



## **Maricopa County Community Colleges District (MCCCD)**

Request for Science, Technology, Engineering, and  
Mathematics (STEM) and Workforce Development Funding



## About the Maricopa County Community Colleges District (MCCCD)

MCCCD is one of the largest community college systems globally, proudly empowering approximately 200,000 students to succeed by providing the education, training, and skills needed to thrive in tomorrow's economy. As the largest workforce development provider in the state, MCCCD added \$7.2 billion in income to the state's economy in Fiscal Year 2017, the equivalent of 3 percent of the total gross regional product of Maricopa County. For every tax dollar spent educating students attending MCCCD, taxpayers will receive an average of \$4.30 in return over the course of the students' working lives. On average, 88 percent of students that complete their program through MCCCD remain in Arizona to work and positively contribute to the state's economy.

### Request for Science, Technology, Engineering, and Mathematics (STEM) and Workforce Development Funding

For the Fiscal Year 2023 Budget, MCCCD requests \$8.6 million to fully fund the STEM and Workforce Programs statutory funding formula pursuant to A.R.S § 15-1464. The ongoing restoration of this funding will allow Maricopa to invest in the execution of the projects included below.

MCCCD has been working with local, regional, and state organizations and employers to identify priority industry sectors of Healthcare, Manufacturing, IT/Cybersecurity, Construction, Engineering and Business Services where significant job growth continues to outpace the number of qualified individuals to fill those jobs.

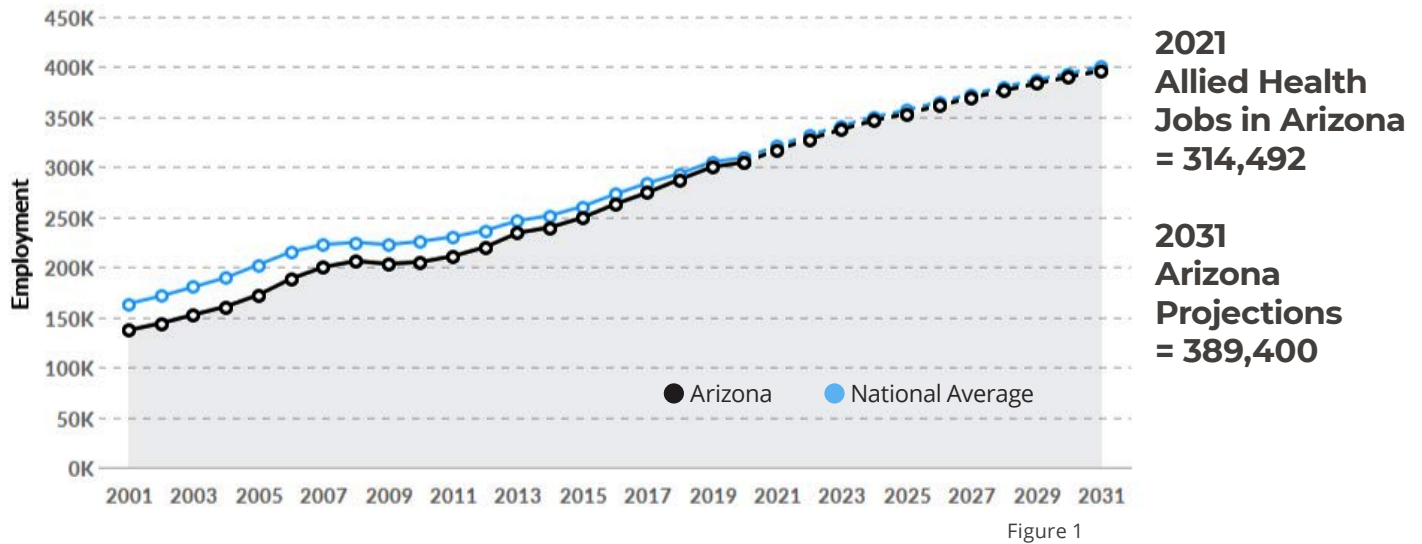
The initiatives in this document directly align with STEM workforce industry needs and support MCCCD in delivering relevant, high-quality training and education to our community in the fastest-growing and most-promising job paths built on science, technology, engineering, and mathematics. For the Fiscal Year 2023 Budget, MCCCD requests \$8.6 million to fully fund the STEM and Workforce Programs statutory funding formula pursuant to A.R.S § 15-1464. The ongoing restoration of this funding will allow Maricopa to invest in the execution of the STEM projects included below.

