PATHWAYS TO SUCCESS: EMPOWERING STUDENTS AND STRENGTHENING MONTGOMERY COUNTY'S WORKFORCE

APRIL 23, 2025

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MONTGOMERY COUNTY ECONOMIC DEVELOPMENT CORPORATION MARYLAND

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LAST YEAR AND THIS YEAR

Last year:
- Montgomery County Economic Overview
- Montgomery County Educational Overview
- Gap Analysis (Including Introduction of USG Industry Sector Framework)
- Recommendations for solving the gap (including introduction of academic pathway framework)

This year:
- Reviewing and updating gap analysis
- Exploring pathways as a mechanism for solving the gap
- Exploring pathways and skill building within the county
- USG as a pathway to success, exploring the USG student outcomes

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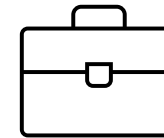# MONTGOMERY COUNTY TODAY: ECONOMIC INDICATORS

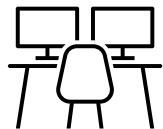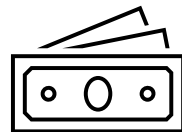Total Population:
1,082,273

Population Under 18:
22.6%

33% of population has a graduate degree

Total Employed:
533,488

Average Annual Job Openings:
57,846

Median Household Income:
$125,600

Unemployment rate:
3.1% as of February 2025

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MONTGOMERY COUNTY TODAY: EDUCATION INDICATORS

2024 MCPS Total Students: **159,671**

2023 High Schoolers: **52,113**

71.1% of 2023 MCPS Grads to Higher Education

20.2% of those students went to MC

Fall 2024 MC For-Credit Enrollment: **18,835**

2020 MC Graduation Rate: **27.5%**

2020 MC Transfer Rate: **21.8%**

Fall 2024 USG Enrollment: **3,138**

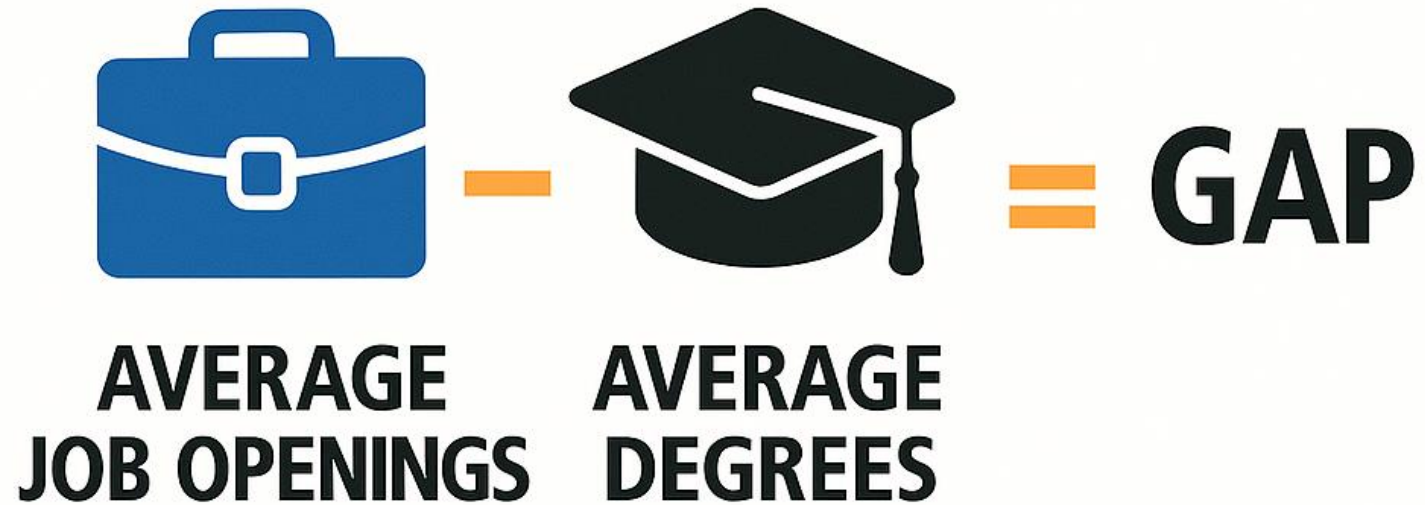USM MoCo Degrees (Estimated): **4,200**

Sources: MCPS, MHEC, MC, USG, USM

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ISSUE AT HAND:
GAP BETWEEN OPENINGS AND DEGREES

GOVERNOR MOORE AND THE NEED FOR SKILLED WORKERS

At an event in Montgomery County in 2024, Governor Moore stated "Right now, in the state of Maryland, there are two available jobs for every single person filing for unemployment. The problem is that we have a skill set disconnect."

