

**Legislative Study Committee  
on Faculty Teaching Roles and Rewards**

**Representative Robert Burns, Co-Chairman  
Senator Russell Bowers, Co-Chairman**

**Some University and  
K-12 Perspectives**

*February, 1998*

## **Principles to be used in any incentive plan**

- ◆ **Each university has developed and the Board of Regents has approved a merit compensation plan that recognizes teaching, research, and professional service. Any teaching incentive dollars should be above and beyond the merit funds appropriated by the state for all state employees and thus reinforce the instructional aspects of the carefully designed reward systems already in place.**
- ◆ **Any teaching incentive funds must recognize quality and quantity so as not to encourage decreasing quality as one increases quantity.**
- ◆ **Teaching incentives should be distributed to units who increase instructional productivity, which would then distribute these funds to individuals in a manner to maximize effectiveness in rewarding increased instructional productivity.**
- ◆ **Any teaching formula should recognize assigned “independent study” as well as assigned classroom teaching. Independent study reflects effort in supervising students who sign up for one-on-one study with an individual faculty member; evidence is that this is the most powerful learning experience for our students and needs to be encouraged, not discouraged.**
- ◆ **Incentive systems are most effective when the recipients of the incentives are involved in the development of the system and are invested in its success. Therefore, the legislature should ask the Board of Regents to work with the faculty and administration of the universities to develop the detailed mechanisms for distribution of incentives.**
- ◆ **The Board of Regents and the universities should continue their efforts to enhance the quality and success of the educational programs and to collect data on the outcomes of these efforts.**

# Quick Reference Guide

## *For* Support of Education

<i>See</i>		<i>Page</i>
I.	<b>State of Arizona</b>	
	• Az. Rankings and Nat'l Comparisons	22-23
	• % of Total Az. General Fund Appropriations	20
	• \$ Appropriated from Arizona General Fund	21
II.	<b>University of Arizona</b>	
	• New Realities Paper	33-49

## *For* Work Issues

<i>See</i>		
I.	<b>State of Arizona</b>	
	• "Note on Teaching Workload of full-time Post-secondary Faculty"	24-27
	• "Teaching Workload of full-time Teachers (K - 12)"	28-31
II.	<b>University of Arizona</b>	
	• University Report Card	9,10,14
	• UA Undergraduate Education (Hurwitz) Goals Report (1997) items 4, 6, 7	56-58, 60-61
	• Fall Sections Taught by Permanent Faculty, 1993-1997	62-63

# I. State of Arizona

- A. Arizona Board of Regents: *pages 1-19*  
1997 University Report Card
- B. General Fund Appropriations *pages 20-21*  
for Education
- C. Rankings and National *pages 22-23*  
Comparisons
- D. Notes on Faculty Work, *pages 24-31*  
Universities and K-12

**The Arizona  
Board of Regents**

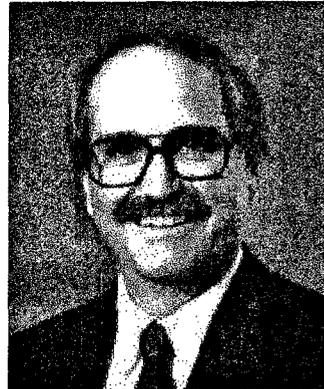
**University Report Card**

**1997**

**To the citizens of Arizona:**

On behalf of the members of the Arizona Board of Regents, I am proud to present the first Report Card for Arizona's Universities. Arizona State University, Northern Arizona University and the University of Arizona provide vital instructional and research resources for our state. This report is intended to portray how the universities are performing as they seek to serve the citizens of Arizona. It is a dynamic accountability report, and we anticipate adding and revising indicators of performance in future editions. Please take a few minutes to review this first edition report and let us know your thoughts, suggestions, and concerns so that we may ensure that future editions best serve your needs. Feel free to contact Tony Seese-Bieda (Assistant Executive Director for Public Affairs) at (602) 229-2527 or Kurt Davis (Chair of the Public Awareness Committee) at (602) 874-5542 with any recommendations you may have. We look forward to an on-going dialogue with the community about the progress and performance of our universities.