### Overview of STEM and Workforce Development Funding Initiatives

- Initiative #1** | Allied/Integrated Health Care Expansion Across the Valley
- Initiative #2** | Nursing Program Expansion in the West Valley
- Initiative #3** | Maricopa IT and Cybersecurity Institutes Valley-Wide
- Initiative #4** | Maricopa Automated Mobility, Advanced Manufacturing & Engineering Institutes
- Initiative #5** | Phoenix Forge Makerspace Downtown Completion
- Initiative #6** | Biomedical Technician Program at LabForce in Downtown Phoenix

# STEM Initiative #1 | Allied/Integrated Health Care Expansion Across the Valley

To combat the healthcare workforce shortage in Arizona, MCCCDC recommends investing in the expansion of its Allied Health offerings in Community Colleges across the Valley, driven around the current healthcare workforce market needs. Allied Health is a program focused on the needs of the healthcare industry beyond nursing, such as medical laboratory technicians, physical and occupational therapy assistants, home health rehabilitation aides, and medical insurance coding. Allied Health professions are anticipated to grow 20% over the next 10 years in Arizona. (see Figure 1 below)



With implementation of this expansion of Allied Health program offerings in community colleges across Maricopa County, MCCCDC projects tremendous increases in student enrollment and completions over the next 10 years. This much-needed healthcare expansion across the Maricopa Community Colleges system will allow for short-term, entry-level programs that will offer opportunities for students to enter the healthcare field and current professionals to upskill and advance their careers. This funding will allow for the creation and expansion of in-demand programs, such as Nurse Assisting, Phlebotomy, and Emergency Medical Service Providers, Dental Hygiene, Doulas, Medical Assisting, Pharmacy Technician, and Electrocardiogram (EKG) Technician. These programs will expand the workforce in high demand areas and better meet the needs of local employers.

By investing in this program now, Arizona will see a tremendous return seen through increases in a person's lifetime compensation and tax contribution. This healthcare industry employee expansion project will cost \$18.4 million, adding an estimated 2,100 slots annually in healthcare programs across Maricopa County.



By investing in this program now, Arizona will see a tremendous return seen through increases in a person's lifetime compensation and tax contribution. This healthcare industry employee expansion project will cost \$18.4 million, adding an estimated 2,100 slots annually in healthcare programs across Maricopa County.

## EXPENSE and AMOUNT

Faculty/Staff | \$2,620,000

Technology/Equipment | \$9,100,000

Capital/Maintenance Costs | \$6,700,000

**TOTAL | \$18,420,000**



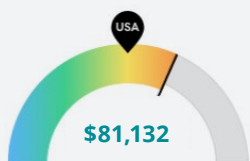
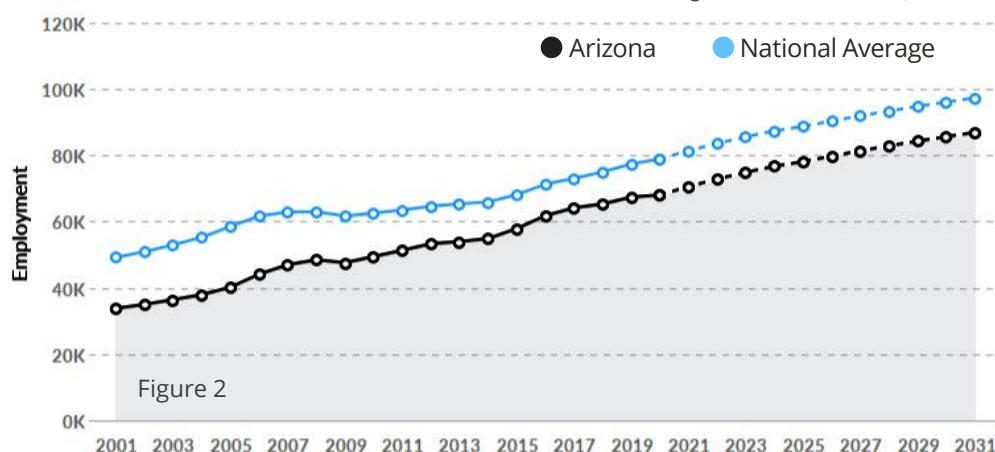
## STEM Initiative #2 | Nursing Program Expansion

