The Cronkite School: The Journalism School for the New American University
Arizona State University

Strategic Enterprise Framework
February 2013 Update
ABOR 2/8/13

Context for Planning
Context for ASU in 2013

ASU Assignment

ASU Strategic Enterprise Plan

Introduction

Research

Degrees Awarded

Resources

Engineering as a Case Study

Perceptions of Arizona and ASU
vision

To establish ASU as the model for the New American University, measured not by who we exclude, but rather by who we include and how they succeed; pursuing research and discovery that benefits the public good; assuming major responsibility for the economic, social and cultural vitality and health and well-being of the community.
Establish ASU as the global center for interdisciplinary research, discovery and development by 2020

Demonstrate American leadership in academic excellence and accessibility

Establish national standing in academic quality and impact of colleges and schools in every field

Enhance our local impact and social embeddedness
The Context for Planning in 2013

Now an institution of national prominence

Substantial public service to Arizona’s students and families, business community/employers, the state’s economic development, and the region’s cultural vitality

Reaction to state cuts focused on innovative forms of cost-savings to preserve the core and to allow advances during a period of stress

Committed to finding pathways to succeed through the enterprise by embracing an enterprise

Highly engaged in national efforts to find the innovations in education
Declining State Fiscal Support for Higher Education per $1000 of Personal Income

<table>
<thead>
<tr>
<th>Year</th>
<th>National Average</th>
<th>Arizona</th>
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<tbody>
<tr>
<td>1978</td>
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<td>2002</td>
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</tr>
<tr>
<td>2010</td>
<td>$6.00</td>
<td>$6.00</td>
</tr>
</tbody>
</table>
ASU as Knowledge Enterprise

The products of a knowledge enterprise are people and ideas

“People production” can be seen in degrees

- ASU awarded 18,045 degrees in 2011-12

Research activity can serve as a proxy for “idea production”

- ASU research expenditures were $385,000,000 in FY12
Shanghai Jiao Tong University ranks 1,000 universities around the world each year. ASU ranks 79th.
ASU ties Yale and Berkeley as the 5th highest producer of U.S. Fulbright Student Scholars.
The National Research Council ranks more than half of ASU’s 85 doctoral programs Top 25 nationally.
The *Wall Street Journal* asked corporate recruiters which schools produce the **best-qualified graduates**. ASU ranked 5th in the country.
There were 22 Flinn Scholars in 2012.

16 chose ASU.
One University in Many Places
Quality and Perception

Cannot assume that the findings of many press reports apply to ASU

- Staffing “bloat”
- College is not accessible
- Levels of student debt
- A degree is no longer worth the cost
- Demise of universities due to MOOC’s
- Students don’t learn anything
- Research funding availability is drying up
Staffing “Bloat” is Not an Issue at ASU
FTE staff per 100 FTE Students compared universities in the news
ASU Student Loan Indebtedness

2010-11 Average Debt at Graduation for Students with Loans

- ASU: $20,261
- National average: $26,600

2010-11 % of Students with Indebtedness at Graduation

- ASU: 56.3%
- National average: 66.0%
Value of a College Education to Earnings

Numerous national studies show that those with a college education:

- Have far greater lifetime earnings
- Have seen far lower unemployment rates during the recent recession
- Have seen far lower losses of average income

The following tables show an analysis of metropolitan areas in the Mountain West which confirm that the national trends hold true in Arizona and in the region locally.

Median earnings in Arizona in 2010 for a college graduate were $20,000 greater than someone with a high school diploma, and $35,000 for someone with a graduate degree.
Unemployment Rate by Educational Attainment in 2010
for Arizona, Mountain West, Texas, and California Metropolitan Areas

- Unemployment rate for those with high school or less education, 2010
- Unemployment rate for those with some college or associate's degree, 2010
- Unemployment rate for those with a bachelor's degree or higher, 2010
- Linear (Unemployment rate for those with high school or less education, 2010)
- Linear (Unemployment rate for those with some college or associate's degree, 2010)
- Linear (Unemployment rate for those with a bachelor's degree or higher, 2010)
ASU Assignment
ASU’s Assignment Has Been Spelled Out by ABOR with Increasing Specificity

Arizona Constitution (1912): establishes the universities’ central role in building the state and provides a mandate for their support by the legislature

Changing Directions (2002): established ABOR mission assignment

Vision 2020 (2008): established specific ABOR goals

Enterprise Plan (2009): established the strategic university relationships and governance to achieve the ABOR goals

Strategic Enterprise Plan (2010 with annual updates): ABOR endorses an ASU-specific strategic plan for accomplishing its
Arizona Constitution and ASU Evolution

Universities are established to serve the citizens of Arizona (1912)

Tempe Normal School is founded (1885) by act of the 13th Territorial Legislature.

Tempe Normal School becomes Arizona State College: oversight is moved from the Superintendent of Education to ABOR (1945)

Arizona State University is created by a vote of the people of Arizona (1958)
Changing Directions

Adopted in 2002 by ABOR

Created the goal of accessibility to all qualified Arizona students

**Required addressing changing diversity of the population**

Recognized the need capacity to accommodate projected state-wide growth

Identified ASU as the primary locus of expansion
ABOR Vision 2020

Adopted by ABOR in 2008 & identified specific goals for university productivity linked to Arizona's economic health

Goal 1: Degrees attainment to national average

Goal 2: Research and intellectual property to levels of the top states and universities

Made assignments to each university with the largest component of enrollment and degree-based targets to ASU.

- 56% of the total enrollment
- 58% of bachelor’s degrees
- 62% of masters’ degrees
ABOR Enterprise Initiative

Adopted by ABOR in 2009 to implement Vision 2020

Calls for new levels of coordination among the universities to be successful

Requires the development of a culture of continual innovation

Endorses clear communication of individual university missions

Encourages competition only when useful to spur innovation and not wasteful of resources
The ASU Strategic Enterprise Plan

Presented initially on January 10, 2010

Presented with updates on February 17, 2011 and on February 17, 2012

ASU is operating on the elements of the plan that have been presented and approved
ASU Share of Total Degree Production Metrics

Share of Total UG Enrollment

- UA
- NAU
- ASU

Share of Annual Bachelor Degree Production

- UA
- NAU
- ASU

Share of Total Enrollment

- UA
- NAU
- ASU

Share of Annual Master Degree Production

- UA
- NAU
- ASU
ASU Share of Total Research Metrics

Share of Research Expenditures

- UA
- NAU
- ASU

Share of Patents Issued

- UA
- NAU
- ASU

Share of Invention Disclosures

- UA
- NAU
- ASU
ASU Strategic Enterprise Plan
Metric/Productivity Targets

Productivity metrics were created in the Vision 2020 plan:

- UG enrollment
- UG degrees
- Total enrollment
- Graduate degrees
- Research expenditures
- Invention disclosures
- Start-up companies
ASU Strategic Enterprise Plan: Resources Cost Effectiveness

ASU will maintain a cost per degree produced that is substantially below the national average for highly productive public research universities.

IPEDS FY11 results: ASU’s $59,700 in state funds and tuition/fees per degree awarded is:

- 21% below the median of all public VH research universities ($75,900)
- 19% below public VH research universities without medical schools ($74,500)

If costs were at the national average, ASU would be spending about $250 million more annually.
Challenges & Solutions: Research

History and Rankings
New Sources
CTI and Industry Programs
Faculty Assignments
Mayo Clinic Partnership
IP Metrics
Economic Impact
Challenges & Solutions: Research

History and Rankings
Challenge: Maintain and accelerate research activity to reach the ABOR metric of $700M by 2020.
ASU Research Expenditures: 1980-2020

Millions

$0

$100

$200

$300

$400

$500

$600

$700

Research expenditures are on track with metric targets.
Research Expenditure Rankings 1980 - 2010

Source: National Science Foundation
Total Research Expenditures

ASU achieved $386 million in total research expenditures, representing an 8.7% growth over FY11 and more than 200% growth since FY02.

Continuing to increase our growth across all disciplines and with an increasing number of federal funding agencies:

- Total Federal Research Expenditures: 62 of 912
  - Ahead of UC-Irvine, University of Virginia
- Total Research Expenditures among Institutions without a medical school: 17 of 765*
  - Ahead of Princeton, and Carnegie Mellon
- Non-Science & Engineering Total Research Expenditures: 19 of 912
  - Ahead of Vanderbilt and MIT
- Social Sciences Total Research Expenditures: 8 of 912
  - Ahead of Cornell, Harvard, Stanford, Columbia and Duke
- Humanities Total Research Expenditures: 14 of 912
  - Ahead of UC-Berkeley, Ohio State and University of Maryland – College Park
- Recipient of NSF Funding by Total Value of Awards: 21
  - Ahead of Carnegie-Mellon and Harvard
- Non-Medical School Recipient of NIH Funding by Number of Awards: 8
  - Ahead of Princeton, University of Oregon and University of Delaware
## Ranking Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Total Federal Research Expenditures</td>
<td>62 of 912</td>
</tr>
<tr>
<td>Non-medical Research Expenditures</td>
<td>34 of 765</td>
</tr>
<tr>
<td>Total Research Expenditures without a Medical School*</td>
<td>17</td>
</tr>
<tr>
<td>Non-Science &amp; Engineering Total Research Expenditures</td>
<td>19 of 912</td>
</tr>
<tr>
<td>Social Sciences Total Research Expenditures</td>
<td>8 of 912</td>
</tr>
<tr>
<td>Humanities Total Research Expenditures</td>
<td>14 of 912</td>
</tr>
<tr>
<td>Recipient of NSF Funding by Total Value of Awards</td>
<td>21</td>
</tr>
<tr>
<td>Recipient of NSF Funding by Number of Awards</td>
<td>17</td>
</tr>
<tr>
<td>Non-Medical School Recipient of NIH Funding by Total Value of Awards</td>
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</tr>
<tr>
<td>Non-Medical School Recipient of NIH Funding by Number of Awards</td>
<td>8</td>
</tr>
</tbody>
</table>

*calculated by OKED Research Analytics*
Challenges & Solutions: Research

New Sources
Challenge: Federal agency budgets are not increasing.
ASU Has a Wide Diversity of Federal Funding Sources
FY11 Expenditures

Average of top 20 universities without medical schools

- Other Federal: 30.0%
- Agriculture: 22.4%
- NASA: 18.1%
- Energy: 10.7%
- Defense: 6.5%
- HHS/NIH: 4.5%
- NSF: 0.6%

ASU

- Other Federal: 29.0%
- Agriculture: 24.7%
- NASA: 19.1%
- Energy: 8.5%
- Defense: 8.7%
- HHS/NIH: 29.0%
New Sources of Funding (annually)

