

UTAH VALLEY UNIVERSITY

CAREER & TECHNICAL EDUCATION

CTE



YEAR 2018
END -
REPORT 2021

UVU



A MESSAGE FROM:

The Director

Kim Chiu
CTE DIRECTOR

The mission of Career and Technical Education (CTE) is to support and provide opportunities for students to acquire and use high-quality career and technical skills. Through engaged and focused skill attainment, students prepare for meaningful employment in a competitive and global workforce.

CTE aligns with UVU's values and objectives. UVU's first value of Exceptional Care includes open access to all students who are willing to apply themselves. To quote the president's page, "UVU has a place for you." The objective to "include" welcomes many special and diverse populations which CTE reaches out to and helps lower barriers so that these students succeed. Another UVU value is Exceptional Results which includes meeting the needs of our region and preparing students for the changing economy. Working with industry in creating relevant pathways in stackable credentials is what CTE departments and CTE programs focus on. CTE programs are known for engaged hands-on and relevant curriculum which prepares students to successfully enter the workforce. Stackable credentials help them achieve their education one step at a time making it easy to step in and step out of their educational journey. This also ties into Exceptional Accountability which aligns education with industry and using the federal funding to prepare students for high-demand careers.

CTE is moving forward with the reauthorized Carl D. Perkins Act through the Strengthening of Career and Technical Education. The CTE department uses the Perkins funding to address Perkin's directives which includes; helping special populations, persistence, completion, getting students in non-traditional fields, as well as, helping students to develop knowledge and a skill-set for the workforce. Perkins funding makes it possible for our students to be trained with the most current and relevant equipment. The funding is also used for professional development opportunities to help faculty keep in touch with industry and bring back up-to-date best practices to share with their students. It is our goal to prepare the students academically and technically to be prepared for current and emerging professions.

Thanks to all who continue to support CTE.



MEET THE TEAM



Torrie Costantino
Pathway Coordinator



Meagan Mckell
Administrative Assistant



Ethan Christensen
Outreach Coordinator



Patricia Mike
Accountant



Kim Chiu
Director

CTE PROGRAMS OF STUDY

ARCHITECTURE & ENGINEERING DESIGN

- Architectural Design Technology (CP)
- Civil Design and Surveying Technology (CP)
- Structural Design Technology (CP)
- Engineering Design Technology (AS, AAS)
- Surveying and Mapping (AS)

ART AND DESIGN

- Art and Design (CP, CERT, AS, AA)
- AD-Graphic Design (AAS)
- AD-Illustration (AAS)
- AD-Photography (AAS)
- Theatre Arts (AS, AA)

BUSINESS & COMMUNICATION

- Accounting (CERT, AS)
- Business (CERT, AAS, AS, ASB)

CONSTRUCTION

- Building Inspection Technology (CERT, AAS)
- Cabinetry and Architectural Woodwork (CP, CERT, AAS, AS)
- Construction Management (CP, CERT, AAS)
- Facilities Management (AAS)

COMPUTER SCIENCE

- Computer Science (AS)
- CS-Programmer (CERT)
- CS-Computer Engineering (AAS)
- CS-Computing and Networking (AAS)

DIGITAL MEDIA

- Digital Media (CP)
 - Digital Audio
- Digital Cinema Production (CP, AAS)
- Digital Communications Technology (AAS)
- Web Design and Development (AAS)

EDUCATION

- Early Care and Education (CERT)
- Early Childhood Education (AS)

ENGINEERING TECHNOLOGY

- Automation and Electrical Technology (AAS, AS)
- Mechanical Design Technology (CP)
- Mechatronics Engineering Technology (AAS)
- Pre- Engineering (AS)
- PE-Civil and Mechanical Emphasis (APE)
- PE-Computer and Electrical Emphasis (APE)
- PE-Biological and Chemical Emphasis (APE)

HEALTH PROFESSIONS

- Dental Hygiene (AAS)
- Health (CP, AS)
- Nursing (ASN)
- Public and Community Health (CP, AA, AS)
- Respiratory Therapy (AAS)

HOSPITALITY

- Culinary Arts (AAS)
- Hospitality Management (AAS, AS)

INFORMATION SYSTEMS & TECHNOLOGY

- Administrative Support (CERT)
- Administrative Information Support (AAS)
- Administrative Information Management (AS)
 - Digital Information Management
- Information Systems and Technology (CP, AAS, AS)
- Network Administration (CERT)

