



USM STRATEGIC PLANNING: EXTERNAL SCAN

PHASE II: BLUEPRINT THE FUTURE STATE

University System of Maryland



EXTERNAL SCAN: KEY HIGHER EDUCATION TRENDS

Our major activity for Phase II (Blueprint the Future State) was to perform an external scan to identify the key trends that will affect the USM's future environment. We organized our analyses into 5 major categories that align with USM emerging priorities.

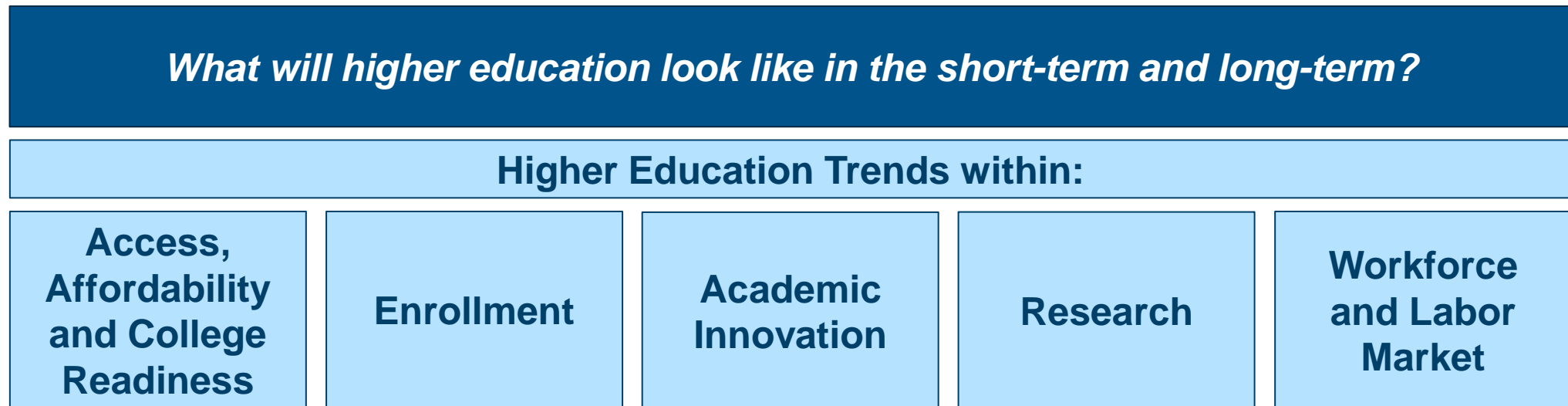


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The following slides contain Huron's detailed external scan prepared for the USM. Huron researched and analyzed major trends that will affect the future of higher education and public university systems. Based on areas of emphasis discovered in Phase I and feedback from the BOR strategic planning work group, Huron pursued analysis in a few key areas:

- **Section A:** Access, Affordability, and College Readiness
- **Section B:** Enrollment
- **Section C:** Academic Innovation
- **Section D:** Research
- **Section E:** Workforce and Labor Market
- **Section F:** System Benchmarking Case Studies

Section A:

Access, Affordability,
and College
Readiness

Research Questions:

What are the major trends affecting access and affordability in higher education?

What trends exist in K-12 education that will likely impact higher education in the future?

What are the major trends that will impact HBCUs?

How will the theme of diversity and inclusion in higher education evolve?

What are the key challenges related to partnerships between community colleges and 4-year institutions?

RESEARCH TOPICS

**COVID-19 Impact, K-12 Response, and
Higher Ed Implications**

Diversity & Inclusion

HBCUs

Community College Partnerships

ACCESS AND AFFORDABILITY

Exasperated by the COVID-19 pandemic, lack of access and affordability in quality higher education has perpetuated inequality for low-income and minority students.



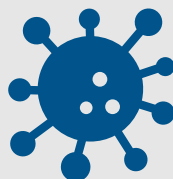
The “Degree Divide”

Minority and low-income students continue to fall behind in regards to graduation rates.



Workforce Realities

Over 70% of future jobs will require education beyond high school¹



Compounding Crises

COVID-19 has impacted low-income students disproportionately

Black & Hispanic students are

14-16%

less likely than Whites to have a college degree²

Public institutions spend an average of

\$1,000

less per student of color compared to Whites, and 54% of young African Americans carry student loans^{3,4}

College enrollment fell by over

26%

this fall among students from high-minority high schools⁵

The most vulnerable students who have the most to gain from a college education are bearing the brunt of the pandemic effects...[without] intentional ways to support low-income students of color to enroll in and stay in college, we will see these disparities in college enrollment persist.” – Audrey Dow, SVP (Campaign for College Opportunity)

K-12 TRENDS AND IMPACT ON HIGHER EDUCATION

During the pandemic, many K-12 schools across the nation have stressed the theme of equity. Higher education can learn from these emphasis areas and adapt practices to better support students.

*“If you want to glimpse the **post-pandemic future of higher education**, you might want to **see what’s occurring in K-12 schools today**. There you will see a **stress on equity** that is likely to shape college teaching and learning post-pandemic.”*

– “K-12 Trends and the Future of Higher Education,”
Inside Higher Ed

K-12 trends that will shape higher ed in the short-term and long-term:

**Prioritizing
Equity**

**Embracing
differentiated
instruction**

**Skills and
Outcomes
Focus**

**Life Skills and
Social and
Emotional
Learning**

**Redesigning
Assessment of
Learning**

**Addressing Non-academic
Barriers to Student Success
(e.g., food security, Wi-Fi,
quiet places to study)**

HBCUs: IMPACT AND CHALLENGES

Historically Black Colleges & Universities (HBCUs) can be powerful engines for creating systemic change and opportunity. Despite having a powerful impact on graduating students, HBCUs face challenges in enrollment, funding, and low graduation rates.

The Powerful Impact of HBCUs

Despite HBCU's only being 3% of four-year colleges in the U.S., they have graduated:

80% of black judges

50% of black doctors

50% of black teachers

17% of black bachelor degree earners

Although **70%** of HBCU students are low-income and HBCU endowments are **70%** smaller than non-HBCUs...

2/3

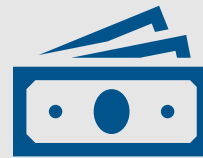
of low-income HBCU students end up in the middle class or better

Challenges for HBCUs



Declining Enrollment

Due to COVID-19 the populations typically served by HBCUs have been impacted disproportionately



Lack of Funding

Endowments of all 101 historically black colleges total only \$3.4 billion, according to the college fund. That's less than a single Ivy League school.



Low Graduation Rates

With lower funding levels, HBCUs struggle to provide necessary financial aid or student support to critical to student success

HBCUs: INVESTMENT IN 2020

Over the past year, upwards of \$400M has been donated to HBCUs. In addition, MD governor signed legislation in March to settle the USM Coalition case, which will provide \$577M to the four HBCUs in MD.

MacKenzie Scott donates \$4.2 billion to 384 organizations

By Jazmin Goodwin, [CNN Business](#)

Updated 6:28 PM ET, Tue December 15, 2020

In the latest round of giving, Scott donated \$40 million to Morgan State University, an HBCU in Baltimore. The gift is the largest single private donation in the university's history, and

Scott gave \$50 million to the largest donation ever, at a university.

Other HBCUs including donations.

Google CEO and HBCU leaders discuss talent pipeline for Black tech workers

By [Chauncey Alcorn](#), [CNN Business](#)

Updated 2021

Netflix CEO's \$120 million donation to historically black colleges highlights inequities in college funding

Published: June 20, 2020 at 11:11 a.m. ET

At a time when the nation is focused on systemic racism in our society and institutions, Hastings and Qillan said in a statement that they hoped the gift would encourage others to pour money into HBCUs "helping to reverse

HBCU EDUCATION

How HBCUs are using more than \$250 million in donations

Howard, Hampton and Spelman among schools using gifts for student aid, innovation

BY TUCKER TOOLE

August 18, 2020

PRESS RELEASE
January 13, 2021

Apple launches major new Racial Equity and Justice Initiative projects to challenge systemic racism, advance racial equity nationwide

The company split the first round into three areas, including a \$25 million donation to the Propel Center, a learning hub for Historically Black Colleges and Universities.