Research Center Creation and Acquisition + Non-traditional Models
- FFRDC, ASURE

Large Scale Collaborative Project Acquisition
- BDI: DTRA, GIOS: Walton, LightWorks: DOE, NSF ERC

Corporate and Industry Sponsored Research
- Intel, Boeing, Raytheon

Global
- USAID, World Bank, MCC

Organic Diversified Growth Led by World Class Faculty and Infrastructure

- $150 million (+ “X”)
- $50 million
- $50 million
- $50 million
- $400 million
Challenges & Solutions: Research

CTI and Industry Programs
Industry Opportunities

Capitalizing on knowledge and resources to reach best prospects

Understand corporate needs to claim share of R&D directly or through federal awards

Gain share of federally funded corporate R&D (move to sub-fed)

Companies

Originating ISR

ASU research

Federal programs

Sub Fed
ASU Industry Sponsored Research (ISR)

- 75% of ISR originates with US and foreign industry other than indirect funding from federal agencies.
- 72% of ISR relates to Power, Energy, A&D, and Semiconductor industries
- Large awards and consortia greatly impact results
- Awards from top company sponsors are diverse in recipient, amount, and frequency
## 2010 NSF Survey Data

<table>
<thead>
<tr>
<th>Industry funded research ranking</th>
<th>University (no med school)</th>
<th>Industry funded research</th>
<th>% of total research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MIT</td>
<td>102,894</td>
<td>14%</td>
</tr>
<tr>
<td>2</td>
<td>SUNY Albany</td>
<td>77,442</td>
<td>23%</td>
</tr>
<tr>
<td>3</td>
<td>UC Berkley</td>
<td>72,815</td>
<td>14%</td>
</tr>
<tr>
<td>4</td>
<td>Purdue</td>
<td>66,631</td>
<td>15%</td>
</tr>
<tr>
<td>5</td>
<td>UT Austin</td>
<td>49,059</td>
<td>10%</td>
</tr>
<tr>
<td>6</td>
<td>GA Tech</td>
<td>43,885</td>
<td>8%</td>
</tr>
<tr>
<td>7</td>
<td>NC State</td>
<td>40,531</td>
<td>11%</td>
</tr>
<tr>
<td>8</td>
<td>TX A&amp;M</td>
<td>34,622</td>
<td>5%</td>
</tr>
<tr>
<td>9</td>
<td>VA Tech</td>
<td>20,444</td>
<td>5%</td>
</tr>
<tr>
<td>10</td>
<td>U IL Urbana-Champaign</td>
<td>19,312</td>
<td>3%</td>
</tr>
<tr>
<td>11</td>
<td>CO State</td>
<td>19,090</td>
<td>6%</td>
</tr>
<tr>
<td>12</td>
<td>ASU</td>
<td>17,696</td>
<td>6%</td>
</tr>
<tr>
<td>13</td>
<td>Rutgers</td>
<td>12,647</td>
<td>4%</td>
</tr>
<tr>
<td>14</td>
<td>U MD, College Park</td>
<td>11,235</td>
<td>3%</td>
</tr>
<tr>
<td>15</td>
<td>WA State</td>
<td>8,963</td>
<td>3%</td>
</tr>
<tr>
<td>16</td>
<td>CA Institute of Tech</td>
<td>8,756</td>
<td>3%</td>
</tr>
<tr>
<td>17</td>
<td>U of GA</td>
<td>6,427</td>
<td>2%</td>
</tr>
<tr>
<td>18</td>
<td>Rockefeller U</td>
<td>2,327</td>
<td>1%</td>
</tr>
</tbody>
</table>
Types of Industry Sponsored Research

- A&D: 23%
- Construction: 5%
- Displays: 3%
- Education: 4%
- Energy: 15%
- ICT: 7%
- Power: 19%
- Pharma/Medical: 4%
- Materials: 2%
- Semiconductors: 15%
- Water: 3%
- Energy: 15%
- Education: 4%
- Construction: 5%
- Displays: 3%
Example: Consortia

Power Systems Engineering Research Center (PSERC)

*PSERC’s comprehensive research program spans power markets, T&D technologies and power systems to create a modern electric energy infrastructure that enables a low-carbon economy that serves society.*

- More than 35 industry members and 13 university partnerships
- PSERC industry funded research: 35 industry partners, $6.57 million of industry research FY2007-present
- Six PSERC faculty have been awarded $13.54 million of ISR FY07-present, led by Vijay Vittal and Gerald Heydt

Flexible Display Center: $1.8 million since 2007

Connection One: $5.02 million since 2007

National Algae Testbed: $15 million (2013-)

Technology Development Services
Development, testing, evaluation

Workforce Development
Corporate Training

Capstone and Applied Projects
Educational and economic value
CTI iProjects

Sponsors
Air Force Research Laboratory
AMD
Aptima.
Arizona Physics Labs
Batelle
Boeing
CAE
Campbell Lukas Research
Town of Gilbert
City of Mesa
City of Tempe
EntroPlus Technology & Svcs
Flex-a-Lite
Food Scout
General Dynamics
GoDaddy
Grand Canyon Rafters Association
Heliae, LLC
Honeywell
Intel
Medtronic
NanoVoltaix, Inc.
Nth Degree Technologies Worldwide, Inc.
On Semiconductor
Orbital Sciences
PayPal
PetSmart
Powermark Corp
Raven Industries, Inc.
Raytheon
Renaissance Sc. Corp
Salt River Project
Sandia National Laboratories
SolFocus Inc.
SolJet, LLC
Thorpe SEEOP
WebFiling
Wiseman Technologies, Inc.
Wireless Industrial
World Music Stage

2011-12

57
Challenges & Solutions: Research

Faculty Assignments
Challenge: The academic culture must evolve to attain higher levels of research.
culture change: faculty recognition and incentives

Revised promotion and tenure expectations

Aligned with aspirations, impact and metrics

Faculty workload matrix

Maximize productivity across research and teaching

Entrepreneurial salary plans

Decreased salary support, increased earning potential with external funding

Exemplar Program

Fulton Entrepreneurial Professors

Tooker Professors

Named chairs and professors
# Faculty Workload Matrix

<table>
<thead>
<tr>
<th>Criteria (external resource generation* and Ph.D. student mentoring)</th>
<th>Base Instructional Load Target Per Year* before Buy-Out or Adjustment for Leadership Contribution</th>
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</thead>
<tbody>
<tr>
<td><strong>Tenured Faculty and Tenure-Track Faculty During Tenure Application Year</strong></td>
<td></td>
</tr>
<tr>
<td>&lt;$25K and 1 or fewer externally-funded Ph.D. students</td>
<td>720 SCH</td>
</tr>
<tr>
<td>$25K - $100K and 1 - 3 externally-funded Ph.D. students</td>
<td>540 SCH</td>
</tr>
<tr>
<td>$100K - $200K and 2 - 4 externally-funded Ph.D. students</td>
<td>360 SCH</td>
</tr>
<tr>
<td>$200K - $400K and 4 or more externally-funded Ph.D. students</td>
<td>270 SCH</td>
</tr>
<tr>
<td>&gt;$400K and 4 or more externally-funded Ph.D. students</td>
<td>180 SCH</td>
</tr>
<tr>
<td><strong>Tenure-Track Faculty</strong></td>
<td></td>
</tr>
<tr>
<td>0 – 2 Years</td>
<td>180 SCH (or two courses)</td>
</tr>
<tr>
<td>2 – 5 Years</td>
<td>270 SCH (or three courses)</td>
</tr>
</tbody>
</table>

* Funding can be from external grants, gifts, royalties, etc.

** exclusive of graduate research, dissertation, thesis, and independent study hours
Increasing Institutional Capability
Projects over $5M in 2002 & 2011
Large Project Acquisition

Immunosignaturing Project
$30.7M contract from the Defense Threat Reduction Agency Dept of Defense to develop a novel diagnostic technology called immunosignaturing

Walton Sustainability Initiatives
$27.5M investment by Rob and Melani Walton to advance sustainability-related initiatives

Algae Testbed Public-Private Partnership (ATP³)
a $15M from the Dept of Energy to lead the first-ever national algae testbed

Higher Education Engineering Alliance Program
USAID awarded Intel, ASU and Vietnamese Government to improve the quality of higher ed
Challenges & Solutions: Research

Mayo Clinic Partnership
Challenge: ASU does not have a medical school.
Research Expenditures from NIH Grants
Universities with and without medical schools

- Does not have a medical school ($3.2B) 14%
- Has a medical school ($19.7B) 86%

$22.9B in FY 2011

**Mission:** To build, test, deliver and disseminate obesity solutions that work for real people in real world.
Adult obesity rates in Arizona are expected to double by 2030, reaching 60%.

Challenges & Solutions: Research
Challenge: The value of research is not sufficiently appreciated.
Entrepreneurial Engine

SkySong

- 60 companies from 10 countries
- Generating thousands of jobs
- ASU Spinouts and Technology Transfer
  - 55 spinouts, 230 U.S. and foreign patents
  - 9 ASU companies acquired or merged

**Invention Disclosures per $10M Expenditures**

- California Inst. of Technology
- Arizona State University
- Case Western Reserve University
- Georgia Inst. of Technology
- Stanford University
- University of Florida
- Columbia University
- University of Nebraska
- University of Pennsylvania
- Emory University

A record number of invention disclosures submitted to AzTE in FY12 (239; 41% increase)

**Startups per $10M Expenditures**

- University of Utah
- Arizona State University
- Rutgers, The State University of NJ
- University of Missouri
- University of Nebraska
- California Inst. of Technology
- Purdue Research Foundation
- Columbia University
- University of Florida
- Colorado State University

9 Startup Companies formed in FY12
Rate of invention disclosure exceeds goals and peers
Growing number of U.S. patents

U.S. Patents Issued per $10M in Total Research Expenditures

Median
Actual
Goal

2008 2009 2010 2011 2012

Growing number of U.S. patents
Intellectual property income rose in 2012

Intellectual Property Income (in Thousands) per $10 Million in Total Research Expenditures

Intellectual property income rose in 2012.
Entrepreneurial Students & Faculty

- **3 of 5** finalists in *Entrepreneur Magazine*’s “College Entrepreneur of the Year Award” were ASU teams, including the winner, G3Box.

- **1st place** winners of the Microsoft Imagine Cup competition were ASU teams in 2011 and 2012.

- **2** student companies named finalists in *Inc Magazine*’s “Coolest College Startups” competition.

**Fluidic Energy**

*Fluidic Energy*, founded by **Prof. Cody Friesen** in 2007 to create sustainable energy storage solutions, received two significant rounds of venture capital funding and several millions from Dept. of Energy.