LAW & PUBLIC SAFETY

- Criminal Justice (CP, AS, AA)
- Emergency Services (AS)
- EMS-Paramedic (CERT)
- EMS-Firefighter Recruit Candidate (CERT)
- EMS-Firefighter/Emergency Care (AAS)
- EMS-Fire Officer (AAS)
- EMS-Wildland Fire Management (AAS)
- Law Enforcement (CP)

SCIENCE

- Water and Wastewater Operations (CERT)

TECHNOLOGY

- Advanced Manufacturing (CP)
- Technology Management (AAS)

TRANSPORTATION

- Aviation Sciences (AAS, AS)
- Automotive Technology (CERT, AAS, AS)
- Automotive Power Sports (AAS)
- Collision Repair Technology (CERT)
- CRT-Collision Repair Emphasis (AAS)
- CRT-Street Rod Emphasis (AAS)
- Diesel Mechanics Technology (CERT, AAS)

UPDATING LABS & EQUIPMENT ACROSS CAMPUS

Simulation lab

The use of high-fidelity training manikins has been proven to increase student assessment and patient care skills, and will enhance the learning experience for our students. These Manikins are for both Nursing and Respiratory Therapy students.

NURSING



Computer lab

This new computer lab is helping students upgrade their skill set in Construction Computer Applications such as BlueBeam (plans, coordination/navigation, estimating, markups), Microsoft Project (scheduling), Microsoft Excel (estimating, bidding, spreadsheets), Photoshop (proposals, bids, etc.) and other software such as Revit, On Screen Takeoff, P6, NavisWorks, ProCore, PlanSwift, etc.

CONSTRUCTION



3D Design/frame shop

The skills gained in a wood/frame shop translate directly to the workforce in jobs such as: frame making, exhibition preparation, and any shop based environment.

ART & DESIGN



UPDATING LABS & EQUIPMENT ACROSS CAMPUS



Processing Control Stand

The AET advisory board recommended we acquire an Advanced PLC Control of Pneumatic Systems which is an identified skill-set that our students need. This will improve the students lab experience and after graduation students will have the skill sets needed to work and thrive in the modern workforce where technology is rapidly advancing.

AUTOMATION



Sterilization Machines

This equipment helps students develop a key skill set in sterilization of instruments which students need to pass for their national and clinical board exams. It is also replacing 10 year old equipment that now provides additional safety for students and patients when they are working with blood and contaminated saliva.

DENTAL HYGIENE



Turnouts and Helmets

Did you know that the firefighter uniform has only a 10 year life span before it loses its safety quality? This year CTE helped the Fire Science department replenish their turnouts (uniforms) and helmets for the safety of our students. The Fire Science department is also adding another cohort and these additional turnouts and helmets will be used for the program expansion.

FIRE SCIENCE

UPDATING LABS & EQUIPMENT ACROSS CAMPUS

3D Laser Printer

This equipment allows students to get more hands-on training in their first year of their engineering program. Students will be able to experiment and practice on projects which will help them in their future careers. The rapid prototyping is the way of the future for the R&D phase in many companies.



ENGINEERING

Work Benches

Sometimes equipment does not seem very glamorous but is essential for our programs and students. Take work benches for example. This improves the lab and gives the student better conditions so they may concentrate on the task at hand. The Collision Repair students need to be able to examine damaged car parts at a close proximity so they may diagnose and find solutions for the problem.



TRANSPORTATION TECHNOLOGIES

Apply for Funding

Perkins funding is used to purchase, lease, and upgrade equipment, and provide instructional aides in equipment labs that are associated with CTE programs. Full-time instructors may apply for programs needs with the approval of their department chair. You can find more information at <https://www.uvu.edu/cte/funding/#tab01>, or contact Kim Chiu at chiuki@uvu.edu.



CTE



**UVU CONTINUES TO HAVE
THE HIGHEST NUMBER OF
CTE CONCENTRATORS OUT
OF ALL THE USHE INSTITUTIONS.**

CTE FUNDING

Perkins

Perkin's funding goes towards projects that align with appropriate uses such as: initiate, improve, expand, and modernize the quality and technology in CTE programs; provide students with strong experience and understanding in all aspects of an industry; develop, improve, or expand the use of technology in vocational/technical education; provide instructional aides in technical classrooms and equipment labs; and lower barriers to those students under the category of Special Populations.