EDUCATION

Largest Gift In Howard University History Sparks Conversation About HBCU Donations

February 6, 2020 · 4:21 PM ET

Howard University recently announced the largest individual gift in its history. The \$10 million gift has some asking: Are historically black schools getting their due from private foundations?

HBCUS AND THE FUTURE

Empowering more students to achieve a complete, high-quality education through HBCUs can be a strategy for institutions to bridge the equity gap in the United States and tangibly focus on Diversity, Equity and Inclusion initiatives.

*“HBCUs have long been a **bridge toward more equitable education for people of color**, as well as a path to upward mobility...[playing] a **critical role in closing the achievement gap** by making higher education available to minority and low-income students, many of whom are the first in their families to go to college.”*

– World Economic Forum

HBCU trends that will shape higher ed in the short-term and long-term:

Events of 2020 have brought HBCUs to the **spotlight and have attracted philanthropists**

More leaders than ever are HBCU graduates

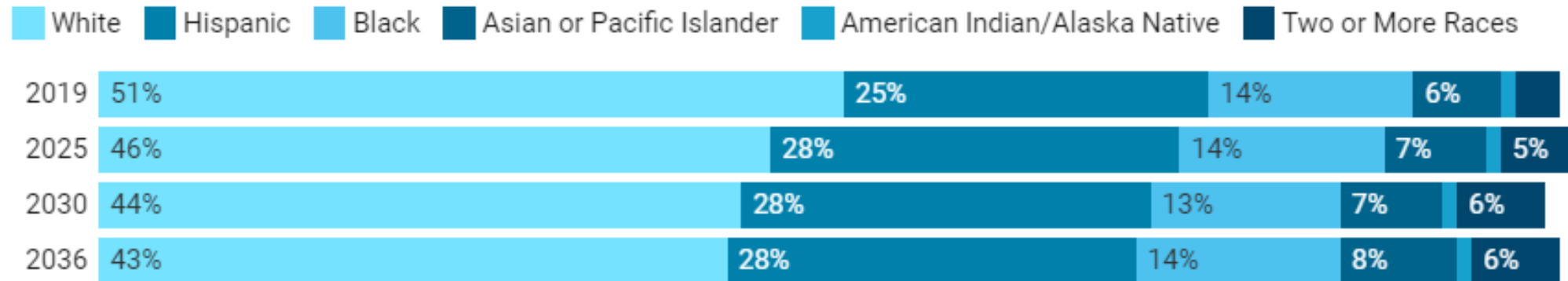
Increasing national recognition that HBCUS are a **vital component of any strategy** to address systemic inequities

Graduates are in demand: During the past five years, the hiring-rate trend for alumni of the 105 HBCUs has consistently outpaced similar data for overall LinkedIn U.S. membership. HBCU alumni hiring was less affected by the pandemic than the workforce at large.

DIVERSITY AND INCLUSION: STUDENTS

While overall high school graduates are expected to decline sharply, the high school population is also projected to become increasingly diverse.

Increasing Student Diversity (WICHE projections, December 2020)¹



Over the next 15 years, institutions can expect a sizable increase in the Hispanic college-going population percentage, a reduction in the white college-going population, and stable trends in the Black college-going population percentage.

DIVERSITY AND INCLUSION: FACULTY

There are few Black, Native American, and Hispanic/Latinx faculty members across the nation. With student demographics changing, the need for more diverse faculty may only heighten in years to come.

Current Situation

12%

Black college students
in the US

5.4%

Black faculty in the US

With projected demographic changes over the next 20 years, an increasing number of students will be taught by faculty members who don't match the demographics of their classrooms.

Potential Solutions

Short-Term

Improve faculty recruitment and the hiring process to identify more diverse pools of qualified candidates

Long-Term

Foster more underrepresented students of color in pursuing PhDs

By 2026, the U.S. Bureau of Labor Statistics projects, the U.S. will need 13% (or 17,000) more faculty members than in 2016 -- one of the highest growth rates of any job sector.

COMMUNITY COLLEGE PARTNERSHIPS

While partnerships between community colleges and four-year institutions are prevalent, many partnerships lack student focus that allows students to seamlessly transfer to four-year institution.

Current Situation

The first partnership between community colleges and four-year institutions was formed in the state of California, but now are common throughout the US.

When a community college has a strong partnership with a four-year college or university, students may view the community college as a stepping-stone before transferring.

More than a third of college students transfer at least once, but 43 percent of the credits they earn are lost in the process.

Salient Example

*In 2018, **George Mason University and Northern Virginia Community College** were named one of the “**nation’s most successful partnerships**” by the American Association of Community Colleges*

Key Characteristics

- Single point of entry for admissions, advising, and financial aid.
- Students assigned success coaches who stick with them through graduation.
- Requirements and corresponding courses are clearly spelled out on transfer website.

Key Outcomes

- Half of George Mason’s incoming class are community-college transfers
- Transfer students’ graduation rates are slightly higher than those who start out at the four-year college.

Section B:

Enrollment

Research Questions:

How will demographic changes across the nation and in Maryland affect the addressable market of traditional college students?

What impact might the COVID-19 pandemic have on student migration patterns?

What are the most recent trends with regard to international students?

What are non-traditional students' goals and preferences for educational offerings?

RESEARCH TOPICS

Traditional Student Population Changes

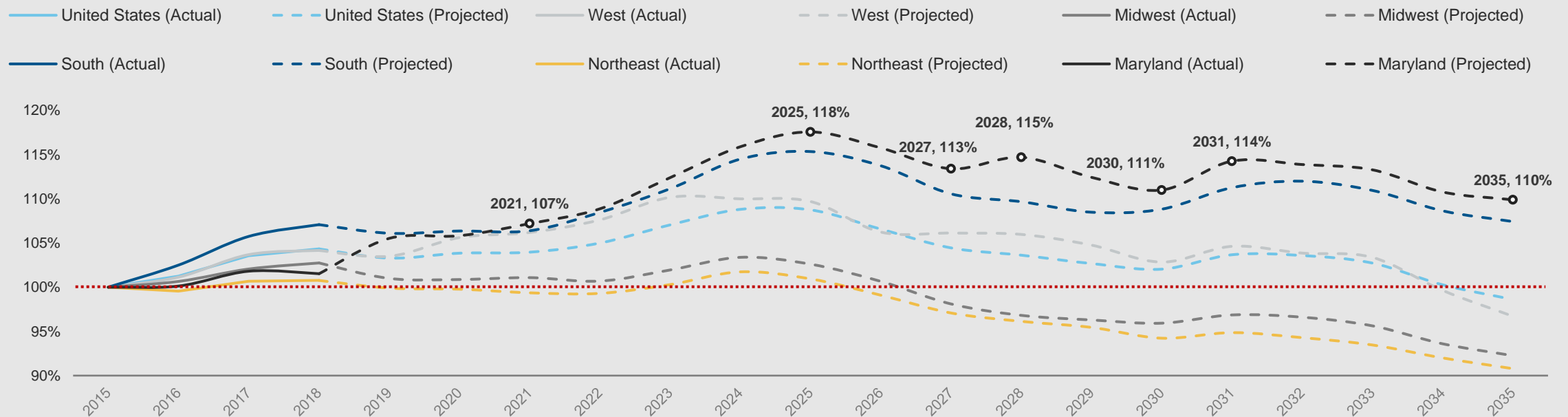
Potential Shifts in Student Migration

Decline in International Students

THE “DEMOGRAPHIC CLIFF”

Higher education institutions will be challenged by demographic and population trends over the next 10-15 years. The addressable market of traditional students in the United States is expected to peak in 2025 and eventually fall below 2015 levels by 2035.