**Roche & IBM** licensed 6 ASU technologies by **Prof. Stuart Lindsay**’s core technology involves translocating a single molecule of DNA through a nanopore and sequencing it upon exit.
Challenges & Solutions: Research

Economic Impact
Economic Growth

Economic growth is most commonly measured as increases in GDP per capita.

In developed economies, this growth is primarily dependent on innovation.

Innovation is driven by
- Investments in human capital, primarily education
- Informal knowledge creation
- Formal R&D

Universities have a primary role in all three, but funded research is the focus here.
Economic Impact of Research: Short-run

By and large academic research is supported externally by the federal government.

As such, research dollars are largely an export with the short-run economic benefits of any export.

Source: Hill, J. K. Universities in the US national innovation system. Center for Competitiveness and Prosperity Research, L. William Seidman Research Institute, WP Carey School of Business, Arizona State University, 2006
Charney estimates that each $10 million in research spending creates the following direct and indirect economic impacts in Arizona in the short-run:

- 335 jobs
- $13,500,000 in total sales (output)
- $8,650,000 in wages
- $452,000 in state revenue.

A great deal of university research is considered “basic” as compared to “applied”. The opposite is true of industry.

Basic research often spawns the type of innovative applications discussed previously:

- inventions, licensing and patents, most often done in the private sector, typically within the vicinity of the research university.

It is the combination of basic research leading to applications that generate the innovation that increases economic growth in a knowledge economy.
Another spillover is university research affects nearby corporate R&D.

- A 10 percent increase in university research dollars increases corporate R&D by 7%.

It is precisely this process that generates regional growth around research universities. Studies have found that urban areas with research universities have

- Higher per capita income of $1,350 to $2,8000, adjusted for COLA
- Higher per capita income growth.

Challenges and Solutions: Degrees Awarded

Demographics
Recruitment
Competition for AZ Students
Barrett Honors College
Retention
Ranking Methodology

ASU as a National Model
Value of Out-of-state ASU Online
Transfer Evaluation Value of College
Degree Metric Projections
Challenges and Solutions: Degrees Awarded

Demographics
Challenge: The size of the Arizona pipeline is not increasing.
New projections are 12% to 18% below earlier ones, but vary substantially by age group.
Arizona Population Projections
Age 15-24 (thousands)

A wider group capturing the traditional college age population shows the smallest change—1% to 7%. But a private sector forecast has it down 9%.

*UG resident as % of 15-19 & 20-24 year olds*

**In-person only**

**Beginning of New American University:** 4.1% of target population enrolled

**FY13 actual:** 4.63% of target group enrolled overall, with .02% in online programs

**Require in-person enrollment of 4.4% to achieve in-person goals**

**Require overall enrollment of 4.65%, with .2% in online to achieve overall goals**
Challenges and Solutions: Degrees Awarded

Recruitment
Freshman Pipeline

Number of Arizona high school graduates peaked in 2009-10

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Graduates</th>
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<td>2004-05</td>
<td>46,349</td>
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<tr>
<td>2005-06</td>
<td>52,902</td>
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<tr>
<td>2006-07</td>
<td>53,391</td>
</tr>
<tr>
<td>2007-08</td>
<td>56,284</td>
</tr>
<tr>
<td>2008-09</td>
<td>61,663</td>
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<tr>
<td>2009-10</td>
<td>63,561</td>
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<tr>
<td>2010-11</td>
<td>61,366</td>
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<tr>
<td>2011-12</td>
<td>61,642</td>
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<tr>
<td>2012-13</td>
<td>61,205</td>
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<tr>
<td>2013-14</td>
<td>62,279</td>
</tr>
</tbody>
</table>

*ABOR estimates
Pipeline Decrease and Impact on In-state Freshman Enrollment

### Estimated University Eligible
- Based on ABOR 2006 (prior to 2009) and ABOR 2009 Eligibility Study rates

### Estimates of high school graduates for 2011-12 through 2013-14 based on ABOR cohort survival model of AZ high school enrollment

*Estimated*
California Freshman Enrollment

5-year difference

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>+49.71%</td>
</tr>
<tr>
<td>Admit</td>
<td>+40.21%</td>
</tr>
<tr>
<td>Enroll</td>
<td>+33.84%</td>
</tr>
</tbody>
</table>

Bar chart showing enrollment numbers from Fall 08 to Fall 12:

- Fall 08: 4526 applications, 3561 admits, 792 enrollments
- Fall 09: 4678 applications, 3736 admits, 811 enrollments
- Fall 10: 5649 applications, 4132 admits, 1062 enrollments
- Fall 11: 6420 applications, 4632 admits, 985 enrollments
- Fall 12: 6776 applications, 4993 admits, 1060 enrollments
California Transfer Enrollment

5-year difference

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>+76.76%</td>
</tr>
<tr>
<td>Admit</td>
<td>+112.53%</td>
</tr>
<tr>
<td>Enroll</td>
<td>+90.86%</td>
</tr>
</tbody>
</table>

Application: +76.76%
Admit: +112.53%
Enroll: +90.86%
International Freshmen Enrollment

5-year difference

| Application | +262.42% |
| Admit       | +599.61% |
| Enroll      | +358.12% |

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall 08</th>
<th>Fall 09</th>
<th>Fall 10</th>
<th>Fall 11</th>
<th>Fall 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>App</td>
<td>998</td>
<td>1553</td>
<td>2259</td>
<td>2745</td>
<td>3617</td>
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<tr>
<td>Admit</td>
<td>517</td>
<td>759</td>
<td>938</td>
<td>1108</td>
<td>1537</td>
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<tr>
<td>Enroll</td>
<td>177</td>
<td>201</td>
<td>285</td>
<td>389</td>
<td>536</td>
</tr>
</tbody>
</table>

Application: +262.42%, Admit: +599.61%, Enroll: +358.12%
International Transfer Enrollment

5-year difference

<table>
<thead>
<tr>
<th></th>
<th>Fall 08</th>
<th>Fall 09</th>
<th>Fall 10</th>
<th>Fall 11</th>
<th>Fall 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>482</td>
<td>643</td>
<td>927</td>
<td>969</td>
<td>1263</td>
</tr>
<tr>
<td>Admit</td>
<td>232</td>
<td>279</td>
<td>386</td>
<td>371</td>
<td>543</td>
</tr>
<tr>
<td>Enroll</td>
<td>139</td>
<td>153</td>
<td>189</td>
<td>191</td>
<td>260</td>
</tr>
</tbody>
</table>

- Application: +162.03%
- Admit: +134.05%
- Enroll: +87.05%
# Revenue Equivalents

<table>
<thead>
<tr>
<th>Enrollment Outcome</th>
<th>Number of Students</th>
<th>Estimated Gross Tuition Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-time full time freshman retention - 1% gain (over most recent cohort rate)</td>
<td>84</td>
<td>$1,162,900</td>
</tr>
<tr>
<td>Master's first time full time retention - 1% gain (over most recent cohort rate)</td>
<td>56</td>
<td>$982,300</td>
</tr>
<tr>
<td>Transfer admit yield - 1% gain (over 2013 targets)</td>
<td>93</td>
<td>$1,117,500</td>
</tr>
<tr>
<td>International freshman admit yield - 1% gain (over 2013 targets)</td>
<td>29</td>
<td>$296,900</td>
</tr>
<tr>
<td>International transfer admit yield - 1% gain (over 2013 targets)</td>
<td>5</td>
<td>$82,600</td>
</tr>
<tr>
<td>International master's admit yield - 1% gain (over 2012)</td>
<td>26</td>
<td>$630,900</td>
</tr>
<tr>
<td>Online undergraduate admit yield - 1% gain (over 2012)</td>
<td>27</td>
<td>$305,200</td>
</tr>
<tr>
<td>Online graduate admit yield - 1% gain (over 2012)</td>
<td>11</td>
<td>$275,500</td>
</tr>
<tr>
<td>California student revenue (Fall 2012 enrollment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-Time Freshmen</td>
<td>1,147</td>
<td>$21,767,800</td>
</tr>
<tr>
<td>New Transfers</td>
<td>798</td>
<td>$12,803,900</td>
</tr>
<tr>
<td>Continuing/Readmit</td>
<td>3,418</td>
<td>$66,313,700</td>
</tr>
<tr>
<td>Total Undergraduates</td>
<td>5,363</td>
<td>$100,885,400</td>
</tr>
<tr>
<td>Master's Students</td>
<td>477</td>
<td>$5,562,800</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5,840</td>
<td>$106,448,200</td>
</tr>
</tbody>
</table>
Challenges and Solutions: Degrees Awarded

Competition for AZ Students
Challenge: Competition for Arizona students is increasing.
Comparison:
Fulltime Instructional Faculty

Percent of Fulltime Faculty

- GCU: 6.0%
- U Phoenix: 6.8%
- ASU: 92.2%
Comparison: Student Success

First year retention

- GCU: 41.5%
- U Phoenix: 50.0%
- ASU: 82.5%
Challenges and Solutions: Degrees Awarded
# Chemistry and Biochemistry

<table>
<thead>
<tr>
<th>rank</th>
<th>university</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>uc berkeley</td>
<td>76</td>
</tr>
<tr>
<td>2</td>
<td>harvard</td>
<td>48</td>
</tr>
<tr>
<td>3</td>
<td>mit</td>
<td>43</td>
</tr>
<tr>
<td>4</td>
<td>stanford</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>michigan</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>asu</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>northwestern</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>yale</td>
<td>27</td>
</tr>
<tr>
<td>9</td>
<td>minnesota</td>
<td>26</td>
</tr>
<tr>
<td>10</td>
<td>wisconsin</td>
<td>24</td>
</tr>
<tr>
<td>11</td>
<td>columbia</td>
<td>23</td>
</tr>
<tr>
<td>12</td>
<td>johns hopkins</td>
<td>22</td>
</tr>
<tr>
<td>13</td>
<td>uc san diego</td>
<td>22</td>
</tr>
<tr>
<td>14</td>
<td>princeton</td>
<td>21</td>
</tr>
</tbody>
</table>