FY	2017-18	2018-19	2019-20	2020-21
CTE Concentrators	4,266	5,985	6,349	7,432
Perkins Funding	\$ 1,053,964	\$ 1,183,111	\$ 1,260,521	\$ 1,410,810

SPECIAL POPULATIONS

SERVICE LEARNING PROJECT:

Young Mothers at Legacy High School

For over ten years, the CTE department has brought holiday cheer to young mothers and their children. Legacy High School is a small high school in Springville dedicated to young mothers who are trying to finish their education. The CTE department, in conjunction with the Center for Social Impact, arranges a virtual giving tree every year. The giving tree has virtual ornaments for donations of clothing, shoes, toys, and books for the children of these young mothers. Staff in the CTE department donate their time in making quilts for all the children. The young mothers are given a small gift bag with self-care items, as well as information about higher education and resources available to them. We deliver an educational message to the young mothers about pursuing post-secondary training or education, which will provide them with the income and independence needed to support their family.

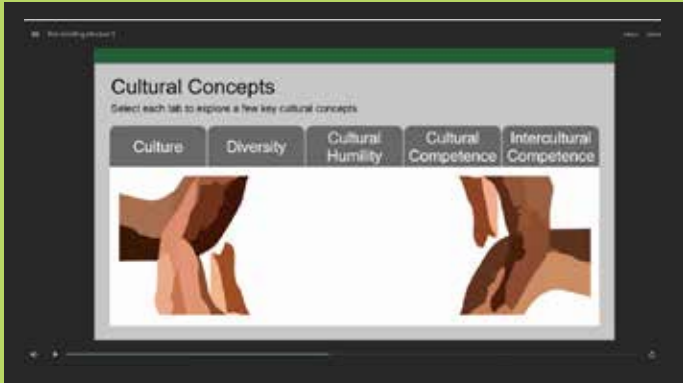
Susan Booth, Legacy principal, said *“Our students are trying so hard to make a difference in their lives and in the lives of their families. They face challenges that the traditional high school student never faces, yet they succeed and find deep satisfaction and motivation to strive for good things. We are so appreciative of your willingness to work with us and to provide such treasured help”*

CTE is responsible for providing equal access for members of special populations that they will not be discriminated against on the basis of their status as members of special populations. The CTE department helps identify and provide programs and activities designed to lower barriers and enable special population students to meet or exceed state adjusted levels of performance, and prepare them for high-skill, high-wage or high-demand occupations.

“THANK YOU GUYS SO MUCH FOR COMING TO OUR SCHOOL AND GIVING US THE OPPORTUNITY TO GO TO A NICE SCHOOL THAT IS FLEXIBLE TO MEET OUR NEEDS. I’M ACTUALLY IN CONCURRENT ENROLLMENT THERE AND I’M VERY GRATEFUL FOR THE COOL QUILTS AND AWESOME TOY. MY SON LOVES HIS TOY AND HIS BLANKET. I APPRECIATE YOU TAKING TIME OUT OF YOUR DAY TO COME TO OUR SCHOOL AND MAKING OUR DAY BRIGHT. SO THANKFUL FOR YOU GUYS. “ -ALIA



SPECIAL POPULATIONS



CULTURAL COMPETENCY PROJECT::

Nursing

The Nursing field is seeing increased minorities and cultural diversity in both their patients and nurses. Utah is facing an upcoming demographic and cultural transformation. According to the Kem C. Gardner Policy Institute's report, the growth dynamic of the urban area is shifting to Utah County that is evolving into a more diversified economic and demographic area.

The Nursing department is committed to preparing all students for success in an increasing complex, diverse, and globalized society. In recognition of the projected increase in ethnic and racial diversity a program was created to nurture student **Intercultural Competence (IC)** into the curricula to engage student learning cultural competence and cultural humility throughout the ASN program.

The IC program has three levels in accordance with the modules learned from the courses of each semester throughout the ASN program. The IC program is an online learning program and provides an interactive 3-D environment for student learning, which utilizes the visual thinking strategies and visual simulation techniques to facilitate student clinical judgment and critical thinking in cultural considerations.

PROFESSIONAL DEVELOPMENT

Career and Technical Education (CTE) professionals must remain on the cutting edge of their field by continuously building their knowledge and skills. They learn about current best practices that they can bring back and incorporate into their curriculum. Supporting the professional development of faculty and staff who are involved in CTE programs is an important component of the Perkins Act. The development of faculty will have a direct positive impact on the classroom.

