September 5, 2019

Schedule of Meetings

9:00 – 11:00 a.m.  Academic Affairs and Educational Attainment Committee Meeting
                  *(Members: Manson, DuVal, Heiler, Taylor Robson, Krishna, L’Ecuyer)*

11:00 – 11:15 a.m. Special Board Meeting

11:15 – 12:00 p.m. Break for Lunch

12:00 – 2:15 p.m.  Finance, Capital and Resources Committee Meeting
                  *(Members: Taylor Robson, Heiler, Shoopman, Ridenour, DuVal, L’Ecuyer)*

2:30 – 5:00 p.m.  Special Board Executive Session
                  *(2:30-4:00 – Review of At-Risk Assignments with President Cheng)*
                  *(4:00-5:00 – Executive Session/Board Discussion)*
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11:00 a.m. CALL TO ORDER, GREETINGS, AND ANNOUNCEMENTS FROM THE BOARD CHAIR

11:01 a.m. 1. FY 2021 State Budget Requests

The board office asks the board to approve the Arizona State University, Northern Arizona University, University of Arizona and ABOR office FY 2021 state budget requests for submittal to the Governor and Legislature.

11:15 a.m. RECESS

2:30 p.m. RECONVENE SPECIAL BOARD MEETING

2:31 p.m. EXECUTIVE SESSION

The board will convene in executive session pursuant to §38-431.03 (A) (1), (3) & (4) for the following items:

A. Legal advice and discussion regarding the board’s annual review and contract with Northern Arizona University President Rita Cheng

B. Legal advice and discussion regarding the board’s contracts with the Presidents and notice of appointment with the Executive Director

5:00 p.m. ADJOURN

PLEASE NOTE: This agenda may be amended at any time prior to 24 hours before the board meeting. Estimated starting times for the agenda items are indicated; however, discussions may commence, or action may be taken, before or after the suggested times. Any item on the agenda may be considered at any time out of order at the discretion of the board chair. The board may discuss, consider, or take action regarding any item on the agenda. During the meeting, the board may convene in executive session pursuant to A.R.S. § 38-431.03(A)(3) for legal advice regarding any item on the agenda.
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Item: FY 2021 STATE BUDGET REQUEST

☑ Action Item

**Requested Action:** The board office asks the board to approve the FY 2021 State Budget Request of the universities and board office. The approved requests will be forwarded to the Governor by September 6.

**Background**

- As part of the budget setting process, the State of Arizona receives budget requests in September of each year.
- The university enterprise has developed a request that supports access and affordability to our public higher education enterprise via targeted investment in areas that will produce the workforce of the new economy and in turn an economic ROI to the state.

**Discussion**

- State investment is a critical funding source for our public universities and the board recognizes the importance of converting that investment into outcomes.
- Arizona is currently experiencing strong economic momentum and with the right investment and policy approach, the state can maximize its economic potential.
- The FY 2021 budget request proposes a **New Economic Initiative: Enhancing Arizona’s Competitiveness.** The initiative would provide $165 million to advance:
  - National visibility for Arizona as a frontrunner moving toward the New Economy;
  - Enhanced outcomes for economic transformation of the Arizona economy, thereby retaining the skilled labor force needed for attraction and retention of New Economy industries;
  - Additional new teachers to meet the teacher shortage for K-12; and
  - Increased enrollment and expanded programs at regional degree sites throughout Arizona;
  - Financial aid tied to an easy to understand model that will incentivize matriculation to our universities.
  - Dedicated state matching funds to raise the competitiveness of the universities’ capacity to compete for major, federal research funding where a state match can make a difference.
• Another component of the New Economic Initiative is to develop partnerships across the P-20 spectrum to support career and technical training and other opportunities for workforce development at all skill levels for new economy jobs.

• The following table and the report in Attachment A detail the New Economic Initiative.

<table>
<thead>
<tr>
<th>FY 2021 State Budget Request</th>
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<tbody>
<tr>
<td>New Economic Initiative ($ in millions)</td>
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<table>
<thead>
<tr>
<th></th>
<th>ASU</th>
<th>NAU</th>
<th>UA</th>
<th>ABOR</th>
<th>Governor’s Office</th>
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<td>Workforce Development</td>
<td>$46.0</td>
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<td>$32.0</td>
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<td>Arizona Teachers Academy</td>
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<tr>
<td>New Industry Research Competitiveness</td>
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<td><strong>Total</strong></td>
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<td>$32.0</td>
<td>$55.0</td>
<td>$10.0</td>
<td><strong>$165.0</strong></td>
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</table>

• The FY 2021 request also includes making the $35 million appropriated in FY 2020 permanent.

• Each university request and the board office request are summarized in Attachments B (ASU), Attachment C (NAU), Attachment D (UA), and Attachment E (board office).

**Statutory/Policy Requirements**

- A.R.S. §35-114—Submission of Budget Estimates
- A.R.S. §15-1626—General Administrative Powers and Duties of Board
- ABOR Policy 3-401—Legislative Budget Request
The New Economy Initiative: Enhancing Arizona’s Competitiveness

**Synopsis:** Led by Governor Ducey, the Arizona economy has not only recovered its economic footing, but is also outperforming most others. Today, Arizona enjoys a far more competitive economy. The state ranks in the top 5 for key economic growth categories such as employment, population, personal income, and state GDP growth. Local economic experts have opined that with the right strategic investment, Arizona will lead the nation during the remainder of this expansion and throughout the 2020s. But this is likely only if the right public policy decisions are made today.

