

Douglas County ARPA Proposal

Arapahoe Community College's (ACC) proposal seeks to address Douglas County's workforce and community needs exacerbated by the COVID-19 pandemic. The items listed allow Douglas County investment specific to the County's American Rescue Plan Act (ARPA) categories and present options so Douglas County commissioners can match and choose the options that best relate to the priorities of the county.

ARPA provides one time state and local governments strategic investments in long-lived assets, recover reserves to maintain financial stability, and cover temporary operating deficits incurred due to the COVID-19 pandemic. The investments in this proposal adhere to ARPA parameters recognizing the temporary nature of these dollars and necessary guidelines and timelines to receive and expend. These proposals focus on strategic investment in equipment, facilities, and programs for which ACC has either existing partnerships, resources, and/or financial commitments which will allow the college to continue beyond initial Douglas County ARPA support.

ACC offers one of the lowest tuition rates in the state of Colorado and has no local bond or mill levy (unlike AIMS and Colorado Mountain College). The state of Colorado also ranks 47th in state per capita investment in higher education. In order to invest in programs that meet the growing technical demands of Colorado, like robotics and health care, ACC relies on outside and targeted investments from federal, state, local, or private resources. The tuition merely helps keep the programs operational after accounting for one-time investments.

The college has a strong reputation and history of delivering on its mission to create "innovative and responsive educational and economic opportunities in an accessible, inclusive environment that promotes success for students, employees, and the communities we serve." This is evidenced by our ability to leverage public/private investments for the Sturm Collaboration Campus in Castle Rock (including our ACC's \$40 million investment), which won the Economic Development Partnership of the year in Colorado. ACC has proven to be a strong steward of both public and private resources and is seeking the commissioners' partnership through investment in education and training programs and facilities.

1. Equipping the new Advanced Robotics and Automation lab at the Legacy Campus with the best simulation technology and equipment to help train our local Douglas County workforce to work for companies like Lockheed Martin, Amazon, Raytheon, and other companies who utilize advanced logistics technology and advanced manufacturing

Douglas County ARPA Investment Priority: Community and Economic Investments

ARPA Alignment Address: The pandemic resulted in a shutting down of the American economy causing job loss and financial instability for many in our community. This project seeks investment in a college/school district program's which will graduate students and workers prepared for high-demand and well-paying careers in Advanced Robotics and Automation. Funding for this educational/training program yields support of the economic recovery of our residents and businesses across the county, resulting in the rebuilding and/or enhancing the tax base.

ACC is planning to relocate its Robotics and Automation program from the Littleton Campus to the Douglas County School Board's Legacy Innovations Campus located in Lone Tree in the fall of 2023. ACC has invested millions of dollars in its base equipment, software, and faculty, and believes the Legacy location in Douglas County combined with updated equipment and software will take this program to the next level. To train local students and adults on the most up to date equipment and advanced manufacturing technology, an additional investment in cutting edge technology and simulation is needed. This would yield the most adaptable and relevant lab in the state of Colorado which would directly feed talent into some of our thriving Douglas County companies. Aerospace and Advanced Manufacturing sectors are the #2 private employer base on the Front Range (just behind Healthcare). There is an increasing need for the sector to cultivate home grown talent to address growth and labor shortages.

We are also leveraging \$750k from the state of Colorado to also build out an Industrial Maintenance Technician program in the same space in Legacy to complement our core Robotics and Automation Program.

This program would work with both DCSD students and adult students in our community to train them into multiple jobs in this growing sector and into many different companies. A Robotics and Automation Technology degree will prepare students to design, install, troubleshoot, and maintain industrial automation systems. Robotics and Automation Technology is identified as a new and emerging growth area and in-demand industry cluster. We expect to enroll an initial cohort of 2 groups of 20 adult students combined with 20-40 Douglas County School District students during the Fall of 2023 and will work with area industry, chambers, community organizations, and the school district to grow the program.