Actual and Projected High School Graduates,
2015-2035

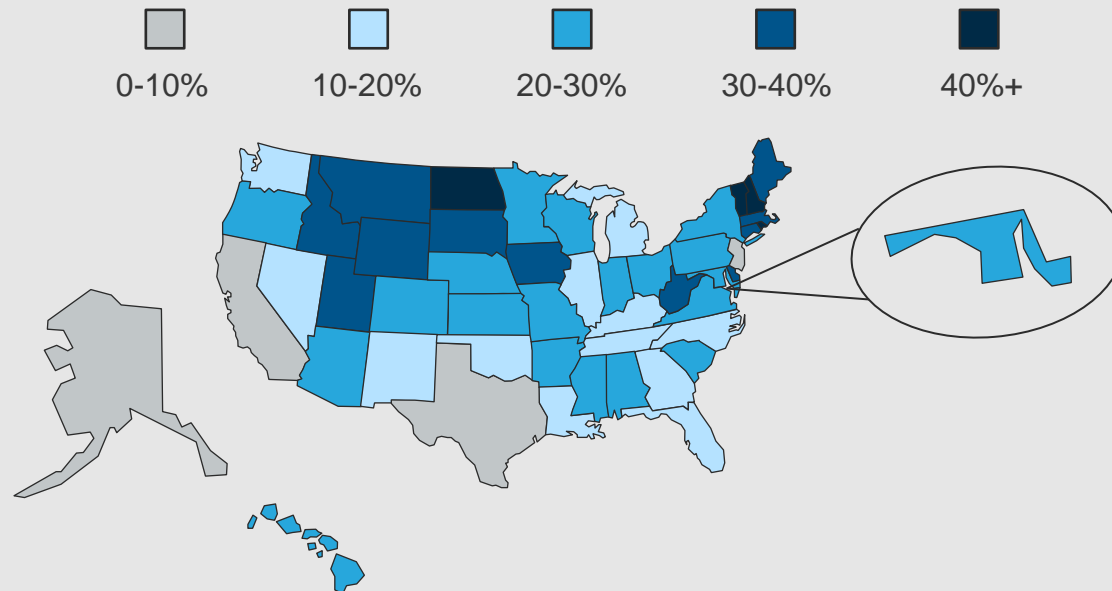


Following a peak in 2025, the number of high school graduates in Maryland is projected to decline from 2025-2035 but will stay above 2015 levels. The USM should be prepared to expand and contract as a result.

UNDERGRADUATE STUDENT MIGRATION

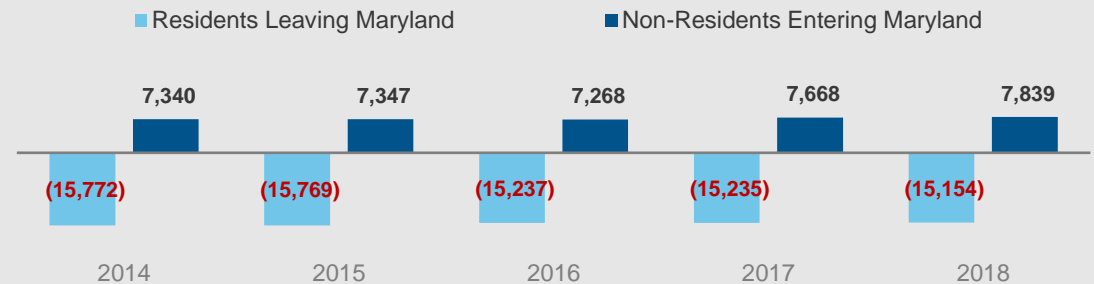
The COVID-19 pandemic and students' and parents' increased price-sensitivity due to economic uncertainty may affect longstanding undergraduate student migration patterns and lead students to stay closer to home.

Reliance on Out-of-State Students across the United States



States that rely on a high percentage of out-of-state students are at an increased risk of reduced enrollment if the COVID-19 pandemic and economic uncertainty leads students to decide to stay in or return to their home states.

Historical High School Graduate Migration Trends in Maryland, 2014-2018



Case Study: NJ Come Home Program

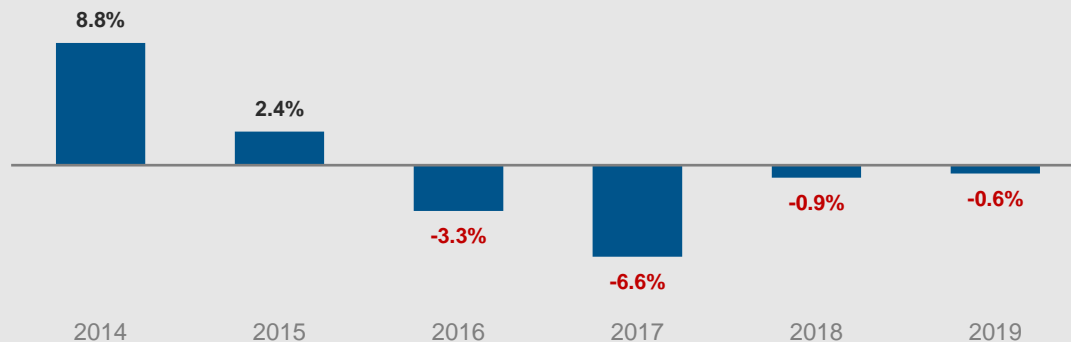
In response to the COVID-19 pandemic and concurrent economic contraction, 10 four-year public New Jersey institutions are **incentivizing residents who are enrolled at out-of-state institutions to return to New Jersey to finish their degrees by:**

- Offering them a streamlined transfer application process.
- Providing them with additional financial aid and scholarship program opportunities.

INTERNATIONAL STUDENT MIGRATION

Higher education institutions face a variety of risks if international student enrollment continues to decrease, a trend which will likely be exasperated by the COVID-19 pandemic.

Year-over-Year % Change in New International Student Enrollment in the U.S., 2014-2019



Even before the pandemic, new international student enrollment at higher education institutions in the U.S. was on the decline, with attendance falling for the fourth year in a row in the fall of 2019.

Continued Declines in International Student Enrollment

A variety of factors contribute to continued declines in international student enrollment, such as:

- *Improving educational options at home*
- *Tougher visa restrictions in the U.S.*
- *Health concerns due to COVID-19*
- *The current political environment in the U.S.*

Implications of Declines in International Student Enrollment

If international student enrollment continues to decrease, higher education institutions will be adversely impacted by:

- *Declining revenue*
- *Less social and cultural diversity on campus*

Section C:

Academic Innovation

Research Questions:

How does digital transformation affect teaching and learning?

How will delivery models evolve to become more flexible?

How is lifelong learning evolving?

RESEARCH TOPICS

**Digital Transformation for
Teaching and Learning**

**Hybrid and HyFlex
Learning Environments**

**Addressing Lifelong
Learning Needs**

DIGITAL TRANSFORMATION FOR TEACHING AND LEARNING

Universities quickly shifted to remote instruction in 2020. Going forward, there will be increased acceleration of the education ecosystem that support digital learning.



Digital Newcomers

- Little experience and availability of online courses and online teaching
- Limited access to digital tools
- Opportunities for significant advancement to catch up



Emerging Adopters

- Successfully experimented with digital learning in pockets
- Experienced faculty and instructors see the value
- Opportunities to increase adoption and accelerate digital transformation with leadership support and intentionality



Advanced Institutions

- Possess robust technical infrastructure, vast digital context, and experienced faculty
- Opportunities to scale infrastructure to deliver across all programs in multiple modalities
- Can also accelerate pedagogical innovation and further equity and inclusivity

EXAMPLE: DATA SCIENCE AND WORKFORCE DEVELOPMENT

Ohio State has applied digital transformation to teaching, learning and workforce development.



THE OHIO STATE
UNIVERSITY

Ohio State's Strategic Priorities

- **Real-World Applications:** Create unique, interdisciplinary spaces for OSU stakeholders and partners to collaborate on technology solutions that address global problems
- **Workforce Development:** Offer opportunities for students *and* community members to network, share and access tools and resources, and enhance their career-readiness in technology-driven fields
- **Blended Learning:** Provide an immersive and engaging collection of shared tools, platforms, and learning experiences for every incoming freshman

Translational Data Analytics Institute (TDAI)

- Started as an initiative bringing together students, faculty, and community partners
- Expanded to an institute offering an innovative professional master's degree and providing event space and cross-disciplinary learning opportunities

President's Digital Flagship Objectives

- Modernize the Student Experience
- Resolve Access Disparities
- Provide Exceptional Workforce Preparation

EXAMPLE: ACADEMIC INNOVATION

Michigan is investing \$50M over five years to support new education models and learning experiences by advancing curricular innovation, educational data and research, and academic technology.



Center for Academic Innovation Scope

University of Michigan's Center is a coordinating resource and clearinghouse of activity across the institution.