As part of the widely recognized nursing shortage, MCCCCD recommends investing in the expansion of its nursing programs in community colleges across the County. COVID-19 has elevated the need and heightened the anxiety around the nursing shortage. Arizona averaged between 15,000 and 20,000 Nurse Practitioner (NP) and Registered Nurse (RN) unique job postings monthly in 2021, yet only filled an average of 1400 positions a month. The demand for NPs and RNs is projected to grow nearly 20 percent by the year 2031 (see Figure 2 below). And, nearly 15,000 nurses currently in the workforce are near retirement. An investment in critical infrastructure to grow Arizona's nursing programs is critical to support the increasing health care workforce needs over the next decade and beyond.

With implementation of a Valley-wide expansion of nursing programs, MCCCCD projects tremendous increases in nursing student enrollment and completions to address the two-year waitlist for this high-demand program. It is projected that investing in additional nursing programs will equate to an estimated 500 additional nursing program slots.



### 2021 Nursing Jobs in Arizona = 70,028 2031 Arizona Projections = 85,500



Average Arizona Compensation  
for Nurses is \$81,132.

Registered Nurses in Arizona are a well-compensated workforce generating tremendous financial incentives for our System. By investing in this program, Arizona will see a tremendous return through increases in a person's lifetime compensation and tax contribution.

This nursing program expansion targeted at addressing the nursing industry workforce shortage will cost \$6.27 million and generate 500 new program slots annually.

#### EXPENSE AND AMOUNT

Faculty/Staff | \$1,020,000  
Technology/Equipment | \$3,000,000  
Capital/Maintenance Costs | \$2,250,000  
**TOTAL | \$6,270,000**

## STEM Initiative #3 | Maricopa IT, Advanced Technologies, and Cybersecurity Institutes



In 2021, Arizona had 95,406 people working in Computer Occupations. That number is projected to be 115,000 by 2031.



Arizona saw an average of 7,500 Computer Occupation job postings a month, and only filled an average of 3,700 of them.



Average Compensation for Computer Occupations in Arizona is \$83,406.

Figure 3

The Information Technology (IT), Advanced Technology and Cybersecurity are booming industries across the nation and technology companies are actively looking to states like Arizona to grow their companies. This tech-expansion in Arizona is an exciting opportunity, bringing high paying jobs and massive financial returns to our state. (see figure 3)

To support the alignment of growth and workforce needs, MCCCDD recommends investing in the establishment and expansion of Technology Institutes across the Valley to target high-need areas including cybersecurity, robotics, programming, artificial intelligence, web technology, cloud computing, data analytics and drone technology.





With implementation and expansion of these workforce driven IT and Cybersecurity Institutes, MCCC anticipates a healthy growth in high-demand and high-paying technology and computer occupations such as cloud computing, cybersecurity, and programming. This focus on computer occupations directly aligns with the steep workforce growth over the next 10 years. (see Figure 4 below)