Publications in science and nature 2004-2009
### How They Ranked

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pennsylvania State University</td>
<td>$27,114</td>
<td>12,000</td>
<td>$15,250</td>
</tr>
<tr>
<td>2</td>
<td>Texas A&amp;M University College Station, Texas</td>
<td>$22,817</td>
<td>8,367</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>University of Illinois at Urbana-Champaign</td>
<td>$27,000 – $18,386</td>
<td>8,070 – 10,408</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Purdue University</td>
<td>$27,960</td>
<td>8,152</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Arizona State University</td>
<td>$20,296</td>
<td>8,122</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>University of Michigan</td>
<td>$19,170</td>
<td>8,124</td>
<td>$17,906 – $6,577</td>
</tr>
<tr>
<td>7</td>
<td>Georgia Institute of Technology</td>
<td>$26,926</td>
<td>8,706</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>University of Maryland College Park</td>
<td>$24,920</td>
<td>8,415</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>University of Florida</td>
<td>$27,322</td>
<td>5,045</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Carnegie Mellon University</td>
<td>$42,136</td>
<td>42,136</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Brigham Young University</td>
<td>$8,840</td>
<td>4,420</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Ohio State University</td>
<td>$22,728</td>
<td>8,706</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Virginia Polytechnic Institute</td>
<td>$23,217</td>
<td>9,458</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Cornell University</td>
<td>$39,450</td>
<td>23,310</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>University of California – Berkeley</td>
<td>$35,341</td>
<td>12,462</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>University of Wisconsin</td>
<td>$24,300</td>
<td>9,050</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>University of California, Los Angeles</td>
<td>$33,660</td>
<td>10,781</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Texas Tech University</td>
<td>$17,560</td>
<td>8,260</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>North Carolina State University</td>
<td>$16,314</td>
<td>5,029</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>University of Virginia</td>
<td>$33,782</td>
<td>10,836</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Rutgers University</td>
<td>$24,316</td>
<td>12,540</td>
<td></td>
</tr>
</tbody>
</table>
In the US, there are four ways to get a college education, the last of which is a new concept

- Small College; Usually Private
- Mid-size University; Public or Private
- Big Public University
- Big Public University with a Fully Developed Honors College
Motivating Idea

• A combination of the caring, supportive community of a fully-developed undergraduate residential college with the vast academic resources of a big public university

• “Swarthmore, with Penn State outside its gates”

• “Occidental, dropped into UCLA”
PROGRAM
• Residences: 1,724 beds
• Dining, Kitchen, Servery
• Cafe
• Student Activities, Offices, Computer Lab, Lounges
• Classrooms, indoor and outdoor
• Faculty Offices
• College Administrative Offices
• Management Administrative Offices

APPROXIMATE GROSS AREA: 525,000 GSF
Best of Both Worlds

“Barrett provides students with the small liberal arts college sense of community, while simultaneously being pegged squarely in the heart of one of the largest undergraduate research universities. It truly offers the best of both worlds and allows students to have all the opportunities necessary to accomplish any and every goal while in college.”

-B.F., junior in finance and accountancy

Barrett, the Honors College named “nation’s best” by Reader’s Digest

Top 100 of universities in the world according to the Academic Ranking of World Universities

Noted for excellence in academics in economics/business, biological sciences, social sciences, computer science, engineering, and physics

Barrett named a top value by the LA Times for giving students an "excellent dedicated liberal arts college within (an) affordable public system"

Top producer of Fulbright Award winners as the second-most awarded public research university
Barrett is very similar in student profile and size to the best-ranked small liberal arts colleges

<table>
<thead>
<tr>
<th></th>
<th>Barrett</th>
<th>Pomona(4)</th>
<th>Carleton(6)</th>
<th>Grinnell(19)</th>
<th>Colgate(21)</th>
<th>Oberlin(24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT scores</td>
<td>1320</td>
<td>1470</td>
<td>1400</td>
<td>1345</td>
<td>1360</td>
<td>1390</td>
</tr>
<tr>
<td>Natl Merit Scholars</td>
<td>162</td>
<td>37</td>
<td>77</td>
<td>&lt;20</td>
<td>&lt;20</td>
<td>61</td>
</tr>
<tr>
<td>Fulbrights</td>
<td>23</td>
<td>14</td>
<td>6</td>
<td>13</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Persistence</td>
<td>93%</td>
<td>98</td>
<td>97</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>Living on campus</td>
<td>87%</td>
<td>98</td>
<td>89</td>
<td>86</td>
<td>91</td>
<td>86</td>
</tr>
<tr>
<td>Minority</td>
<td>34%</td>
<td>41</td>
<td>27</td>
<td>28</td>
<td>22</td>
<td>25</td>
</tr>
<tr>
<td>Top 10% HS class</td>
<td>86%</td>
<td>91</td>
<td>76</td>
<td>62</td>
<td>64</td>
<td>69</td>
</tr>
<tr>
<td>% full-time faculty</td>
<td>100%</td>
<td>94</td>
<td>97</td>
<td>90</td>
<td>94</td>
<td>95</td>
</tr>
<tr>
<td>Total enrollment</td>
<td>4,181</td>
<td>1549</td>
<td>1996</td>
<td>1609</td>
<td>2868</td>
<td>2901</td>
</tr>
<tr>
<td>Majors available</td>
<td>250</td>
<td>45</td>
<td>37</td>
<td>27</td>
<td>51</td>
<td>50</td>
</tr>
</tbody>
</table>
Honors Graduates at a Glance 2011-2012

Law Schools
Harvard
Stanford
Columbia
University of Chicago
UC Berkeley
UCLA
USC
University of Minnesota
William and Mary
Fordham

Medical Schools
Johns Hopkins
UC San Francisco
UCCLA
Vanderbilt
Mount Sinai
Northwestern
Baylor
Mayo
University of Texas, Houston
Dartmouth

Graduate Programs
PhD Cell Biology, Cancer Biology, Genetics, USC
PhD Counseling Psychology, Columbia University
PhD Mathematics, Cornell University
PhD Immunology, Stanford University
PhD Ecological & Environmental Anthropology, University of Georgia
PhD Physics, Massachusetts Institute of Technology
PhD English Literature, Marquette University
PhD Aerospace Engineering, University of Washington
PhD Public Health Management and Policy, Oregon State University
PhD Economics, Hong Kong University of Science and Technology
PhD Near Eastern Archaeology, University of California, Los Angeles
EdD Human Development & Psychology, Harvard University

Audiology, University of Minnesota
PharmD Pharmacy, University of Arizona
MD/PhD Molecular Neuroscience, University of Bristol, U.K.
MS Global Health, Emory University
MS Mechanical Engineering, Georgia Institute of Technology
MS Geography, Rutgers University
MS Computer Science, Purdue University
MM Music Performance, San Francisco Conservatory of Music
MBA, University of Pennsylvania
MAM/MD Neuroscience, University of College London, U.K.
MA Theology, Princeton Theological Seminary
MA Public Administration, American University
MA Marriage and Family Therapy, Syracuse University
MA Jewelry/Metalsmithing, Rhode Island School of Design
MA Southeast Asian Studies, University of California, Berkeley
MA International Development and Social Change, Clark University

National Scholarships Won in Spring 2012
23 Fulbright Scholars
3 Killam Scholars
1 Circumnavigator Scholar
1 Goldwater Scholar
1 Marshall Scholar
1 Truman Scholar
6 Boren Scholars
2 Udall Scholars

Madeline Grade (12), the Marshall Scholar, is pursuing a Masters in Science at University College in London where she will continue her research and studies in neuroscience and engineering.

Leah Luben (12), the Truman Scholar, is pursuing her doctorate at the Massachusetts Institute of Technology in economic development and econometrics with minors in research and international economics. Leah is also the recipient of the Circumnavigator scholarship.

Thomas (Taxi) Wilson (12), a Fulbright Scholar, is teaching English in South Korea and will be pursuing a J.D. after returning.

Kwonwors Kaykani (14), a Killam Scholar, is studying health and medical care at Queen's University in Kingston, Ontario, Canada. He will be pursuing his medical degree after completing his program.

Private Wealth Management Analyst, JPMorgan Chase, Scottsdale, AZ
Post Production Coordinator, Zodiac USA, Los Angeles, CA
Account Manager, Marten Transport, Phoenix, AZ
Global Commercial Credit Analyst, Bank of America, Phoenix, AZ
Data Analyst, Pearson, Denver, CO
Accountant, Honeywell Aerospace, Phoenix, AZ
Electrical Engineer, Brown and Caldwell, Honolulu, HI
October 28, 2012

Top Producers of U.S. Fulbright Students by Type of Institution, 2012-13

<table>
<thead>
<tr>
<th>Research Institutions</th>
<th>Number of Applications</th>
<th>Number of Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. of Michigan at Ann Arbor</td>
<td>141</td>
<td>40</td>
</tr>
<tr>
<td>Harvard U.</td>
<td>132</td>
<td>31</td>
</tr>
<tr>
<td>Brown U.</td>
<td>85</td>
<td>29</td>
</tr>
<tr>
<td>U. of Chicago</td>
<td>102</td>
<td>24</td>
</tr>
<tr>
<td>U. of California at Berkeley</td>
<td>97</td>
<td>23</td>
</tr>
<tr>
<td>Yale U.</td>
<td>98</td>
<td>23</td>
</tr>
<tr>
<td>Arizona State U.</td>
<td>58</td>
<td>23</td>
</tr>
<tr>
<td>Columbia U.</td>
<td>79</td>
<td>22</td>
</tr>
<tr>
<td>Northwestern U.</td>
<td>101</td>
<td>22</td>
</tr>
<tr>
<td>U. of Texas at Austin</td>
<td>77</td>
<td>22</td>
</tr>
<tr>
<td>Rutgers U.</td>
<td>111</td>
<td>21</td>
</tr>
<tr>
<td>U. of Minnesota-Twin Cities</td>
<td>68</td>
<td>19</td>
</tr>
<tr>
<td>Boston College</td>
<td>64</td>
<td>18</td>
</tr>
<tr>
<td>Michigan State U.</td>
<td>63</td>
<td>17</td>
</tr>
<tr>
<td>Stanford U.</td>
<td>74</td>
<td>15</td>
</tr>
<tr>
<td>U. of Pittsburgh</td>
<td>54</td>
<td>15</td>
</tr>
<tr>
<td>U. of California at Los Angeles</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td>American U.</td>
<td>48</td>
<td>14</td>
</tr>
<tr>
<td>Duke U.</td>
<td>36</td>
<td>14</td>
</tr>
<tr>
<td>Georgetown U.</td>
<td>61</td>
<td>14</td>
</tr>
<tr>
<td>U. of Maryland at College Park</td>
<td>48</td>
<td>14</td>
</tr>
<tr>
<td>U. of North Carolina at Chapel Hill</td>
<td>61</td>
<td>14</td>
</tr>
<tr>
<td>U. of Wisconsin at Madison</td>
<td>53</td>
<td>14</td>
</tr>
<tr>
<td>Washington U. in St. Louis</td>
<td>62</td>
<td>14</td>
</tr>
<tr>
<td>U. of Georgia</td>
<td>68</td>
<td>13</td>
</tr>
<tr>
<td>Florida State U.</td>
<td>51</td>
<td>12</td>
</tr>
<tr>
<td>George Washington U.</td>
<td>54</td>
<td>12</td>
</tr>
<tr>
<td>U. of Illinois at Urbana-Champaign</td>
<td>55</td>
<td>12</td>
</tr>
<tr>
<td>Cornell U.</td>
<td>54</td>
<td>11</td>
</tr>
<tr>
<td>Emory U.</td>
<td>52</td>
<td>11</td>
</tr>
<tr>
<td>Princeton U.</td>
<td>67</td>
<td>11</td>
</tr>
<tr>
<td>U. of Florida</td>
<td>61</td>
<td>11</td>
</tr>
<tr>
<td>U. of South Carolina at Columbia</td>
<td>28</td>
<td>11</td>
</tr>
<tr>
<td>College of William and Mary</td>
<td>47</td>
<td>10</td>
</tr>
<tr>
<td>Johns Hopkins U.</td>
<td>79</td>
<td>10</td>
</tr>
<tr>
<td>Ohio State U.</td>
<td>44</td>
<td>10</td>
</tr>
<tr>
<td>Pennsylvania State U. at University Park</td>
<td>56</td>
<td>10</td>
</tr>
<tr>
<td>Syracuse U.</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>U. of Southern California</td>
<td>68</td>
<td>10</td>
</tr>
<tr>
<td>U. of Nebraska at Lincoln</td>
<td>27</td>
<td>9</td>
</tr>
</tbody>
</table>
Challenges and Solutions:
Degrees Awarded