**—John Munger, President  
Arizona Board of Regents**



**Contents**

Purpose and Explanation of Grading System.....1

Connection with System Strategic Plan .....2

Evaluation of Institutional Performance

- Category 1: Undergraduate Education.....3
- Category 2: Quality of Instruction.....7
- Category 3: Excellence and Innovation.....9
- Category 4: Utilization of Resources..... 11

Scope, Size, and Characteristics of Institutions.....13

- ASU.....14
- NAU.....15
- UA.....16

---

## **Arizona Board of Regents**

George H. Amos, III, Tucson  
Eddie Basha, Chandler  
Rudy Campbell, Tempe  
Arthur Chapa, Tucson  
Kurt R. Davis, Cave Creek  
Judy Gignac, Sierra Vista  
John F. Munger, Tucson  
Jonathan Schmitt, University of Arizona  
Donald Ulrich, Paradise Valley

### *Ex-Officio Members:*

Fife Symington, Governor  
Lisa Graham-Keegan, Superintendent of Public Instruction

## **Council of Presidents**

Frank H. Besnette, Executive Director, ABOR  
Lattie Coor, President, Arizona State University  
Clara M. Lovett, President, Northern Arizona University  
Manuel T. Pacheco, President, University of Arizona

# Arizona's Universities: 1997 Report Card

## Purpose of the Report Card and Explanation of Grading System

### Purpose of the Report Card

Like all public institutions with a mission of serving a broad community, Arizona's universities are striving for excellence while balancing the demands of changing public policies, finite resources, rising expectations and a dynamic client base. The challenge of the University of Arizona, Arizona State University and Northern Arizona University is to build on their successes as outstanding instructional and research universities, while demonstrating accountability and aligning their priorities with the needs of our communities. This first report on university performance is intended to give taxpayers, elected officials, business leaders and consumers of higher education a summary of our universities' progress and milestones. It is based on information and data collected on a regular basis by university researchers and staff at the Board of Regents, who are charged with overseeing and tracking the performance of these important state resources.

### Explanation of Grading System

The progress of the universities toward key benchmarks and performance goals is assessed throughout the report card in three levels:

**Superior Performance** is assigned to indicators which have met or exceeded goals, have fared favorably compared with locally or nationally established benchmarks, may not have been tracked over time but show a high level of baseline performance, or show qualitative indication of excellence.\*

**Satisfactory Performance** is assigned to indicators which have made progress but have not met goals, exhibit above average current performance, or exhibit competence and have established initiatives for improvement.\*

**Needs Improvement** is assigned to indicators which have no evidence of change, exhibit below standard current performance, or have no established plans for improvement.\*

\* A "Plus" or "Minus" is assigned to those indicators for which the best assessment of performance fall between the three above-mentioned grade levels.

### Process for Developing the Report Card

The universities participated in a system-wide self-assessment for each of the performance categories, which, among other factors, was considered and adopted by the Regents in the assigning of indicator grades. The grades given on each of the four key categories reflect a consensus of the Board in analyzing and evaluating the numbers and information collected by the universities. The Report Card reflects the best effort by the Board to measure value, assess trends, and establish benchmarks for on-going improvement. The indicators of the Report Card present a baseline against which future performance will be measured and reported.

# Arizona's Universities: 1997 Report Card

## Arizona Board of Regents/University System Strategic Plan

The Arizona Board of Regents has established the following seven strategic directions for improving the quality of the Arizona university system: 1) *Improve undergraduate education*, 2) *Strengthen graduate education*, 3) *Develop research and encourage economic development*, 4) *provide access to Arizona's universities*, 5) *Capitalize on new technologies*, 6) *Strengthen relationships with constituent groups*, and 7) *Improve efficiency*.

*Here is how the Report Card indicators align with the strategic directions:*

### Improving undergraduate education page

- Access by undergraduates to core faculty . . . . 6
- Satisfaction with academic advising . . . . . 3
- Student retention and graduation rates . . . . . 3
- Success of university alumni . . . . . 5
- Ability to progress in academic programs . . . 4
- Success of upper division transfer students . . . 6

### Strengthening graduate education

- Success of alumni . . . . . 5
- Student involvement in research projects . . . . 14-16
- Percent of graduates going on to professional/graduate school . . . . . 5
- Nationally recognized programs . . . . . 14-16

### Enhancing research and economic development

- Patents, licenses, and inventions . . . . . 9
- Grants and contracts . . . . . 9
- Economic impact on local communities . . . . 14-16
- Contributions to economic development . . . . 14-16

### Assuring access to public higher education page

- Development of distance education programs . . . . 10
- Success of transfer students . . . . . 6

### Capitalizing on new technologies

- Students served by online courses and other alternative page modes of delivery . . . . . 10

**Strengthening relationships with governmental, educational, and constituent groups** (The entire Report Card is an indicator for this strategic direction.)