Faculty in Business/ Industry

Full-time faculty have the opportunity to participate in a summer externship program called **Faculty in Industry and Business (FIB)**. This program provides instructors with work experiences to better understand what employers are requiring of employees in terms of the specific subject(s) they teach. Faculty can observe the workplace so they can teach their students from their own first-hand experience on what the job site expectations employers have. Instructors can also develop engaged activities for the classroom, shops and labs. It can also create and strengthen partnerships with industry and developing industry advisory boards. These partnerships have also opened doors for equipment donations, mentoring and internship opportunities for our students.



PROFESSIONAL DEVELOPMENT EXPERIENCES^(FIB)

FACULTY: Jonathan Allred

DEPARTMENT: Architecture & Engineering Design

COMPANY: Elite Automation

QUOTE: *"My work at Elite has a significant impact on the content I teach the students at UVU. This experience will inform my decisions as I create content and learning activities for my students. The experience improved, updated, and added to my skills as a professional and educator. I was able to use the industry standard SolidWorks software to modify and create mechanical parts. I learned company standards and new commands to make my teaching versatile to many industry applications."*



FACULTY: Matt Hasara

DEPARTMENT: Transportation Technologies

COMPANY: PMB Performance

QUOTE: *"I was interested in their business model of working on several different types of vintage style cars. I will use the experience I gained at this business in my lab teaching and use the customer service model to train my students on how to deal with the public. Since my externship, I have already referred two of my students to interview for jobs at PMB performance. They will be a solid recruiting business for my students in the future."*



FACULTY: Zach Taylor

DEPARTMENT: Transportation Technologies

COMPANY: AF Collision

QUOTE: *"This was huge in bridging education and the collision industry. Shops feel that there is a disconnect from what they do from what we do in teaching. This bridge, I felt was crossed together as teacher and shop. The shop allowed me to learn the process of estimating that will help me in teaching the students. The shop will work with UVU on student internships and job shadowing."*



PROFESSIONAL DEVELOPMENT EXPERIENCES^(FIB)



FACULTY: Trent Jennings

DEPARTMENT: Transportation Technologies

COMPANY: 3C Trucking

QUOTE: *"I will be updating my transmission slides with electronic diagnostic procedures that I had to perform on the company's new trucks that wasn't in my class materials before. I also learned that the wheel ends that I worked on have an update that I was not aware of and was changed since I started teaching. By knowing this I can be sure that I'm teaching the proper and current procedures in Theory and Lab."*

FACULTY: Kevin McCarthy

DEPARTMENT: Emergency Services

COMPANY: Spanish Fork EMS

QUOTE: *"The city possesses very similar needs to the other similarly sized and staffed communities in our service area. Having a firsthand view of their challenges (recruiting, staffing, retention, training, etc.) allows UVU to prepare a better product that will be responsive to the community needs. In fact, due to this externship, our students will now be able to do ride-a-long observation rides as part of their educational experience."*



FACULTY: Tracy Sermon

DEPARTMENT: Early Childhood Education

COMPANY: Montessori Learning Center

QUOTE: *"I have a much better understanding of how an authentic Montessori program works and I can now help my students see some of the benefits and challenges of working in those classrooms. I feel more competent to speak about the Montessori philosophy, and I can help students understand some of the philosophical differences' students will experience in their training in UVU's ECE program with those of an authentic Montessori."*

PROFESSIONAL DEVELOPMENT EXPERIENCES^(FIB)

FACULTY: Yang Hwae Huo

DEPARTMENT: Organizational Leadership-Hospitality Mgmt.

COMPANY: CupBop

QUOTE: *"As I am teaching hospitality management (HM), the FIB externship through CupBop gave me the opportunity to determine what the industry wants and needs from college level learning. We as a team (UVU and CupBop) can augment course modules to let our HM students learn more advanced and industry required technical skills such as analytic skills (for marketing (marketing study and customer satisfaction surveys), forecasting methods through Excel and more advanced statistical analysis tools (IBM, SPSS, Decision Tree) to enhance engaged learning and career development opportunities."*



FACULTY: Khaled Shaaban

DEPARTMENT: Engineering

COMPANY: MW Brown Engineering Inc.

QUOTE: *"This work is very related to teaching especially the ENGR 1000 course since it involves a design project in groups. I will implement some of the techniques I learned. The company offered internships for our students and I announced the opportunity in class."*

To learn more about Faculty in Industry/Business Externships visit:
<https://www.uvu.edu/cte/funding/#tab02>.