Retention
Challenge: Retention and graduation rates have historically been low.
Recognizing ASU's Achievements

The New York Times

International Herald Tribune

The world's top 10 colleges for 2012, according to the U.S. News & World Report rankings, are:

1. Stanford University
2. Massachusetts Institute of Technology
3. Harvard University
4. University of California, Berkeley
5. University of Chicago
6. California Institute of Technology
7. University of Pennsylvania
8. Yale University
9. Columbia University
10. Princeton University

ASU ranks #4 among public universities and 14th overall.

Big Data on Campus

The Chronicle of Higher Education

Digital education and the future of college

Adapt Education: A Freshman at Arizona State University, Michelle Hui, explores the use of big data in education.

With 72,000 students, A.S.U. is both the country's largest public university and a leader in data-driven education.

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undergraduate degrees

Advanced Search

Choose one or more of the following criteria to customize your search results:

- browse by interest
- choose a college

location
- Downtown Phoenix
- Polytechnic
- Tempe
- West
- Online

math requirement
- general
- moderate
- substantial

second language
- required
- not required

- accelerated programs
- concurrent programs
- new programs
- most popular programs
- priority application deadline

Search
graduate degrees & certificates

Advanced Search
Choose one or more of the following criteria to customize your search results:

- **type**
  - Masters
  - Doctorate
  - Certificate

- **location**
  - Downtown Phoenix
  - Polytechnic
  - Tempe
  - West
  - Online

- accelerated programs
- concurrent programs
- new programs

Search
Human Resources Specialists

Sample job titles:
- Recruiter, Corporate Recruiter, Employment Specialist, Executive Recruiter, Human Resource Specialist (HR Specialist), Personnel Coordinator, Personnel Officer, Employment Representative, Employment Service Specialist, Human Resources Director (HR Director)

Sample Tasks:
- Prepare or maintain employment records related to events such as hiring, termination, leaves, transfers, or promotions, using human resources management system software.
- Interpret and explain human resources policies, procedures, laws, standards, or regulations.
- Hire employees and process hiring-related paperwork.
- Inform job applicants of details such as duties and responsibilities, compensation, benefits, schedules, working conditions, or promotion opportunities.
- Address employee relations issues, such as harassment allegations, work complaints, or other employee concerns.
- Maintain current knowledge of Equal Employment Opportunity (EEO) and affirmative action guidelines and laws, such as the Americans with Disabilities Act (ADA).
- Schedule or conduct new employee orientations.
- Maintain and update human resources documents, such as organizational charts, employee handbooks or directories, or performance evaluation forms.
- Cooperate with management to develop or implement personnel policies or procedures.
- Select qualified job applicants or refer them to managers, ranking hiring recommendations when appropriate.

Wages and Employment Trends

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Earnings ($4,000)</td>
<td>$26,110 per year</td>
<td>442,600 employees</td>
<td>Faster than average</td>
</tr>
<tr>
<td>Projected growth in 2011</td>
<td>20% to 29%</td>
<td>20% to 29%</td>
<td></td>
</tr>
<tr>
<td>Projected number of jobs</td>
<td>457,450</td>
<td>457,450</td>
<td></td>
</tr>
</tbody>
</table>

Education Required

To become a HR Specialist, you'll need a college degree. In fact, you'll need a master's degree to reach the top of your field.

Related Major
- Business Administration
- Communication and Rhetoric
- Human Resources Management
- Labor and Industrial Relations
- Psychology
- Public Administration

Related Careers
- Adult Educators
- Education Administrators
- Human Resource Assistants
- Industrial Psychologists
undergraduate degrees

High School Major Map
Accountancy, BS
W.P. Carey School of Business
Location: Tempe, West
BBA/BS

What courses you need to take in high school to be admitted to ASU (ASU Competency Requirements)

- English - 4 years (composition/creative writing)
- Math - 4 years - Algebra I, Geometry, Algebra II and one course requiring Algebra II as a prerequisite
- Laboratory Science - 2 years total (1 year each from any of the following areas are accepted: Biology, Chemistry, Earth Science, Integrated Sciences, and Physics)
- Social Science - 6 years (including one year American History)
- Foreign Language - 2 years (same language)
- Fine Arts - 1 year

Recommended high school courses to help you succeed in this major

- Business
- Computer
- AP Microeconomics
- AP Macroeconomics
- Computer applications
- AP Calculus AB or Calculus BC
- Accounting

Students who select this major are often interested in the following types of occupations

- Conventional — Conventional occupations frequently involve following set procedures and routine. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.
- Entering — Entering occupations frequently involve starting up and carrying out projects. These occupations can involve leading people and making many decisions. Sometimes they require risk taking, often with deadlines to meet.

Students who select this major should master the following abilities

- Mathematical Reasoning — The ability to choose the right mathematical methods or formulas to solve a problem.
- Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Written Comprehension — The ability to read and understand information and ideas presented through written words and sentences.
- Number Facility — The ability to add, subtract, multiply, or divide quickly and accurately.
- Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.
- Oral Expression — The ability to convey thoughts or information to others in speaking so others will understand.
- Inductive Reasoning — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Problem Solvability — The ability to reflect on something as being wrong or likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
<table>
<thead>
<tr>
<th>College</th>
<th>Total Students</th>
<th>At Risk</th>
<th>No Indicators</th>
<th>At Risk</th>
<th>Colleges</th>
<th>4+</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>6,484</td>
<td>3,945</td>
<td>2,539</td>
<td></td>
<td>506</td>
<td>441</td>
<td>986</td>
<td>2,012</td>
<td></td>
</tr>
<tr>
<td>Design and the Arts</td>
<td>2,975</td>
<td>2,080</td>
<td>895</td>
<td></td>
<td>216</td>
<td>206</td>
<td>492</td>
<td>1,168</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>4,092</td>
<td>2,175</td>
<td>1,917</td>
<td></td>
<td>281</td>
<td>222</td>
<td>475</td>
<td>1,197</td>
<td></td>
</tr>
<tr>
<td>Health Solutions</td>
<td>2,759</td>
<td>1,479</td>
<td>1,260</td>
<td></td>
<td>227</td>
<td>151</td>
<td>344</td>
<td>757</td>
<td></td>
</tr>
<tr>
<td>Journalism</td>
<td>1,100</td>
<td>539</td>
<td>561</td>
<td></td>
<td>36</td>
<td>28</td>
<td>118</td>
<td>357</td>
<td></td>
</tr>
<tr>
<td>Letters and Sciences</td>
<td>2,508</td>
<td>1,890</td>
<td>618</td>
<td></td>
<td>262</td>
<td>304</td>
<td>508</td>
<td>816</td>
<td></td>
</tr>
<tr>
<td>Liberal Arts and Sciences</td>
<td>14,521</td>
<td>8,888</td>
<td>5,633</td>
<td></td>
<td>1,329</td>
<td>1,155</td>
<td>2,173</td>
<td>4,231</td>
<td></td>
</tr>
<tr>
<td>New College</td>
<td>2,277</td>
<td>1,504</td>
<td>773</td>
<td></td>
<td>209</td>
<td>198</td>
<td>344</td>
<td>753</td>
<td></td>
</tr>
<tr>
<td>Nursing and Health Innovation</td>
<td>840</td>
<td>406</td>
<td>434</td>
<td></td>
<td>36</td>
<td>27</td>
<td>83</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>Provost</td>
<td>75</td>
<td>40</td>
<td>35</td>
<td></td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Public Programs</td>
<td>2,586</td>
<td>1,705</td>
<td>881</td>
<td></td>
<td>228</td>
<td>202</td>
<td>414</td>
<td>861</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>338</td>
<td>171</td>
<td>167</td>
<td></td>
<td>11</td>
<td>14</td>
<td>44</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Teachers College</td>
<td>2,325</td>
<td>1,479</td>
<td>846</td>
<td></td>
<td>194</td>
<td>156</td>
<td>330</td>
<td>799</td>
<td></td>
</tr>
<tr>
<td>Technology and Innovation</td>
<td>2,157</td>
<td>1,499</td>
<td>658</td>
<td></td>
<td>253</td>
<td>156</td>
<td>357</td>
<td>733</td>
<td></td>
</tr>
<tr>
<td>University College</td>
<td>903</td>
<td>915</td>
<td>78</td>
<td></td>
<td>448</td>
<td>198</td>
<td>141</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>46,030</td>
<td>28,715</td>
<td>17,315</td>
<td></td>
<td>4,236</td>
<td>3,460</td>
<td>6,818</td>
<td>14,201</td>
<td></td>
</tr>
</tbody>
</table>
Erin Elliott

Name: Erin Michael Elliott
Student IDs: Click here to display Student ID information
Campus Housing: N/A
Local Address: 1419 E Las Palmaritas, Phoenix, AZ, 85020
Home Address: 1419 E Las Palmaritas, Phoenix, AZ, 85020
Home Country Address: N/A
Mail Address: N/A
Home Phone: 602/944-1558
Local Phone: 602/421-5233
Cell Phone: N/A
Work Phone: 480/965-7302
Gender: Male
Ethnicity: White
DoB: 08/16/1986
Residency: Resident
High School Name and Address: N/A
Retention—Low GPA from poor preparation leads to less

Grade Performance

• Freshmen who earn below a 2.0 GPA in the Fall semester are retained typically below 45%

• There was a decline in student freshmen performance in the 2011 cohort.
  • The percent of freshmen who had a Fall GPA below 2.0 improved steadily from a rate of 20.1% in 2006 to 11.8% in 2010
  • It rose 1.7 percentage points to 13.5% in 2011
  • We have policies in place to address the decline
Results of New Method for MAT 194

Higher completion rate 75% in the Fall 2011, versus 66% and 67% in 2010 and 2009 respectively.