- Manage a portfolio of custom-built software applications
- Online Teaching Academy to build faculty competency
- Academic Innovation Fund to support and incentivize experimentation
- User experience and course operations specialists to provide support
- Public engagement programs support open access
- Manage *Michigan Online* gateway platform
- Offer experiential student fellowships to help integrate with the university's traditional residential model

HYBRID AND HYFLEX LEARNING MODELS

Preparation for the Fall term at the onset of the pandemic also reignited the dialogue about hybrid and hyflex delivery.

Definitions

- A hybrid approach to course delivery combines face-to-face classroom instruction with online activities
- HyFlex (or hybrid-flexible) calls for courses to be created in a way that gives students complete control over how and when to participate, either in-person or online.

Principles for HyFlex Course Design

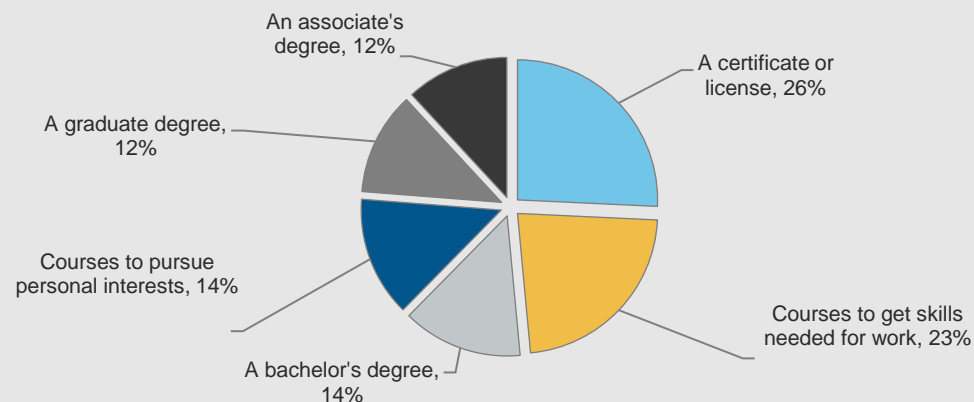
- **Learner Choice:** Provide meaningful alternative participation modes and enable students to choose between participation modes daily, weekly, or topically.
- **Equivalency:** Provide learning activities in all participation modes which lead to equivalent learning outcomes.
- **Reusability:** Utilize artifacts from learning activities in each participation mode as “learning objects” for all students
- **Accessibility:** Equip students with technology skills and equitable access to all participation modes.

LIFELONG LEARNING (1 OF 2)

Higher education institutions have an opportunity to increase enrollment of non-traditional students in the post-pandemic environment, which will require new recruitment strategies and academic innovation to meet the needs of these learners.

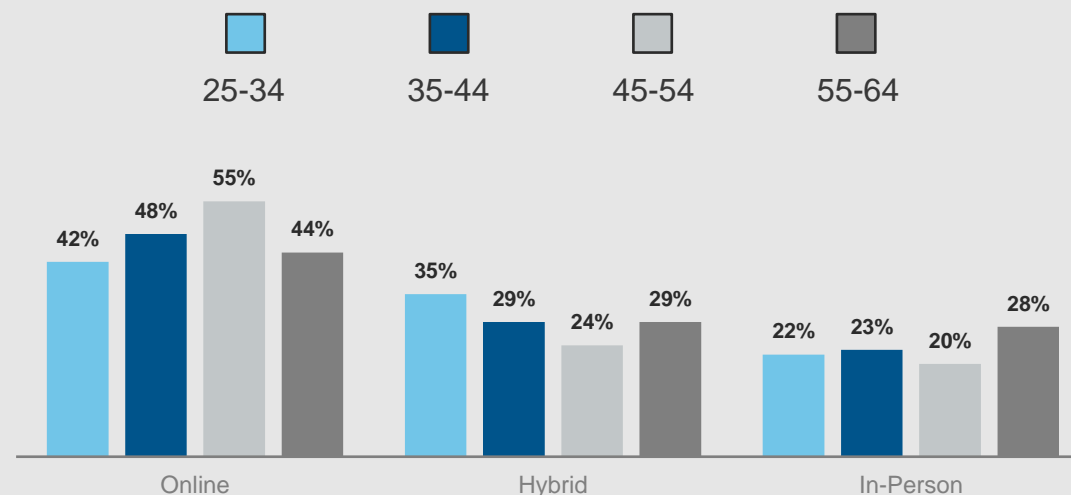
If you were to enroll in additional education or training sometime within the next six months, what would be your goal?

(adults age 25-64)



Since the pandemic began, American adults have expressed a preference for nondegree credentials and skills-training options for education and training.

If you were to enroll in additional education or training sometime within the next six months, what would you prefer?



Overall, non-traditional students prefer online options to hybrid and in-person options; however, there is some variance across age groups.

LIFELONG LEARNING (2 OF 2)

Relevance to work or a requirement for the professional field are key drivers for adult learners pursuing education in the next six months.

How important are the following reasons for your preference for skills training, nondegree programs, or degree programs over the alternatives?

38%

Relevance

- Required in my field of work
- Better fit for my personal needs
- More applied / relevant to my work

28%

Streamlined

- Faster
- Cheaper
- More convenient

24%

Value

- Better value
- More benefit to my job or career advancement

10%

Stackability

- Lead to additional education or training

Section D:

Research

Research Questions:

How will research in higher education (e.g., funding sources, priority research areas, focus on interdisciplinary) evolve in the future?

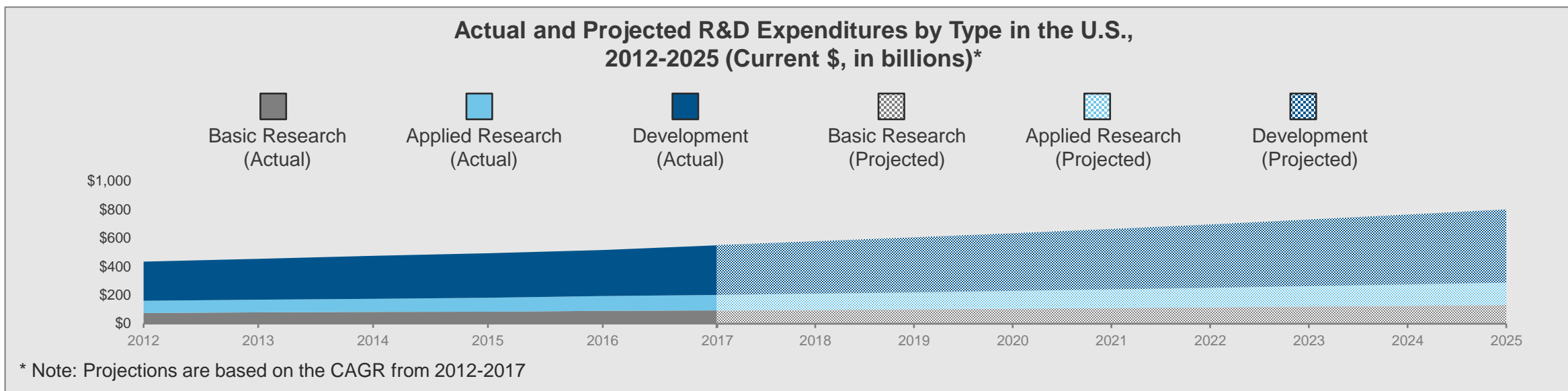
RESEARCH TOPICS

Funding Trends

Trending Research Disciplines

R&D OVERVIEW

The United States remains the world's top R&D performer, and total of R&D has expanded steadily since 2010, due particularly to sizable annual increases in business R&D performance. If these trends continue, R&D expenditures could reach \$797 billion in 2025.



