Strategic Enterprise Plan: 2020 Update & Operational and Financial Review

Arizona State University

Michael M. Crow
February 14, 2020
Economic and Social Imperative
Arizona’s GDP has grown, but at a slower rate than the U.S. overall

Source: Bureau of Economic Analysis
Arizona’s relative prosperity has actually decreased since 2005

Per capita personal income relative to US average

Source: Bureau of Economic Analysis
Arizona has the eighth-highest poverty rate in the U.S.

Percent of working-age population living in poverty (2017)

Source: US Census Bureau, Table S1701
Gaps in Arizona’s educational attainment across ethnic groups are linked to economic disparities

Census data for Arizona (2017)

Source: US Census Bureau, Tables S1501 and 1703
Percentage of low income families in rural metros is 15 points higher than the Phoenix metro

Lower-income families as a percent of all families (2017)

United States
Less than $50,000 per year
$35,000 to $49,999 per year
Less than $35,000 per year

Source: US Census Bureau, Table S1901
Arizona’s economic development policy has traditionally centered on creating a low-cost business environment:

- Low taxes
- Low regulatory burden
- Low land development costs
Success in the new economy is driven by access to resources

- Access to specialized labor
- Access to specialized business services
- Access to new knowledge
Metros where new economy resources are more plentiful have substantial tech industry job growth

Employment change in high-technology industries (2005-2017)

Source: Brookings Institution
Arizona needs to invest in new economy resource policies to attract new industries
Our Design
Our charter is what we do

ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it includes and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves.
Our responsibility and public trust

The charter is a **promise** to the citizens of Arizona.

ASU has a **responsibility** to fulfill the requirements of the Arizona Constitution to provide public education.

The responsibility is not one that is conditional upon the actions of the legislature; it is ASU’s responsibility to find the means to fulfill its charter while seeking appropriate and fair public investment in the costs of education for Arizona resident students.
Our design aspirations are how we do it

Leverage Our Place
ASU embraces its cultural, socioeconomic and physical setting.

Transform Society
ASU catalyzes social change by being connected to social needs.

Value Entrepreneurship
ASU uses its knowledge and encourages innovation.

Conduct Use-Inspired Research
ASU research has purpose and impact.

Enable Student Success
ASU is committed to the success of each unique student.

Fuse Intellectual Disciplines
ASU creates knowledge by transcending academic disciplines.

Be Socially Embedded
ASU connects with communities through mutually beneficial partnerships.

Engage Globally
ASU engages with people and issues locally, nationally and internationally.
Our design transcends traditional boundaries

- School of Arts, Media and Engineering
- School of Biological and Health Systems Engineering
- School of Civic and Economic Thought Leadership
- School of Computing, Informatics, and Decision Systems Engineering
- School of Community Resources and Development
- School of Earth and Space Exploration
- School of Electrical, Computer and Energy Engineering
- The Polytechnic School
- School for Engineering of Matter, Transport and Energy
- School of Film, Dance and Theatre
- School for the Future of Innovation and Society
- School of Geographical Sciences and Urban Planning
- School of Historical, Philosophical and Religious Studies
- School of Human Evolution and Social Change
- School of Humanities, Arts and Cultural Studies
- School of International Letters and Cultures
- School of Life Sciences
- School of Mathematical and Natural Sciences
- School of Mathematical and Statistical Sciences
- School of Molecular Sciences
- School of Politics and Global Studies
- T. Denny Sanford School of Social and Family Dynamics
- The Design School
- School of Social and Behavioral Sciences
- School of Social Transformation
- School of Sustainability
- School of Sustainable Engineering and the Built Environment
- School of Transborder Studies
Performance and Accomplishments
ASU excellence earns recognition

- **#1 in U.S. for innovation**
  - ASU Ahead of Stanford and MIT

- **Top 20 in graduate education schools in the nation**
  - U.S. News & World Report, 2019

- **Top 10 in the world for U.S. patents**
  - U.S. National Academy of Inventors and Intellectual Property Owners Association, 2019

- **Top 10% Athletics Academic Progress Rate in the Pac-12**
  - NCAA, 2019

- **One of the world's best for research and teaching**
  - Times Higher Education, 2019

- **ASU a top 10 “Best Buy” in the U.S.**

- **A “Best Value College” in the U.S.**
  - Princeton Review, 2019

- **Top producer of Fulbright students**
  - Chronicle of Higher Education, 2020

- **Top 10 university for undergraduate education**
  - U.S. News & World Report, 2020