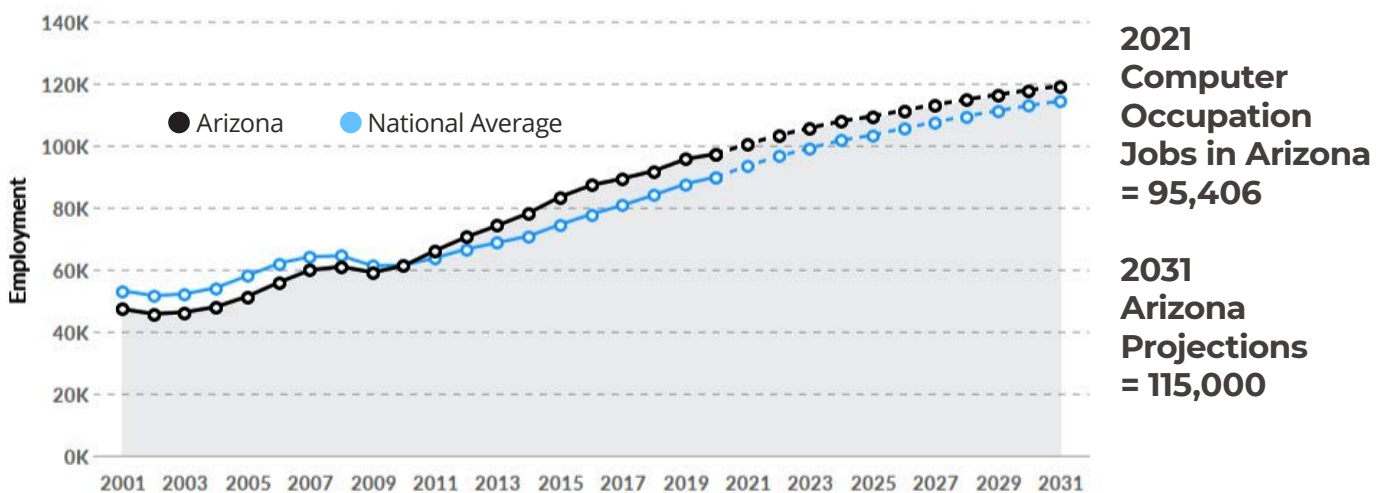


Figure 4

The high-paying jobs that the technology industry brings to Arizona equate to a massive return on investment for this program. This technology program targeted at addressing the immediate and projected IT and cybersecurity workforce shortage will cost \$4.85 million, generating the enrollment of 800 additional students in IT, Advanced Technologies, and Cybersecurity courses with a presence in community colleges across the Valley.

#### EXPENSE AND AMOUNT

Faculty/Staff | \$350,000

Technology/Equipment | \$2,000,000

Capital/Maintenance Costs | \$2,500,000

**TOTAL \$4,850,000**



## STEM Initiative #4 | Maricopa Automated Mobility/Advanced Manufacturing & Engineering Institutes



Maricopa County is currently experiencing and will continue to see a growth in workforce demand for the automated mobility and advanced manufacturing fields to support the supply chain in a global business environment, including trucking operations, distribution, transportation, and warehousing, and critical advanced manufacturing industry skills including robotics, automated systems, instrumentation control systems, and cyber-physical systems (see Figure 5). This industry is rapidly transforming into technology-centric autonomous vehicles and factories/warehouses, so developing modernized programs to prepare the workforce of tomorrow's supply chain is critical.

Aligning with this manufacturing boom, Arizona is also in high need of engineers to serve the ever-growing chemical, civil, mechanical and electrical engineering workforce. Arizona continues to welcome new manufacturing-focused businesses to the Valley, and Forbes names Arizona as the United States Semiconductor Central because of the welcoming of massive fabrication employers such as Intel and the Taiwan Semiconductor Manufacturing Company (TSMC). In communicating with these new industries, MCCCDD learned that they are seeking a widespread of knowledgebase, ranging from a traditional engineer to a logistician.