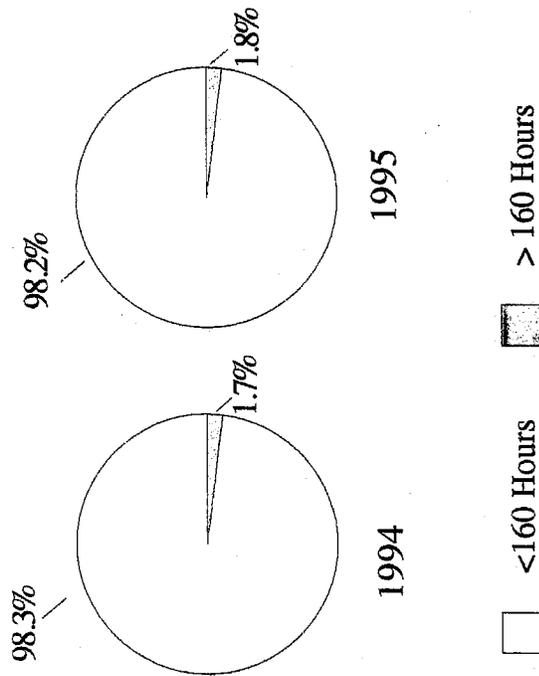
### Improving Efficiency

- Privatization efforts . . . . . 11
- Teaching load . . . . . 11
- Proportion of state funds used for instruction . . . . 12
- Administrative efficiency . . . . . 12

# Arizona's Universities: 1997 Report Card

## Evaluation of Institutional Performance Category 1: Improving the quality and effectiveness of undergraduate education

Percentage of Seniors  
Graduating with Excess Hours



- **Ability of students to progress in their academic programs:** Timely and efficient completion of studies toward a degree is important to students and to the universities. One of the universities tracks the student's ability to obtain general education classes; the other universities track the percentage of general studies completed by the end of the sophomore year. Based on these measures, the Arizona university system shows improvement in ease of access to required general education classes. (AY 95-96).

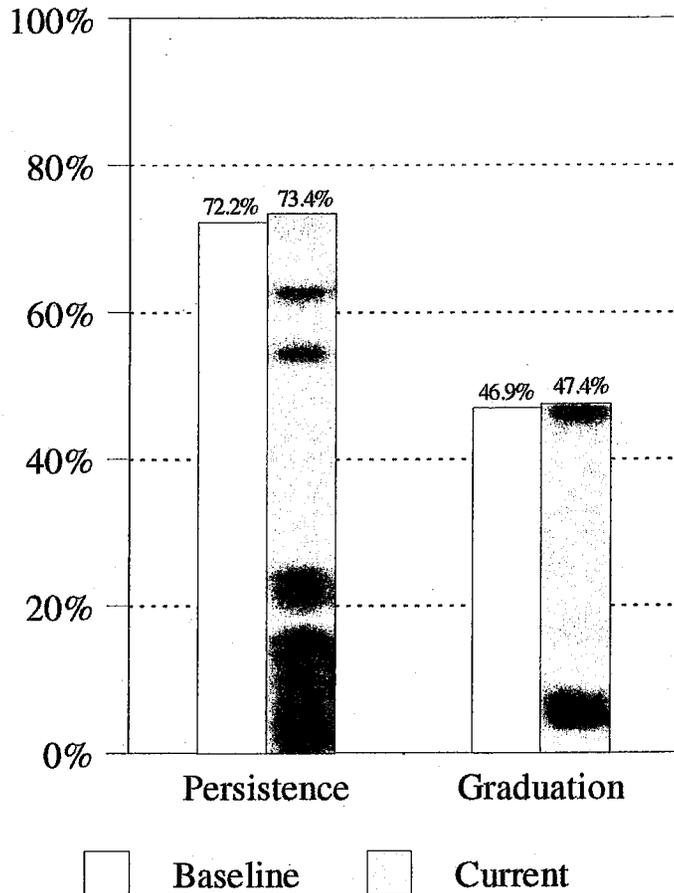
Rating:  Superior  Satisfactory  Needs Improvement

- **Percent of seniors who graduate with excess credit hours:** In 1995, the Regents approved a policy that established 120 credit hours as the standard for completion of most baccalaureate degrees. Currently, more than 85% of undergraduate students are enrolled in programs that require 120 hours for graduation. It was also determined that 160 hours is the level at which students will be considered to have accumulated excess credit hours. The most recent data indicate that the percentage of seniors graduating with more than 160 hours continues to be very low (1.8% in 1995).

Rating:  Superior  Satisfactory  Needs Improvement

# Arizona's Universities: 1997 Report Card

## One-Year Persistence & Six-Year Graduation Rates



### Evaluation of Institutional Performance

## Category 1: Improving the quality and effectiveness of undergraduate education, *continued*

- Rates at which students stay in school and graduate:** The universities strive to support the academic success of their students. They assess the effectiveness of that support by tracking how many freshmen return for their sophomore year, and how many graduate at the baccalaureate level within six years. The most recent data indicate that a slightly higher percentage of freshmen are continuing their studies into their sophomore year (from 72.2% in 1992 to 73.4% in 1995), and that a slightly higher percentage are graduating within a six-year time frame (from 46.9% for students entering in 1987 to 47.4% for students entering in 1990).