Graduates with a Mechatronics degree can pursue careers in a wide spectrum of industries, including:

- Robotics
- Aerospace
- Chemical
- Defense
- Automotive and Manufacturing
- Health, Medical, and many more

Sample jobs for Robotics and Automation Technicians

- Industrial Technologist
- Manufacturing Engineer
- Electromechanical Engineering Technologist
- Industrial Machinery Maintenance Technician
- Robotics Technician

According to the US Bureau of Labor Statistics and ONET OnLine, employment opportunities for Electromechanical Technicians, including Mechatronics Technicians, are expected to grow 15% between 2016 and 2026 in Colorado. The average salary for an Electromechanical Technician in Colorado ranges from \$63,000 to \$93,000

Equipment	Description	Cost Per	Quantity	Total
990-PAB53AF	PLC Trainers	\$19,630.00	5	\$98,150
2-8RSM	Studio 5000 PLC Software	\$1,015.00	9	\$9,135
82-711	FactoryTalk View Software	\$1,620.00	5	\$8,100
99-ME1M	Mechanical Drives Trainer	\$16,350.00	3	\$49,050
99-ME2M	Mech Drives 2	\$12,710.00	3	\$38,130
850-MT6B	Wiring Trainer	\$18,085.00	3	\$54,255
85-MT6BA	VFD/PLC Add On	\$6,535.00	3	\$19,605
85-MT2	Motors Trainer	\$19,135.00	1	\$19,135
85-MT5	Motor Control Trainer	\$18,140.00	5	\$90,700
85-BP	Basic Pneumatics	\$5,860.00	2	\$11,720
85-IP	Intermediate Pneumatics	\$3,595.00	2	\$7,190
85-EP	ElectroPneumatics	\$5,495.00	6	\$32,970
16019	24 VDC Power Supply for 85-EP	\$1,045.00	6	\$6,270
870-AB53A	Mechatronics PLC Controller	\$7,340.00	16	\$117,440
87-MS1	Pick and Place Station	\$14,210.00	2	\$28,420
87-MS2	Gauging Station	\$14,205.00	2	\$28,410

87-MS3	Orientation-Processing Station	\$16,670.00	2	\$33,340
87-MS4	Sorting-Buffering Station	\$11,405.00	2	\$22,810
87-MS5C1	Servo Robot Assembly Station	\$21,440.00	2	\$42,880
87-SWF1	Smart Robot Workcell	\$70,660.00	2	\$141,320
33876	Fanuc Integration Package	\$755.00	2	\$1,510
87-LSS1	Single-Station Laser Scanner	\$11,135.00	2	\$22,270
87-MS6	Torque Assembly Station	\$12,540.00	3	\$37,620
87-MS7	Inventory Storage Station	\$14,250.00	3	\$42,750
	Furniture	\$23,000.00	1	\$23,000
	Weller WE1010NA Digital Soldering Station	\$1,400.00	8	\$11,200
	RIGOL DS1102E Digital Oscilloscope	\$4,200.00	8	\$33,600
	TEKTON 24335 Torque Wrench	\$500.00	8	\$4,000
	Hakko FA400-04 Fume Absorber	\$720.00	8	\$5,760
	QuadHands Workbench	\$250.00	8	\$2,000
	Solder, wick, flux	\$800.00	8	\$6,400
	Electric prototyping supplies	\$1,600.00	8	\$12,800
	Wiring tool kits and supplies	\$4,000.00	8	\$32,000
	Equipment Kennedy® 297XB K2000 Toolbox	\$1,200.00	8	\$9,600
	Global Specialties Powered Prototyping Boards PB-503ALAB	\$7,200.00	8	\$57,600
	Durham Bin Cabinet HDC48-162-95	\$2,400.00	1	\$2,400
	Laptop computers and laptop cart	\$30,000.00	1	\$30,000
	Installation	\$6,250.00	1	\$6,250
	Shipping	\$50,000.00	1	\$50,000
Total				\$1,249,790

Estimated Cost: \$1.25 million

Note: Kenrick Castillo, who tragically lost his life in the STEM High School shooting, was one of our concurrent enrollment students in this program and was slated to enter this program as a full ACC student upon graduation. We are open to naming this new Robotics lab in his memory (pending CCCS board approval) and will actively work with his family to bring robotics competitions to Douglas County.

ACC is also aware of Lockheed’s Ignite Incubator lab. As we understand, that lab will be for project based work, mentorship, and entrepreneurship. The DCSD/Legacy lab will be utilized for technical training, certification, and deep understanding of Robotics and Automation so students can go work for a number of different companies in the Douglas County region around Aerospace, Logistics, Advanced Manufacturing, and Automation.