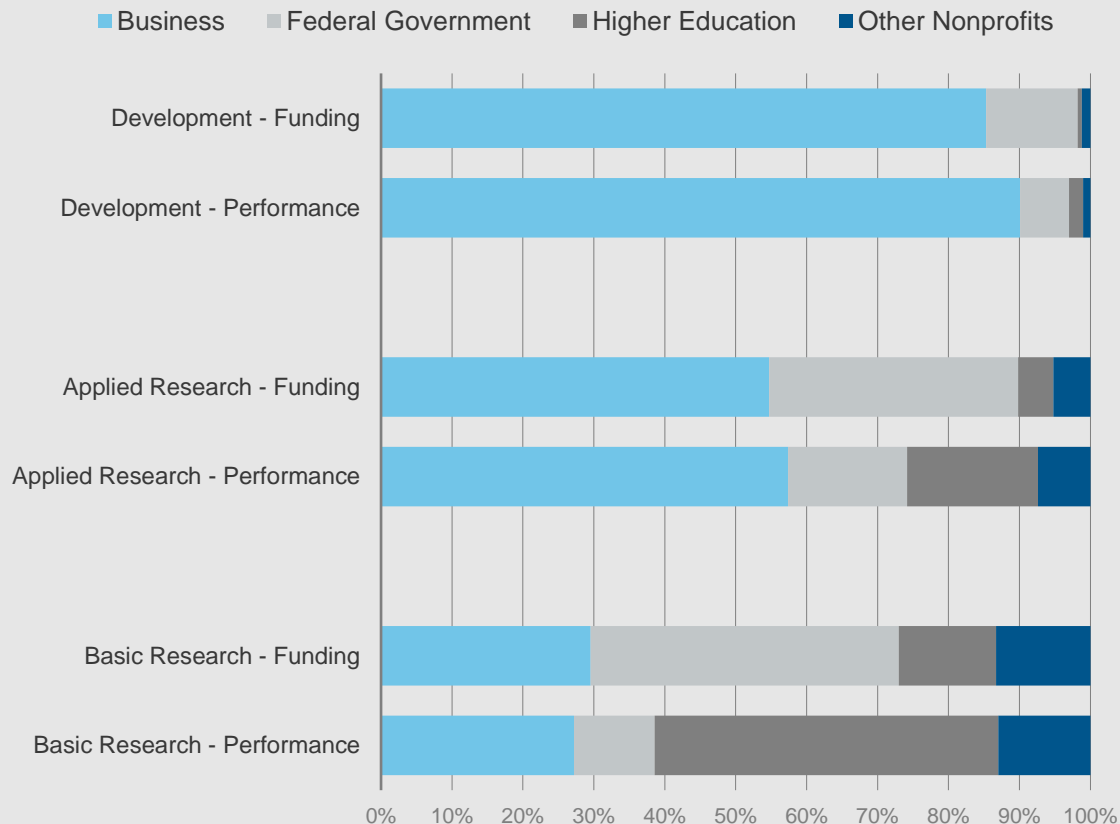
Definitions:

- In **basic research** the objective of the sponsoring agency is to gain more complete knowledge or understanding of the fundamental aspects of phenomena and of observable facts, without specific applications toward processes or products in mind.
- In **applied research** the objective of the sponsoring agency is to gain knowledge or understanding necessary for determining the means by which a recognized need may be met.
- **Development** is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes, and processes.

R&D PERFORMANCE, FUNDING, AND TRENDS

In 2017, the business sector led the U.S. in the funding and performance of development and applied research, while nearly half of U.S. basic research was performed by higher education institutions (48%) and funded by the federal government (42%).

A Snapshot of U.S. R&D Funding and Performance in 2017



Key Trends in Development

- Higher education has increased investment in technology transfer offices and incubators for start-ups on campus.
- Health-related industries and the digital economy have an outsized impact on innovation rates across the economy.

Key Trends in Applied Research

- Applied research as a percentage of overall R&D is growing within higher education, which is a trend that is expected to continue.
- Higher education is increasingly seeking corporate sponsorship of applied research projects.

Key Trends in Basic Research

- Between 2000 and 2017, the overall share of basic research funded by the business sector increased from 19% to 29%.
- Basic research is becoming increasingly interdisciplinary.

R&D PRIORITY AREAS

R&D in the life sciences and engineering have been longstanding areas of focus within higher education, and the federal government provides most of the funding for this R&D. There will likely be an increased focus on climate research in the future.

Higher Education R&D Expenditures by Field

Field	2019 Expenditures	10-year CAGR
Health sciences	\$ 27.3 million	3.9%
Biological and biomedical sciences	\$ 15.4 million	3.9%
Agricultural sciences	\$ 3.4 million	1.5%
Electrical, electronic, and communications engineering	\$ 2.9 million	4.1%
Computer and information sciences	\$ 2.6 million	5.4%
Physics	\$ 2.3 million	1.7%
Chemistry	\$ 2.0 million	1.3%
Mechanical engineering	\$ 1.7 million	1.8%
Education	\$ 1.5 million	4.8%
Bioengineering and biomedical engineering	\$ 1.5 million	7.7%

President Biden's Plan for R&D in the U.S.

President Biden recently called on Congress to invest \$180 billion in researchers, laboratories, and universities across the United States in order to support economic growth, sustain global leadership in new technologies, and address the climate crisis. Among other things, President Biden's plan would provide:

- *\$50 billion in funding to the NSF to focus on fields like semiconductors and advanced computing, advanced communications technology, advanced energy technologies, and biotechnology.*
- *\$40 billion in funding allocated across the federal R&D agencies to improve research infrastructure across the country.*
- *\$35 billion in funding to achieve technology breakthroughs that would address the climate crisis and position America as the global leader in clean energy technology and clean energy jobs.*
- *\$25 billion in funding for enhanced R&D at HBCUs across the nation.*

Section E:

Workforce and Labor Market

Research Questions:

What broad workforce trends have been accelerated by the COVID-19 pandemic?

What sectors and jobs are demonstrating high / low / no growth in Maryland, the Mid-Atlantic region, and the United States?

What is the projected need for postsecondary credentials that fall outside of traditional degree-based structures?

How can systems leverage corporate partnerships to prepare students for work?

RESEARCH TOPICS

Growing Industries in Maryland

Shortages of High-Quality Teachers

The Market for Non-Traditional Students

Corporate Partnerships

COVID-19: BROAD WORKFORCE TRENDS

COVID-19 has accelerated three trends that will continue to reshape the nature of work after the pandemic. The extent to which these trends will affect specific jobs depends in part on the physical proximity and frequency of interaction that the job requires.

REMOTE / HYBRID WORK



The sudden shift to remote work has led companies to reconsider work models and balance flexibility with greater effectiveness of in-person work. Jobs in computer-based offices are most likely to adopt remote/hybrid models.

AUTOMATION



In the wake of COVID-19, companies may increase investment in automation and AI to control their cost base and improve efficiency. Jobs requiring high physical proximity and frequency of interaction are at an increased risk of disruption.

DIGITALIZATION



New users have adopted digital technology in areas like e-commerce and telemedicine. This has propelled growth in delivery, transportation, and warehouse jobs, while causing declines among in-store retail jobs.

INDUSTRY TRENDS IN THE UNITED STATES (1 OF 2)

Overall employment is projected to grow 2.9% in the United States between 2021-2025 and 6.0% between 2021-2031. The fastest growing industries are: (1) Health Care and Social Assistance, (2) Professional, Scientific, and Technical Services, (3) Education Services, (4) Transportation and Warehousing, and (5) Arts, Entertainment, and Recreation..

Industry	2021 Jobs	2025 Jobs	'21-'25 Change	2031 Jobs	'21-'31 Change
Government	24,690,143	24,992,243	1.2%	25,347,956	2.7%
Health Care and Social Assistance	20,747,728	22,247,130	7.2%	23,952,207	15.4%
Retail Trade	15,165,830	15,144,172	-0.1%	15,203,045	0.2%
Accommodation and Food Services	12,839,720	13,206,559	2.9%	13,801,730	7.5%
Manufacturing	12,564,160	12,617,690	0.4%	12,461,153	-0.8%
Professional, Scientific, and Technical Services	9,856,351	10,458,629	6.1%	11,057,442	12.2%
Administrative and Support and Waste Management and Remediation Services	9,098,077	9,350,804	2.8%	9,616,267	5.7%
Construction	7,657,454	7,908,709	3.3%	8,094,089	5.7%
Other Services (Except Public Administration)	7,027,065	7,212,668	2.6%	7,453,016	6.1%
Finance and Insurance	6,561,658	6,707,733	2.2%	6,785,108	3.4%

Source: EMSI (Note: Industries are in descending order of # of 2021 jobs; shading indicates above average growth relative to overall employment growth in the U.S. [green] or decline [red].)