ECONOMIC DEVELOPMENT GRANTS



UTAH GRANT:

Diesel Technician Pathway

Since 2018, our office has been working with industry and educational partners on the Diesel Tech Pathway sponsored by the Governor's Office of Economic Opportunity. In 2018 we received a grant to help jumpstart this program in Utah county. These grants have been designed to strengthen collaboration between industry, education, and economic development in order to better respond to the needs of regional and statewide high-growth, high-wage and STEM occupations and industries.

Talent Ready Utah has been a successful model for industry collaboration and has demonstrated success in developing new educational programs supporting industry growth. This specific partnership involved members of the Mountainland Consortium and Tooele Technical College to create and articulate a career and college pathway for Diesel Mechanics Technology. This pathway now starts at the high school level, at Mountain View High School in their new Diesel shop with 80 students enrolled for fall 2021 within the Diesel Mechanics I and II courses. These courses feed into the secondary pathway which leads to postsecondary certificate programs at Tooele Technical College (TTech), Mountainland Technology College (MTECH) and Utah Valley University (UVU). Today we have articulation agreements with both MTECH and TTech as well as other tech colleges in the state to help facilitate this pathway state-wide. To increase the pipeline further, MTECH has been able to open a second diesel shop in Lehi with their new building.

In 2018 we had about 55 students in Diesel and now we have 175+ students involved in the pathway in Utah County. According to the Utah Job Outlook information, the occupation for Diesel Mechanics is expected to experience faster than average growth with a high volume of annual job openings.

**EXPANDING THE UTAH
DIESEL TECHNICIAN
PATHWAY WITH NEW
HIGH SCHOOL PIPELINES
THROUGH CONCURRENT
ENROLLMENT**

ECONOMIC DEVELOPMENT GRANTS

STIT Funding

The CTE department receives **Short Term Intensive Training (STIT) funding** to be used for occupationally specific intensive training to help current employees or individuals seeking employment by effectively and economically matching their training needs with those of industry. These trainings are based on specific job market demands and economic development strategies with an ongoing review of priorities.

CTE recently worked with the Professional and Continuing Education department in developing a training program to help paralegals and other legal professionals become Licensed Paralegal Professionals (LPPs). The program was offered through a combination of online and live training components based on student demand. The curriculum covered Landlord/Tenant, Debt, and Family Law, so LPPs can be licensed in those specialties.

STIT funding was also used to supplement the Learn and Work programs. When UVU first offered the Learn and Work classes to those who lost their jobs, or were affected by COVID there was an overwhelming response and the STIT funding was able to supply more seats so we were able to accommodate more students. Helping the region supply training opportunities for the workforce is what this funding is for.

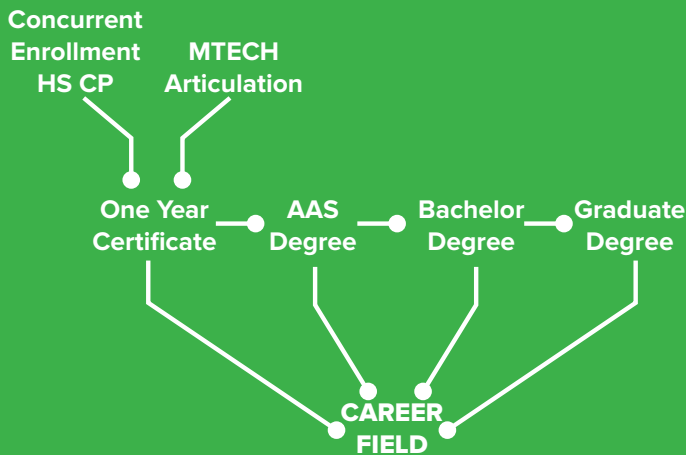


Strategic Workforce Investment Grant

UVU received a three year **Strategic Workforce Investment grant** for the **Information Systems and Technology department**. The purpose of this grant was to create an incentive program for Utah's public colleges and universities to regionally expand educational capacity for workforce development in a high-need strategic cluster that prepares students for high-growth and high-wage occupations. This program was built upon recently-launched initiatives that focus on GoUtah Strategic Industry Clusters which included the Aerospace, Diesel and Informational Systems and Technology Pathway Initiatives.

For the past three years, Utah Valley University (UVU), in collaboration with Mountainland Technical College (MTECH), worked on clear and efficient pathways for student completion within the Software development and Information Technology sector. The pathways were designed to produce work ready graduates prepared to reduce the number of unfilled tech-sector jobs and increase educational attainment opportunities in the region. Pathways were carefully created to provide on-ramps via pathway certifications beginning in high school, which can then articulate to higher education certificate and degree programs to serve the needs of students while providing an educated workforce with multiple on and off-ramp points along the pathway. The funding was used to expand server capabilities, which helped us especially during the pandemic. We also updated computer labs and trained high school instructors on Information Systems and Technology curriculum to help them get their high school endorsements.