Below (next page): Lockheed Martin letter of support:

May 15, 2022

Re: Support for Innovations in CTE Grant and Partnership with ACC: Lockheed Martin

To Whom It May Concern:

Please accept this letter as documentation of the commitment of Lockheed Martin Corporation for Arapahoe Community College's proposed comprehensive pre-apprenticeship program for our Advanced Manufacturing Technician Apprenticeship Program (AMTAP). This program will provide both young adult and older adult students with hands-on, skills-based curriculum that will prepare them to enter seamlessly as paid AMTAP employees in our fast-growing manufacturing sector.

Lockheed Martin partnered with Calhoun Community College in Huntsville, Alabama on a similar pre-apprenticeship program in 2021 with great results and is excited to explore expanding this program in Colorado with Arapahoe Community College. We understand this grant will help ACC purchase new equipment, software, and support some curriculum development so we can prepare to launch this innovative program in the Spring of 2023. This effort perfectly aligns to Colorado's CTE goals and priorities and we support the investments in this endeavor.

Signature of this letter indicates our commitment to:

- Partner with ACC to develop a Colorado based manufacturing that can support programs such as AMTAP or the needs of other area manufacturers.
- Partner with ACC on recruitment, selection, and mentorship of students, as business needs dictate.
- Work with ACC to onboard and hire into paid positions upon successful completion of the pre-apprenticeship, as business needs dictate.
- Validate work readiness standards and competencies alongside ACC.
- Support Local Workforce areas for outreach to targeted and priority populations including events, distribution of program materials, social media, and website updates.
- Commit to supporting a diverse and inclusive workforce climate.

Lockheed Martin values its ongoing partnership with Arapahoe Community College and looks forward to the opportunity to develop a pre-apprenticeship solution that meets the talent needs of area manufacturers.

Sincerely,

A handwritten signature in cursive script that reads "Joe Rice".

Joe Rice | Director, Government Relations
Lockheed Martin Corporation

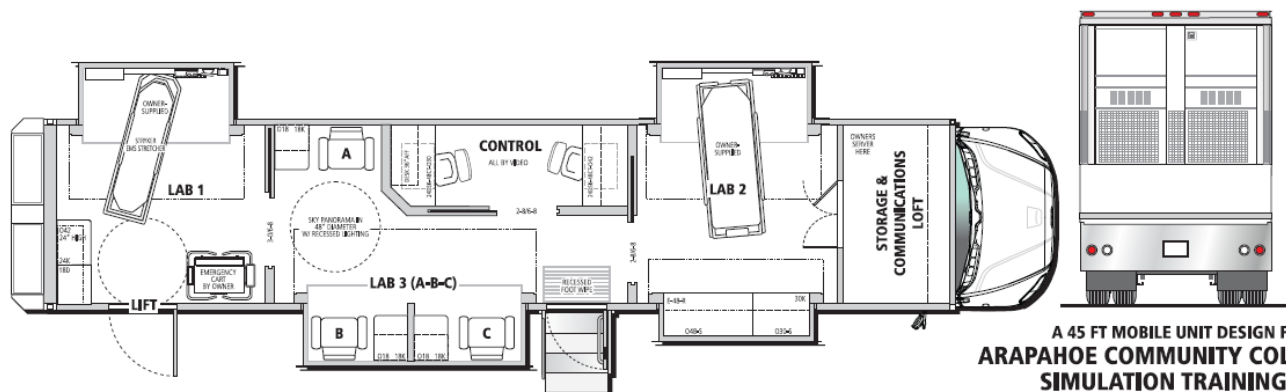
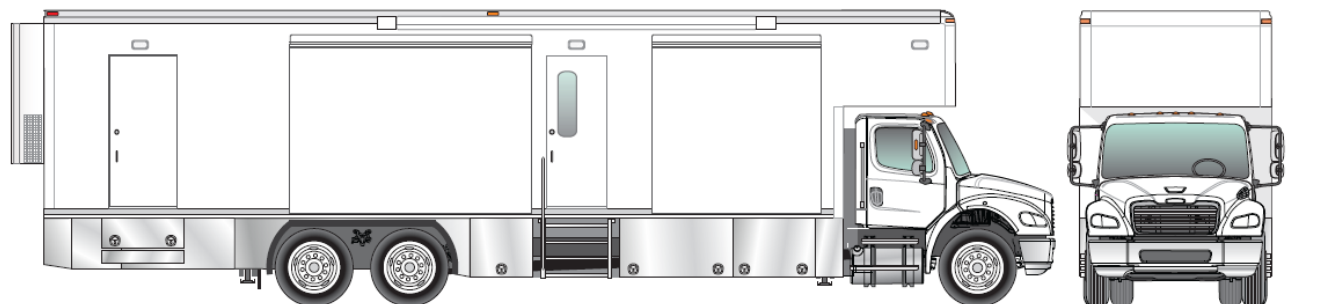
2. Construction of a Certified Nursing Assistant (CNA), Health Skills, and Medical Assistant Training Mobile Classroom/Lab and Emergency Medical Technician enhancements