- **#2 online undergraduate degree program in the nation**
  - U.S. News & World Report, 2019

- **A leader in undergraduate education**
  - Princeton Review, 2019

- **Top 10 in first-year student experiences**
  - U.S. News & World Report, 2019

- **Top 20 fine arts programs**
  - U.S. News & World Report, 2019

- **No. 7 nationally in total research expenditures for universities without a medical school**
  - National Science Foundation Education Research and Development rankings
ASU continues to achieve on all fronts

Student Success
Research
Financial Health
Enterprise Capacity
Students
Students demonstrate excellence and innovation in 2019

Desert WAVE Robotics Team
- First place among U.S. teams
- Third place among international teams

First place winners
- Valielza O'Keefe
- Joshua Pardhe

Cronkite School of Journalism and Mass Communication
- Seven first-place awards
- Most of any school in the nation

RoboSub Competition
Inaugural Regents’ Cup
National Native Media Awards
Undergraduate enrollment up 43% compared to 2014

Undergraduate enrollment actual and metric goals (2003-2025)
Graduate enrollment is up 47% over five years

Graduate enrollment actual and metric goals (2003-2025)
First-year student enrollment has grown across all populations

First-time first-year enrollment by race/ethnicity (Fall 1980 – Fall 2019)

Arizona first-year students are students of color

52%
ASU is now more accessible to low-income students


All incomes adjusted to 2018 dollars using CPI.
Enrollment of Pell Grant recipients is more than triple that of the Ivy League

Undergraduate Pell Grant recipients by academic year
First-generation student enrollment tripled since 2002

First-generation student enrollment (Fall 2002 – Fall 2019)
ASU is committed to low annual tuition adjustments

Tuition and fees for new resident first-year students (Fall 2013 – Fall 2019)

Beginning in Fall 2019, ASU streamlined tuition and fees and included class fees (which averaged $321 in 2018-19) in total.
Simplified tuition and fees make total costs more transparent to students and their families

Tuition and fee structure for resident undergraduate students (2019-20)

- **$10,710**
  - Arizona resident base tuition*

- **ASU and Student Initiated Fees**

- **Undergraduate College Fee 1**
  - **$0**
  - College of Integrative Sciences and Arts: Humanities and Social Sciences
  - Mary Lou Fulton Teachers College
  - New College of Interdisciplinary Arts and Sciences: Humanities and Social Sciences

- **Undergraduate College Fee 2**
  - **$210**
  - College of Integrative Sciences and Arts: Sciences
  - New College of Interdisciplinary Arts and Sciences: Sciences
  - School for the Future of Innovation in Society
  - School of Sustainability
  - The College of Liberal Arts and Sciences: Humanities and Social Sciences
  - Watts College of Public Service and Community Solutions

- **Undergraduate College Fee 3**
  - **$770**
  - College of Health Solutions
  - College of Nursing and Health Innovation*
  - Herberger Institute for Design and the Arts

- **Undergraduate College Fee 4**
  - **$1,050**
  - Ira A. Fulton Schools of Engineering
  - The College of Liberal Arts and Sciences: Sciences
  - Thunderbird School of Global Management
  - Walter Cronkite School of Journalism and Mass Communication
  - W.P. Carey School of Business
Resident tuition remains low compared to Pac-12 public schools

Full-time tuition for new resident undergraduate students (2019-2020)
Non-resident tuition remains low compared to Pac-12 public schools

Full-time tuition for new non-resident undergraduate students (2019-2020)
International tuition remains low compared to Pac-12 public schools

Full-time tuition for new international undergraduate students (2019-2020)
ASU is committed to affordability by providing gift aid

Average gift aid awards by family income for 33,277 resident undergraduate students (2018-2019)

Tuition and Mandatory Fees = $10,800

Source: U.S. Census Bureau, 2018
ASU first-year retention is nearing 90% goal

First-year student retention rates (2002-2018)

Cohort Entry Year

- Arizona First-Year Students
- All First-Year Students
Graduation rates have increased markedly since 2002, with the four-year rate nearly doubling.
Four-year graduation rate compares well with UIA schools

Four-year graduation rate of University Innovation Alliance member universities

- UT Austin
- Ohio State
- Purdue
- UC Riverside
- MSU
- ASU
- ISU
- Kansas
- Central Florida
- Oregon State
- Georgia State

“B” Average High School GPA
“A” Average High School GPA
Number of degrees awarded increased 76% since 2008-09