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INDUSTRY SECTOR OVERVIEW

ENGINEERING & TECHNOLOGY

Computer Science
Cybersecurity
Data Science
Engineering
Information Science

BUSINESS ENTERPRISE

Accounting
Business Administration
Hospitality and Tourism Management
Management
Marketing

HEALTH & LIFE SCIENCES

Biotechnology
Health Administration
Nursing
Pharmaceutical Sciences
Social Work

PUBLIC SERVICE, EDUCATION & SOCIAL SCIENCES

Criminology and Criminal Justice
Education
History
Political Science
Public Administration

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INDUSTRY SECTOR GAP UPDATED 2025

ENGINEERING & TECHNOLOGY

Average Annual Openings: 2,828

Average Degrees Produced: 1,095

Gap: 1,733 openings

BUSINESS ENTERPRISE

Average Annual Openings: 6,723

Average Degrees Produced: 796

Gap: 5,927 openings

HEALTH & LIFE SCIENCES

Average Annual Openings: 2,949

Average Degrees Produced: 860

Gap: 2,089 openings

PUBLIC SERVICE, EDUCATION & SOCIAL SCIENCES

Average Annual Openings: 4,080

Average Degrees Produced: 1,070

Gap: 3,010 openings

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CONNECTING THE DOTS: EMPLOYER DEMAND FOR SKILLS

BioTechnology: Pharmaceuticals, Manufacturing, Chemistry, Clinical Trials

Position, Navigation, Tracking: Electrical Engineering, Computer Science, Systems Engineering, Automation.

Digital Infrastructure: Amazon Web Services, Agile Methodology, Automation, Data Analysis

Montgomery County in General: Project Management, Marketing, Auditing, Nursing, Computer Science

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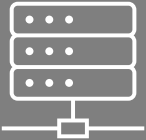Empowering Economic Advancement Through Education and Workforce Development

CONNECTING THE DOTS: EMPLOYER DEMAND FOR SKILLS

BioTechnology: SAP Applications, Python, Microsoft Office 360

Position, Navigation, Tracking: SAP Applications, Python, JIRA, MATLAB, Linux.

Digital Infrastructure: Amazon Web Services, Python, SQL, Microsoft Azure, APIs.

Montgomery County in General: Python, Amazon Web Services, SQL, Microsoft Office

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HOW DO WE ADDRESS THE GAP AND SKILL DEMAND?

GOVERNOR MOORE'S CALL TO COLLABORATE

"Companies in the private sector [need] to be involved in curriculum, trade and educational disciplines to make sure we're creating that pipeline in the industries of the future. It means we need to start early. It means we need to be disciplined, and it means we need to invest." (Gov. Moore during an event in Montgomery County in 2024)
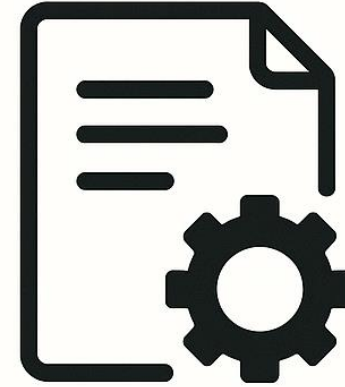
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Tap into new student pools

Develop and support K-J pathways

Bring new programs to USG

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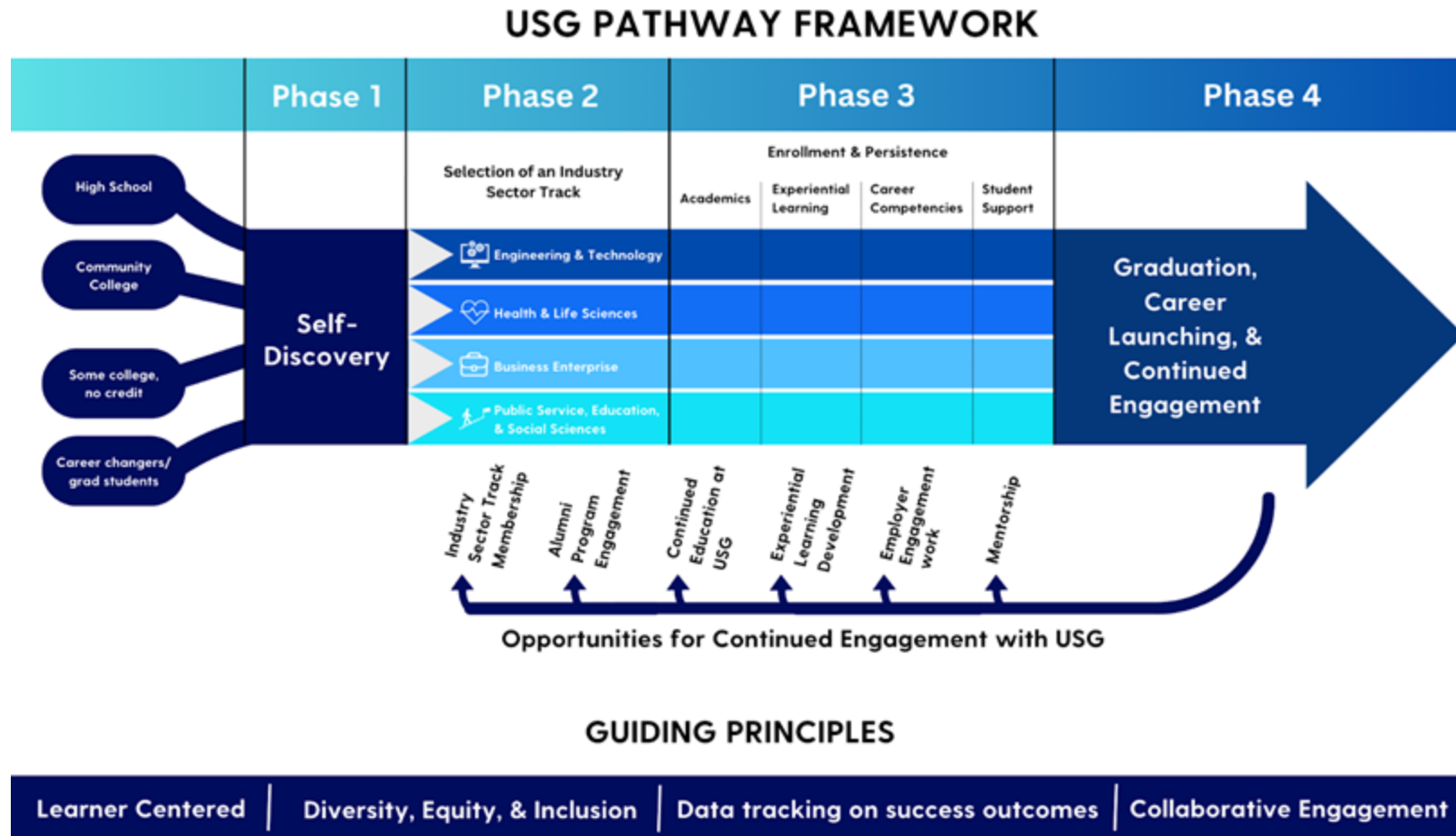**InnovateED:**
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BRIDGING THE GAP WITH PATHWAYS