Douglas County ARPA Investment Priority: Community and Economic Investments

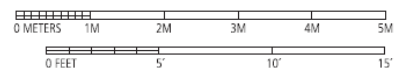
ARPA Alignment Address: This project seeks to address Colorado’s local healthcare workforce shortage exacerbated by the pandemic. The pandemic has proven that the demand for a robust, well-trained healthcare workforce is critical and failure to address will result in dire consequences for our citizens. As an example, it is estimated that there will be a 10,000 shortage of nurses in Colorado by 2026. Staffing shortages make clinical placements even more difficult for students to obtain the clinical training needed. A simulation center is crucial to rebuild our talent pipeline for our healthcare industry partners. Funding for this educational facility yields increased capacity in the training of more healthcare workers to address community residents’ needs. Independent analysis has shown that 95% of ACC students stay in Colorado after graduation, fueling local economic recovery and addressing employer workforce needs.

This project would support a partnership between ACC and Douglas County School District (DCSC) at their Legacy Innovations Campus but will also be able to move around Douglas County. This mobile classroom/lab housed at Legacy Campus will help supply our local health care industry with more front-line health professionals. This one-time investment would be used to fund, construct, and build the mobile classroom/lab space as well as purchase simulation equipment. ACC would be responsible for operation and continued maintenance. This investment is estimated to yield education and training of 100-200 Douglas County residents annually and basic healthcare services to more rural areas of Douglas County.

Design of the mobile health lab is below:



A 45 FT MOBILE UNIT DESIGN FOR THE ARAPAHOE COMMUNITY COLLEGE SIMULATION TRAINING UNIT
VERSION 2 8/4/22



The entire contents, including these scale drawings, are proprietary and copyrighted. All rights are reserved by LifeLine Mobile, Inc. Unauthorized duplication of LifeLine Mobile drawings is a violation of LifeLine Mobile's registered trademark. The term "Professional Space in Motion" is a service mark of LifeLine Mobile. The associated features and individual item prices shall not be included in any price estimate. For more accurate space planning, some items shown on the drawing may not be included in the price estimate. Consult the scale bar above for room dimensions, which are approximate and may vary somewhat due to construction variables and third party equipment dimensions.