One key to maximizing Arizona’s economic potential is to support strategic investment, with focus on those areas that will yield a positive return on investment (ROI) for taxpayers. Estimates of job displacement by the New Economy are 22-27% of all current jobs with all Arizona counties impacted. Economic development programs must focus on productivity enhancement, among both labor readiness and capital investment. This will be achieved with additional emphasis being placed on high value-added, high wage industries of what is becoming the New Economy. This focus will lead to more business location and expansion opportunities, and additional small business development.

Very minor improvements to the state’s rate of economic growth, in terms of both quantity and quality, will yield significant fiscal returns. For example, economic modeling identifies that every 0.1 percentage point increase in the rate of statewide job growth (a very modest number) will equate to an additional $1.0 billion in state and local tax collections and 40,000 net new jobs in just ten years. Furthermore, every $1,200 increase in the average wage for forecasted new jobs will yield an additional $500 million in state and local tax revenues and 15,000 new jobs during the same decade. Lastly, if new business recruitment and expansion opportunities increase by as little as 10%, the ten-year state and local fiscal impact will grow by another $700 million and 25,000 jobs will be created.

This investment and return potential is what will be needed to advance Arizona into the top economic growth through the next decade. The following budget request builds on these core economic principles. The goal is to not just grow, but to grow well.

**THE ECONOMIC EVOLUTION OF ARIZONA**

Under the Governor’s leadership and with the support and endorsement of the Arizona Legislature, the State has gone from a position of more than a $1.0 billion deficit to enjoying a Rainy Day Fund that exceeds $1 billion. Arizona has also invested roughly $3.0 billion in K-12 education plus investments in significant infrastructure and safety. The state is currently experiencing strong economic momentum, and it ranks fourth in the nation in growth of state GDP, which stands at 4%, exceeding the growth rates of California, Texas, Florida and 43 other states. With Governor Ducey’s leadership and his signature, new legislation made Arizona the first state in the nation to recognize occupational licenses for new residents, making Arizona a more attractive location for skilled labor. Arizona has advanced more than any other state since the Great Recession. However, the job is never done.

Now is the time to capitalize on the state’s momentum and add to Arizona’s readiness for the New Economy.

A vibrant business market with an innovation ecosystem and the attraction and retention of highly skilled labor are essential for the New Economy - along with business dynamism, strong institutions, and financing mechanisms. Drivers of the changing market and the need for even more highly skilled labor
are revolutionizing how we work. Lower skill-level jobs like office support, food services, and production work are expected to see significant declines. Even as jobs are lost, McKinsey and Company estimates that three Arizona counties – Yavapai, Maricopa and Pima – will be among the highest growth counties with more than 15% growth in New Economy jobs.iii A special challenge for Arizona will be the McKinsey forecast for very substantial job losses by 2030 in the rural counties of the state. The drivers include emerging technologies from fields as diverse as robotics, optics, artificial intelligence (AI), computing and cybersecurity, energy, advanced manufacturing, engineering and biotechnology. The transformation caused by these drivers has been called the 4th Industrial Revolution.iv In simple terms, the government lays the foundation for the private sector to succeed. Major pillars of the foundation are workforce development and productivity advancement through new technologies.

There also exist headwinds. Job growth has increasingly been focused on those with a college education or specialized, technical certification. However, the available supply of educated labor will fall by 2030 due to the coming demographic declines associated with Generation Z and the differential educational attainment rates associated with family income, gender, and race/ethnicity.v An aging population will also diminish the active and highly skilled workforce during the next several decades. This means Arizona must develop policies that raise its competitiveness by increasing post-secondary attainment, educating graduates for the new economy, retaining highly skilled labor, and fostering advanced, research-driven technology that results in new market-driven businesses from the sciences, healthcare, biomedicine and engineering.

The FY 2021 budget request advances a New Economic Initiative: Enhancing Arizona’s Competitiveness based on accelerating the transformation of the universities into adaptive drivers of Arizona’s economic success:

- Enhance the universities’ capacity to graduate more men and women in critical, New Economy areas that will allow Arizona to compete in the new high speed, digital economy of the Fourth Industrial Revolution (where technologies combine hardware, software, and biology, informed by high speed change from AI, autonomous systems, 3d distributed manufacturing, etc.);
- Support the universities in competing more aggressively for major, national research grants that focus on transformative ideas, innovative technology and emerging economy business start-ups that drive productivity for Arizona;
- Continue the Governor’s efforts to expand career and technical training in specialized areas; and
- Raise the high school graduation rate and the college-going rate of Arizonans, particularly those least likely to complete high school and attend college.