USG PATHWAY FRAMEWORK

MCPS, MC, AND USG – BUILDING PATHWAYS AND SKILLS TO IMPROVE THE WORKFORCE

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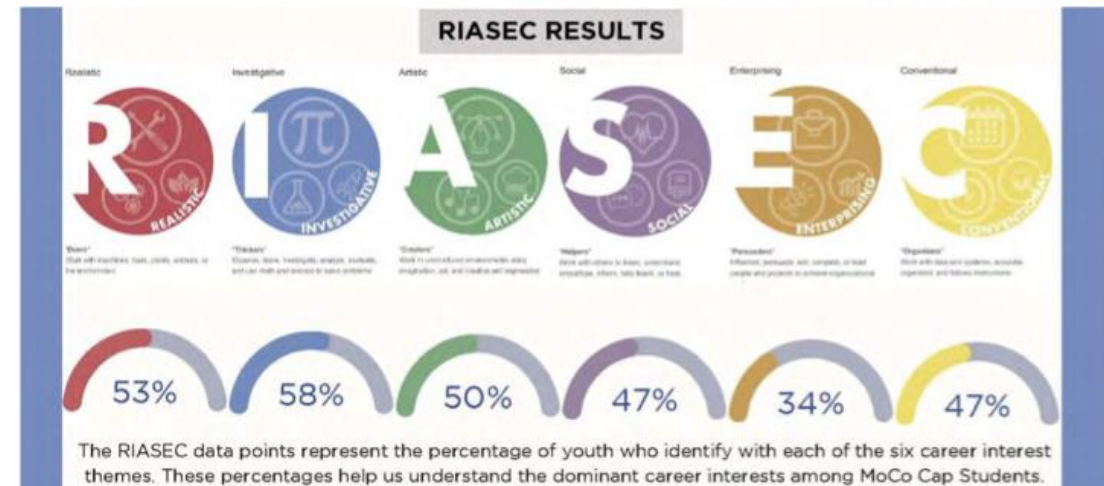Empowering Economic Advancement Through Education and Workforce Development

MCPS: IDENTIFYING STRENGTHS, INTERESTS, AND VALUES

Developed in the late 1950s, the RIASEC model helps people figure out personal passions and preferences, while also outlining the style of work needed for jobs and tasks.

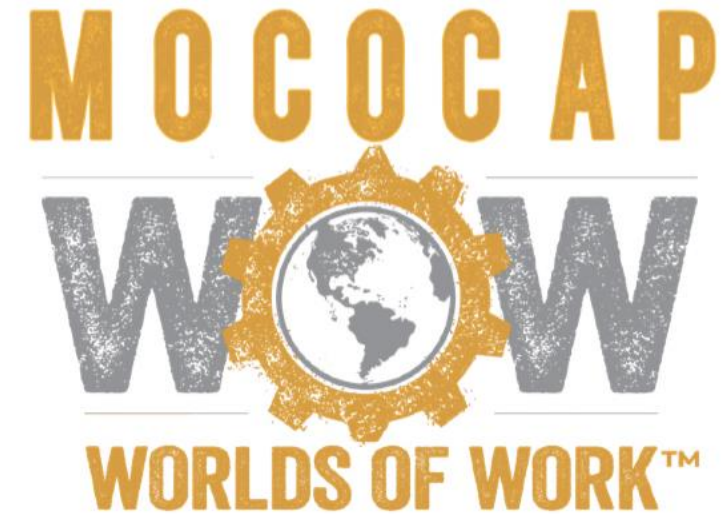The program served **over 48,000** unique students in 2024