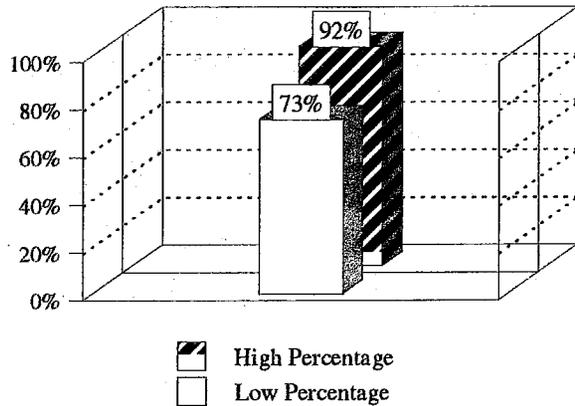
Rating:  Superior  Satisfactory  Needs Improvement

- Satisfaction of students with academic advising:** Academic advisers guide students in the timing and selection of course work that leads to the completion of their degrees. The most recent data indicate that 67.3% of students surveyed in 1994-95 reported they were satisfied or very satisfied with the advising they received. Two of the three universities repeated the survey in 1995-96, with a satisfaction level similar to that in the previous year.

Rating:  Superior  (-) Satisfactory  Needs Improvement

# Arizona's Universities: 1997 Report Card

Percentage of Employers Rating Grads  
as Good/Very Good or Excellent

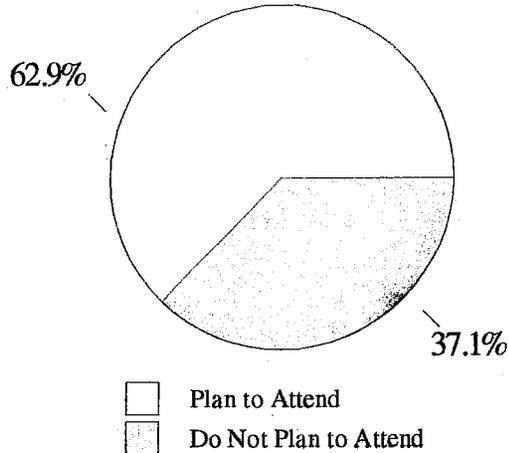


## Evaluation of Institutional Performance **Category 1: Improving the quality and effectiveness of undergraduate education, *continued***

- **Success of Alumni:** Arizona employers or employers who interview on campus are surveyed regarding their satisfaction with or evaluation of Arizona University System graduates. A substantial majority of employers rate graduates as satisfactory or better (across the universities, the percentages ranged from 73% rated very good or excellent to 92% rated good or excellent).

Rating: \_\_\_\_\_ Superior  (+) Satisfactory \_\_\_\_\_ Needs Improvement

Percentage of Graduates Planning on  
Graduate/Professional School, 1994



- **Percentage of graduates going on to graduate/professional schools:** In surveys of graduates or upper-division students, 62.9% of respondents in 1994 reported that they intended to go to graduate or professional school. At the two universities that have subsequently conducted additional surveys, this percentage has either remained stable or increased slightly.

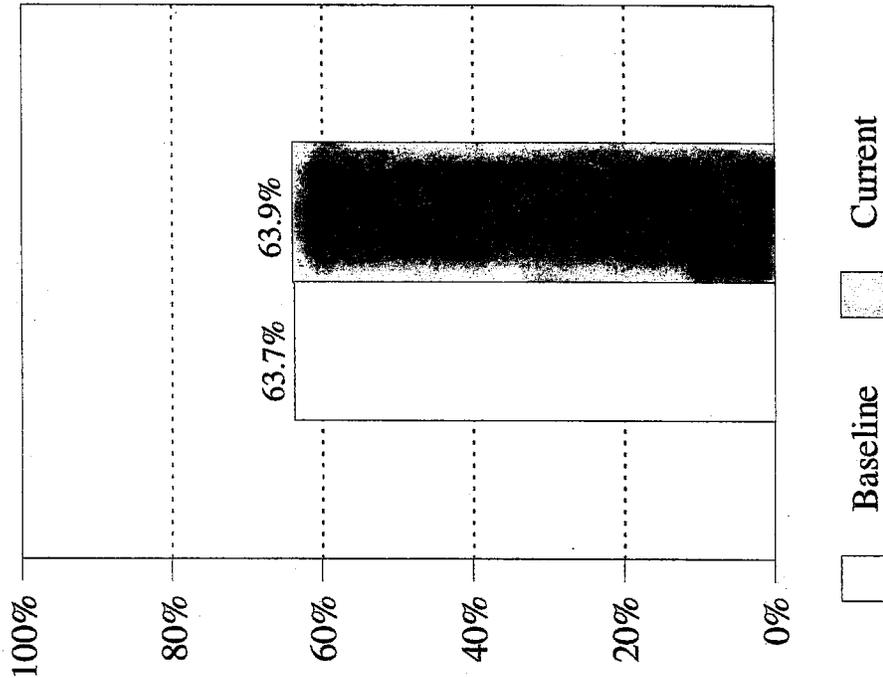
Rating: \_\_\_\_\_ Superior  (-) Satisfactory \_\_\_\_\_ Needs Improvement Rating:

# Arizona's Universities: 1997 Report Card

## Evaluation of Institutional Performance

### Category 1: Improving the quality and effectiveness of undergraduate education, *continued*

Upper-Division Transfer Students  
Four-Year Graduation Rates



- **Access to core faculty by undergraduate students:** The universities track and measure the classroom contact of freshmen and sophomore students with ranked and full-time faculty. Graduate teaching assistants and adjunct faculty are not included as core faculty, but instructors and lecturers are. This indicator is measured uniquely at each university. Measures include: percent of lower division sections taught by full-time ranked faculty, and percent of lower division students with two or more classes taught by full-time ranked faculty. The most recent data available indicate that the universities have made progress toward their goals for improving student access to core faculty (AY 95-96).

Rating: \_\_\_ Superior \_\_\_ Satisfactory  Needs Improvement

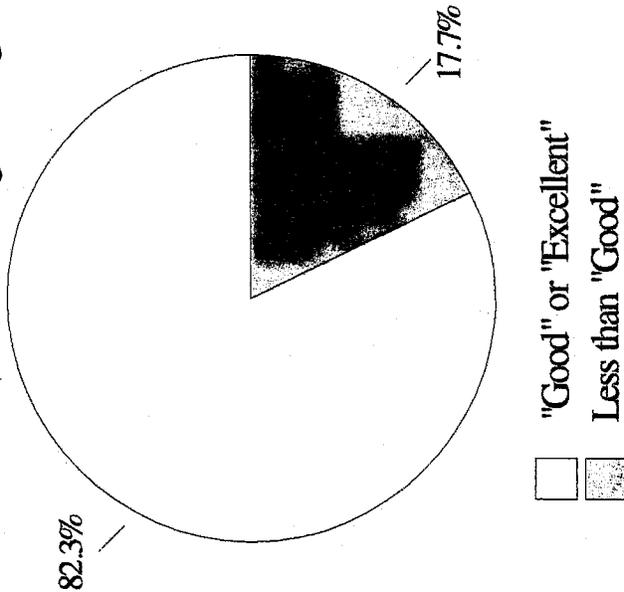
- **Success of transfer students:** The universities support the academic progress of students who receive an associate degree from a community college and continue their education at one of Arizona's universities. In 1996, a joint community college/university task force developed a transfer articulation agreement which was signed by the presidents of each institution and their respective state boards. This agreement will help ease the transition of students from two-year to four-year institutions. This indicator measures the completion rates of students who enter the universities at the junior level or above. The most recent data show that the percentage of upper division transfers who graduate within four years has increased slightly from 63.7% (students entering in 1989) to 63.9% (students entering 1992).

Rating: \_\_\_ Superior  Satisfactory \_\_\_ Needs Improvement

# Arizona's Universities: 1997 Report Card

## Evaluation of Institutional Performance Category 2: Demonstrating the quality of instruction

Percentage of Faculty with "Good" or "Excellent" Teaching Ratings



- **Percentage of faculty with "good" or "excellent" teaching ratings:** The universities track students' ratings of the teaching performance of faculty. The most recent data available show that in Fall 1995, 82.3% of faculty were rated as "good" or "excellent" by students. At two universities able to provide comparable data from 1994, these ratings are stable or increasing slightly.