INDUSTRY TRENDS IN THE UNITED STATES (2 OF 2)

Overall employment is projected to grow 2.9% in the United States between 2021-2025 and 6.0% between 2021-2031. The fastest growing industries are: (1) Health Care and Social Assistance, (2) Professional, Scientific, and Technical Services, (3) Education Services, (4) Transportation and Warehousing, and (5) Arts, Entertainment, and Recreation..

Industry	2021 Jobs	2025 Jobs	'21-'25 Change	2031 Jobs	'21-'31 Change
Transportation and Warehousing	5,942,246	6,235,202	4.9%	6,407,848	7.8%
Wholesale Trade	5,827,390	5,860,051	0.6%	5,863,228	0.6%
Educational Services	3,922,702	4,157,724	6.0%	4,432,542	13.0%
Information	2,834,837	2,875,886	1.4%	2,915,806	2.9%
Management of Companies and Enterprises	2,416,605	2,507,072	3.7%	2,576,886	6.6%
Real Estate and Rental and Leasing	2,349,529	2,391,381	1.8%	2,394,330	1.9%
Arts, Entertainment, and Recreation	2,201,719	2,294,352	4.2%	2,432,089	10.5%
Agriculture, Forestry, Fishing, and Hunting	1,503,870	1,542,166	2.5%	1,581,374	5.2%
Mining, Quarrying, and Oil and Gas Extraction	632,036	664,145	5.1%	715,977	13.3%
Utilities	550,249	547,051	-0.6%	529,702	-3.7%

Source: EMSI (Note: Industries are in descending order of # of 2021 jobs; shading indicates above average growth relative to overall employment growth in the U.S. [green] or decline [red].)

INDUSTRY TRENDS IN MARYLAND (1 OF 2)

Overall employment is projected to grow 3.3% in Maryland between 2021-2025 and 7.7% between 2021-2031. The fastest growing industries are: (1) Management of Companies and Enterprises, (2) Transportation and Warehousing, (3) Health Care and Social Assistance, (4) Professional, Scientific, and Technical Services, and (5) Education Services.

Industry	2021 Jobs	2025 Jobs	'21-'25 Change	2031 Jobs	'21-'31 Change
Government	587,730	600,487	2.2%	617,410	5.0%
Health Care and Social Assistance	384,401	410,375	6.8%	443,760	15.4%
Professional, Scientific, and Technical Services	266,396	284,200	6.7%	305,298	14.6%
Retail Trade	263,754	259,542	-1.6%	258,686	-1.9%
Accommodation and Food Services	211,302	216,330	2.4%	227,034	7.4%
Administrative and Support and Waste Management and Remediation Services	170,889	177,179	3.7%	185,014	8.3%
Construction	168,957	172,077	1.8%	175,265	3.7%
Other Services (Except Public Administration)	136,755	140,697	2.9%	147,113	7.6%
Manufacturing	113,599	118,962	4.7%	123,444	8.7%
Transportation and Warehousing	100,776	108,904	8.1%	115,650	14.8%

Source: EMSI (Note: Industries are in descending order of # of 2021 jobs; shading indicates above average growth relative to overall employment growth in Maryland [green] or decline [red].)

INDUSTRY TRENDS IN MARYLAND (2 OF 2)

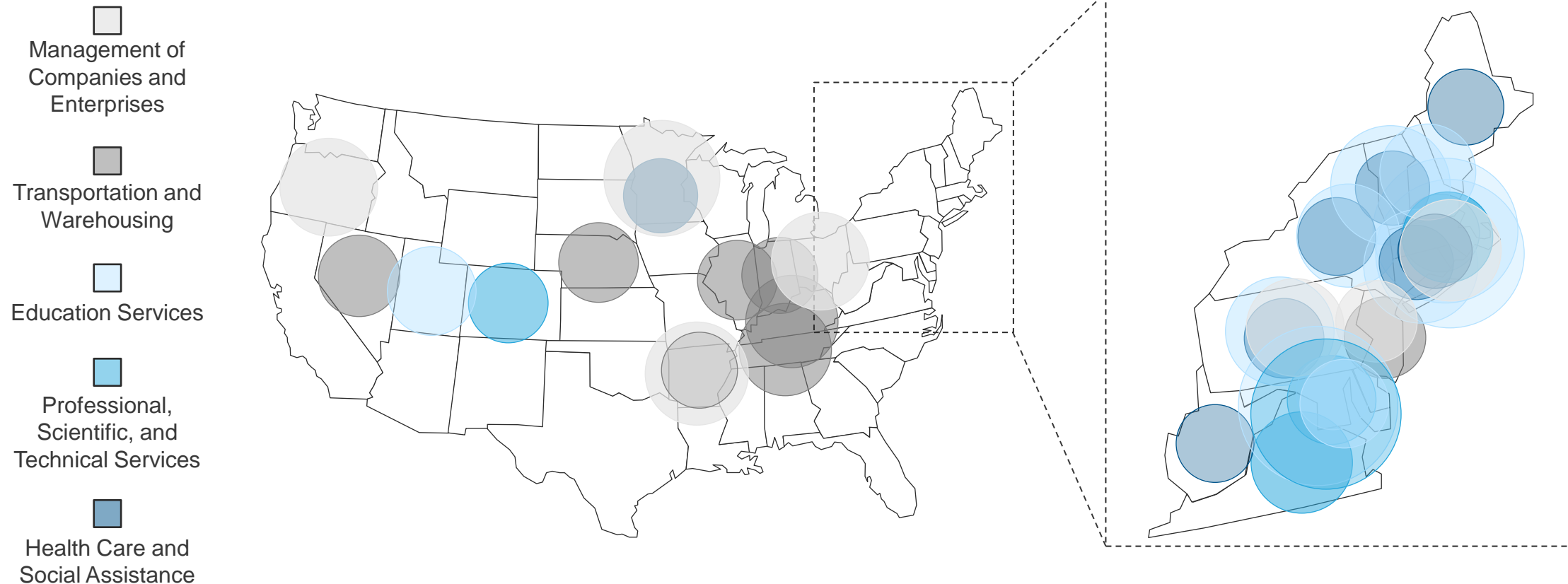
Overall employment is projected to grow 3.3% in Maryland between 2021-2025 and 7.7% between 2021-2031. The fastest growing industries are: (1) Management of Companies and Enterprises, (2) Transportation and Warehousing, (3) Health Care and Social Assistance, (4) Professional, Scientific, and Technical Services, and (5) Education Services.

Industry	2021 Jobs	2025 Jobs	'21-'25 Change	2031 Jobs	'21-'31 Change
Finance and Insurance	95,579	96,429	0.9%	97,694	2.2%
Educational Services	88,361	93,463	5.8%	100,418	13.6%
Wholesale Trade	85,460	87,066	1.9%	89,241	4.4%
Real Estate and Rental and Leasing	46,326	46,471	0.3%	46,301	-0.1%
Arts, Entertainment, and Recreation	38,489	38,865	1.0%	40,381	4.9%
Information	34,401	33,597	-2.3%	33,312	-3.2%
Management of Companies and Enterprises	28,607	30,942	8.2%	33,372	16.7%
Utilities	9,789	9,779	-0.1%	9,533	-2.6%
Agriculture, Forestry, Fishing, and Hunting	8,571	9,056	5.7%	9,748	13.7%
Mining, Quarrying, and Oil and Gas Extraction	1,195	1,345	12.5%	1,519	27.1%

Source: EMSI (Note: Industries are in descending order of # of 2021 jobs; shading indicates above average growth relative to overall employment growth in Maryland [green] or decline [red].)

HIGH-GROWTH INDUSTRIES: REGIONAL SPECIALIZATION

Maryland, Virginia, and Washington D.C. have above average per capita employment in Professional, Scientific, and Technical Services, Government (not pictured), and Education Services. Neighboring states have above average per capita employment Health Care and Social Assistance and Education Services.



Source: EMSI

OCCUPATIONS IN MARYLAND: BACHELOR'S DEGREES

Overall, employment is projected to grow 4.7% from 2021-2025 for occupations requiring a Bachelor's degree and less than five years of experience in Maryland. Software Developers and Quality Assurance Analysts make up one of the largest and fastest growing occupations.