Source: MoCo CAP

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Source: MoCo CAP

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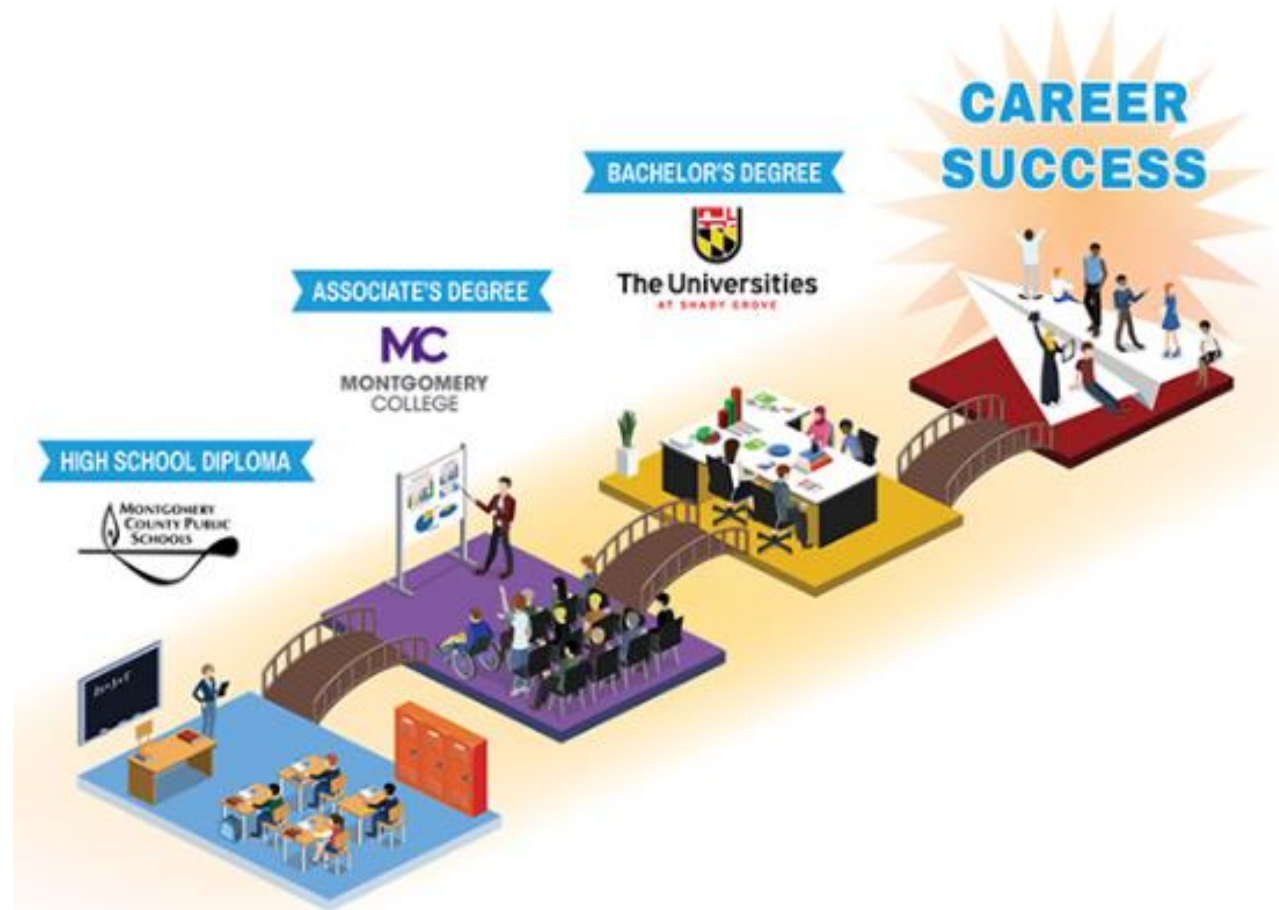
WHAT DO THE ACES STUDENTS SAY?

One of the things that helped me a lot were the volunteer experiences. That's how I was able to step foot into a hospital, shake hands with doctors, and meet nurses. – Larisa K.

My ACES coach... was instrumental in my academic journey. She supported me throughout my time at Montgomery College, contributing significantly to my success. With the assistance of my coach, the ACES team, and my own dedication, I was able to secure financial aid and complete my associate's degree in Business from MC in the spring of 2022. As a first-generation student and immigrant, this achievement was monumental for both my family and me. – Karoline T.

I received support through workshops, coaching, and other events hosted on campus that helped me grow professionally. Outside of school, I gained additional experience during my summer internships. – Rachel F.