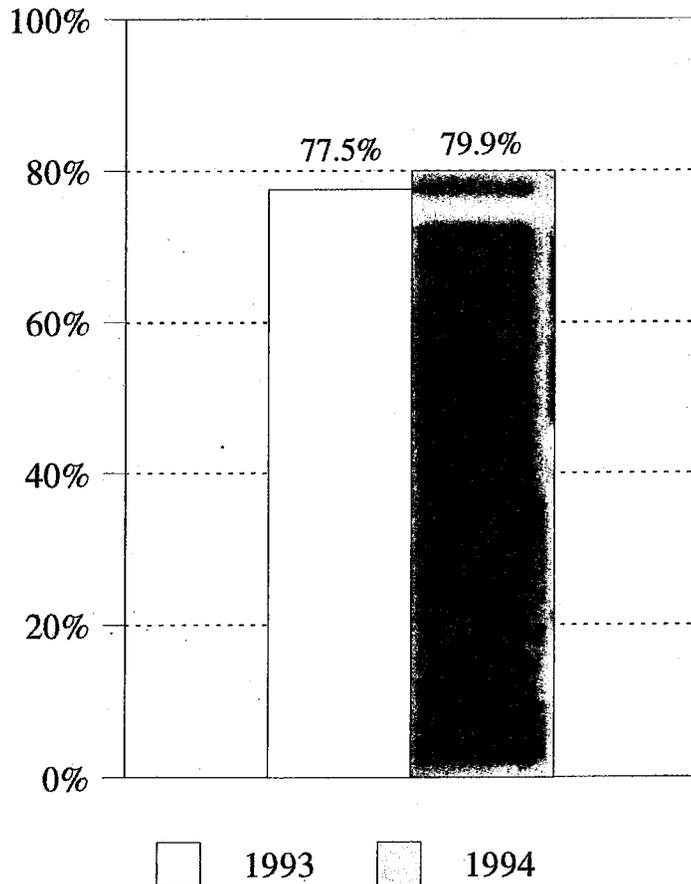
Rating:  Superior     Satisfactory     Needs Improvement

- **Overall student/alumni satisfaction with faculty:** The universities survey students and alumni to determine their level of satisfaction with faculty interest and concern in students, their education, and their career plans. During the period from 1994 to 1995, 74.2% of students surveyed reported being satisfied or very satisfied with faculty interest and concern.

Rating:  Superior     Satisfactory     Needs Improvement

# Arizona's Universities: 1997 Report Card

Percentage of Top Arizona High School Graduates Attending Arizona Universities



## Evaluation of Institutional Performance **Category 2: Demonstrating the quality of instruction, *continued***

- **Top Arizona high school scholars attending Arizona universities:** Strong instructional programs enable the universities to attract top student scholars (as defined by the top 5% of high school graduating class) from Arizona. Many of these students have the opportunity to attend a variety of higher education institutions throughout the country, but have chosen to matriculate at an Arizona university. Based on the most recent data, the percentage of these top students who attend Arizona's universities has increased from 77.5% in 1993 to 79.9% in 1994.

Rating:  Superior     Satisfactory     Needs Improvement

- **New National Merit Scholars entering Arizona universities each year:** Strength of instructional programs enables the universities to attract top student scholars from throughout the United States. The most recent data available indicate that in 1995, 100 new National Merit Scholars entered one of Arizona's public universities. (6,500 National Merit Scholarship Award winners are selected annually on the basis of test scores and information applicants provide about abilities, accomplishments, and goals). This number has been increasing slightly over time.

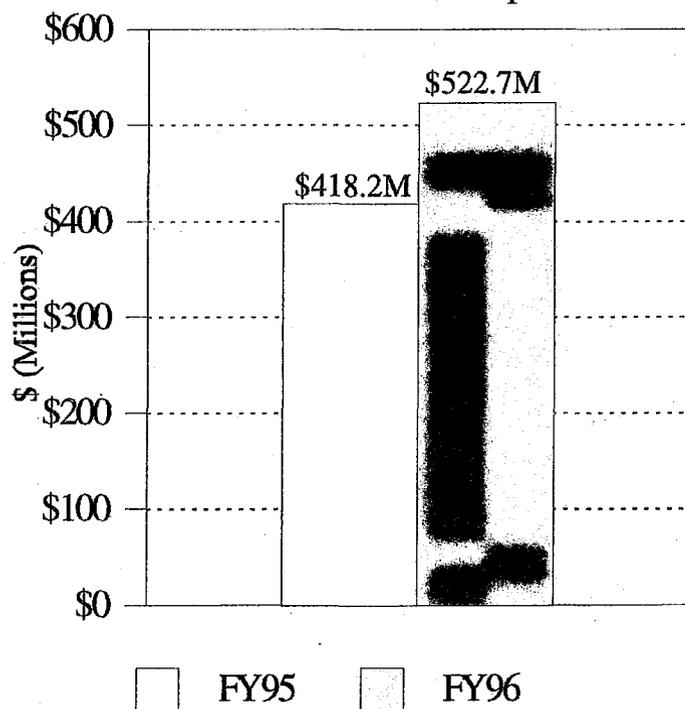
Rating:  Superior     Satisfactory     Needs Improvement

# Arizona's Universities: 1997 Report Card

## Evaluation of Institutional Performance

### Category 3: Demonstrating excellence & innovation

Total Research Grant & Contract Expenditures



- New patents and licenses:** Every year the universities receive documentation for new patents, apply for additional patents, grant licenses for using technological breakthroughs, and make disclosures of new inventions. These documents are the culmination of intensive research by faculty and students at Arizona's universities. The average number of patents and licenses in a year (using a three year average) has increased from 26 for the period from FY93 to FY95 to 32 for the period from FY94 to FY96.