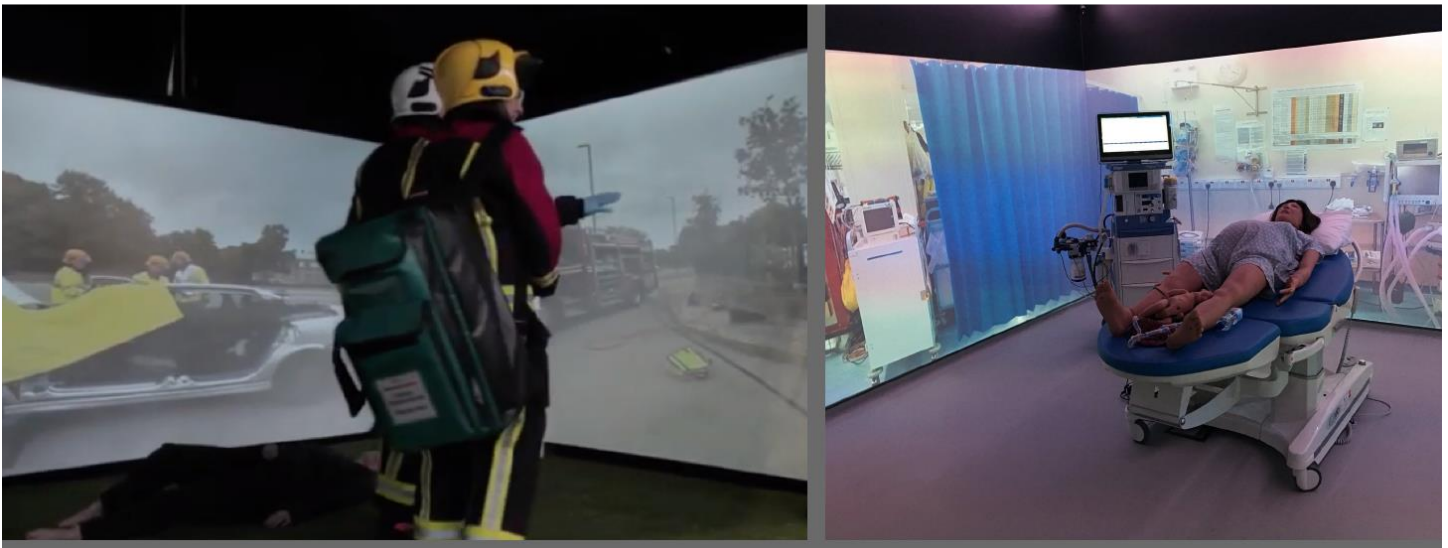


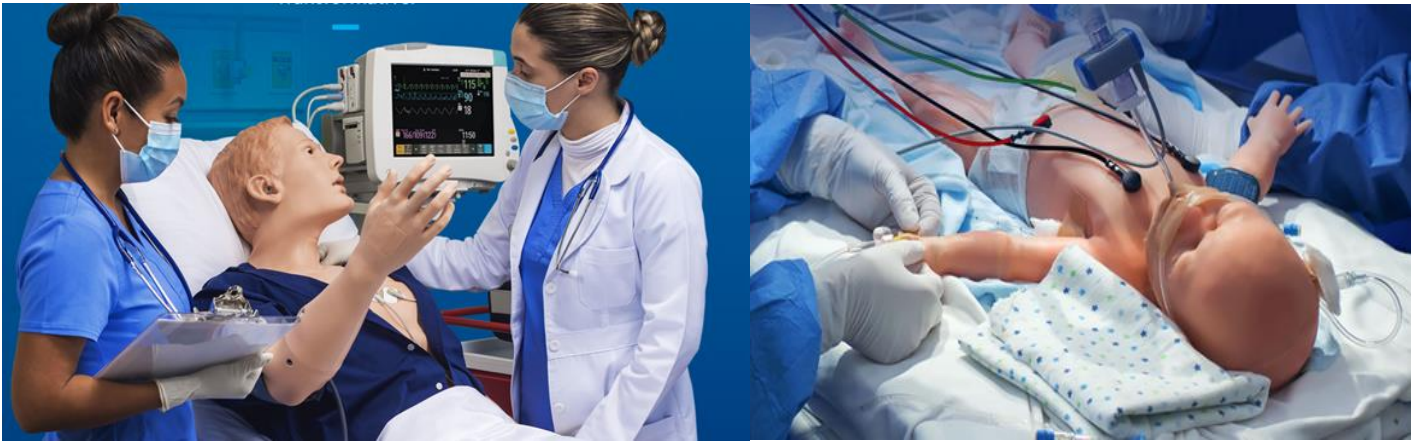
In partnership with the state of Colorado, ACC is able to match funding. While the total cost of the lab will be \$536,000 for the vehicle build-out, customization to fit select programs, and around \$64,000 for basic operations, we are only seeking \$300,000 from Douglas County for this specific health lab. We will seek \$500,000 from OEDIT and the state of Colorado for staffing and the other half of the cost for the lab. There is a historic shortage of EMTs and paramedics and is being defined as a 'crippling workforce shortage'. The need for EMTs and Paramedics has increased, the turnover is high "20%-30%" and it is difficult to increase class sizes due to limited clinical shift availability and the workforce shortage in nursing and EMS. The immersive simulation and the high-fidelity manikins help bridge the clinical gap and allows us to enroll more students and move more medical providers at all levels to certification and licensure. Similarly, the shortage of nurse and health faculty has constrained efforts to increase the number of students in nursing programs (AACN, 2022; Center for American Progress, 2022; Mercer, 2021).