ACES provided ongoing **professional development workshops, one-on-one coaching, and career events** which sharpened Rachel's soft skills and prepared her for the workplace. With this support, she secured **summer internships (including with the National Weather Service)** to apply her learning in a real-world setting.
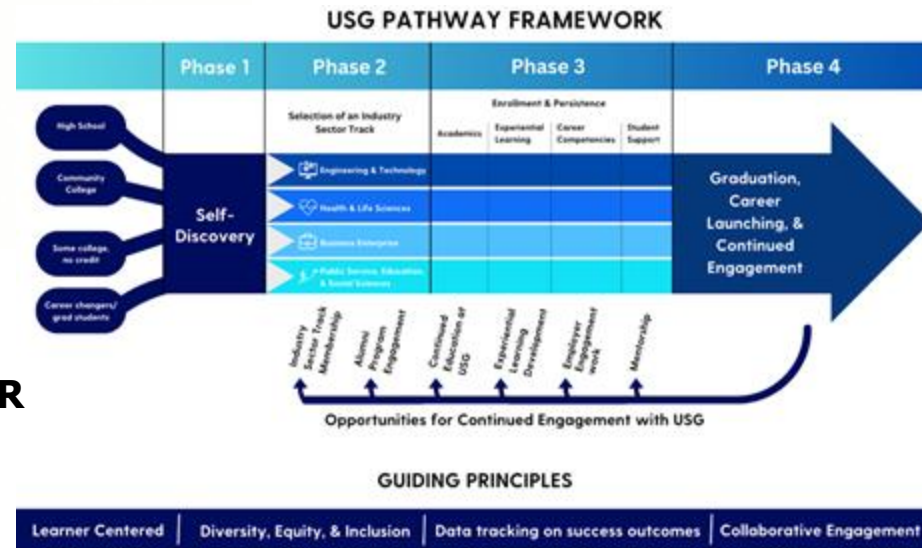
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PATHWAYS AS THE SOLUTION

AVERAGE JOB OPENINGS − AVERAGE DEGREES = GAP

INCREASED SUPPORT FOR PATHWAYS

REDUCTION IN GAP FROM INCREASED PATHWAY SUPPORT

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USG: PATHWAYS IN ACTION

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PERSONAL WELL-BEING	4,307	DIGITAL TECHNOLOGY	1,435	LEADERSHIP	1,042
CRITICAL THINKING & PROBLEM SOLVING	2,458	CAREER DEVELOPMENT	1,420	TEAMWORK & COLLABORATION	984
EQUITY & INCLUSION	1,914	ORAL & WRITTEN COMMUNICATION	1,048	PROFESSIONALISM & WORK ETHIC	739

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CYBER PROGRAM SKILL ALIGNMENT WITH COUNTY

Top 5 Common Skills
(Montgomery County
Career Competencies)

Digital Technology Fluency

Critical Thinking /
Problem Solving

Professionalism / Work Ethic

Teamwork / Collaboration

Oral / Written Communication

Top 5 Specialized Skills
(Program–Specific)

Python Programming

Cybersecurity Tools
& Techniques

Web Development
& JavaScript

3D Modeling and
Animation Tools

Cloud & Network Infrastructure
Knowledge

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BIOTECH PROGRAM SKILL ALIGNMENT WITH COUNTY

Top 5 Common Skills
(Montgomery County Career Competencies)

Digital Technology Fluency

Critical Thinking / Problem Solving

Professionalism / Work Ethic

Teamwork / Collaboration

Oral / Written Communication

Top 5 Specialized Skills
(Program-Specific)

Bioinformatics Techniques

Data Analysis & Statistics
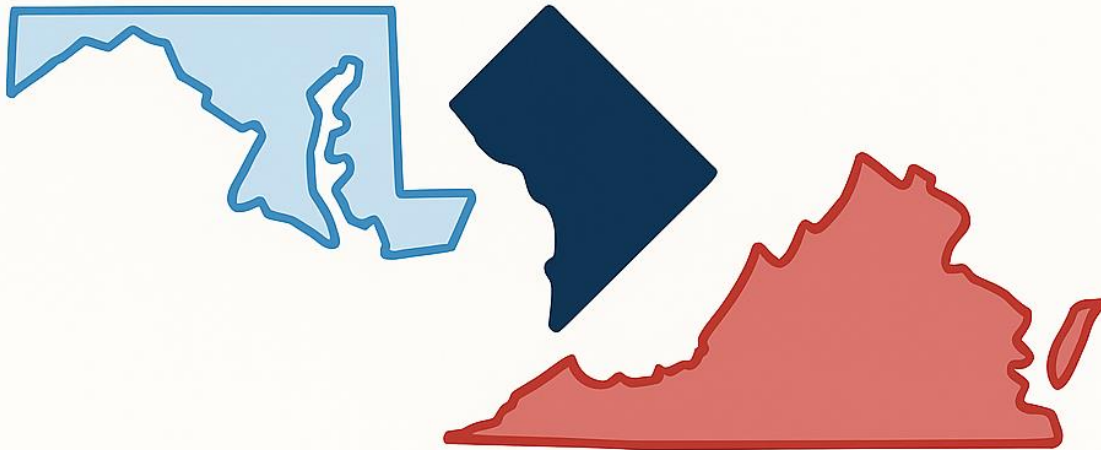
Programming (Python, Java, ML)