Large number of students complete prior to end of semester: Overall, 21% of students in 15-week sessions completed before November; over 70% completed before December.

Higher Proportion with Pass (equivalent to C or better in preceding method): 74.8% in 2011.
Extending Adaptive Learning

Will extend to biology, chemistry, physics, economics and psychology
The Service Project

The Service Project aims to integrate, personalize, and streamline the end-to-end experience and deliver higher levels of service to students and their families.
Challenges and Solutions: 
Degrees Awarded
Challenge: National ranking methodologies conflict with ABOR’s metric goals and its vision.
Rankings Including SAT Scores

- Kiplinger’s
- Princeton Review
- US News & World Report
- The Center for Measuring University Performance
Rankings Including Resources (Higher Better)

- Kiplinger’s
- Princeton Review
- US News and World Report
Rankings Including Retention and Graduation Rate

- Forbes
- Kiplinger’s
- US News & World Report
Challenges and Solutions: Degrees Awarded

ASU as a National Model
SOLUTIONS initiative

DEVELOPMENT

AFFINITY

SOLUTIONS

ENTERPRISE

ASSETS
The inspiration for this project is Arizona State University and the policies of productive states, systems, and institution promoted though Lumina’s *Four Steps to Finishing First* policy agenda.

The purpose of this one-year, $503,000 project is to deepen understanding of the operational and financial strategies used by 21st Century American Universities and their two-year college partners, to build greater support for such strategies, and to identify public policies (state and federal) that can promote greater adoption of such models.
“So because we don't have something that's pushing, constantly, the university president says I have promised my board I'd up our ranking in U.S. News and World Report. And it turns out that the more you spend per student, no matter how you spend, it you raise your ranking. The more people you exclude, the more you raise your ranking.

And who's going to add capacity to this higher education system? The needed capacity has to increase. And most the (actors) with very few exceptions are not adding capacity. The number of state schools that are- like Arizona State University- actually expanding is very, very small.”

Bill Gates, November, 2012  Washington Ideas Summit
“The Kresge Foundation is pleased to support Arizona State University’s efforts to develop a suite of technology and communication tools that make information about transferring more accessible and user-friendly.”

Caroline Altman Smith, The Kresge Foundation

“I commend ASU and The Kresge Foundation for this very practical initiative,” commented Dr. Rufus Glasper, Chancellor of the Maricopa Community College District. “This new technology will provide community college students with additional resources to track their progress toward a four-year degree.”
“As more Chinese and American citizens understand each other’s culture and language, it makes it that much easier for us to work through our differences and find solutions for complex global problems.”

Jon Huntsman Jr., former U.S. Ambassador to China

- **Arizona State University and Sichuan University**
  - New York Institute of Technology and Nanjing University of Posts and Telecommunications
  - University of Nebraska and Xi’an Jiaotong University
  - College of Lake County and Xi’an International University
  - University of Minnesota, School of Kinesiology and Tianjin University of Sport
  - University of Chicago and Shandong University
  - University of Kentucky and Shanghai University
  - Ohio State University and Wuhan University
  - University of North Dakota and University of Shanghai for Science and Technology
  - U.S.-China Education Trust and Beijing Foreign Studies University
  - South Carolina Presbyterian College and Guizhou University
  - Vanderbilt University with Sun Yat-sen University and South China Normal University
Challenges and Solutions: Degrees Awarded

Value of Out-of-state
Challenge: The value and importance of out-of-state students is often not understood.
Percentage of ASU Graduates Employed in Arizona by Year of Graduation

Number of Years Since Graduation

Percentage of ASU Graduates Employed in Arizona by Year of Graduation

Resident % in AZ in 2010
Non-Resident % in AZ in 2010
ASU Online Non-Resident Undergraduates Transferring from Arizona High Schools or Colleges

ASU Online non-residents have significant connections to Arizona.

- 53.6% with non-AZ Connection
- 46.4% with AZ Connection
Challenges and Solutions: Degrees Awarded
Challenge: Understanding of the quality and the importance of ASU Online needs to grow.
ASU Online Primary Market:
Age 25 – 34
with Some University Education
but No Degree

<table>
<thead>
<tr>
<th>Size of Market in Arizona</th>
<th>Total Undergrad Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>227,080</td>
<td>114,428</td>
</tr>
</tbody>
</table>

3 Public Universities, Fall 2011
Average Age of Undergrad Student in 2012

<table>
<thead>
<tr>
<th>on ground</th>
<th>online</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>31</td>
</tr>
</tbody>
</table>
Age Profile UG Resident Students

Face to Face vs. ASU Online

- ASU Online 3 Year Average
- F2F 3 Year Average

<table>
<thead>
<tr>
<th>Age Group</th>
<th>F2F 3 Year Average</th>
<th>ASU Online 3 Year Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>to 25</td>
<td>82.2%</td>
<td>24.3%</td>
</tr>
<tr>
<td>26-30</td>
<td></td>
<td>25.5%</td>
</tr>
<tr>
<td>31-35</td>
<td>18.5%</td>
<td></td>
</tr>
<tr>
<td>36-40</td>
<td>3.8%</td>
<td>12.3%</td>
</tr>
<tr>
<td>41-45</td>
<td>1.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td>46-50</td>
<td>1.2%</td>
<td>5.6%</td>
</tr>
<tr>
<td>over 50</td>
<td>0.7%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

149
Online Students by Gender

- Female: 63%
- Male: 37%
Growth in Number of Degree Programs

- 2010: 6
- 2011: 21
- 2012: 40
- 2013: 60
<table>
<thead>
<tr>
<th>Program</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology BA</td>
<td></td>
</tr>
<tr>
<td>Nursing BSN</td>
<td></td>
</tr>
<tr>
<td>Criminal Justice BS</td>
<td></td>
</tr>
<tr>
<td>Liberal Studies BLS</td>
<td></td>
</tr>
<tr>
<td>Communication BS</td>
<td></td>
</tr>
<tr>
<td>Family and Human Development BS</td>
<td></td>
</tr>
<tr>
<td>Sociology BS</td>
<td></td>
</tr>
<tr>
<td>History BA</td>
<td></td>
</tr>
<tr>
<td>Organizational Studies BIS</td>
<td></td>
</tr>
<tr>
<td>Interdisciplinary Studies BIS</td>
<td></td>
</tr>
<tr>
<td>Technological Entrepreneurship and Management BS</td>
<td></td>
</tr>
<tr>
<td>Political Science BS</td>
<td></td>
</tr>
<tr>
<td>Health Sciences (Healthy Lifestyle Coaching) BS</td>
<td></td>
</tr>
<tr>
<td>Film and Media Studies BA</td>
<td></td>
</tr>
<tr>
<td>Technical Writing BS</td>
<td></td>
</tr>
<tr>
<td>Political Science BA</td>
<td></td>
</tr>
<tr>
<td>Justice Studies BS</td>
<td></td>
</tr>
<tr>
<td>Graphic Information Technology BS</td>
<td></td>
</tr>
<tr>
<td>English BA</td>
<td></td>
</tr>
<tr>
<td>Spanish BA</td>
<td></td>
</tr>
<tr>
<td>Business (Communication) BA</td>
<td></td>
</tr>
<tr>
<td>Health Science BAS</td>
<td></td>
</tr>
<tr>
<td>Food Industry Management BS</td>
<td></td>
</tr>
<tr>
<td>Art History BA</td>
<td></td>
</tr>
<tr>
<td>Engineering Management BSE</td>
<td></td>
</tr>
<tr>
<td>Religious Studies BA</td>
<td></td>
</tr>
<tr>
<td>Exploratory</td>
<td></td>
</tr>
<tr>
<td>Philosophy, BA</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>152</td>
</tr>
</tbody>
</table>
Growth in Number of Degree-Seeking Students

- 2010: 1819
- 2011: 3023
- 2012: 5094
- 2013: 8133
Total Online Students: Resident vs. Nonresident

Graduate
- Resident: 1026
- Nonresident - AZ Connection: 821
- Nonresident - No Connection: 700

Undergraduate
- Resident: 1805
- Nonresident - AZ Connection: 1537
- Nonresident - No Connection: 2244
## Success in Graduation

<table>
<thead>
<tr>
<th>Percent of 2010-11 Online Students Completed by Spring 2012</th>
<th>Total Number of ASU Online Graduates in 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.9%</td>
<td>1,232</td>
</tr>
</tbody>
</table>
Challenges and Solutions: Degrees Awarded
Challenge: Administrative complications can stand in the way for out of state transfers. In State transfer is now seamless.
MyASU for pathway students has been implemented with the Maricopa Colleges.
Upper Division Transfer Enrollment Increases

Arizona Community College Students Transferring to ASU

- Maricopa CC Lower Division
- Other AZ CC Lower Division
- Maricopa CC Upper Division
- Other AZ CC Upper Division
MAPP/TAG Agreements Signed Each Semester

Total Cohort

<table>
<thead>
<tr>
<th>Semester</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>134</td>
<td>1,576</td>
<td>1,450</td>
<td>2,413</td>
<td>2,125</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
<td></td>
<td>1,826</td>
<td>1,692</td>
</tr>
</tbody>
</table>

Fall 2009 | Spring 2010 | Fall 2010 | Spring 2011 | Fall 2011 | Spring 2012 | Fall 2012
Transfer Fall 2012

7,228 New Transfers to ASU Fall 2012
4,827 New Arizona Transfers to ASU Fall 2012
2,401 New Non-Arizona Transfers to ASU Fall 2012

• All of these students transferred courses to ASU.

• Most courses required an evaluation by a faculty or staff member in the student’s school or college.

• Faculty evaluation resulted in a one-time exception to the student’s DARs for applicability to ASU degree requirements.

• The process was inefficient, inconsistent, and not transparent to faculty, staff or students.
Prospective and current students can self-help by searching database of all transfer courses and their ASU equivalencies.

Available: September 2012
Requests for Transfer Evaluations

Online system centralizes students’ requests for evaluating coursework not in database.

Currently available to New Transfer Admits; will be available to prospective students in October 2012.

The ability for advisors and students to track status of course evaluation requests will be available late Fall 2012.
Prospective students can “save” their transfer course searches and requests for transfer course evaluations.