According to American Association of Colleges of Nursing's (AACN) report on [2019-2020 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing](#), U.S. nursing schools turned away 80,407 qualified applicants from baccalaureate and graduate nursing programs in 2019 **due to insufficient number of faculty, clinical sites, classroom space, and clinical preceptors, as well as budget constraints.**

Simulation is an additional solution which helps to address healthcare training needs. ACC is requesting an immersive interactive projection program and manikin simulators. The immersive projection program projects motion and interactive videos on three walls in a training room for Emergency Medical Technicians (EMTs) at the new Legacy Campus. The system comes with lighting, sounds, and odors. The simulation space can be converted into any space imaginable. The room could be a bedroom, restaurant, mountain trail, airport terminal, and will simulate any environment that an EMT professional may encounter. ACC will also pledge to offer this program for our EMT partners in the area for training.

The system comes with a 360° camera we can use for filming environments. For instance, we can place the camera at the intersection of Lincoln and I-25 and film rush hour. We could then download the media and turn the simulation room into that intersection including lights and sounds. We then move our vehicle trainers and equipment into the room and students are running a call at a busy intersection without the dangers of physically being in a busy intersection.





Total breakdown:

Immersive projection system simulation	\$99,750
Patient Simulator Package	\$208,100
Mobile Health Lab	\$300,000 (will receive \$500k from state as a match, contingent on grant due Aug 31st)
TOTAL COSTS	\$607,850

Estimated Cost: \$607,850 including build-out and SIM equipment/technology

3. Expansion of Internships, Scholarships, Student Support for the Douglas County IDD Population

Douglas County ARPA Investment Priority: Intellectual and Developmental Disabilities (IDD) Community Investments

ARPA Alignment Address: This project seeks an increase in capacity of ACC’s Elevate and RISE programs for residents of Douglas County. Among the program’s goal is to prepare students for gainful and meaningful employment which enables greater financial mobility and opportunities. Funding for this program yields support for greater economic mobility of participants, which results in greater ability for them to contribute to our local tax base.

ACC’s Elevate Program was created to provide inclusive higher education services for students with intellectual and developmental disabilities (IDD) to foster academic growth, prepare for gainful employment, develop needed skills for independent living, and engage socially with the broader campus community.

The RISE (Rising Together In Search of Excellence) Program at ACC in collaboration with Craig Hospital and MINDSOURCE - Brain Injury Network at the Colorado Department of Human Services, is designed to bridge the transition between hospital-based rehabilitation and return to the community for adults living with Acquired Brain Injury (ABI), a brain injury that has occurred after birth. The ABI community includes those that are living with traumatic brain injuries (TBI). The courses in the program address the cognitive and psychosocial skills needed to achieve post-injury social, educational and/or vocational goals.

Both Elevate and RISE are programs currently subsidized by small grants, fluctuating state funding and student tuition and fees. ACC proposes ARPA funds to support Douglas County resident student scholarships for tuition, curriculum development to expand and support online learning opportunities, support for employer outreach and placement of students in internship and longer-term employment opportunities, and transportation support.

[ACC's Elevate Program](#) was established to provide an inclusive higher education pathway for individuals with intellectual and developmental disabilities (IDD). The program fosters academic growth, develop needed skills for independent living, prepare students for gainful employment, and engage socially with the broader campus community. Students with intellectual disabilities and developmental delays make up approximately 12% of the total population of students with disabilities served in Douglas County. When individuals with IDD have access to post-secondary education, they have higher employment rates, increased access to competitive employment, better wages, increased socialization, community belonging, and greater independence. According to statistics available through Think College, "individuals with IDD who had postsecondary education were more than twice as likely to be employed than their counterparts who did not have postsecondary education (Tom Sannicandro, 2019)."

Most people with IDD rely on public transportation to get around and public transportation in Douglas County is extremely limited. The new Legacy campus is more accessible, but with the exception of Uber or Lyft, there are very limited transportation options to get to the Sturm Campus in Castle Rock. Thirty-six percent (36%) of our graduates and 33% of our current students reside in Douglas County. These students would greatly benefit from having access to higher education and Elevate support services in their home communities.

Funding Needs to Increase Capacity:

Expansion to Douglas County: Elevate Support Coordinator - 1.0 FTE

This position will coordinate services and provide support for Elevate students in Douglas County: creating modifications to academic coursework, providing experiential learning opportunities, and coordinating intentional work-based learning experiences.