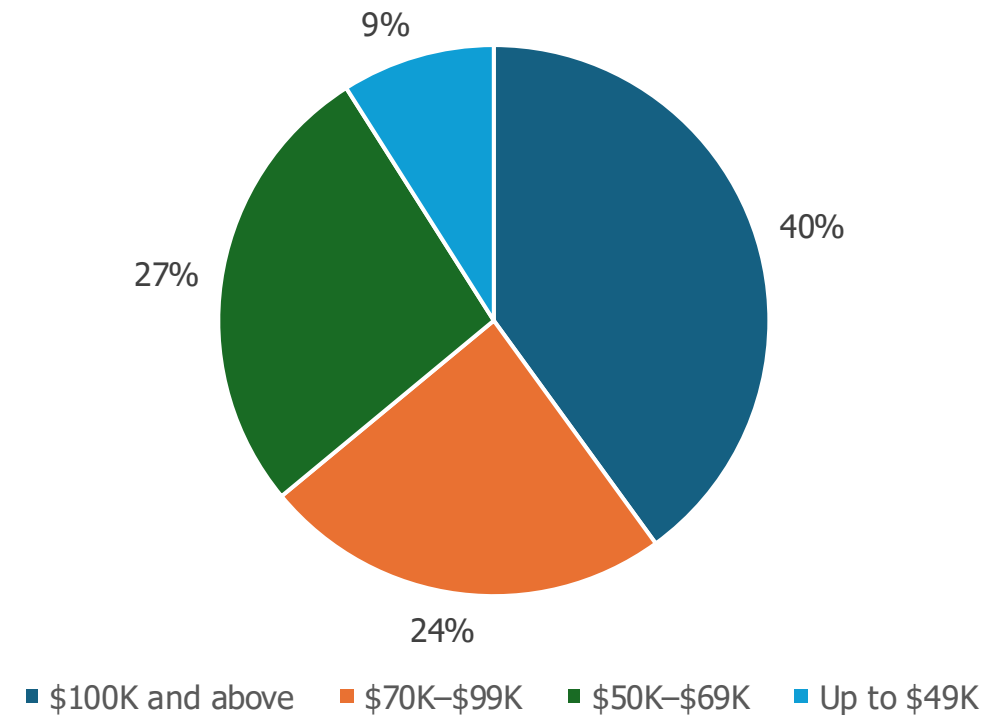Regulatory Affairs Knowledge

Biotech Production Processes

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USG GRADUATES: A SUCCESS STORY

83% of USG Graduates
Work in Maryland, DC, or Virginia

USG Maryland Resident Graduates Estimated Salary

- 40%
- 24%
- 27%
- 9%

■ $100K and above   ■ $70K–$99K   ■ $50K–$69K   ■ Up to $49K

InnovateED:
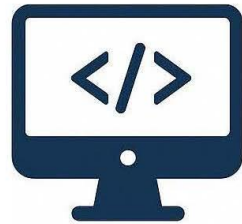**Empowering Economic Advancement Through Education and Workforce Development**

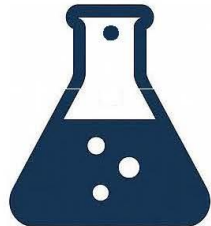# USG GRADUATES: WORKING IN RELEVANT FIELDS

Over 800
Healthcare or Medicine Occupations

Over 150
Computer or Mathematical Occupations

Over 170
Life, Physical, and Social Sciences Occupations

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FOLLOWING THE PATHWAY TO COUNTY SERVICE