Undergraduate and graduate degrees by year (2002-2025)
Degrees in high demand fields doubled over 10 years

High demand degrees awarded (2002-2019)
STEM degrees up 166% since 2008-09

STEM degrees awarded (2002-2019)
Fulton Schools of Engineering enrollment has nearly quadrupled since 2009

<table>
<thead>
<tr>
<th></th>
<th>Total Enrollment</th>
<th>Undergraduates</th>
<th>Graduates</th>
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<tbody>
<tr>
<td></td>
<td>6,407</td>
<td>4,253</td>
<td>2,154</td>
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<tr>
<td>Fall 2009</td>
<td>24,104</td>
<td>19,132</td>
<td>4,972</td>
</tr>
<tr>
<td>Fall 2019 est.</td>
<td></td>
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</tbody>
</table>

| Degrees Granted        | 1,391            | 4,532          |
| 2008-2009              | 2018-2019        |

| Tenured/Tenure-Track Faculty | 214 | 350 |
| Fall 2010                 | Fall 2019 |
Research
ASU produces groundbreaking research
Game-changing, use-inspired discovery happens here

Autism Microbiota Transfer Therapy

Epigenetic Detection Device

Heat Island Imaging
World-class new faculty continue to join ASU

Craig Calhoun

University Professor, Social Sciences

Joint appointments:
School of Politics and Global Studies
School of Public Affairs
School for the Future of Innovation in Society
School of Sustainability
School of Arts, Media and Engineering

Former director and president,
London School of Economics

Pardis Mahdavi

Professor and Director,
Social Transformation

Anthropologist, author and former journalist

Consulted for the U.S. Government,
Google, Inc. and the United Nations

Greg Asner

Professor, Geographical Science and Urban Planning
Director, Center for Global Discovery and Conservation Science

School of Earth and Space Exploration

Leading ecologist in exploratory and applied research on ecosystems and climate change

Member, National Academy of Sciences
Researchers cultivate a growing number of opportunities

Number of proposals submitted by ASU researchers (2017-2019)
Research expenditures doubled over the last decade

Dollars in millions

Metric Goal

Actual
Research growth has outpaced nearly all other universities

Percentage growth for institutions with research expenditures greater than $100M annually

Indiana U. Bloomington gained IUPUI’s medical school in 2015.

Arizona State
NYU
UNC
UT -M.D. Anderson Cancer Center
Utah
ASU leads on research across disciplines

National Science Foundation Higher Education Research and Development rankings (2018)

Total Research Expenditures: 41 of 915 ahead of

- The University of Chicago
- Brown University
- Princeton University
- Caltech
- University of Maryland
- University of Colorado Boulder
- Case Western Reserve University

Total Research Expenditures among Institutions without a Medical School: 7 of 760 ahead of

- Virginia Tech
- Princeton University
- Carnegie Mellon University
- The Rockefeller University
- The Scripps Research Institute
- University of Notre Dame
- University of Maryland

Non-Medical School Expenditures: 20 of 915 ahead of

- Stanford University
- Columbia University in the City of New York
- Rutgers University New Brunswick
- University of North Carolina at Chapel Hill
- University of Arizona
- The Ohio State University
Public institutions: 24 of 408 ahead of

Geological and Earth Sciences: 1 of 352 ahead of

Anthropology: 1 of 231 ahead of

Humanities: 5 of 396 ahead of
Social Sciences: 4 of 481 ahead of

Transdisciplinary (other sciences): 2 of 251 ahead of

Electrical, Electronic, and Communications Engineering: 8 of 292 ahead of

Political Science: 5 of 346 ahead of
Economics: 14 of 332 ahead of

Psychology: 10 of 425 ahead of

Non-Science and Engineering: 16 of 549 ahead of

Business and Management: 19 of 370 ahead of
Education: 23 of 458 ahead of

Engineering Expenditures: 19 of 397 ahead of

NASA Funded Expenditures: 5 of 437 ahead of

HHS (including NIH) Funded Expenditures among Institutions without a Medical School: 7 of 420 ahead of
NSF Funded Expenditures: 21 of 592 ahead of

Visual and Performing Arts: 12 of 312 ahead of
Financial Health
ASU has grown and diversified its revenues over the last decade

ASU gross revenues (FY2009 & FY2019)
Campaign ASU 2020 exceeded its goal of $1.5B

ASU gifts and commitments in millions (2011-2025)
Net position has doubled since 2009

Net position is the financial position at the end of the fiscal year accounting for all assets, deferred outflows, liabilities and deferred inflows.