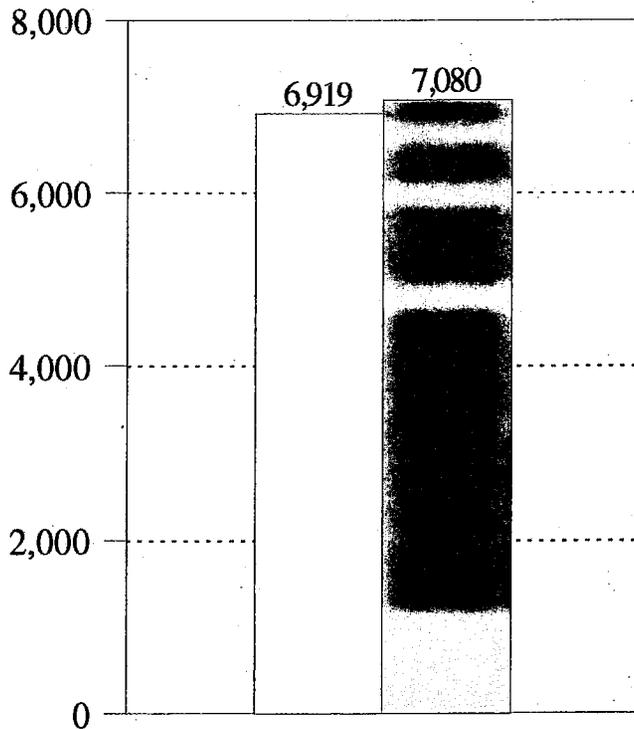
Rating:  Superior     Satisfactory     Needs Improvement

- Research grant and contract expenditures:** Research at the universities expands the body of knowledge. It also provides opportunities for students and others to participate in leading edge studies and projects which are often linked to the expansion of local economic activities. The universities track the level of external research funding on a yearly basis. The most recent data show that research expenditures have increased by nearly 20% from \$418.2 million in FY 95 to \$522.7 million in FY 96.

Rating:  Superior     Satisfactory     Needs Improvement

# Arizona's Universities: 1997 Report Card

Technology-Delivered Courses  
Number of Student Registrations



Fall 1994  
 Fall 1995

## Evaluation of Institutional Performance

### Category 3: Demonstrating excellence & innovation, *continued*

- Use of new technology to deliver instruction:** Technology provides new dimensions for classroom instruction as well as service to a broader community than may be served by traditional, campus-based modes of delivery. The most recent data indicate that in Fall 1994, there were 6,919 student registrations in courses that were provided via electronic delivery modes, increasing to 7,080 by Fall 1995.

Rating:  Superior  Satisfactory  Needs Improvement

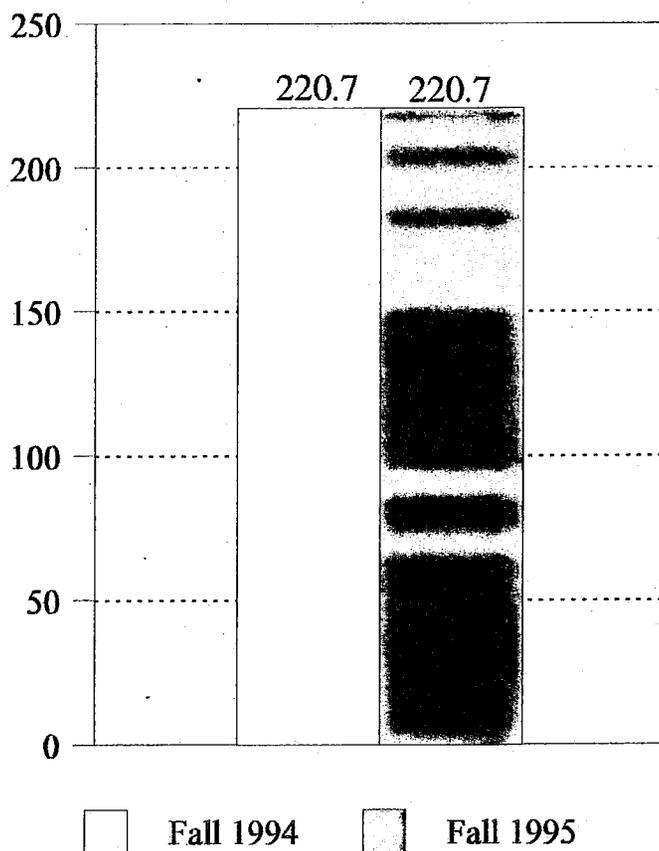
- Progress toward implementing on-line academic programs:** Representatives from the three universities began in the summer of 1996 to develop a workplan for technology-delivered education. The 26-step plan covering two-and-a-half years encompasses all phases of the project from design through prototype implementation and evaluation. The workplan scheduled four steps for completion in 1996. All four were completed.