THE BUDGET PROPOSAL

A new $165 million state initiative is requested that focuses on laying the foundation for Arizona to become a Tier 1 state for the new economy, increase employment growth, and raise incomes:

1. New Economy: Workforce - $100M
   - ASU: $46M
   - NAU: $22M
   - UA: $32M
2. New Economy: The Teachers Academy - $15M
3. New Economy: Distributed Learning Centers in Arizona - $10M
4. New Economy: Defined Statewide Financial Aid - $30M
5. New Economy: New Industry Research Competitiveness - $10M
6. New Economy: Career and Technical Education
THE NEW ECONOMY INITIATIVE: ENHANCING ARIZONA’S COMPETITIVENESS

For the last 100 years, Arizona has been a place where people moved with a continuous mixture of one-third of its residents born here and two-thirds having moved to Arizona. The state has been wildly successful at building a great place to live, work, and raise a family with rapid growth and very positive outcomes.

In the 10 years since the peak of the Great Recession, Arizona has encountered and managed the complexities of the economic shifts that resulted from that recession and the subsequent new economy that is emerging. We have made great economic progress since the great recession, reversing the highly negative outcomes and stabilizing the state’s finances.

Nonetheless, several facts and lessons, resultant from the rapidly changing overall economy, are cause for action at our universities. The facts include:

- A national decline in jobs in the market for those with a high school education or less of more than 25% since 2010;
- A continuing low college going rate in the US with Arizona’s remaining among the lowest in the country;
- A national challenge in raising the college graduation rate;
- A very low Hispanic college attainment level (~10%) for which Arizona is among the lowest;
- A very high risk of future job replacement through automation and AI because of Arizona’s being highly service sector oriented with one of the largest percentages of workers likely to be replaced through AI and automation in the USA;
- Despite progress in Arizona, an ongoing lag in median household income - Arizona is 92\%\textsuperscript{vii} of the national average, below California (117\%), Colorado (114\%), Nevada (96\%), Utah (113\%), and Texas (99\%), all regional economic competitors;
- A very low influx of college graduates under 30 to Arizona;
- A long-term, slow decline in keeping Arizona college graduates in Arizona: high initial retention (80.6\%) with more than 53.6\% leaving the state over the next 20 years of their lives; and
- Challenges in attracting and retaining the most technology-driven businesses that depend on a highly educated labor force.

The Governor is asking the three public universities of Arizona to step up and facilitate an enhanced transition for Arizona to the new economy of the Fourth Industrial Revolution. This is no simple request.

As part of this budget request, each university will be asked to:

- Significantly enhance both state-wide college-going rates and specifically college graduation rates by at least 25 percent by 2030, raising total production of graduates by at least 40 percent by 2030;
- Become even more entrepreneurial in raising their own revenue through innovation, new technologies, partnerships with industry and other educational institutions;
- Reduce time to degree and modernize degrees and programs via improvements to general education and majors;
- Work more closely with local school districts to achieve a 90 percent high school graduation rate;
- Greatly enhance university productivity on all levels, while lowering the cost to the state to produce a college graduate;
• Expand college degrees in all subjects while also preparing all graduates with the tools of the new economy (coding, AI awareness, advanced systems, entrepreneurism);
• Reinforce Arizona values of individual freedom, self-reliance, equality under the law and full participation in our democracy;
• Enhance all pathways, including collaboration with community colleges, online education and regional degree sites throughout the state for the 1.2 million Arizonans who attended and didn’t finish college, with new economy enhancements and adaptability enhancements;
• Eliminate barriers to access to the universities’ assets for new economy learners; and,
• Develop plans, partners programs to increase the number of critical need graduates (STEM, Nursing, Allied Health, Teaching) 40 percent by 2030 with all being equipped for the New Economy.

In addition to the unified objectives above, each university will take the lead in the following:

University of Arizona

Prepare Arizona for a leading role in those elements of the New Economy related to the Fourth Industrial Revolution, including personalized medicine (precision health), advances in communication and connectivity, and expanded medical access, new public health and economic enhancement initiatives, new health care strategies and tools.

Through investments, partnerships, alliances, and innovations move the University of Arizona College of Medicine to a top quartile performer among academic medical centers in the United States and raise further its research profile in the sciences, biosciences and information sciences along with their practical application through technology transfer to the marketplace.

Northern Arizona University

Prepare a robust talent pipeline in high demand fields, with an emphasis on healthcare, including mental and behavioral health, as the largest private industry in Arizona. Expand opportunities for students to enter high demand fields in increasing numbers by increasing the educational opportunities available in Arizona through a variety of delivery models and at a variety of locations.

Expand and support pathway and expedited degree programs that provide students access to high demand programs through continued development of partnerships with CTEDS, community colleges and expedited bachelor to masters programs in support of needed career and technical fields of the New Economy.

Respond to Arizona’s growing technology industry and expand NAU’s programs in the new School of Informatics and Computing.

Arizona State University

Provide a workforce ready for success in the new economy, and design and launch the largest center for engineering education and research in the United States, growing enrollments to 25,000+ and making Metro Phoenix the leading center for engineer production in America.

Accelerate investment in faculty recruitment to keep pace with student demand, and leverage the depth and breadth of the expertise of the Fulton Schools of Engineering disciplines to develop Science and Technology Centers which rely upon close partnerships among government, industry, and the university
These disciplines are critical to the state’s success in the new economy and include artificial intelligence, advanced communications, cybersecurity, materials science, neural engineering, power systems, semiconductors, sensors and signal processing, structures, renewable energy, robotics tissue engineering, and water resources.