**2021  
Advanced  
Manufacturing  
Jobs in Arizona  
= 418,738**

**2031  
Arizona  
Projections  
= 466,400**

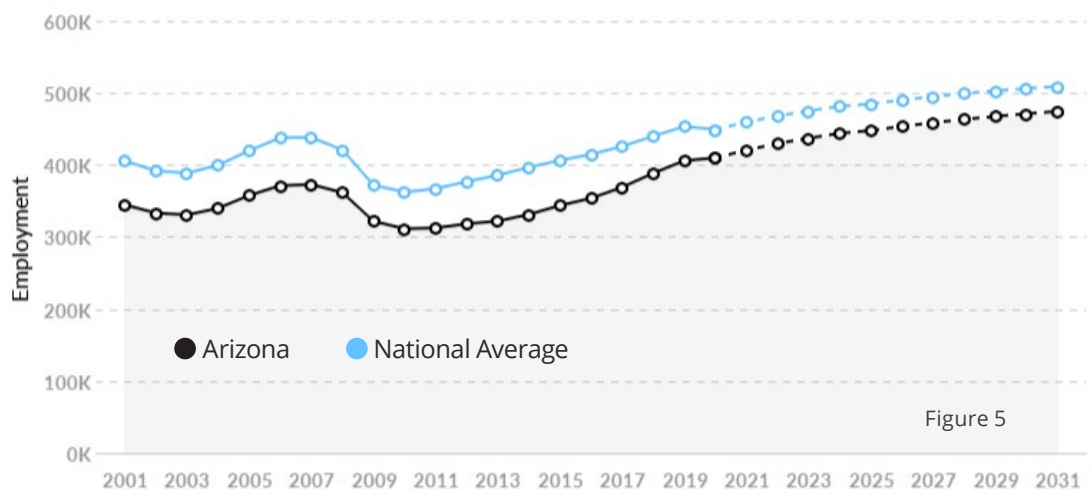


Figure 5

MCCCDD seeks an investment in the development and expansion of programs and provide a multitude of credit, clock-hour, and non-credit training programs that lead to industry-recommended trainings and credentialing. The new Automated Mobility and Advanced Manufacturing Institutes and expansion of engineering offerings in colleges across the Valley will cost \$17.1 million and better-meet the workforce need in the growing manufacturing, automated mobility and logistics, trades, and engineering professions.

### EXPENSE and AMOUNT

Faculty/Staff | \$800,000

Technology/Equipment | \$6,500,000

Capital/Maintenance Costs | \$9,800,000

**TOTAL \$17,100,000**

## STEM Initiative #5 | Phoenix Forge Makerspace Expansion



### Maricopa Community Colleges recently unveiled phase one of the Phoenix Forge Makerspace.

As the largest makerspace in Arizona located in the heart of downtown Phoenix, this innovative approach to generating interest and experience in the hands-on craftsman workforce is quickly taking notice by tradespeople across Maricopa County. The makerspace houses an abundance of welding and artistry tools to encourage growth in this industry.

Operated by GateWay Community College, but shared by all ten colleges and available to every student across MCCCDC, Phoenix Forge provides the resources to spark interest and innovation, while offering complementary and unique workplace skills training for 21st Century professionals. Phoenix Forge offers stand-alone and parallel, project-based learning experiences emphasizing employer-desired skills development.

The eastern portion of the makerspace remains unfinished, although the desire to maximize use of this building is existent both internally with colleges and externally with the public. MCCCDC requests a STEM investment to support the completion of the final phase of the makerspace. **This investment will allow MCCCDC to complete the project to expand student offerings in advanced manufacturing and user-centered Design thinking.** The completed concept will allow all ten Maricopa Community Colleges and community members access to an expansive array of traditional and advanced manufacturing and prototyping tools.

Investing in the completion of the makerspace will cost \$3,150,000 and support the workforce development of tradespeople and manufacturers in Arizona.

#### EXPENSE and AMOUNT

Faculty/Staff | \$150,000

Technology/Equipment | \$500,000

Capital/Maintenance Costs | \$2,500,000

**TOTAL \$3,150,000**



## STEM Initiative #6 | Biomedical Technician Training



**MCCCD seeks an investment to expand offerings in the biomedical technician level workforce at LabForce, located in the new in the new Wexford Science and Technology building in the heart of the Phoenix Biomedical Campus downtown.**

Expanding offerings in the biomedical field will help to build the talent pipeline necessary for the growth of the Arizona bioscience, life science, and STEM focused high technology start-up companies. The investment will support MCCCD in developing programs to expand and train the incumbent workforce and offer stackable, credit-bearing credentials for those entering critical biomedical fields.

Arizona has seen an increase in the employer demand for life, physical, and social science technicians displayed through the number of statewide job postings (See Figure 6 below). This trend is expected to continue over the next decade, and MCCCD is poised to meet this growing workforce demand with a modest investment to develop new program offerings in the biomedical fields.

