenient flexible formats. CGS courses are taught by expert university faculty and professionals throughout the greater Pittsburgh region and are designed to meet both the academic and personal needs of diverse student populations. Students access

²⁰ <https://www.albany.edu/micro-credentials>

courses through multiple modalities ranging from face-to-face evening and day classes to fully online and hybrid options. In-person classes are available at Pitt's main campus in Oakland and CGS online classes are delivered via Canvas and enhanced with web-conferencing tools such as Zoom and Canvas Conferences to offer a dynamic classroom experience.



students the opportunity to earn a baccalaureate degree through the [Applied Liberal Studies \(ALS\)](#) program in the College of Liberal Arts. Students can complete their degrees in a flexible fashion through both online and in-person courses. Many students complete their degrees by taking exclusively online courses. The ALS program allows students to further their education, earn academic credit for professional service and employment, and complete the degree in a flexible manner. The advisors in the ALS program are laser-focused on supporting students and treating all students as individuals. Traditional students seeking an interdisciplinary approach to education and non-traditional students seeking flexibility are both served by the structure and nature of the program.



[+ Adaptive initiative](#) delivers more personalized learning to their students by reducing costs and increasing faculty and learning engagement. Rather than purchasing a publisher's adaptive platform (adaptive engine and content), many faculty leveraged a variety of Open Educational Resources (OER) that enabled both lower course material costs to students and provided greater personalized and relevant customization of the

content used in the adaptive platform. Then, by leveraging student input through adaptive platform's analytics, faculty adjust their synchronous sessions making them more active learning experiences for students. The Office of Academic Innovation staff members, Janelle Voegele and Raiza Dottin, led the research for the Active + Adaptive initiative and contributed their findings in a new book: [Blended Learning Research Perspectives, Volume 3](#), within a chapter entitled "The Integration of Adaptive Courseware Through the Lens of Blended Learning."

Partnering with Employers:



[UNIVERSITY OF NORTH TEXAS](#) partnered with the Dallas Cowboys to launch an online [Master of Business Administration \(MBA\) in sport entertainment management](#). The new MBA program offers specialization in the global marketplace, corporate partnerships, analytics, event operations, talent management, and consultancy. The specialization allows students to enhance their MBA degree in addition to earning experience through access to industry experts and bootcamps at The Star in Frisco, Dallas Cowboys' World Corporate Headquarters and Training Facility that provides students with sports industry and business skills. Through this program, students prepare for the next step in their careers, learn the most innovative strategies in the industry, and develop the competencies needed for success in the industry, such as communication, leadership, and analytical skills.



launched an intensive [fintech 'boot camp'](#) in partnership with 2U, Inc. to provide learners

with the in-demand financial and technological skills employers are looking for. Offered through UNC Charlotte's School of Professional Studies, this online intensive career training program helps working professionals build the key tech, finance, and digital skills employers are looking for in today's labor market. In addition to fintech, UNC Charlotte offers digital skills boot camps in coding, data analytics, and cybersecurity. These programs unite employers and working adults to close digital skills gaps throughout the Charlotte region. Over 235 companies have hired UNC Charlotte boot camp graduates, including Bank of America, Lowe's, American Airlines, JP Morgan and Microsoft.²¹



Photo Courtesy of UNC Charlotte

Documenting and Scaling Success

Public higher education institutions are experimenting with many approaches to addressing the economic, demographic, and technological trends affecting students and the economy. They are still learning what works best for each region, university, program, and student. As experimentation and innovation expand to more institutions and programs, we must

collect these examples and assess the factors that influence the success of these innovations for different groups of students and for different types of careers.

APLU is committed to documenting these innovations and scaling successful innovation through the introduction of a learning community called *Addressing the Future of the 21st-Century Workforce: Sharing and Scaling Successful Innovations*. A partnership between APLU's Commission on Economic and Community Engagement and its Council on Academic Affairs, and the Coalition of Urban Serving Universities, the learning community offers institutions an opportunity to learn from each other as we drive new partnerships, flexibility, and innovation into our credentials and degrees. Launching in November of 2021, this learning community welcomes membership from cohorts of university leaders committed to driving greater career success for our students and economic prosperity for our regions.

²¹ <https://www.prnewswire.com/news-releases/unc-charlotte-and-trilogy-education-launch-fintech-boot-camp-to-expand-digital-skills-of-charlottes-banking-sector-300944835.html>



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