THE $165 MILLION INVESTMENT

New Economy: Workforce

With a $100 million initialization investment from the state of Arizona the universities will be asked to mount all out efforts to lay the foundations and build the means to attain these objectives. The allocation of the additional $100M for New Economy workforce development is:

University of Arizona  $32M
Northern Arizona University  $22M
Arizona State University  $46M

New Economy: Arizona Teachers Academy Continuing Education

A $15 million investment to expand the scale of the academy, focusing on its availability for all college students, including those who take majors in math, science and other fields for which there is a shortage in Arizona’s schools and to provide continuing education scholarships and programs for current teachers, counselors and education leaders.

New Economy: Distributed Learning Centers

A $10 million investment to enhance the viability and scale of the various university learning centers in locations outside of Tucson, Flagstaff and Metro Phoenix. Allocations would be made by ABOR to specific centers around the state with special focus on the more rural counties.

New Economy: Defined Statewide Financial Aid

An expansion of need based financial aid for the most meritorious high school graduates would increase the extent to which homegrown talent graduates from high school and receives advanced college education. The $30 million investment would be used as last dollar financial aid to increase the college going rate for fully qualified students who, due to family income, gender or race/ethnicity, are not now choosing the college path. The university would commit to providing full, last dollar tuition scholarships for all students meeting income and merit thresholds (e.g. $45,000 family income and high school GPA of 3.0). ABOR would establish income and academic performance criteria. A clear and transparent program could increase enrollment in segments of demographics not previously reached.

New Economy: New Industry Research Competitiveness

The $10 million fund will raise the competitiveness of the universities’ capacity to compete for major, federal research funding where a state match can make a difference. These funds would be allocated by the Office of the Governor, targeted where new industry collaborative research especially benefits Arizona.
New Economy: Career and Technical Education

Specialized career and technical education will be needed for jobs in advanced manufacturing, IT/cybersecurity, healthcare, and energy. In order to ready Arizona for the economy’s transformation in its workforce, it will be essential that Arizona complete the identification of competencies needed for industry by developing sets of “stackable credentials” for each technical career through partnerships with industry and educators; coordinate community colleges’ development of common curricula; develop courses and train middle school and high school teachers; and support a work-based intermediary to codify competencies, develop stackable credentials, develop teacher training and support, and coordinate post-secondary educational curricula.

The universities support expanded access to vocational education and community college programs. The emerging economy will have a continued need for manufacturing, business and financial services, health care and construction expertise at varying skill levels. The universities will partner with and support programs that result in two-year degrees, certificates or other technical credentials.

**THE RETURN ON THE $165 M INVESTMENT**

A base investment at this level would allow for enhanced job creation; and higher levels of productivity, income, and tax revenues. Focus areas include:

- Enhanced national visibility for Arizona and Arizona leaders as leading movers toward the New Economy;
- Greatly enhanced outcomes for economic transformation of the Arizona economy, thereby developing and retaining the skilled labor force needed for attraction and retention of New Economy industries;
- Improved high school completion rates and college attendance and completion rates that address the forthcoming labor shortage of the New Economy and the demographic changes;
- Increased enrollment and expanded programs at distributed learning centers across Arizona; and,
- Additional, new teachers to meet the teacher shortage for K-12.

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vi No amount is specified by the ABOR due to the need for the development of funding streams by non-ABOR-related educators.
vii Percentages are expressed as the percent of US median household income, which is $57,652 from 2017.
For fiscal year 2021, Arizona State University (ASU) is seeking public investment in a new and bold initiative aimed at enhancing Arizona’s competitiveness in the new economy. This initiative is focused on laying the foundation for Arizona to be a leader among states as the country adapts to the forces of a digitally-driven industrial revolution. ASU’s proposal is focused on two complementary efforts that will bolster college graduation rates for state residents and, concurrently, produce more graduates in fields that are essential to the workforce demands of the new economy. The first effort relates to a major new investment in workforce readiness and engineering education and research. The second is to make permanent the one-time appropriation in fiscal year 2020 that is used to fund existing faculty positions, many of which are in high-demand disciplines that are critically important to the new economy.

To have a competitive edge in the new, digital economy, Arizona must foster innovation through a highly skilled workforce, a dynamic business environment, and strong public universities. To achieve this position, Arizona must work hard to counteract a broad range of challenges, which include one of the country’s lowest college-going and graduation rates, a very low in-migration to Arizona of college graduates under 30, and a high risk of future job replacement through automation in the state’s relatively large service sector.

The state’s public universities play an essential role in developing the type of innovation ecosystem required to position Arizona for success in the new economy. To that end, ASU has consistently demonstrated its ability to develop and implement solutions to scale high-quality educational offerings that provide greater levels of access while driving transformative research that addresses today’s societal problems and those on the horizon. The state’s investment in the following areas will propel Arizona forward for economic success in the new economy.

**Workforce Readiness**

ASU seeks funding of $46.0 million to provide a workforce ready for success in the new economy. This includes growing enrollments in a broad range of high-demand fields and launching the largest center for engineering education and research in the United States. To do so, ASU must hire more faculty in a range of fields to keep pace with student demand as well as build and leverage the use of Science and Technology Centers (STCs), which rely upon close partnerships among government, industry, and the university.