**5 Largest Occupations in Maryland,
of Jobs Projected in 2025***

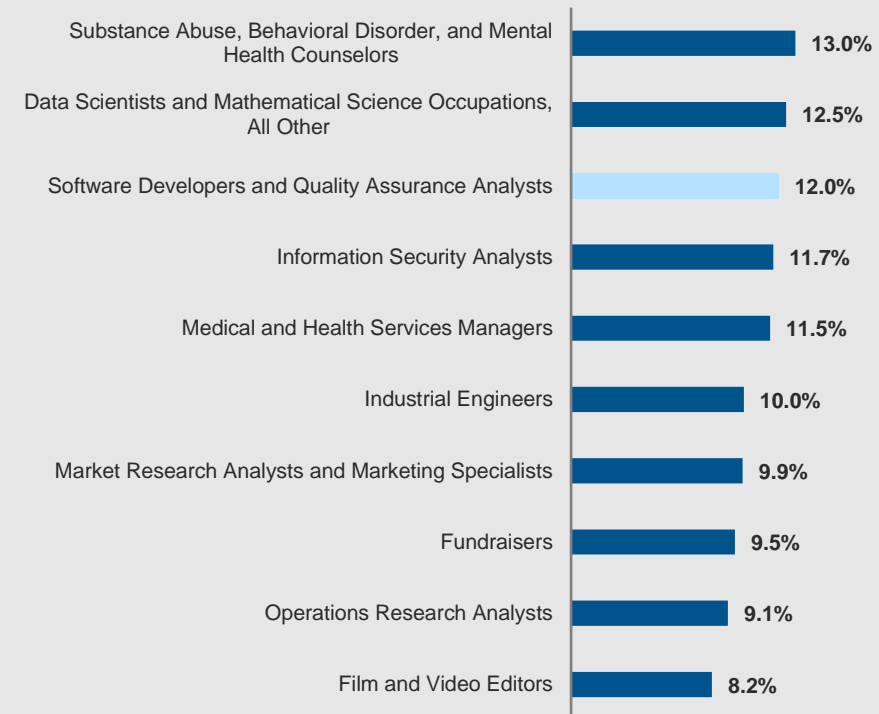


* Note: Occupations requiring a Bachelor's degree and < 5 years of experience

Occupation	Relevant Skills
Registered Nurses	Active Listening, Social Perceptiveness
Software Developers and...	Critical Thinking, Programming
Project Management and...	Decision Making, Systems Thinking
Elementary School Teachers	Instructing, Speaking, Learning Strategies
Accountants and Auditors	Active Listening, Reading Comprehension

Source: EMSI; O*NET Online

**10 Fastest Growing Occupations in Maryland,
% Employment Change Projected from 2021 – 2025***

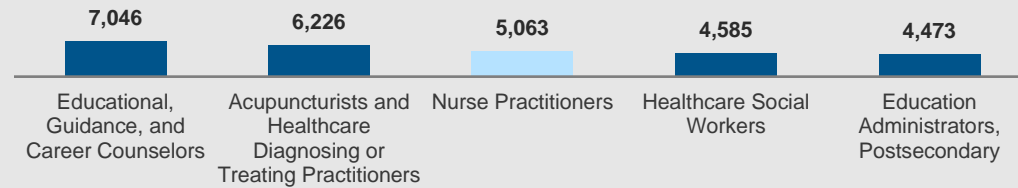


* Note: Occupations requiring a Bachelor's degree and < 5 years of experience

OCCUPATIONS IN MARYLAND: MASTER'S DEGREES

Overall, employment is projected to grow 6.8% from 2021-2025 for occupations requiring a Master's degree and less than five years of experience in Maryland. Nurse Practitioners make up one of the largest and fastest growing occupations.

**5 Largest Occupations in Maryland,
of Jobs Projected in 2025***

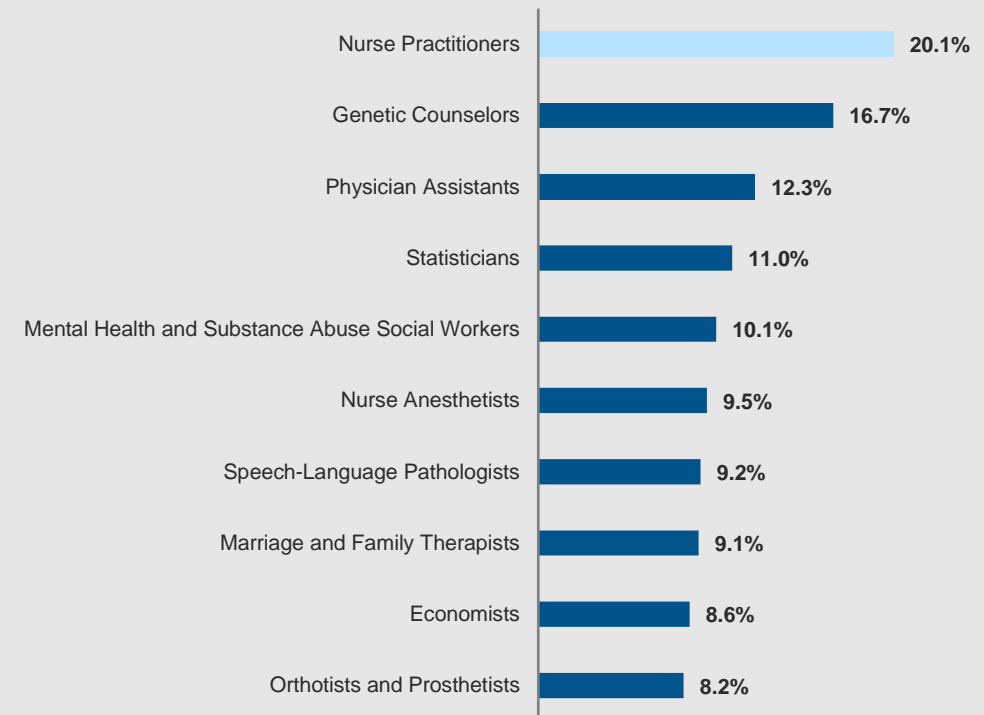


* Note: Occupations requiring a Master's degree and < 5 years of experience.

Occupation	Relevant Skills
Educational, Guidance, and...	Active Listening, Social Perceptiveness
Acupuncturists and...	Active Listening, Deductive Reasoning
Nurse Practitioners	Active Learning, Active Listening
Healthcare Social Workers	Active Listening, Social Perceptiveness
Education Administrators...	Critical Thinking, Reading Comprehension

Source: EMSI; O*NET Online

**10 Fastest Growing Occupations in Maryland,
% Employment Change Projected from 2021 – 2025***

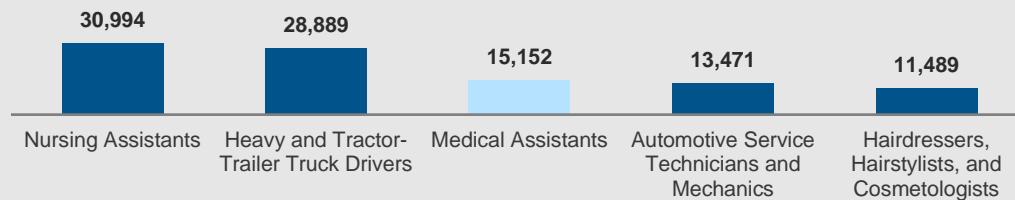


* Note: Occupations requiring a Master's degree and < 5 years of experience.

OCCUPATIONS IN MARYLAND: POSTSECONDARY NON-DEGREES

Overall, employment is projected to grow 3.5% from 2021-2025 for occupations requiring a postsecondary non-degree award in Maryland. Medical Assistants make up one of the largest and fastest growing occupations.