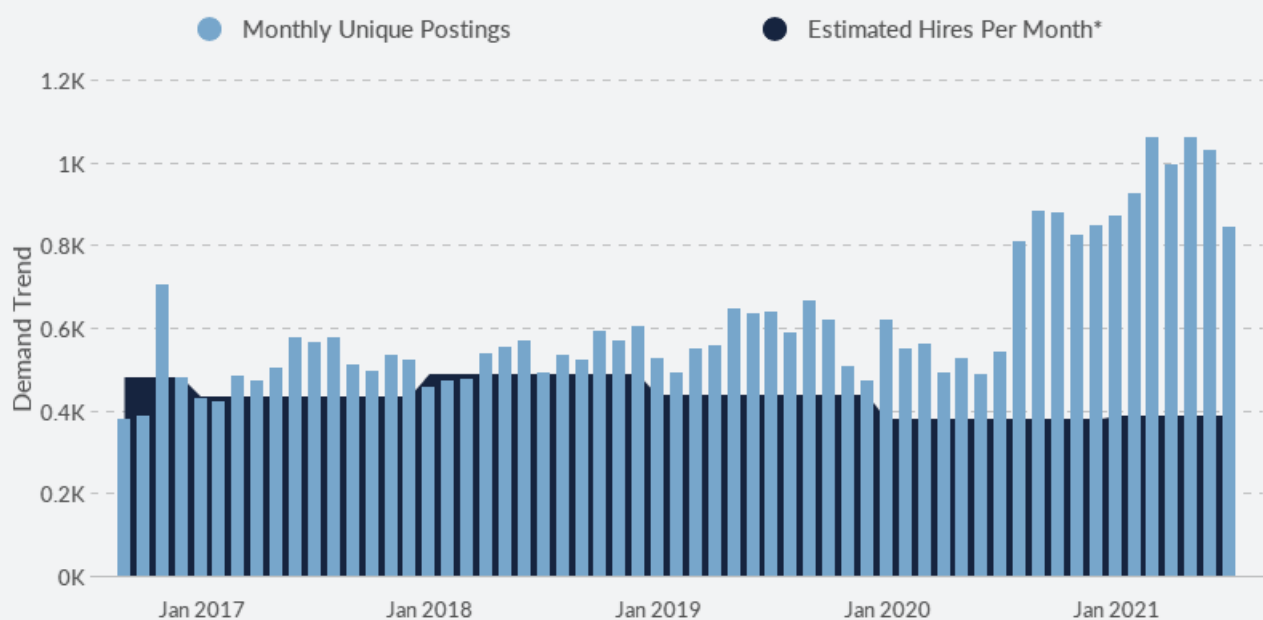


Figure 6



STEM investments in LabForce will allow for the further development of training programs in histology, medical laboratory technology, and laboratory assisting to prepare and advance individuals for jobs as Biomedical Lab Technicians, Quality Systems Managers and Process Managers in the field of biosciences.

Investing in MCCCCD's biomedical program offerings will cost \$1,815,000 and support the workforce development of the fast-growing biomedical industry in Arizona by generating 100 additional program slots annually.

#### **EXPENSE and AMOUNT**

Faculty/Staff | \$465,000

Technology/Equipment | \$500,000

Capital/Maintenance Costs | \$850,000

**TOTAL \$1,815,000**



**MARICOPA**  
COMMUNITY COLLEGES

2411 W. 14th St., Tempe, AZ 85281

Chandler-Gilbert | Estrella Mountain | GateWay | Glendale | Mesa | Paradise Valley | Phoenix | Rio Salado | Scottsdale | South Mountain

---

The Maricopa County Community College District (MCCCD) is an EEO/AA institution and an equal opportunity employer of protected veterans and individuals with disabilities. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, age, or national origin. A lack of English language skills will not be a barrier to admission and participation in the career and technical education programs of the District.

The Maricopa County Community College District does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs or activities. For Title IX/504 concerns, call the following number to reach the appointed coordinator: (480) 731-8499. For additional information, as well as a listing of all coordinators within the Maricopa College system, visit: [www.maricopa.edu/non-discrimination](http://www.maricopa.edu/non-discrimination).

REVISED 12-10-2021