- **GASB 68 & 45 Adjusted**
- **Unrestricted**
- **Restricted**
- **Invested in Capital Assets (net)**
- **ASU Component Units (EP)**

<table>
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<tr>
<th>Year</th>
<th>Net Position (in millions)</th>
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<tr>
<td>'09</td>
<td>$0</td>
</tr>
<tr>
<td>'10</td>
<td>$500</td>
</tr>
<tr>
<td>'11</td>
<td>$1,000</td>
</tr>
<tr>
<td>'12</td>
<td>$1,500</td>
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<tr>
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<td>'14</td>
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<td>'17</td>
<td>$4,000</td>
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<tr>
<td>'18</td>
<td>$4,500</td>
</tr>
<tr>
<td>'19</td>
<td>$5,000</td>
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</table>
ASU uses 21% fewer resources per degree awarded than the national median

Tuition and state appropriation per degree awarded (FY2018)

Source: IPEDS
ASU uses 14% fewer resources per degree awarded than the median of universities without medical schools.
Cost discipline, application of technology, and economies of scale are projected to maintain current cost levels.

E&G expense net of scholarship allowance per FTE ABOR methodology adjusted for 2% inflation.

![Chart showing projected E&G expenses per FTE from FY08 to FY25, adjusted for 2% inflation.](chart.png)
For 5 years, ASU has operated with about half the staff per student as its peers

**FTE employees per 100 FTE students (FY2012 - FY2019)**

<table>
<thead>
<tr>
<th>University</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona State University</td>
<td>12.91</td>
<td>12.93</td>
<td>12.92</td>
<td>12.85</td>
<td>12.52</td>
<td>12.36</td>
<td>12.90</td>
<td>12.78</td>
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<tr>
<td>Florida State University</td>
<td>15.3</td>
<td>15.8</td>
<td>16.1</td>
<td>16.0</td>
<td>16.1</td>
<td>16.2</td>
<td>16.8</td>
<td>17.5</td>
</tr>
<tr>
<td>Indiana University-Bloomington</td>
<td>20.1</td>
<td>20.5</td>
<td>20.1</td>
<td>20.8</td>
<td>20.3</td>
<td>20.8</td>
<td>22.1</td>
<td>22.5</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>22.7</td>
<td>21.5</td>
<td>21.3</td>
<td>21.6</td>
<td>21.9</td>
<td>22.8</td>
<td>22.9</td>
<td>23.0</td>
</tr>
<tr>
<td>Ohio State University-Main Campus</td>
<td>24.3</td>
<td>23.0</td>
<td>23.0</td>
<td>22.9</td>
<td>22.7</td>
<td>22.9</td>
<td>23.5</td>
<td>23.5</td>
</tr>
<tr>
<td>Pennsylvania State University-Main Campus</td>
<td>28.6</td>
<td>28.8</td>
<td>28.8</td>
<td>29.0</td>
<td>29.6</td>
<td>29.3</td>
<td>30.1</td>
<td>31.7</td>
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<tr>
<td>Rutgers University-New Brunswick</td>
<td>23.0</td>
<td>23.9</td>
<td>25.7</td>
<td>25.0</td>
<td>24.7</td>
<td>25.9</td>
<td>29.9</td>
<td>29.9</td>
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<tr>
<td>The University of Texas at Austin</td>
<td>28.8</td>
<td>32.8</td>
<td>26.0</td>
<td>26.7</td>
<td>27.4</td>
<td>27.7</td>
<td>27.2</td>
<td>27.6</td>
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<tr>
<td>University of California-Los Angeles</td>
<td>27.3</td>
<td>26.7</td>
<td>28.4</td>
<td>26.4</td>
<td>26.9</td>
<td>26.7</td>
<td>27.1</td>
<td>29.4</td>
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<tr>
<td>University of Connecticut</td>
<td>26.9</td>
<td>28.1</td>
<td>28.3</td>
<td>27.6</td>
<td>27.2</td>
<td>27.9</td>
<td>28.5</td>
<td>26.8</td>
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<tr>
<td>University of Illinois at Urbana-Champaign</td>
<td>24.3</td>
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<td>25.2</td>
<td>24.2</td>
<td>24.0</td>
<td>23.9</td>
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<tr>
<td>University of Iowa</td>
<td>23.2</td>
<td>23.3</td>
<td>23.5</td>
<td>24.1</td>
<td>24.2</td>
<td>23.5</td>
<td>23.2</td>
<td>23.1</td>
</tr>
<tr>
<td>University of Maryland-College Park</td>
<td>24.9</td>
<td>25.8</td>
<td>26.0</td>
<td>27.4</td>
<td>25.5</td>
<td>25.6</td>
<td>25.0</td>
<td>24.5</td>
</tr>
<tr>
<td>University of Minnesota-Twin Cities</td>
<td>29.6</td>
<td>30.3</td>
<td>30.9</td>
<td>31.2</td>
<td>31.6</td>
<td>31.7</td>
<td>31.9</td>
<td>32.3</td>
</tr>
<tr>
<td>University of Washington-Seattle Campus</td>
<td>25.6</td>
<td>24.4</td>
<td>25.3</td>
<td>25.6</td>
<td>21.7</td>
<td>25.6</td>
<td>24.7</td>
<td>24.0</td>
</tr>
<tr>
<td>University of Wisconsin-Madison</td>
<td>26.4</td>
<td>26.9</td>
<td>26.9</td>
<td>27.6</td>
<td>27.5</td>
<td>27.8</td>
<td>28.0</td>
<td>30.1</td>
</tr>
</tbody>
</table>