Dedicated Mental Health Counselor (10 hours per week)

Mental health support and the development of social/emotional regulation.

Peer mentors and tutors

Peer mentors and tutors will assist students with academic activities, serve as job coaches for employment experiences, and provide social/emotional support to aid in overall personal development.

Expand Work Based Learning Experiences to include Transportation:

Provide opportunities for small groups of students to expand participation in job shadows, job tours, volunteer experiences, internships, etc. These activities will serve as career exploration activities for new students and then be broken up based upon each student's declared pathway. Transportation will be provided.

Students will also participate in intentional, immersive teambuilding/leadership development experiences designed for adults with IDD.

Below are the outcomes of Elevate graduates related to employment:

2020 Graduates

1. Dietary Aide: Sky Ridge Hospital (Douglas County)
2. Dietary Aide: Sky Ridge Hospital (Douglas County)
3. Transferred to Colorado State University
4. Early Childhood Teacher Assistant: Pre-School Center (Douglas County)

2021 Graduates

1. Early Childhood Teacher Assistant: Pre-School Center

2. Usher/Customer Service Specialist: Denver Center for Performing Art
3. Completing Group Fitness Certification Exams: working with DVR for coaching to pass exams and obtain permanent employment in the fitness industry

2022 Graduates

1. Administrative Assistant: ARC of Colorado
2. Early Childhood Teacher Assistant: Pre-School Center
3. Computer Technician: PC Answers (Douglas County)
4. Assistant Athletic Director: Metropolitan State University (Paid Work Experience through DVR)
5. Graphic Designer: Redline Contemporary (Paid Work Experience through DVR)

One-time funding of ARPA funds allows for immediate expansion supporting Douglas County students participating in the programs. The college would then continue to seek grants and other sources to continue beyond ARPA.

Elevate Support Coordinator-1.0 FTE	\$57,000 per year + 40% for benefits	\$79,800 X 2 years
Mental Health Counseling	\$60/hour, 10 hours per week (15 weeks, per semester)	\$18,000 X 2 years
Peer Mentors and Tutors	\$10,000 for student hourly peer mentors and tutors	\$10,000 X 2 years
Expand Work Based Learning Experiences	\$10,000 to provide transportation to work-based learning experiences	\$10,000 X 2 years
Teambuilding/Leadership Development Activities	\$10,000 teambuilding and leadership development experiences designed for adults with IDD	\$10,000 X 2 years
Scholarships	\$22,200 student scholarships	\$22,200 X 2 years
RISE Coordination and Design	\$50,000 for design, outreach, and support	\$50,000
		Total: \$350,000



(First Elevate Graduate: Douglas County Resident)

RISE Program Support

As the college moves into the second year of development for the RISE program, two needs have emerged for student support. RISE has leveraged investments from Craig Hospital Foundation for its pilot program in Arapahoe County. One need for Douglas County is the need for scholarship funding for courses within the

program, and the other is expansion of the program to a hybrid and/or synchronous online format for those individuals who do not have the opportunity to attend the courses in person. The estimated costs for scholarship funding to support 10 additional students in the 2022-23 academic year (fall and spring semesters) would be \$6,500, curriculum development through an instructional designer would be an estimated \$40,000, and additional hours from the RISE lead instructor to focus on Douglas County recruitment and outreach support would be \$3,500. These are summarized below.