USG Grads Giving Back to the County

Over **230** work for MCPS

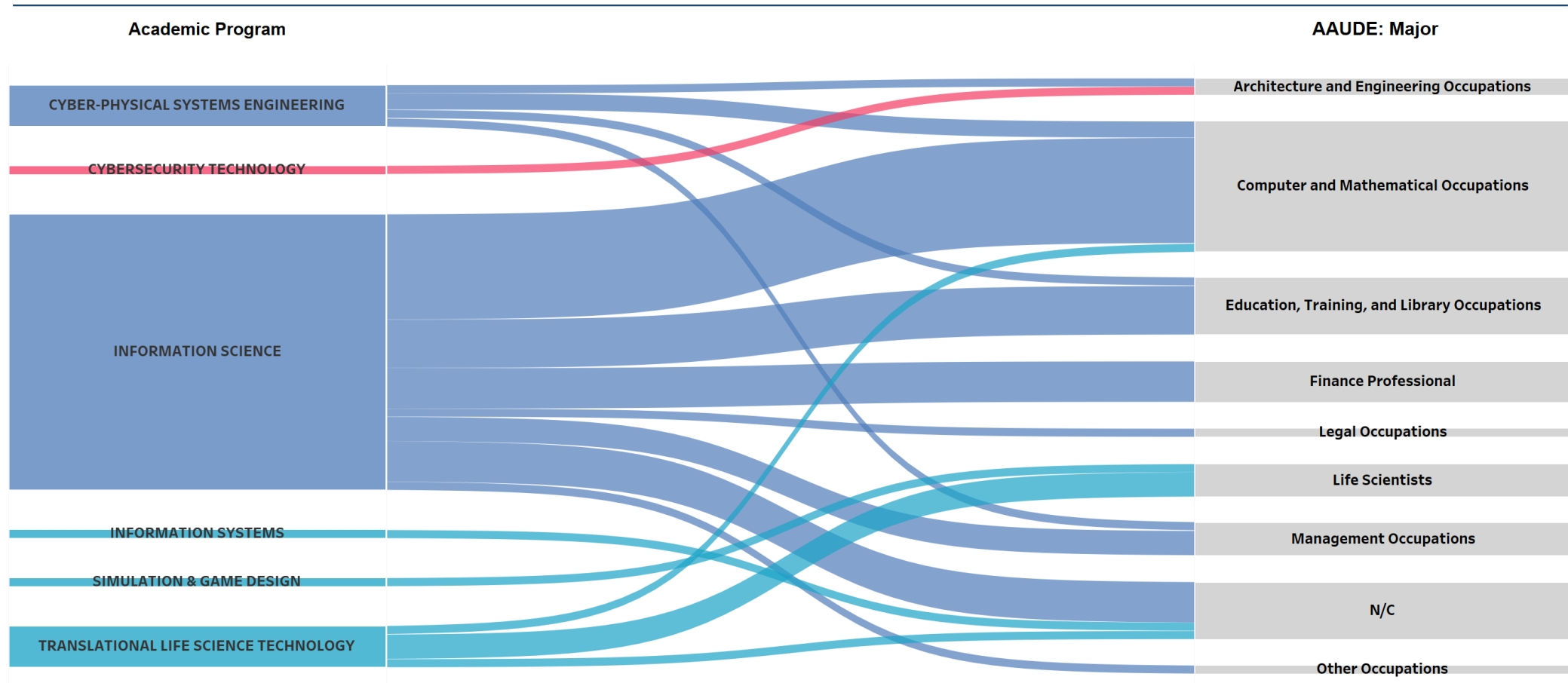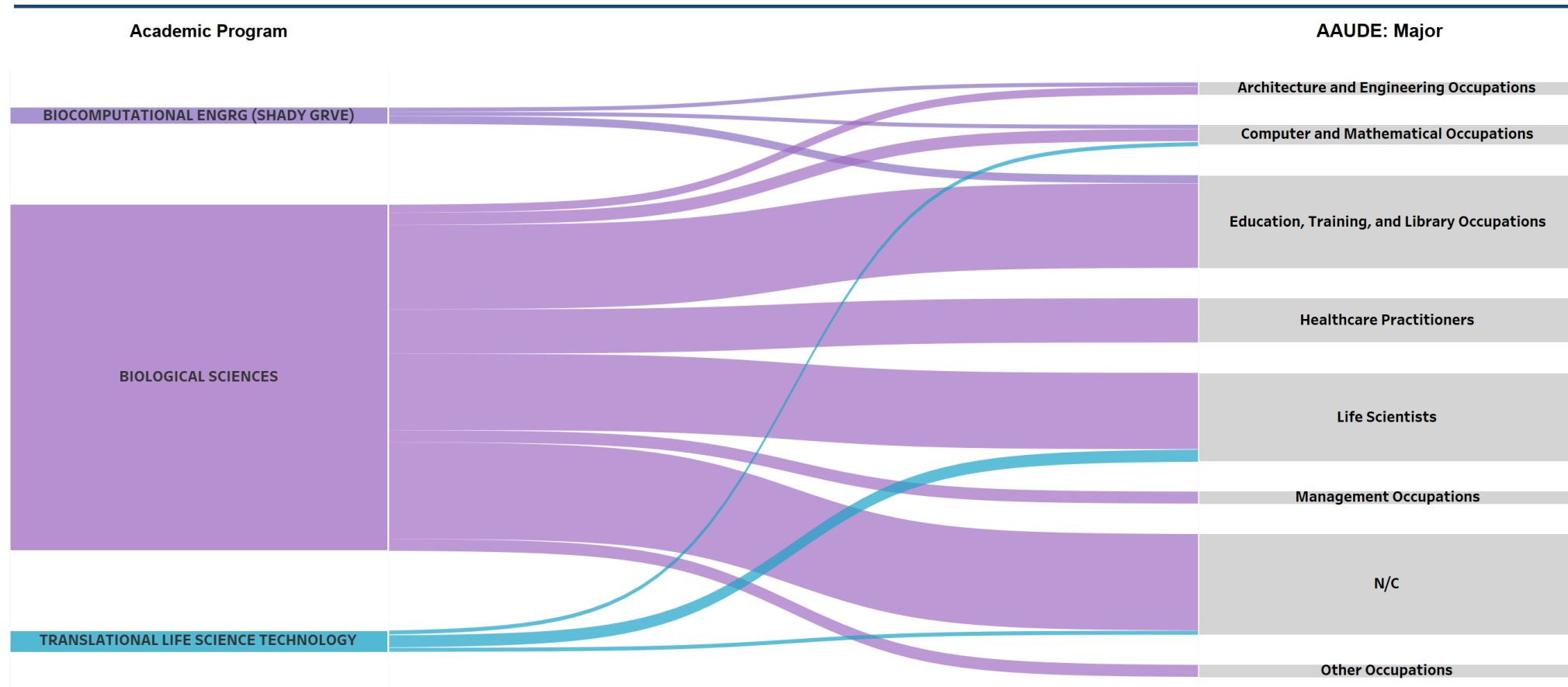Over **60** work for the Montgomery County government