**Peer Median**

|        | 24.9 | 24.4 | 25.7 | 25.2 | 25.6 | 25.0 | 24.5 |
Use of space is efficient compared to ABOR peers

Space density: Net assignable square footage per full-time equivalent
Enterprise Capacity
ASU continues to build locally and beyond
Large footprint allows linkages with corporate partners
Innovation Zone: ASU Polytechnic

- Over 300 acres for private build-to-suit opportunities
- Integrated with the campus and its aviation, advanced manufacturing, bio-fuels and robotics expertise
- Adjacent to the Phoenix-Mesa Gateway Airport, site of “SkyBridge Arizona” the nation’s first international air cargo hub to house both Mexican and United States customs
- Proximate to Eastmark, the region’s new large-scale 3,200 acre residential community
Innovation Zone: ASU West

- Over 60 acres for build-to-suit opportunities
- More than 4K students engaged in 110 undergraduate and post-graduate degree programs offered by seven schools and colleges
- Located in the West Valley’s corporate distribution and logistics hub
Innovation Zone: Arizona Health Solutions Corridor

- 24 acre ASU biomedical center under development
- Adjacent to the Mayo Clinic Hospital-Phoenix and the Mayo Clinic cancer center and proton beam therapy facility
- Home to recently launched Mayo Clinic-ASU MedTech Accelerator, designed specifically for medical device and health care technology companies
- Mayo Clinic MD/ASU Masters degree, including Health Informatics, Biomedical Diagnostics, Business and Juris Doctorates
Innovation Zone: ASU Research Park

- 320 acre site with two parcels available for corporate facility or build-to-suit opportunities (16.5 and 5.5 acres)
- 18 surface acres of lakes and extensive trail system
- 2.2M sf Class A office space
- 51 corporate tenants employing 6K people
- ASU Macrotechnology Works — home to ASU’s Quantum Energy and Sustainable Solar Technologies (QESST), ASU’s first national Engineering Research Center (ERC) supported jointly by the National Science Foundation (NSF) and the Department of Energy (DOE)
- $1.4B annual economic impact
Innovation Zone: Novus Innovation Corridor

- 350 acre sustainable mixed-use urban center
- Home to State Farm’s 2M sf regional hub
- 4M square feet of high-rise, mid-rise and creative office build to suit opportunities
- 3,645 residences and 700 hotel rooms planned
- “Sun Devil 365” programming
- 24K jobs created
- Projected $4.6B annual economic impact upon completion
Innovation Zone: SkySong, ASU Scottsdale Innovation Center

- Planned 1.2M sf mixed-use development with 750K sf occupied by July 2019
- 38 technology-driven commercial tenants
- 10 University units on-site including online education leader EdPlus at ASU
- 325 market rate apartments
- 157 room Marriott/Element boutique hotel
- Four on-site restaurants
- Support for over 60 affiliate startups led by students, faculty and community entrepreneurs
- Site of over 500 community meetings per month serving over 4,000 people
- Projected $32B 30-year economic impact
New physical locations support global connections