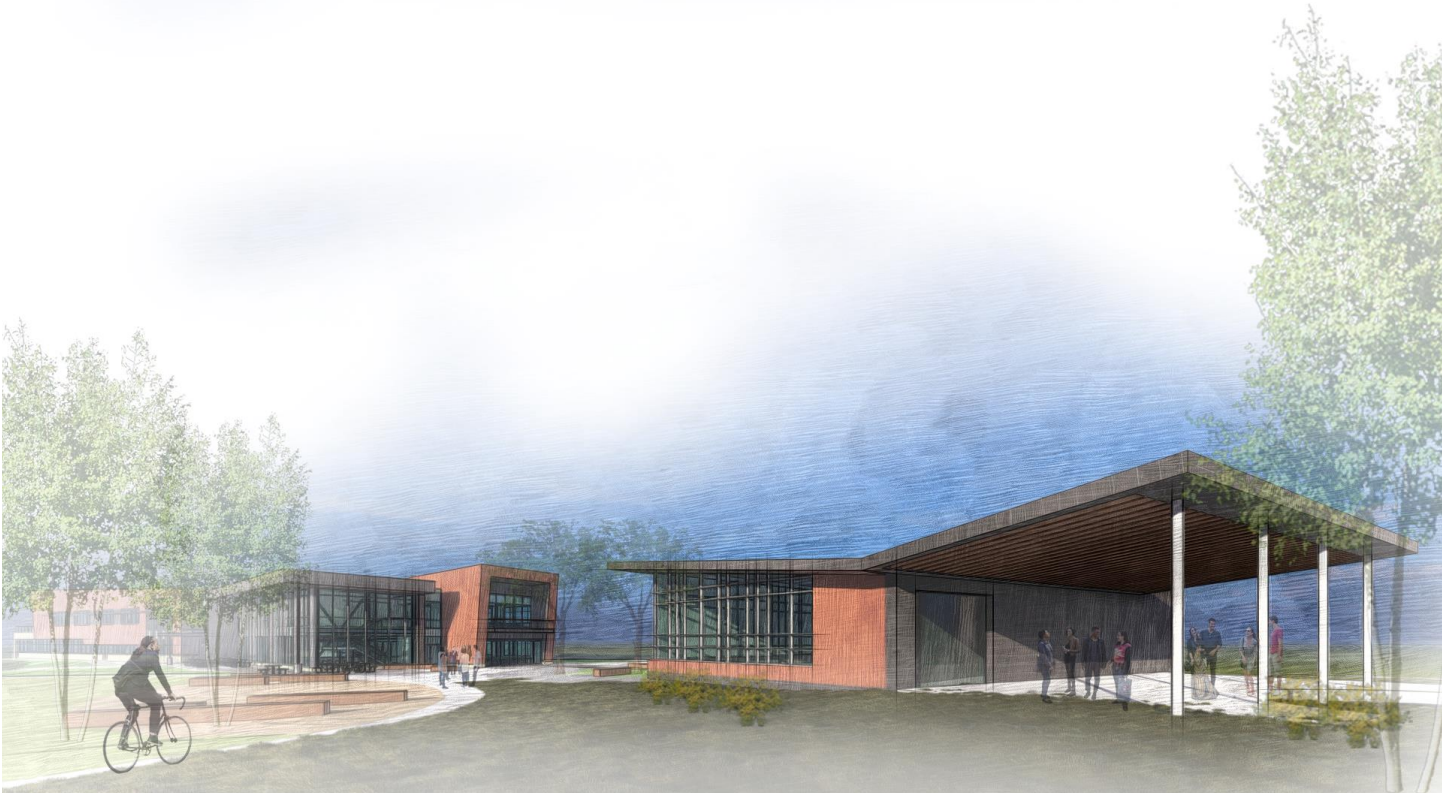
Estimated Cost: Program coordination and scholarships for Douglas County residents for Elevate and RISE Programs at ACC: \$350K

4. Double the Square Footage of ACC Sturm Collaboration Campus Community Room or create a standalone Workforce Training Pavilion/Facility (about 3500 sq feet)

Douglas County ARPA Investment Priority: Community and Economic Investments. Future investment consideration

ARPA Alignment Address: The pandemic resulted in a shutting down of the American economy causing job loss and financial instability for many in our community. This project seeks investment by increasing space and capacity for ACC's Sturm Collaboration campus in Castle Rock to provide workforce education and training short-term programs and workshops in partnership with local community entities. Funding for this project yields increased capacity to train residents for employment who can then provide greater support and contribution in the economic recovery via enhancing the tax base.

Through ACC's work to develop and implement the Talent Pipeline Douglas County initiative, it became very clear that there is a lack of centrally located, accessible and adaptable (large and small events) event and programming space in the central and south Douglas County communities. An expansion of this space (either standalone or community room expansion) would allow for the convening of 150-200 people as opposed to the current capacity of 75. An expansion would benefit the County's capacity to serve groups and individuals through workforce trainings, programming, and community events. We could potentially name this new pavilion the Douglas County Commissioner pavilion (with approval from CCCS).



Estimated Cost: \$2.5 million for expansion

Please contact Dr. Eric Dunker at eric.dunker@arapahoe.edu or 720-576-6032 for further discussion.

Thank you