**5 Largest Occupations in Maryland,
of Jobs Projected in 2025***

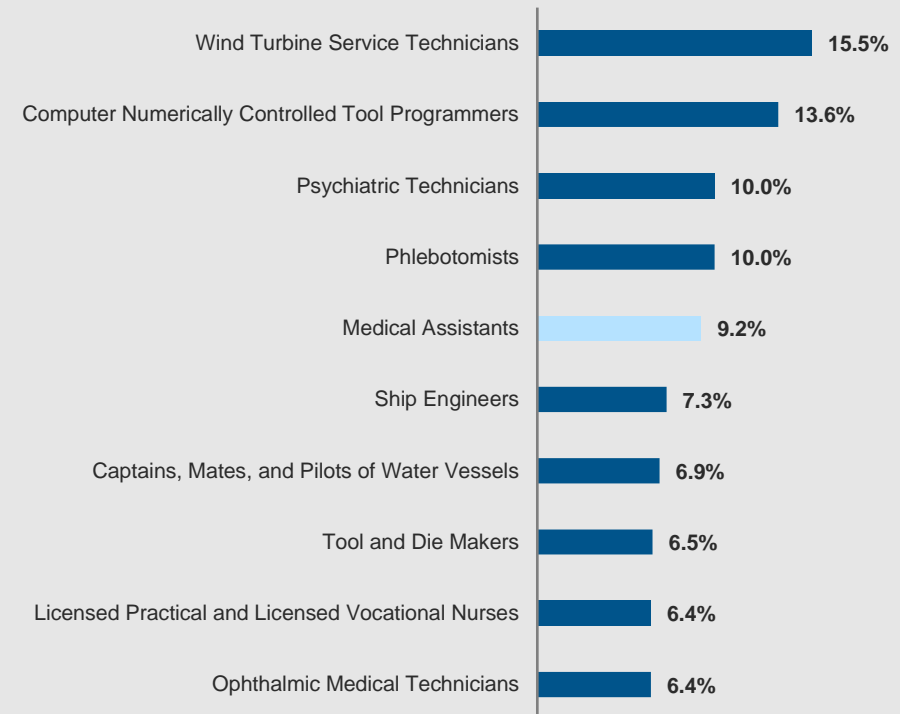


* Note: Occupations requiring a postsecondary non-degree award.

Occupation	Relevant Skills
Nursing Assistants	Service Orientation, Active Listening
Heavy and Tractor-Trailer...	Operation Monitoring, Time Management
Medical Assistants	Speaking, Active Listening
Automotive Service Tech...	Repairing, Troubleshooting
Hairdressers, Hairstylists...	Active Listening, Service Orientation

Source: EMSI; O*NET Online

**10 Fastest Growing Occupations in Maryland,
% Employment Change Projected from 2021 – 2025***



* Note: Occupations requiring a postsecondary non-degree award.

CORPORATE PARTNERS & WORKFORCE DEVELOPMENT

The USM has an opportunity to distinguish itself from other public systems of higher education by forging and maintaining corporate partnerships at the system level. These partnerships could take a variety of different forms, which are outlined below.

CENTRAL RECRUITMENT PLATFORM

Support a central recruitment platform that all students in the System can leverage to connect with employers, apply for internships, and to locate experiential learning opportunities.

CUSTOM PROGRAMS

Provide employers with the opportunity to invest in their employees' professional development with customized programs.



ADVISORY BOARDS

Establish corporate advisory boards to understand workforce needs and inform decisions about curricular and pedagogical innovation.

TIERED PARTNERSHIP PROGRAMS

Offer partnership programs with differential pricing and benefits for various tiers of membership.

Section F:

System Benchmarking

Research Questions:

How do comparable system offices message the role of the system vs. the role of individual campuses?

*What are some examples of innovation in peer systems?
What are examples of non-degree academic innovation?*

HIGHER EDUCATION SYSTEM CASE STUDIES

University of California

SUNY

University of Wisconsin

HIGHER EDUCATION SYSTEMS: THE UC SYSTEM

The UC System's Office of the President (UCOP) funds and guides system-wide programs, coordinates student support, manages the UC Systems business operations and finances, and supports the well-being of the UC System's workforce.

Overview of the UC System



Institutions: 10 campuses

2020-21 In-State Tuition: \$11,442

Undergraduate Students: 226,449

Graduate Students: 59,267

2019-20 Bachelor's Degrees: 62,747

2019-20 Master's Degrees: 13,836

The UC System's current strategic plan, *UC 2030: Advancing the California Dream*, lays out three system-wide goals:

- Produce 200,000 more undergrad and grad degrees by 2030
- Ensure the California Dream is for everyone
- Invest in the next generation of faculty and research

In December 2019, the UC System's Office of the President (UCOP) published a separate strategic framework "to guide all divisions [of the UCOP] in focusing their energy and resources on actions that will best position the University of California to achieve its academic, research and public service missions." The strategic framework also includes the mission, vision, and values of the UCOP.

Innovation within the UC System



The UC System recently announced an **open-access deal with publisher Elsevier**. Under the deal, all UC lead authors will be able to publish articles in Elsevier journals openly so that anyone can read them without paying. This deal advances the **UC System's goal to have its research be openly disseminated**.



In 2012, the UCOP launched the **UC-HBCU Initiative** to diversify and strengthen UC graduate programs. As part of the initiative, the UCOP offers a variety of grants designed to encourage UC faculty to actively engage in **collaboration and cooperation with faculty and students at HBCUs**.

HIGHER EDUCATION SYSTEMS: THE SUNY SYSTEM

The SUNY System is the nation's largest public system of higher education, containing 64 campuses comprised of Doctoral Granting Institutions, University Colleges, Technology Colleges, and Community Colleges. The exact role of the SUNY System Office is unclear.

Overview of the SUNY System



The State University
of New York

Institutions: 64 campuses

2020-21 In-State Tuition: \$7,070

Undergraduate Students: 350,889

Graduate Students: 43,331

2019-20 Bachelor's Degrees: 43,172

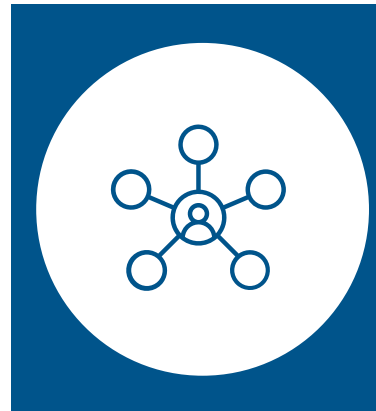
2019-20 Master's Degrees: 11,301

The SUNY System's current strategic plan, *The Power of SUNY*, lays out six "Big Ideas":

- SUNY and the Entrepreneurial Century
- SUNY and the Seamless Education Pipeline
- SUNY and a Healthier New York
- SUNY and an Energy-Smart New York
- SUNY and the Vibrant Community
- SUNY and the World

To support these six "Big Ideas," the Office of Strategic Planning and Accountability coordinates implementation, produces report cards, and leads SUNY's branding and marketing efforts.

Innovation within the SUNY System



53 of SUNY's 64 campuses use one application – **applySUNY** – to simplify the process of applying for admission. Prospective students designate which campuses they would like to apply to, and **applications are received in a central location** before being distributed to admissions officers on each campus.



The SUNY System contains **30 community colleges** with enrollment at each community college ranging from 700 to over 10,000. These colleges provide industry credentials or certificates, **guaranteed transfer pathways to a 4-year SUNY institution**, or direct placement into a career.

HIGHER EDUCATION SYSTEMS: THE U. OF WISCONSIN SYSTEM

Under the direction of the UW System President, the UW System Administration helps to develop, and then implements, monitors, and evaluates policies enacted by the Board of Regents, aligning university programs with the current and future needs of the state and the nation.

Overview of the U. of Wisconsin System



Institutions: 26 campuses*
2020-21 In-State Tuition: Differential
Undergraduate Students: 139,539
Graduate Students: 25,227
2019-20 Bachelor's Degrees: 28,444
2019-20 Master's Degrees: 7,837

The U. of Wisconsin System's current strategic plan, *2020FWD: Moving Wisconsin and the World Forward*, lays out four overarching areas of focus:

- Educational pipeline
- University experience
- Business and community mobilization
- Operational excellence

Each area of focus contains system-wide priorities and specific actions to be taken at the institutional-level. The UW System Administration office supports this strategic plan by developing an operational plan and delivering regular progress updates.

Innovation within the U. of Wisconsin System



The U. of Wisconsin System has made coordinating online education a key focus of its 2021-23 budget proposal. **Project Distance Education+** includes enhanced research and marketing, expanded program/curriculum development, and improved responsiveness to trends in the marketplace. Investment will likely flow through **UW Extended Campus**.



To address teacher shortages in Wisconsin, UW-Madison's School of Education initiated the **Teacher Pledge Program**, which enables students to receive **financial assistance** equal to the cost of in-state tuition and fees, plus testing and certification costs if they **pledge to work at a Wisconsin preK-12 school** for 3-4 years after graduation.

* Note: The U. of Wisconsin System has 13 universities spread across 26 campuses.