The STC model offers significant benefits to industry, including access to faculty, students and university facilities, favorable intellectual property terms, company-specific educational workshops and trainings, and collaborative student and faculty support of applied projects.

### Fiscal Year 2021 Public Investment Request Summary

<table>
<thead>
<tr>
<th>Item #1</th>
<th>Page 9 of 17</th>
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<tbody>
<tr>
<td><strong>Workforce Readiness</strong></td>
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<td>Make Permanent the One-time Allocation for Faculty Support</td>
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<td><strong>Total ASU Public Investment Request</strong></td>
<td><strong>$ 64,900.0</strong></td>
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</table>
Workforce Readiness (cont.)

Through this model, STCs are uniquely positioned to increase the adaptability and skills of the local workforce, increase the stock of knowledge in the local economy, catalyze research discoveries, develop new industries in Arizona (instead of relocating existing businesses from elsewhere), reduce the cost of local firms to find, develop, and exploit new knowledge, improve the competitiveness of existing companies, and attract new companies and venture capital.

Arizona State University is the right university sponsor for these STCs due to the depth and breadth of its expertise in multiple Fulton Schools of Engineering disciplines that are critical to the state’s success in the new economy. These disciplines include artificial intelligence, advanced communications, cybersecurity, materials science, neural engineering, power systems, semiconductors, sensors and signal processing, structures, renewable energy, robotics, tissue engineering, and water resources.

In recent years, ASU has made significant investments to grow the size of its engineering faculty to keep pace with a high rate of growth in students. Since fiscal year 2014, total enrollment in the Fulton Schools of Engineering has increased by a compounded annual growth rate of 9.8 percent and is estimated to be over 23,500 students for fall 2019. ASU anticipates a high rate of future growth as students continue to be attracted to the many benefits of an engineering degree from a nationally-ranked school. To accommodate this future growth, ASU must accelerate its investment in recruiting faculty who will propel Fulton to the top ten percent of all engineering schools in terms of prestige and impact while scaling graduate production to the level of the country’s largest engineering schools.

Make Permanent the One-time Allocation for Faculty Support

Section 155 of the Fiscal Year 2020 General Appropriations Act appropriated $35.0 million to the universities for one-time capital improvements or operating expenditures. Of the $35.0 million, which was allocated to the universities on the proportionate share of resident full-time equivalent students, ASU received $18.9 million.

ASU reported, as required by legislative footnote, that it will use the fiscal year 2020 funding to support faculty positions previously hired and maintained through the provision of one-time funding in FY 2017, FY 2018, and FY 2019. The following table shows recent trends in one-time appropriations and student headcount.

<table>
<thead>
<tr>
<th>One-time appropriations</th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
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<tr>
<td>Total Student Fall Headcount</td>
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<td>$8,889,900</td>
<td>$4,245,000</td>
<td>$13,900,000</td>
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<tr>
<td></td>
<td>18,777</td>
<td>103,567</td>
<td>111,291</td>
<td>119,556 (est.)</td>
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</tbody>
</table>

Current year personnel costs for tenure-track faculty hired in ABOR-designated STEM fields since the start of fiscal year 2017 total $22.4 million. For fiscal year 2021, ASU is seeking the state’s commitment to make permanent the current year’s appropriation of $18.9 million to fund existing faculty positions critical to serving student demand for instruction and driving degree completion. An ever-growing amount of this learning is taking place in STEM fields that are important to Arizona’s success in the so-called fourth industrial revolution that will fundamentally change the way we live, work, and relate to one another.

A direct benefit to the state of an increasingly educated workforce is an increase in tax revenues resulting from higher earnings and greater levels of spending. In addition, workforce quality and availability are important criteria for investors when considering

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1Student fall headcount figure for FY 2020 is as of 08/27/2019
where to locate businesses and new industries. Public investment in higher education is imperative to prepare Arizona residents for gainful employment in emerging industries in the new economy. Furthermore, a more educated workforce creates a spillover effect that increases productivity across the entire workforce due to knowledge sharing.

ASU has had an outsized impact on educating the state’s workforce. Data indicate that approximately 238,000 ASU graduates, or more than one-fourth of the state’s workforce with at least a bachelor’s degree, were employed in Arizona in 2017. The aggregate earnings of these graduates were approximately $15.0 billion and estimates of state and local government tax payments range from $1.06 to $1.27 billion. At the same time, studies confirm that the educational attainment of Arizona’s workforce is below the national average and much more must be done to produce new college graduates if the state is to remain competitive in the global economy. Converting this year’s one-time appropriation of $18.9 million to a base allocation in fiscal year 2021 to support faculty positions is an important step in fueling growth in the state.

In summary, all of the efforts described in this document are designed to work together to position Arizona as a leader in meeting the anticipated demands of the new economy. This includes developing and retaining a skilled labor force in an increasingly knowledge-based and global economy, while reinforcing Arizona values of individual freedom, self-reliance, equality under the law, and full participation in our democracy.