Over **20** work for government adjacent non-profits in Montgomery County

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IT: EXPANDING SKILLS FOR MULTIPLE INDUSTRIES

Academic Program

AAUDE: Major

CYBER-PHYSICAL SYSTEMS ENGINEERING

CYBERSECURITY TECHNOLOGY

INFORMATION SCIENCE

INFORMATION SYSTEMS

SIMULATION & GAME DESIGN

TRANSLATIONAL LIFE SCIENCE TECHNOLOGY

Architecture and Engineering Occupations

Computer and Mathematical Occupations

Education, Training, and Library Occupations

Finance Professional

Legal Occupations

Life Scientists

Management Occupations

N/C

Other Occupations

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LIFE SCIENCES: FINDING THE BEST FIT

Academic Program

AAUDE: Major

BIOCOMPUTATIONAL ENGRG (SHADY GRVE)

BIOLOGICAL SCIENCES

TRANSLATIONAL LIFE SCIENCE TECHNOLOGY

Architecture and Engineering Occupations

Computer and Mathematical Occupations

Education, Training, and Library Occupations

Healthcare Practitioners

Life Scientists

Management Occupations

N/C

Other Occupations

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IN SUMMARY

A gap exists between the average number of job openings annually and the number of degrees produced within Montgomery County

Through our research, we found that **pathways**, with specific **skill development goals**, **are key** to finding, developing, and retaining talented workers within the region

We have seen successes in the pathway model, via ACES students and the general successes of students who followed the MCPS-MC-USG pathway. We know supporting these pathways can lead to a **reduction in the gap**

Students who follow the pathway are likely to give back. Hundreds are working for the county schools, governments, and local non-profits.

If we continue to monitor workforce trends and respond by developing high-quality pathways in partnership with local businesses, we can all reap the benefits

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CALL TO ACTION – WORKING TOGETHER

"Companies in the private sector [need] to be involved in curriculum, trade and educational disciplines to make sure we're creating that pipeline in the industries of the future. It means we need to start early. It means we need to be disciplined, and it means we need to invest." (Gov. Moore during an event in Montgomery County in 2024)

CALL TO ACTION – WORKING TOGETHER
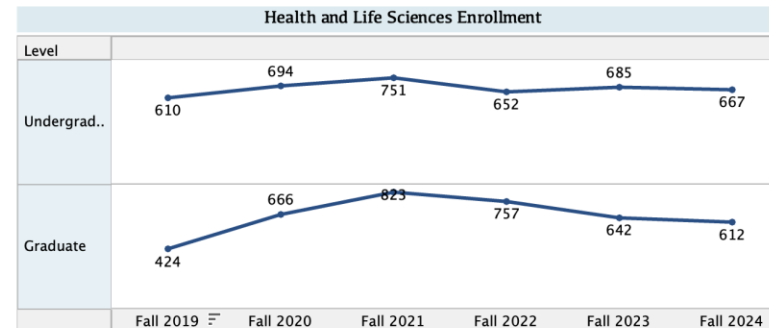
We have the talent. We have the framework. Now we need your support.

Help us ensure that every student in Montgomery County has a clear pathway to opportunity:

- 📢 **Policymakers** – Fund cross-sector partnerships and student supports
- 📢 **Educators** – Align curriculum with employer needs and expand access
- 📢 **Employers** – Offer internships, mentorship, and hiring pipelines
- 📢 **Community Leaders** – Advocate for equity in education and workforce pathways

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Health & Life Sciences Hub
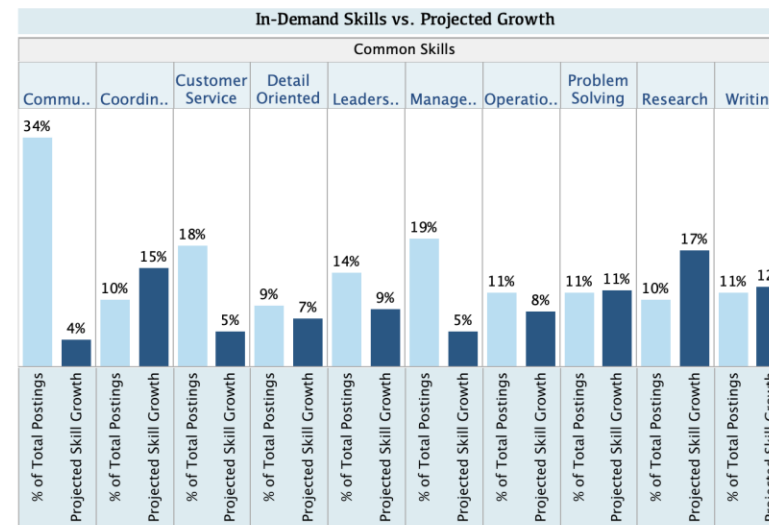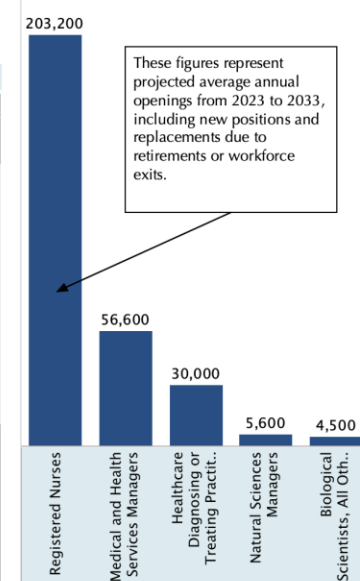
WANT TO LEARN MORE? CONTACT US

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