Online system will allow students to see how their transfer work applies to the ASU major degree audit of their choice.

System can share prospective students’ saved transfer courses with advising and recruitment staff.

Available: Spring 2013
Challenges and Solutions: Degrees Awarded
Challenge: The perception that college degree is of lesser value may be harming the ability to meet metric targets.
College Attainment
Arizona lags the nation and is falling behind further

### EDUCATIONAL ATTAINMENT BY AGE

<table>
<thead>
<tr>
<th></th>
<th>18-to-24</th>
<th>25-to-34</th>
<th>35-to-44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Attainment (2010)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US minus ARIZONA (% point)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's degree + graduate</td>
<td>-3.1</td>
<td>-7.3</td>
<td>-4.5</td>
</tr>
<tr>
<td>Change in Maximum Attainment (2000 - 10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US minus ARIZONA (% point)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's degree + graduate</td>
<td>-1.1</td>
<td>-2.6</td>
<td>-2.4</td>
</tr>
</tbody>
</table>
Labor Market Outcomes

As has been shown, college graduates enjoy higher income and much lower unemployment rates.

It turns out that the choice of major is relatively unimportant in terms of labor market outcomes.
The choice of major is relatively unimportant.

- PayScale Inc., a provider of global compensation data, shows that the subject you major in can have little to do with earnings growth. Wall Street Journal.

- A survey Chief Executive Officers (Fortune) found that 90 percent of the CEOs surveyed believe that critical thinking is derived from an education [involving] humanities curriculum and the ability to solve problems [from] liberal arts studies.

- The universities in Arizona require general education including courses in the humanities and liberal arts for all majors.
College Major and Post Graduate Education

- Test scores on the LSAT for entry to Law School are ranked:
  1-physics/math;
  2-economics (categorized as a social science in the study);
  3-philosophy/theology.

- In terms of entry into the MBA, test scores on the GMAT show similar evidence:
  1-physics/math/engineering are highest.
  2-Philosophy is next highest.
  3-Economics, computer science, biology, English, and political science
College graduates achieve social-economic mobility

Children born into low income families tend to remain low income without college.

A new study by Jaimovich and Siu on “Job Polarization and Jobless Recoveries” presents new dramatic data on the change in occupations and recovery from recessions.
The Future is Now

Cognitive non-routine occupations grow and recover

Manual non-routine occupations grow and recover

Routine occupations plunge and do not recover.
Challenges and Solutions: Degrees Awarded
Total Enrollment
Resident intake will track with the goals needed to achieve the degree metrics.
New Non-Resident and International Undergraduate Enrollment
First-Time Freshmen and Transfers (Spring and Fall)
Actual and Modeled Results

Non-resident intake is projected to exceed the goals.
In-person resident enrollment is projected to be very close to goal.
Online enrollment will exceed goals set to achieve degree metrics.
Combined in-person and online enrollment will track closely with enrollment levels needed to reach degree production targets.
Total Undergraduate Degrees
2020 metrics will be achieved.
Degree production for in-person
may lag the goals as retention and
graduation improvements take
hold and recent softness in AZ
demographics passes.
ASU Online is producing degrees more quickly than initially expected.
In-person and online program’s complementary cycles will keep degree production on track with metrics. By 2020 ASU degrees are projected to exceed the target.
Challenges and Solutions: Resources

State vs. Tuition

Efficiency

ASUF

Continued Efficiency

Managing a Large College

Capital Goals and Partnerships

Financial Stability
Challenges and Solutions: Resources

State vs. Tuition
Challenge: Revenue potential from historical sources will be limited.
Key Elements of ASU’s Strategic Business Planning Framework

Build the student pipeline

Maintain cost effectiveness

Secure the resources to build quality and performance and to maintain affordability

Improve performance and achieve the metrics
Arizona State University State
Investment and Stimulus Impact per FTE Student
adjusted for Inflation using the Consumer Price Index
State Investment History

- ASU net budget reductions total $196M between FY 2008 and FY 2012
  - During same period, FTE enrollment grew by 20%
  - Effective decline in State funding per FTE was 49%
Parity Funding Assumptions

- Parity funding requirement totals $60 million
  - $12 million received in FY 2013
  - Planning assumptions include $12 million incremental allocation annually FY 2014 through 2017
- Parity funding is intended to provide equitable funding per FTE student among the three universities
- Upon achievement of parity, additional state investment will be based upon performance funding
Modeled State Appropriations per FTE
Base and Upper Range: FY14 to FY20

- Actual state appropriation per FTE
- Base model
- With more robust performance funding
# Revenue Equivalents

<table>
<thead>
<tr>
<th>Enrollment Outcome</th>
<th>of Students</th>
<th>Estimated Gross Tuition Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-time full time freshman retention - 1% gain (over most recent cohort rate)</td>
<td>84</td>
<td>$1,162,900</td>
</tr>
<tr>
<td>Master's first time full time retention - 1% gain (over most recent cohort rate)</td>
<td>56</td>
<td>$982,300</td>
</tr>
<tr>
<td>Transfer admit yield - 1% gain (over 2013 targets)</td>
<td>93</td>
<td>$1,117,500</td>
</tr>
<tr>
<td>International freshman admit yield - 1% gain (over 2013 targets)</td>
<td>29</td>
<td>$296,900</td>
</tr>
<tr>
<td>International transfer admit yield - 1% gain (over 2013 targets)</td>
<td>5</td>
<td>$82,600</td>
</tr>
<tr>
<td>International master's admit yield - 1% gain (over 2012)</td>
<td>26</td>
<td>$630,900</td>
</tr>
<tr>
<td>Online undergraduate admit yield - 1% gain (over 2012)</td>
<td>27</td>
<td>$305,200</td>
</tr>
<tr>
<td>Online graduate admit yield - 1% gain (over 2012)</td>
<td>11</td>
<td>$275,500</td>
</tr>
<tr>
<td>California student revenue (Fall 2012 enrollment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-Time Freshmen</td>
<td>1,147</td>
<td>$21,767,800</td>
</tr>
<tr>
<td>New Transfers</td>
<td>798</td>
<td>$12,803,900</td>
</tr>
<tr>
<td>Continuing/Readmit</td>
<td>3,418</td>
<td>$66,313,700</td>
</tr>
<tr>
<td>Total Undergraduates</td>
<td>5,363</td>
<td>$100,885,400</td>
</tr>
<tr>
<td>Master's Students</td>
<td>477</td>
<td>$5,562,800</td>
</tr>
</tbody>
</table>
Implications of Flat Tuition Rates

• State investment is assumed to be modest through FY 2020
• Incremental resources are required to meet the goals set by the Board of Regents
• Tuition revenue increases from enrollment growth must be invested to support strategic performance initiatives
• Cumulative revenue impact of nearly $200 million if no increases through FY 2020
Cumulative Base Expenditures Requirements
Inflation-Based Costs of Benefits, Utilities, and Supplies
FY14 to FY20

- Benefits
- Plus Utilities
- Plus Inflation-based costs of supplies

February 2013
Cumulative Base Expenditures Requirements
Salary Increase Pools
FY14 to FY20

Salary increase pool at average of 2.5%
At 4% to ease market gap

February 2013
Cumulative Base Expenditures Requirements
Salary Pools, Benefits, Utilities and Supplies
FY14 to FY20

Total benefits, utilities and supplies
With base salaries
With some funds to ease market gaps
Challenges and Solutions: Resources

Efficiency
Tuition, Fee, and State Appropriations per Degree Awarded
All Very High Research Public Universities
IPEDS FY2011

Median per degree = $75,864

$59,698
Tuition, Fee, and State Appropriations per Degree Awarded
Very High Research Public Universities without Medical Schools
IPEDS FY2011

Median per degree = $74,531

$59,698
Tuition, Fee, and State Revenue per Degree Awarded
Very High Research Universities with Revenue over $700M
IPEDS FY2011

Rutgers
Connecticut
Minnesota
Michigan
UC-Davis
Purdue
Arizona
UCLA
UC-Berkeley
Indiana
Maryland
Wisconsin
Michigan State
Illinois
Ohio State
Washington
Texas A & M
Arizona State
Florida
Texas-Austin

$0
$20,000
$40,000
$60,000
$80,000
$100,000
$120,000
$140,000
$59,698

$59,698
Challenges and Solutions: Resources
Total ASUF Endowment

* TO DATE
Amount To ASU
New Gifts and Commitments
Number of ASU Donors
Project Growth

Projected New Gifts and Commitments
Projected Amount to ASU
Challenges and Solutions: Resources
Challenge: Maintaining efficiency is crucial to having adequate resources for investment in support of the metric targets.
Current median of large research universities is $18,336.
Gross Tuition, Fees, and State Appropriations per Degree

FY11 median of large research universities is over $75,000
Challenges and Solutions: Resources

Managing a Large College
# College of Liberal Arts and Sciences

## Overview

<table>
<thead>
<tr>
<th></th>
<th>CLAS</th>
<th>UO (AAU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student FTE</td>
<td>28,375</td>
<td>24,447</td>
</tr>
<tr>
<td>Total Faculty</td>
<td>1,326</td>
<td>&gt;800</td>
</tr>
<tr>
<td>Total Research</td>
<td>$150M</td>
<td>$121M</td>
</tr>
<tr>
<td>Expenditures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSF Grants</td>
<td>280</td>
<td>144</td>
</tr>
<tr>
<td>NSF CAREER Awards</td>
<td>13</td>
<td>4</td>
</tr>
</tbody>
</table>
Unit Leaders are Key to Resource Management Success

• Appoint strong leaders – leadership matters
• Educate leaders about how they can increase and manage resources
• Make them partners with the university to generate and manage resources rather than users of university resources
Managed Funding:

• State (student recruitment, retention, enrollment)
• Sponsored projects
• Summer teaching
• Online courses
• Philanthropy
• *Individual units share in growth
Models for Resource Management

• What is unit’s net worth? (assessment of the generation of revenue for units in terms of student FTE, research, summer teaching, and online revenue, relative to State investment)

• Enrollment management (accounts for ASU enrollment trends and shifts in majors across the university and gives target estimates for enrollment in individual courses, units or the college)
Money Flows to Units That:

• Manage faculty workloads (flexible, adjust to reflect faculty skill sets and unit needs)
• Increase efficiency of delivery and quality of curriculum
• Grow and manage enrollment—ensure that seats are available to enable students to progress and graduate on time
• Eliminate courses that are impediments to normative progress and success of students
• Partner with the university to generate revenue
Challenges and Solutions: Resources

Capital Goals and Partnerships
Challenge: Achieving the metrics requires capital investments.
Projected Capital Infrastructure Investments to 2020