LA Center and Global City

Colleges at ASU
Multiple theme campuses
World-class research campus

DC Center and Global Center
Global research engagement continues to grow
ASU has developed many external partnerships
ASU has made substantial progress on its metric goals since 2008-09.
ASU approach is driven by its mission and goals

- Demonstrate **leadership** in academic excellence and accessibility
- Establish **national standing** in academic quality and impact of colleges and schools in every field
- Establish ASU as a **global center** for interdisciplinary research, discovery and development by 2025
- Enhance our **local impact** and social embeddedness
Progress is measured against ASU's 2025 metric goals

Demonstrate leadership in academic excellence and accessibility

- Maintain the fundamental principle of accessibility to all students qualified to study at a research university.
- Maintain university accessibility to match Arizona’s socioeconomic diversity, with undifferentiated outcomes for success.
- Improve freshman persistence to greater than 90 percent.
- Enhance university graduation rate to greater than 85 percent and more than 32,000 graduates.
- Enhance quality while reducing the cost of a degree.
- Enroll 100,000 online and distance-education degree-seeking students.
- Enhance measured student development and individual student learning to national leadership levels.
- Engage all learners on all levels.
Establish **national standing** in academic quality/impact of colleges/schools in every field

- Attain national standing in academic quality for each college and school (top 5 percent).
- Attain national standing in the learning value added to our graduates in each college and school.
- Become the leading university academically (faculty, discovery, research, creativity) in at least one department or school within each college and school.
Progress is measured against ASU's 2025 metric goals

Establish ASU as a **global center** for interdisciplinary research, discovery and development

- Become the leading American center for discovery and scholarship in the integrated social sciences and comprehensive arts and sciences.
- Enhance research competitiveness to more than **$815 million** in annual research expenditures.
- Transform regional economic competitiveness through research and discovery and value-added programs.
- Become a leading American center for innovation and entrepreneurship at all levels.
Enhance our **local impact** and social embeddedness

- Strengthen Arizona’s interactive network of teaching, learning and discovery resources to reflect the scope of ASU’s comprehensive knowledge enterprise.

- Co-develop solutions to the critical social, technical, cultural and environmental issues facing 21st-century Arizona, ensuring sustainability and resilience.

- **Meet the needs of 21st-century learners** through the universal learner initiative by increasing individual success through personalized learning pathways and promoting adaptability to all accelerated social-technical changes.
The 2025 metrics require ASU to increase its proportional share of performance

**Share of Total Enrollment**

- University of Arizona
- Northern Arizona University
- Arizona State University

**Share of Total Degrees**

**Share of High Demand Degrees**

**Research Expenditures (millions)**
What It Will Take
ASU continues to lead as an enterprise

**Higher Education Governance Logic**

<table>
<thead>
<tr>
<th></th>
<th>Academy Model</th>
<th>State Control Model</th>
<th>Market Model</th>
<th>Enterprise Model</th>
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</thead>
<tbody>
<tr>
<td><strong>Animating Purpose</strong></td>
<td>Enlightenment of individual</td>
<td>Organizational preservation</td>
<td>Profit maximization for owners and</td>
<td>Social transformation</td>
</tr>
<tr>
<td></td>
<td>students</td>
<td></td>
<td>shareholders</td>
<td>Economic success</td>
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<td><strong>Path to Achieving</strong></td>
<td>Immersive instruction</td>
<td>Achievement of state-specified</td>
<td>Efficiency and cost reduction</td>
<td>Connecting instruction to</td>
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<td><strong>Public Value</strong></td>
<td></td>
<td>goals</td>
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<td>impacting scale</td>
</tr>
<tr>
<td><strong>Assumptions of</strong></td>
<td>Self-governing professionals</td>
<td>Bureaucrats responding to rules</td>
<td>Commodity labor; faculty not</td>
<td>Knowledge entrepreneurs</td>
</tr>
<tr>
<td><strong>Faculty</strong></td>
<td></td>
<td></td>
<td>entrepreneurial</td>
<td></td>
</tr>
<tr>
<td><strong>Assumptions of</strong></td>
<td>Management drawn from and</td>
<td>Traditional public managers</td>
<td>Professional management distinct</td>
<td>Management drawn from and</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>blended with faculty</td>
<td>distinct from faculty</td>
<td>from faculty and acting</td>
<td>blended with faculty but acting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>entrepreneurally</td>
<td>entrepreneurially</td>
</tr>
<tr>
<td><strong>Accountability</strong></td>
<td>Faculty and Management</td>
<td>Audits, public reporting,</td>
<td>Student choice, standardized</td>
<td>Demonstrated economic and social</td>
</tr>
<tr>
<td><strong>Mechanisms</strong></td>
<td>Professionalism</td>
<td>standardized testing</td>
<td>testing</td>
<td>progress</td>
</tr>
<tr>
<td><strong>Primary Funding</strong></td>
<td>Enrollment funding from state,</td>
<td>Enrollment funding from state</td>
<td>Vouchers, performance based</td>
<td>Diverse; institutional</td>
</tr>
<tr>
<td><strong>Mechanisms</strong></td>
<td>endowments</td>
<td></td>
<td>funding from state</td>
<td>entrepreneurship</td>
</tr>
<tr>
<td><strong>Organizational Scale</strong></td>
<td>Individual or groups of</td>
<td>Community or state</td>
<td>Indeterminate, any scale from</td>
<td>Social scale with possible national</td>
</tr>
<tr>
<td><strong>of Impact</strong></td>
<td>individuals</td>
<td></td>
<td>which profit can be derived</td>
<td>and global reach</td>
</tr>
</tbody>
</table>