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2Hoffman, Dennis, The Impact of Arizona State University Graduates Employed in Arizona in 2017, December 2018
### FY 2021 State Operating Budget Request: The New Economy Initiative

#### Enhancing Arizona’s Competitiveness

<table>
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<th>Budget Category</th>
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<td>New Economy Workforce</td>
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<td>FY20 One-Time appropriation incorporated into base appropriation</td>
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<td><strong>Total Request</strong></td>
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### FY 2021 State Budget Request:

#### New Economy Workforce/Health Care — Prepare a robust talent pipeline in high demand fields, with an emphasis on healthcare, including mental and behavioral health, as the largest private industry in Arizona. Expand opportunities for students to enter high demand fields in increasing numbers by increasing the educational opportunities available in Arizona through a variety of delivery models and at a variety of locations.

#### New Economy Workforce/Statewide Education and Innovation - Expand and support pathway and expedited degree programs that provide students access to high demand programs through continued development of partnerships with CTEDS, community colleges and expedited bachelor to masters programs.

#### New Economy Workforce/Technology Industry - Respond to Arizona’s growing technology industry and expand NAU’s programs in the new School of Informatics, Computing and Cyber Systems.

#### Request to incorporate One-Time FY20 State Appropriation into base appropriation — NAU’s one-time FY20 appropriation of $6.65 million supported capital projects and operations. Incorporating this into the base appropriation would enable NAU to make investments in support of faculty and staff retention and recruitment which is a recurring expenditure.

#### Statutory Building Renewal Request — Funding required for annual building renewal amounts to $24.472 million as presented in the University’s Capital Improvement Plan.
The University of Arizona (UA) is seeking public investment in the form of decision packages for UA Health Sciences and UA Space initiatives to prepare Arizona for a leading role in elements of the New Economy.

The UA requests $31.915M in total decision package funding, of which $23.3M will be used for strategic UA Health Sciences priorities for: 1) economic development; 2) workforce development; 3) health policy and patient safety; 4) immune research and education; and 5) distributed learning centers. The additional $8.6M is being requested for leading UA space initiatives regarding space exploration, national defense and the future of security, governance, and business models for space development. Additionally, the UA is seeking the State to make permanent the $9.45M one-time funds allocated in FY2019.

**UA Health Sciences $23.3M**

**Economic Development**

**Institute for Future Health**

The UA in partnership with ASU, led by Dr. Mike Dake and Dr. George Poste, are working to leverage the resources of the two universities to position Arizona as a leader at the convergence of precision medicine and digital medicine through new digital clinical services, new competencies in data science, machine learning and artificial intelligence.

An investment in the Institute will fund strategic assessment and capture of nascent technology domains with disruptive potential and engage industry via targeted workshops to define the state as a national leader in these areas.

**Health Analytics**

The UA seeks to establish Arizona as a nationally preferred partner for data storage and analytics across the healthcare ecosystem, including establishing the UA as a powerhouse for health analytics, with a robust data-rich ecosystem that has minimal friction at the boundaries of technology, compliance, and usage. Investing in the UA’s specific data health science expertise will allow research teams to collaborate using contemporary tools and technologies in a productive computational environment.

<table>
<thead>
<tr>
<th>Fiscal Year 2021 Public Investment Request ($ thousands)</th>
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</thead>
<tbody>
<tr>
<td><strong>Decision Packages:</strong></td>
</tr>
<tr>
<td>UA Health Sciences</td>
</tr>
<tr>
<td>Space Exploration &amp; National Defense</td>
</tr>
<tr>
<td>Make Permanent the FY 2020 One-Time State Funding</td>
</tr>
<tr>
<td><strong>Total UA Public Investment Request</strong></td>
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</table>
Workforce Development
Minimize the Student Debt Burden, MedEd for All & Launching of New Training Opportunities

Student debt must be addressed to serve Arizona’s unique demographics, including growing the recent financial aid program adopted by the legislature last year to additional primary care providers, including Nurse Practitioners (NPs). Furthermore, teachers must be trained with proper curriculum and through targeted pilot programs, as well as the integration of medical science education into our K-12 system.

Health Policy and Patient Safety
Comprehensive Pain and Addiction Center

State investment will be used to increase preclinical and clinical research to address chronic pain and addiction while educating all health care providers and students across the state of Arizona. Dollars will be dedicated to train and prepare future physicians to adequately manage both chronic pain and addiction, including development of novel non-addictive compounds to treat and manage pain and mobile clinics to serve rural and underserved areas of the state.

Center for Health Policy and Quality Care

State investment will be used to leverage the resources of the new state’s health workforce database (CHRWorks) and university expertise to help provide access to non-partisan data and policy suggestions that align with a statewide patient safety strategy.

Next Generation Model for Healthy Aging

State investment will be used to leverage UA expertise in the built environment to meet the needs of aging Arizonans. Healthy, independent aging applies to all aspects of the built environment, including the building’s infrastructure, mechanical systems, etc. Such automated building systems are being developed at UA in “living labs” in order to perfect them prior to being implemented in existing or new spaces.

Access to Precision Health for All

Funding will be used for the Healthy Arizona Program: Build on the All of Us model to work to eliminate disparities in access to precision health, including developing preventative approaches through access to genetic screening and counseling at the primary care point of contact for sustained wellness, earlier diagnoses, and tailored treatments at the individual and population level.

