Item Name: Request to Amend TRIF 3- Year Plan for Northern Arizona University

History of Previous Board Action

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Committee Review and Recommendation

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Statutory/Policy Requirements

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Arizona Board of Regents

Technology and Research Innovation Fund (TRIF) Program Proposal

University:	Northern Arizona University
TRIF Investvest Area:	Access and Workforce Development
Program Name:	Continuing Support for Existing Access and Workforce Development Programs

Problem Statement:

NAU offers a legacy of strong programs that align with the workforce demand across the State of Arizona. The programs serve transfer students, including adult learners, through statewide and online delivery modes. Additionally, the support for the development of real-time labor demand and workforce analysis is aligned with the programming offered. The continuation of these program investments is critical to continue the delivery and support of flexible high-quality programming that meets the needs of the Arizona workforce.

Program Description:

The existing academic programs supported through A/WD TRIF funding cross many disciplines. They are intentionally designed in flexible manners, including but not limited to 90/30-degree completion programs, certificates, and graduate degrees. For the 90/30-degree completion programs, NAU faculty collaborate with our community college partners to design and design programs in Arizona that include

NAU has a significant advantage for serving Arizona transfer students and adult learners through the delivery of workforce-driven programs at our statewide sites. These locations provide place-bound students the much-needed access to high-quality educational pathways, while empower them to maintain their life commitments, particularly jobs, family, and community responsibilities.

Is there an Arizona Specific Benefit or Impact?

High-growth labor trends are commonly described as above-average student and labor market demand growth and volume. According to Hanover Research, Arizona student degree completion trends and employment projections indicate there are 11 high-growth fields projected at the bachelor's level. Additionally, there are 14 high-growth fields projected at the master's level. All projected high-growth fields are captured within the existing academic programs supported through A/WD TRIF funding. The continued delivery of these programs is essential for the sustainability and growth of programs that align with current and projected workforce trends.

Investment Detail

	2022	2023	2024	Total
Infrastructure	2,758,788	2,539,588	2,539,588	7,837,964
Basic Research				0
Applied Research				0
Development				0
Total	2,758,788	2,539,588	2,539,588	

Performance Measures

	2022	2023	2024	Total
Faculty Startup Package Expenses				
Postdocs Supported				
Graduate Students	1,235	1,321	1,454	
Undergraduate Students	2,749	2,941	3,235	
Sponsored Project Funding				
Publications in Academic Peer-Reviewed Journals				
License and Options Income				
Startups				
Startup Investments				
Startup FTEs				

Arizona Board of Regents

Technology and Research Innovation Fund (TRIF) Program Proposal

University:	Northern Arizona University
TRIF Investvest Area:	Access and Workforce Development
Program Name:	Student Service and Support

Problem Statement:

As US society has increasingly created a narrative of questioning the value of higher education, students and their families have had greater interest in assurances that the university experience and achieving a college degree will lead to social mobility through expanded employment opportunities. This specific population will benefit from a prescriptive degree completion plan that increases access through barrier-free support. Now more than ever, it is critical that all students, including adult learners, receive holistic services and support throughout the student lifecycle, particularly in the areas of purposeful academic and career alignment, participation in internship and externships, transferable career skill development, and strong job seeking skills.

Program Description:

Example of proposed programming:

• University Advising Access Connected Care Team: The creation of the University Advising Access Connected Care Team (ACCT) will build new institutional services devoted to increasing access and student success, with a particular emphasis on non-traditional transfer students and academic programs supporting workforce development. We will directly address the distinct needs of non-traditional and adult learners through a case-management approach, which guides students through institutional policies and processes, serves students outside traditional business hours, and integrates an infrastructure that utilizes data and technology for data-driven decision-making and efficient operations.

What is the University's Advantage and/or Anticipated Funding Opportunities?

ACCT will substantially improve our ability to open access pathways and build capacity in workforce development programs. The North Valley site provides an ideal location convenient for place-bound students within Phoenix, Statewide Sites, and surrounding communities. We will provide on-site services at the North Valley site with a focus on degree attainment in a timely and cost-effective manner. The student support will collaborate across university and community college partners to attract and serve students with barrier-free educational pathways, including the development of a comprehensive structure for accessing prior learning for credit.

Is there an Arizona Specific Benefit or Impact?

In July 2021, Arizona ranked 39th amongst US states in unemployment rates at 6.6% (national average is 5.4%) and 33rd in college attainment rates (30% compared to the national average of 33%). College degrees can result in greater access to higher paying jobs and provide protection against unemployment. But college degrees alone do not provide access to higher paying job opportunities; students also need experiences that build transferable job skills and access to social networks that provide access to such jobs. NAU will advance its commitment to equitable postsecondary value by embedding career development in academic programs, and providing direct support to students to build a strong professional portfolio of transferrable career skills enhanced with internship experiences.