87
ASU Enterprise Model
ASU Enterprise Model
ASU Enterprise Model
The ASU Enterprise

2020 Launch

ASU Enterprise Partners
CEO

University President
ASU Enterprise CEO

ASU Enterprise
Strategy & Planning
Senior Vice President

Executive Vice President, Chief Financial Officer
Senior Vice President, University Affairs

Senior Vice President, Educational Outreach and Student Services
Senior Vice President, University Secretary

Senior Vice President, University Planner
Senior Vice President, General Counsel

Knowledge Enterprise
Executive Vice President

Academic Enterprise
University Provost

Learning Enterprise
Chair
Vice Chair
Managing Director
ASU continues to expand its research portfolio

Dollars in millions
ASU is investing in technology-enabled student communications to improve the prospective first-year student journey and grow interest in and enrollment at ASU.

**ASU continues to drive growth in undergraduate enrollment**

**Benchmarks for future success (FY2018 vs FY2019)**

- **+18.9% first-year student applications**
  (54,386 vs 64,647) campus and digital immersion combined

- **+11.3% campus visits/tours**
  (31,322 vs 34,853) including on-campus admissions events

- **+5.4% admission-related web traffic**
  (3.5M vs 3.7M) website sessions
ASU continues to drive innovation for improved student success

Key areas of continued investment

Experiential Learning Network
- Integration of learning, work and service
- Participation of all students
- Cooperative education
- Experiential learning transcript

Active, Immersive Learning
- Digital virtual learning environments
- Use of adaptive learning to expand flipped classrooms
- Connected courses
- Immersive play/creation

Integrated Case Management
- Predictive analytics
- Proactive advising
- Holistic student data
- Health and wellness

Intentional Student Engagement
- ASU mobile app
- Sunny, ASU’s chatbot
- Digital portfolios
- Energizing ASU 101
ASU expands ability to serve all learners

Creates, incubates and scales tech-enabled educational solutions that are personalized, stackable, accessible and responsive to workforce needs.

Learners will acquire the skills and competencies typically gained through traditional credentials such as a high school diploma/GED, Arizona Career Readiness Credential, associate degree, bachelor's degree, graduate degree and lifelong learning, at any stage of their life, including while employed and beyond.
Digital learning platform will support each enterprise

238 educational technologies utilized

Evolution of the ASU Digital Learning Platform
ASU must continue to grow and diversify revenue streams

ASU gross revenues in millions (FY2019 actual, FY2020 to FY2025 projected)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Tuition Revenues</th>
<th>TRIF</th>
<th>Auxiliary (net)</th>
<th>Other E&amp;G</th>
<th>Gifts</th>
<th>Research &amp; F&amp;A (External Only)</th>
<th>Financial Aid Grants (Mostly Pell)</th>
<th>Fees and Summer Session</th>
<th>ASU Online Tuition</th>
<th>Graduate Tuition</th>
<th>International Tuition</th>
<th>Non-Resident UG Tuition</th>
<th>Resident UG Tuition</th>
<th>State Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY19</td>
<td>$3,208</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY20</td>
<td>$3,300</td>
<td></td>
<td></td>
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<tr>
<td>FY21</td>
<td>$3,400</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY22</td>
<td>$3,500</td>
<td></td>
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<tr>
<td>FY23</td>
<td>$3,600</td>
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<td></td>
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<tr>
<td>FY24</td>
<td>$3,700</td>
<td></td>
<td></td>
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<tr>
<td>FY25</td>
<td>$5,752</td>
<td></td>
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</tr>
</tbody>
</table>