Limited facility expansion for University teaching support  
Accommodate faculty growth in Tempe  
Nearer-term enrollment growth support in Downtown Phoenix  
Longer-Term enrollment growth support at West and Polytechnic  
New program development at all campuses  

$300 million

Repairs and Rehabilitation  
Address deferred maintenance on all campuses  
Facilities rejuvenation to support retention and graduation in Tempe  
Sun Devil Stadium refurbishment  
Regular technology refreshment  

$350 million

New platforms  
Colleges @ASU  
Partnership locations  
Start-up equipment  

$25 million

Research Facilities  
Expand research infrastructure to accommodate growth (post-ISTB 4)  
Existing facility upgrades as new faculty are added  

$563 million

Total capital needs for teaching and student support  

$675 million

Total capital needs for research  

563 million

Total capital needs  

$1.238 billion
NSF Surveys 2005 - Research Expenditures vs. Net Research Square Feet

Net Square Feet = 0.0029 (Expenditures) + 182,364
R Squared = 0.952

Net Square Feet = 0.0026 (Expenditures) + 247,576
R Squared = 0.813
Capital Expenditures Summary
($ in Millions)

Fiscal year ended June 30

New Construction
Deferred Maintenance
Deferred Maintenance

- Gross square footage has more than doubled in the past twelve years
- Current deferred maintenance totals $321 million
  - Academic buildings total $243 million
  - Auxiliary buildings total $78 million
- Building renewal funded only once during this period ($6.5M in FY 2007)
ASU and Third Party Construction
($ in Millions)

Third Party
$869.2
38.5%

ASU
$1,368.4
61.5%

Ten Year Total $2.2 Billion
Private Sector Investment

• ASU partnerships are structured to provide access to capital to meet key objectives
  – Tradeoff is control of revenue streams
  – Housing partnerships have provided over 6,000 beds in state-of-the-art facilities without ASU capital investment
  – Solar energy partnerships have funded over 18MW of generating power

• Best uses of private sector investment are those that provide long-term, win-win solution
  – Online contracts are structured to provide an increasing share of revenues as volumes grow
Challenges and Solutions: Resources

Financial Stability
ASU is currently rated AA by Standard and Poor’s and Aa3 by Moody’s, the third and fourth highest investment-grade rating categories out of ten, respectively.

ASU’s ratings have been substantively unchanged for the past decade and both agencies consider the current ratings to be stable.

Of 229 four-year public colleges, universities and systems rated by Moody’s, 29% carry ratings higher than ASU, 19% carry the same rating, and the balance are rated lower.

Positive rating factors include ASU’s co-flagship status, recent positive operating results and net asset increases, strong growth in net tuition revenue and enrollment, and expanding research portfolio.

Rating agency concerns include low, albeit improving, net asset and liquidity levels for the rating category, high levels of debt relative to operating expenses, and declining levels of state support, particularly over the past few years.
Expendable Financial Resources as a Percent of Total Expenses

- February 2013

**ASU Peer Ranking: 13/16**

<table>
<thead>
<tr>
<th>Year</th>
<th>ASU</th>
<th>Peer Median</th>
<th>Moody's Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>23%</td>
<td>69%</td>
<td>49%</td>
</tr>
<tr>
<td>2009</td>
<td>22%</td>
<td>56%</td>
<td>43%</td>
</tr>
<tr>
<td>2010</td>
<td>27%</td>
<td>58%</td>
<td>47%</td>
</tr>
<tr>
<td>2011</td>
<td>35%</td>
<td>69%</td>
<td>51%</td>
</tr>
<tr>
<td>2012</td>
<td>40%</td>
<td>73%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Fiscal year ended June 30
Engineering as a Case Study
Graduate more engineers
Increase research enterprise
Generate needed resources
increase research

impact:
- talent
- technology
- solutions
- products
- start-ups

metric:
$150M per year in external funding
starting point: FY2012

$75.1M research awards (+9.4%)

$77.6M research expenditures

31 patents 2010-2012

220 faculty

1,000+ students conducting research

101 invention disclosures +42% over FY 2011

$6.1M industry awards over past year

research themes
education - energy - health security - sustainability
research growth plan

1. Reduce productive faculty attrition
   $1.5\text{M/yr}$

2. Recruit five mid-career productive faculty each year
   $1.5\text{M/yr}$

3. Recruit 15 junior faculty each year, with 70% at $200\text{K/yr}$ within 3 years
   $2\text{M/yr}$

4. Grow self-funded research faculty by four each year
   $1\text{M/yr}$

5. Nurture transdisciplinary research clusters focused on grand challenge themes
   $1\text{M/yr}$

6. Win a major center each year and sustain for at least a decade
   $2\text{M/yr}$

7. Natural growth rate of expenditures
   $5\text{M/yr}$

Total growth rate per year: $14\text{M/yr}$
Culture change: faculty recognition and incentives

- Revised promotion and tenure expectations
- Faculty workload matrix
- Entrepreneurial salary plans
- Exemplar Program

- Fulton Entrepreneurial Professors
- Tooker Professors
- Named chairs and professors

- Aligned with aspirations, impact and metrics
- Maximize productivity across research and teaching
- Decreased salary support, increased earning potential with external funding
graduate more engineers
building engineers from day one

excite and attract
- FLL
- BEST
- MESA
- Robotics camp
- Engineering Open House

excite, support, retain
- E2 Camp
- eSpace
- Tutoring Center
- Residential Community

experiential learning
- EPICS
- FURI
- UGTA
- Internships
- Competitions
- Organizations

expedited education
- 4+1 programs
- Online learning
- MAPPS

career preparation
- Engineering career center
- Career exploration and coaching
- Internships
- Engineering career fairs

creating an engineering culture of mentoring
fulton engineering students

8,775
fall 2012
enrollment (+13%)

1,542
first-time freshmen
(+21%)
FALL 2012

student quality

15%+
of engineering undergraduates are enrolled in the honors college
(highest % at ASU) FALL 2012

151 National Merit Scholars
1207/26 average SAT/ACT
FALL 2012

student scholars

18 Flinn Scholars
6 Gates Millennium Scholars
1 National Achievement Scholar
58 National Hispanic Scholars

1,653
degrees granted, 2011-12
843 baccalaureate degrees
810 graduate degrees
23% increase over 2010-11
high-achieving students

FlashFood
FIRST-PLACE FINISH
MICROSOFT IMAGINE CUP

33 Buckets
TOP-FIVE FINISH, DELL SOCIAL
INNOVATION CHALLENGE

Madeline Grade
MARSHALL SCHOLAR

G3 Box
COLLEGE ENTREPRENEUR
OF THE YEAR

Tina Hakimi
WHITAKER FELLOW

Lauren Meiss
WHITAKER FELLOW
graduate more engineers: metrics
### generate resources

<table>
<thead>
<tr>
<th>assignment</th>
<th>requires</th>
<th>resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>graduate more engineers</strong></td>
<td>Faculty, advisors, student success support</td>
<td>Linked to SCH growth (tuition and state investment allocation)</td>
</tr>
<tr>
<td></td>
<td>Engineering+ programming</td>
<td>Student fee</td>
</tr>
<tr>
<td></td>
<td>Scholarships</td>
<td>Fundraising</td>
</tr>
<tr>
<td></td>
<td>Infrastructure</td>
<td>SCH growth, student fees and fundraising</td>
</tr>
<tr>
<td><strong>increase research impact</strong></td>
<td>Faculty, T/TT</td>
<td>Linked to SCH growth</td>
</tr>
<tr>
<td></td>
<td>Faculty, self-funded</td>
<td>External research funding</td>
</tr>
<tr>
<td></td>
<td>Infrastructure</td>
<td>External research funding and fundraising</td>
</tr>
</tbody>
</table>
new faculty

25 new faculty in 2012/44% female

2011
Panagiotis Artemiadis, Ph.D.,
National Technical University of
Athens
Thomas Attard, Ph.D., Arizona
State University
Candace Chan, Ph.D., Stanford
University
Mikhail Chester, Ph.D., University
of California, Berkeley
Karmella Haynes, Ph.D.,
Washington University
Jeff Kleim, Ph.D., University of
Illinois
Yoshihiro Kobayashi, Ph.D., UCLA
Vikram Kodibagkar, Ph.D.,
Washington University
Ross Maciejewski, Ph.D., Purdue
University
Daniel McCarville, Ph.D., Arizona
State University
Benjamin Mertz, Ph.D., University
of Notre Dame
Narayanan Neithalath, Ph.D.,
Purdue University
Michael O’Connell, Ph.D., Rice
University
Jay Oswald, Ph.D., Northwestern
University
Jagannathan Rajagopalan, Ph.D.,
University of Illinois at Urbana-
Champaign
Kiran Solanki, Ph.D., Mississippi
State University
Sarah Stabenfeldt, Ph.D., Georgia
Institute of Technology
Meng Tao, Ph.D., University of
Illinois at Urbana-Champaign
Pavan Kumar Turaga, Ph.D.,
University of Maryland, College
Park
Robert Wang, Ph.D., University of
California, Berkeley
Zhihua Wang, Ph.D., Princeton
University
Haolin Zhu, Ph.D., Cornell
University
Jeffrey La Belle, Ph.D., Arizona
State University
Amy Landis, Ph.D., University of
Illinois-Chicago
Yongming Liu, Ph.D., Vanderbilt
University
Kristen Parrish, Ph.D., University of
California-Berkeley
Matthew Peet, Ph.D., Stanford
University
Yulia Peet, Ph.D., Stanford
University
Heather Pon-Berry, Ph.D., Harvard
University
Soroosh Saghafian, Ph.D.,
University of Michigan
Lalitha Sankar, Ph.D., Rutgers
University
Pingbo Tang, Ph.D., Carnegie
Mellon University
Shane Underwood, Ph.D., North
Carolina State University
Erin Walker, Ph.D., Carnegie
Mellon University
Liping Wang, Ph.D., Georgia
Institute of Technology
Carole-Jean Wu, Ph.D., Princeton
University
Lei Ying, Ph.D., University of Illinois
at Urbana-Champaign

2012
Spring Berman, Ph.D., University
of Pennsylvania
Mariana Bertoni, Ph.D.,
Northwestern University
Dan Bliss, Ph.D., University of
California, San Diego
Mounir El Asmar, Ph.D., University
of Wisconsin-Madison
Zachary Holman, Ph.D., University
of Minnesota
Yang Jiao, Ph.D., Princeton
University
Jennifer Kitchen, Ph.D., Arizona
State University
Oliver Kosut, Ph.D., Cornell
University

25 new faculty hires
planned for 2013-14
new facilities
Brickyard Mezzanine, Interdisciplinary Science and Technology Building 4, eSpace, Block 12
Perceptions of Arizona and ASU