Highlights

Decision Packages
- $23.3M to invest in bold strategic initiatives, leveraging key strengths within the University of Arizona Health Sciences which will serve Arizona citizens and progress the State towards being a leader in key elements of the New Economy such as personalized medicine, the human immune system, expanded medical access, and new health care strategies and tools.
- $8.6M to leverage UA strengths in the space sciences to advance space exploration and contribute to national defense.

On-going Core Funds
- $9.45M to make permanent the one-time State funds provided in FY2019 to address on-going core needs of the university.

OUR PURPOSE | Why we're here.

Working together to expand human potential, explore new horizons and enrich life for all.
Immune Research & Education

Expansion of the Valley Fever Center for Excellence

State investment will be used to expand the Valley Fever Center for Excellence, a state-wide university partnership that builds on existing strengths, including optics; human and microbial genomics; genetics; immunology; and high containment facilities. Furthermore, the Center has great potential for collaboration with the UA College of Veterinary Medicine related to animal models of infection.

Expansion of the Children’s Post infectious Autoimmune Encephalopathy Center for Excellence

Funding will be used to expand the Children’s Post infectious Autoimmune Encephalopathy (CPAE) Center for Excellence, which has become a national model as the first in the U.S. to implement an integrated approach of basic science and clinical research, clinical care and teaching to address a spectrum of neuropsychiatric disorders that are often misdiagnosed, underdiagnosed or undiagnosed in children.

Health in a Changing Environment

Further state investment will be used to improve human well-being through a healthier environment by developing new comprehensive strategies for adaptation to cross-cutting challenges in human and animal health, agriculture and environmental impacts. These dollars will help fund cross-campus research collaborations and create a progressive interprofessional “One Health” education while engaging communities, policymakers and health workers.

Distributed Learning/University Learning Centers

State funding will help fund targeted state broadband expansion and expansion of existing telehealth state lines. Furthermore, investment will be made in services such as the Medication Assisted Treatment Mentor Program, behavioral health, remote fetal monitoring and ultrasound, and cardiac monitoring/ECG remote interpretation to improve the reach of specialty services in Arizona’s rural, frontier and tribal areas.

UA Space Initiatives $8.6M

The UA has a unique opportunity to lead in the business, policy, and mining aspects of space resource development. Successful space resource development in the future space economy will involve innovative public-private partnerships and entrepreneurial models, international treaties and patents, and efficient and economical methods to extract resources for habitats, resource extraction, and space tourism.

State investment will be used to fund a cross-campus undertaking leveraging the expertise of the UA’s thriving space development program; highly rated business and entrepreneurship programs; UA’s prestigious law college with expertise in global mining law, a top program in mining and geological engineering; and a history of ground-breaking research in space engineering and space science. Dollars will also be used to empower the UA’s strong space systems units and faculty to work on Department of Defense issues, including hypersonics, the highest technical priority for the Pentagon research and development head.
The FY 2021 request advances a New Economic Initiative: Enhancing Arizona’s Competitiveness based on accelerating the transformation of the universities into adaptive drivers of Arizona’s economic success:

- Enhancing the universities’ capacity to produce more graduates and more graduates in critical New Economy areas
- Incenting the universities to compete more aggressively for major, national research grants that focus on transformative ideas, innovative technology and emerging economy business start-ups for Arizona;
- Continuing the Governor’s efforts to expand career and technical training; and
- Raising the high school graduation rate and the college-going rate of Arizonans, particularly those least likely to complete high school and attend college.

SYSTEM BUDGET PROPOSAL

1) Workforce—$100M
   - ASU: $46M
   - NAU: $22M
   - UA: $32M

2) Teachers Academy $15M
3) Distributed Learning Ctrs $10M
4) Need-Based Financial Aid $30M
5) Research Competitiveness $10M
6) Enhancing Community Colleges Partnerships and increase technical training

The $165 million New Economy Initiative is focused on laying the foundation for Arizona to reach premier status among states for the new economy, by enhancing national visibility in Arizona, developing and retaining a skilled workforce and addressing the forthcoming labor shortage, increasing enrollment, expanding programs at distributed learning centers across Arizona, and addressing Arizona’s teacher shortage.

**Arizona Teachers Academy Continuing Education**

A $15 million investment to expand the scale of the academy, with promotional materials that focus on its availability for all college students, including those who take majors in math, science and other fields for which there is a shortage in Arizona’s schools and to provide continuing education scholarships and programs for current teachers, counselors and education leaders. This additional investment would also be accompanied by a requirement that Teachers Academy graduates commit two years of teaching within Arizona’s schools for every one year of Teachers Academy financial aid.

**Distributed Learning Centers**

A $10 million investment to enhance the viability and scale of the various university learning centers in locations outside of Tucson, Flagstaff and Metro Phoenix. Allocations would be made by ABOR to specific centers around the state.