Investment Detail

	2022	2023	2024	Total
Infrastructure	**1,477,146**	1,219,979	1,082,361	3,779,486
Basic Research				0
Applied Research				0
Development				0
Total	**1,477,146**	1,219,979	1,082,361	3,779,486

Performance Measures

	2022	2023	2024	Total
Faculty Startup Package Expenses				0
Postdocs Supported				0
Graduate Students	481	713	977	2,171
Undergraduate Students	1,070	1,587	2,174	4,831
Sponsored Project Funding				0
Publications in Academic Peer-Reviewed Journals				0
License and Options Income				0
Startups				0
Startup Investments				0
Startup FTEs				0

Arizona Board of Regents
Technology and Research Innovation Fund (TRIF) Program Proposal

Northern Arizona Universit

Faculty Startup Package Expenses				
Postdocs Supported				
Graduate Students				
Undergraduate Students	100	200	300	
Sponsored Project Fundinç				
Publications in Academic Peer-Reviewed Journals				0
License and Options Income				0
Startups				0
Startup Investments				0
Startup FTEs				0

Arizona Board of Regents

Technology and Research Innovation Fund (TRIF) Program Proposal

University:	Northern Arizona University
TRIF Investvest Area:	Improving Health
Program Name:	Pathogen Genomics

Problem Statement:

The Challenge: Rapidly characterize outbreaks of pathogens to inform and enable community response. The COVID-19 pandemic illustrated that rapid detection of microbial pathogens is critical to an informed community response. Although the pandemic illuminated the need for screening in the eyes of many Americans, rapid and reliable detection strategies are also crucial for doctors to prescribe appropriate antibiotic regimens and to identify emerging biothreats. In Arizona, environmental monitoring of pathogens found in soil or

NAU is uniquely equipped to address this challenge due to its core strength in microbial genetics, genomics and microbiome sciences, and its history of training undergraduate researchers to support the health-care and biotechnology industries. Anchored by PMI, which includes a state of the art BSL3 laboratory and vivarium, NAU will continue to maintain robust relationships with external clients at the DHS and DoD. Recent investment into PMI has enabled it to grow its portfolio to include expertise in virology and computational sciences. On average, Pathogen Genomics researchers have trained over forty undergraduate researchers annually over the previous five-year period and continue to provide exemplary training in the fundamentals of genomic research. These students go on to outstanding next steps after NAU, including medical school and top graduate programs.

Is there an Arizona Specific Benefit or Impact?

Pathogen Genomics researchers specialize in infectious disease that affect Arizona and the Southwest. Their expertise was instrumental to the community response to COVID-19 and they play important roles in continued monitoring efforts. The program has proven to be effective in training students for jobs in translational genetics and medicine. In addition to researching pathogens with a significant presence in the state, NAU launched the COVID-19 Testing Service Center to grow the SARS-CoV-2 virus and test new drugs against it, giving Arizona an edge in responding to the crisis. NAU's TRIF investments will ensure researchers continue to make discoveries and invent new technologies that have an immediate and long-lasting impact on the health and well-being of the population of Arizona.

Investment Detail

	2022			Total
Infrastructure	180,000	180,000	180,000	540,000
Basic Research	359,788	385,467	459,800	1,205,055
Applied Research	185,000	185,000	185,000	555,000
Development	-	-	-	0
Total	724,788	750,467	824,800	2,300,055

Performance Measures

	2022	2023	2024	Total
Faculty Startup Package Expenses	0	0	0	0
Postdocs Supported	4	5	6	15
Graduate Students	17	22	24	63
Undergraduate Students	50	52	55	157
Sponsored Project Funding	6,000,300	6,493,946	6,890,261	19,384,507
Publications in Academic Peer-Reviewed Journals	52	57	62	171
License and Options Income	0	0	0	0
Startups	0	0	0	0
Startup Investments	0	0	0	0
Startup FTEs	0	0	0	0

Arizona Board of Regents

Technology and Research Innovation Fund (TRIF) Program Proposal

Faculty Startup Package Expenses				
Postdocs Supported				
Graduate Students				
Undergraduate Students	30			
Sponsored Project Funding				
Publications in Academic Peer-Reviewed Journals	22	24	26	72
License and Options Income	0	0	10,000	10,000
Startups	0	0	1	1
Startup Investments	0	0	0	0
Startup FTEs	0	0	0	0

Arizona Board of Regents

Faculty Startup Package Expenses	
Postdocs Supported	
Graduate Students	
Undergraduate Students	
Sponsored Project Funding	
Publications in Academic Peer-Reviewed Journals	
License and Options Income	
Startups	

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Arizona Board of Regents

With recognized leaders in environmental science and ecology, and with synergy from skills in remote sensing and computational modeling, NAU is uniquely positioned to train the next generation of scientists to tackle problems in these areas. NAU has multidimensional strength in this program, including faculty who incorporate field-based, molecular genetic and bioinformatic approaches to understanding how changing climate impacts life on earth. The integration of sensor technology with informatics allows researchers to conduct longitudinal studies to assess5.51 Td [W)3 (it) (c)-4 (a)-.o0Mal

Faculty Startup Package Expenses	
Postdocs Supported	
Graduate Students	
Undergraduate Students	
Sponsored Project Funding	
Publications in Academic Peer-Reviewed Journals	
License and Options Income	
Startups	
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