98
Enterprise Partners presents significant opportunities

Actual and projected revenues in millions (FY2019 actuals, FY2020 to FY2025 projected)

Other EP includes one-time investment related to InStride in FY19
Together, ASU and EP revenues power the enterprise

FY 2002 and FY 2019 actuals, FY 2025 projected (in millions)
The Fulton Schools of Engineering will expand to meet new economy needs

School of Biological and Health Systems Engineering

School of Computing, Informatics, and Decision Systems Engineering

School of Electrical, Computer and Energy Engineering

School for Engineering of Matter, Transport and Energy

School of Sustainable Engineering and the Built Environment

The Polytechnic School

The Engineering and Design Institute (TEDI)

School 8

833 Students
707 Undergraduate
126 Graduate

7,773 Students
5,901 Undergraduate
1,872 Graduate

3,353 Students
2,369 Undergraduate
974 Graduate

3,891 Students
3,153 Undergraduate
738 Graduate

1,771 Students
1,380 Undergraduate
391 Graduate

5,858 Students
5,422 Undergraduate
436 Graduate

Advancing engineering design on a global scale
# Future growth of Fulton Schools of Engineering will drive economic competitiveness

## Students

<table>
<thead>
<tr>
<th>Current</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,800 in person</td>
<td>25,000 in person</td>
</tr>
<tr>
<td>7,100 online</td>
<td>15,000 online</td>
</tr>
<tr>
<td>4,200 graduates</td>
<td>6,000 graduates</td>
</tr>
<tr>
<td>6,000 first generation students</td>
<td>6,000 graduates</td>
</tr>
<tr>
<td>5,300 female students</td>
<td>#1 producer of technical talent in the U.S.</td>
</tr>
<tr>
<td>4,800 hispanic students</td>
<td></td>
</tr>
</tbody>
</table>

## Faculty

<table>
<thead>
<tr>
<th>Current</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>350 faculty</td>
<td>100 new faculty</td>
</tr>
<tr>
<td>25 young investigator awards</td>
<td></td>
</tr>
<tr>
<td>804 invention disclosures</td>
<td>#5 worldwide in patents</td>
</tr>
<tr>
<td>35 start-ups</td>
<td></td>
</tr>
<tr>
<td>#26 worldwide in patents</td>
<td></td>
</tr>
</tbody>
</table>

## Research

<table>
<thead>
<tr>
<th>Current</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>$134M research output</td>
<td>$315M research output</td>
</tr>
<tr>
<td>2 engineering research centers</td>
<td>250+ new industrial partnerships</td>
</tr>
<tr>
<td>$44M DARPA awards</td>
<td></td>
</tr>
<tr>
<td>8 industry/university research collaborative centers</td>
<td></td>
</tr>
</tbody>
</table>

#1 producer of technical talent in the U.S.
Science and Technology Centers support a stronger economy

Faculty, students and research partners discover, and industry pulls their work forward into the marketplace

**Creation of high-value jobs**
- Technology start-ups with AZ founders and innovators
- Retention of more than 4,000 skilled engineering grads per year
- Partnerships with established AZ technology companies

**Workforce training**
- Hands-on research experience produces thought leaders
- Entrepreneurial training paves way from lab to captured value

**Attraction and retention of leading corporations**
- People, facilities, intellectual leadership
- Partnerships and acquisition opportunities for established companies

ASU
Existing Arizona STCs demonstrate opportunity

- Wearable Devices & Sensor Technologies
- Blockchain
Potential regional STCs built on Arizona’s strengths

- Energy & Materials
- Human Performance
- Extreme Environments
- Future Communication Technologies
- Advanced Manufacturing
ASU Workforce Readiness Initiative for the New Economy

$46M
A three-part plan to prepare and position Arizona for the fourth industrial revolution and to enjoy a future of high employment, strong economic growth and resilience to economic shocks.

$26M
for the development and expansion of education programs

$10M
to establish five Science and Technology Centers (STCs)

$10M
to grow the Fulton Schools of Engineering
ASU is uniquely positioned to be the state’s leader in scaling degree production and knowledge creation through accessible, well-designed programs that generate a high ROI for the broadest cross-section of Arizona’s citizenry.