**Defined Statewide Financial Aid**

An expansion of need based financial aid for the most meritorious high school graduates would increase the extent to which homegrown talent graduates from high school and receives advanced college education. The $30 million investment would be used as last dollar financial aid to increase the college going rate for fully qualified students who, due to family income, gender or race/ethnicity, are not now choosing the college path. The university would commit to providing full tuition scholarships for all students meeting income and merit thresholds. ABOR would establish income and academic performance criteria. A clear and transparent program could increase enrollment in segments of demographics not previously reached.

**New Industry Research Competitiveness**

The $10 million fund will raise the competitiveness of the universities’ capacity to compete for major, federal research funding where a state match can make a difference. These funds would be allocated by the Office of the Governor, targeted where new industry collaborative research especially benefits Arizona.

**Career and Technical Education**

The universities support expanded access to vocational education and community college programs. The emerging economy will have a continued need for manufacturing, business and financial services, healthcare and construction expertise at varying skill levels. The universities will partner with and support programs that result in two-year degrees, certificates or other technical credentials.

<table>
<thead>
<tr>
<th>FY 2021 NEW ECONOMY INITIATIVE</th>
<th>$15,000.0</th>
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<tbody>
<tr>
<td>Arizona Teachers Academy</td>
<td></td>
</tr>
<tr>
<td>Distributed Learning Centers</td>
<td>$10,000.0</td>
</tr>
<tr>
<td>Defined Statewide Financial Aid</td>
<td>$30,000.0</td>
</tr>
<tr>
<td>New Industry Research Competitiveness</td>
<td>$10,000.0</td>
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<tr>
<td>TOTAL REQUEST</td>
<td>$65,000.0</td>
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</table>
In addition to the Arizona Board of Regents budget request, the budget request will report the results of two statutory funding formulas:

**Building Renewal**

Building Renewal: A.R.S. §41-793.01 requires the JLBC to establish a building renewal funding formula for the state building systems, including the ABOR building system. That formula is based on age, replacement value and expected useful building life. For FY 2021, the formula calculation equates to $175.0 million.

**Arizona Financial Aid Trust**

In accordance with the provisions of A.R.S. §15-1642, the Arizona Board of Regents established the AFAT fund consisting of student fees and state appropriated funds. This trust fund is used to: (1) provide immediate aid to students with verifiable financial needs, including students who are underrepresented in the population of the university; (2) assist students who, by virtue of their special circumstances, present a unique need for financial aid; and (3) create an endowment for future financial aid. The surcharge fee applies to all university regular, summer, and off campus courses offered for credit regardless of whether the course is taken for credit or not-for-credit (audit) purposes. Total monies received in the trust fund for a given year is the sum of student fees collected plus matching funds appropriated for this purpose and any interest which may accrue on those funds. Each university manages its own AFAT trust fund.

The established statutory formula calls for the state to provide a 2:1 match of collected student fees. The state has not fulfilled its matching requirement since FY 2008, maintaining appropriations at $10.1 million. The FY 2021 calculated state match is based on actual student fees collected in FY 2019. For FY 2021, that state match requirement is $27.9 million.

<table>
<thead>
<tr>
<th></th>
<th>ASU</th>
<th>NAU*</th>
<th>UA*</th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td>FY 2019 Student Fees</td>
<td>$11,834,900</td>
<td>$2,479,500</td>
<td>$4,674,400</td>
<td>$18,988,800</td>
</tr>
<tr>
<td></td>
<td>62%</td>
<td>13%</td>
<td>25%</td>
<td>100.0%</td>
</tr>
<tr>
<td>FY 2021 Total Request (2:1)</td>
<td>$23,669,800</td>
<td>$4,959,000</td>
<td>$9,348,800</td>
<td>$37,977,600</td>
</tr>
<tr>
<td>FY 2020 General Fund</td>
<td>$5,985,800</td>
<td>$1,326,000</td>
<td>$2,729,400</td>
<td>$10,041,200</td>
</tr>
<tr>
<td>FY 2021 Incremental Funding Requirement</td>
<td>$17,684,000</td>
<td>$3,633,000</td>
<td>$6,619,400</td>
<td>$27,936,400</td>
</tr>
</tbody>
</table>

*FY19 Student Fees are estimates.

The State also provides funding for the following ABOR programs. The current proposal maintains state funding at current levels:

**WICHE Office and Student Assistance**: WICHE student subsidies (current appropriation is $4,075,000): The Western Interstate Commission for Higher Education (WICHE) provides partial financial support and preferential access for Arizona residents who choose careers in certain health professions, which are not available at Arizona’s three public universities. Programs currently supported by WICHE include dentistry, optometry, osteopathy, podiatry, and veterinary medicine (which will be phased-out when the University of Arizona receives national accreditation for their Veterinary Medicine program). The current appropriation level supports 162 students. At its peak (FY 2008), the program supported 203 students.

**Arizona Transfer Articulation Program** (current appropriation is $213,700): Established by A.R.S. §15-1824, ATASS is a joint initiative among public community colleges and universities to facilitate the efficient transfer of course credits.

**Arizona Teachers Incentive Program** (current appropriation is $90,000): The Arizona Teachers Incentive Program (ATIP) is a loan forgiveness program at UA College of Education for students of deaf and blind education. Students may earn forgiveness by teaching in an Arizona deaf and blind program post-graduation. Statute requires $50,000 distributed to 10 students at $5,000 per student.