CAREER PATHWAYS



Career Pathways show students a direct connection between doing well in high school and being able to transition smoothly to postsecondary opportunities and/or getting a good job when they graduate. Utah's State Board of Education's (USBOE) vision is to see that every student takes advantage of the opportunity to earn college credit while in high school, understanding that through advanced academic training they will save time and money, which will enable them to quickly earn an industry license or an associate degree.
<https://schools.Utah.gov/cte/pathways>

Pathway to Proficiency Certificate

Over the past four years, as part of the Pathway Initiative, the CTE academic programs worked with the CTE department in creating **8 Pathway to Proficiency Certificates** in the areas of Art & Design, Aviation Science, Cabinetry and Woodworking, Construction Management, Criminal Justice, Information Systems and Technology, Public and Community Health and Health. These certificates are comprised of concurrent enrollment classes that equate to about 15 credits or their first semester completed. (see example to the right) When students earn their first semester towards a UVU degree in high school it not only saves them time and money, but they will be a better prepared student when they come to campus.

UVU has over **13,000 students** enrolled in concurrent enrollment and of those nearly **50% take 7 credits or higher**. With this new provided guidance into a pathway, students can strategically take a few more credits and end up with a semester completed towards their degree. According to the Utah State Board of Education, **74% of students** who concentrate in a CTE pathway placed in postsecondary education, advanced training, military service, or employment. High School CTE students have a **95% graduation rate** compared to Utah's statewide graduation rate of **86%**

PUBLIC AND COMMUNITY HEALTH	
BIOL 1010	General Biology
NUTR 1020	Foundations of Human Nutrition
HLTH 1200	First Aid
ENGL 1010	Introduction to Writing
	<i>Choose one:</i>
MATH 1050	College Algebra or
MATH 1055	College Algebra with Preliminaries or
STAT 1040	Introduction to Statistics or
STAT 1045	Introduction to Statistics with Algebra

STATE ARTICULATIONS

Near the end of 2019, articulations with UVU to other technical colleges around the state had a massive increase. We now have agreements with Dixie, Davis, Uintah Basin, and Tooele Tech with a **total of 30 agreements** including the ones with Mountainland Technical College. These consist mainly of course to course agreements so students can prove their competency and satisfy credit in their area of study. One example is in automotive; a student who completed a program at Dixie Tech can now come to UVU and satisfy 25 credits towards their AAS degree. There is such a demand from the state Technical Colleges to align with UVU that we are keeping busy making it possible for students from all over the state to transition into UVU programs from these non-credit programs.

MTECH Articulations

Since 2018 the CTE department has worked with Mountainland Technical College to sign a series of agreements to create “*seamless educational pathways*” from the technical college to the university. The articulation agreements in culinary arts, nursing, automotive technology, and web and mobile development, diesel technology, digital media, information technology, mean Mountainland students will not have to repeat classes when transferring to UVU, making it easier and faster to graduate. Faculty from both institutions have worked closely together to evaluate and align curriculum and validate its rigor. The new educational pathways will augment the long-standing agreement between the two institutions, where the technical college’s programs with 900-plus hours of instruction can transfer directly to UVU to satisfy 30 credit hours in the technology management program. Building from that original idea we now have two new agreements in Healthcare Services and Business Management where students can satisfy 28 to 30 credits towards those degrees, thus opening up new opportunities for these students.

“Thanks to the hard work of the faculty and staff of both institutions, MTECH students now have an unprecedented opportunity to make a meaningful transition into university coursework,” said Clay Christensen, Mountainland Technical College president. “We look forward to expanding our important partnership with UVU as we serve our students throughout the region”

“What we are doing qualifies as best practice for 21st century, pragmatic, and inclusive education. MTECH offers valuable instruction that prepares students well to succeed at UVU,” she said. “These new pathways will allow greater numbers of students to graduate in a timely and efficient manner. Together, MTECH and UVU are helping prepare students to lead productive and dignified lives. What a wonderful mission for both our institutions.”

UVU President Astrid S. Tuminez said the university is proud of its partnership with Mountainland Technical College

CAREER &
TECHNICAL
EDUCATION

CTE



YEAR **2018**
END
REPORT **2021**

uvu.edu/cte



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