Rating:  Superior  Satisfactory  Needs Improvement

# Arizona's Universities: 1997 Report Card

## Evaluation of Institutional Performance Category 4: Improving the utilization of resources

Student Credit Hours per Full-Time Faculty Member



- Privatization of university functions:** In concert with Arizona state government's priority to provide goods and services through the private sector, Arizona's universities have systematically shifted in-house, auxiliary services and functions to private vendors when feasible and financially practical. The most recent information available indicates that at least 28 separate and distinct auxiliary functions are performed in whole or in part by private vendors at all three universities.

Rating:  Superior  Satisfactory  Needs Improvement

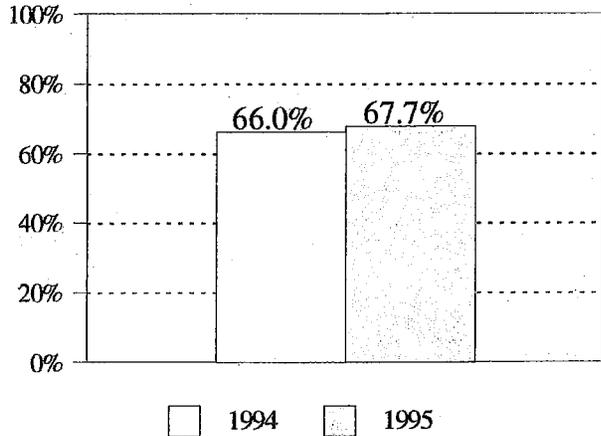
- Participation of faculty in instructional activities:** Ranked and full-time faculty are the primary teaching resource of the universities. Undergraduate instruction is a high-priority, as identified in the Board of Regents and universities' strategic plans. The universities track faculty contact with students in classrooms to ensure that this priority is being addressed. Faculty classroom contact with students has remained constant at 220.7 student credit hours (the credit hours of each course multiplied by the number of students enrolled) per fulltime faculty member. Although contact hours remained constant, the hours spent on instruction-related activities have increased. \*

Rating:  Superior  Satisfactory  Needs Improvement

\* The Board of Regents charged the universities with the development of a workplan to thoroughly review this issue. Emphasis will be placed on faculty time devoted to undergraduate education.

# Arizona's Universities: 1997 Report Card

Percentage of Expenditures  
Used for Instruction

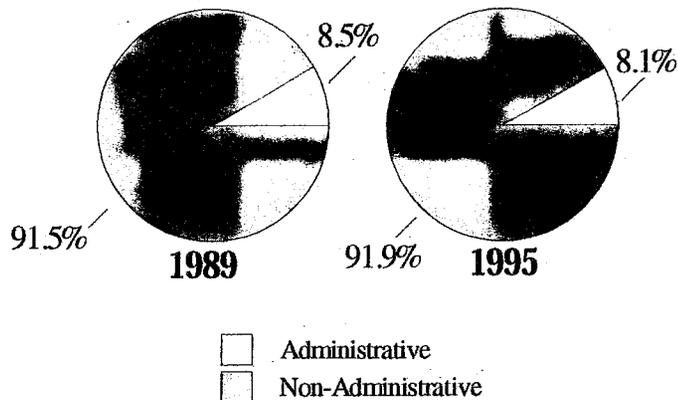


## Evaluation of Institutional Performance Category 4: Improving the utilization of resources *continued*

- Proportion of state operating budget used for educational activities:** Providing quality instruction and strong instructional resources is the highest priority for Arizona's university system. The universities track the proportion of state operating resources, including general fund appropriations and tuition and fees, that is used for these purposes. The most recent data available indicate that the use of resources for instruction and student-related expenditures represents the largest category of expenditures. The percentage of expenditures used for instruction and student-related expenditures was 66.0% in FY94, increasing to 67.7% in FY95.

Rating:  Superior  Satisfactory  Needs Improvement

Administrative Costs  
As a Percentage of Total Expenditures



- Efficient use of resources for primary institutional functions:** The foremost missions of the universities are to instruct students, conduct research and provide public service. The universities track the proportion of their resources earmarked for these core functions, and the proportion that is used for administrative purposes. The most recent data available indicate that administrative costs as a percentage of total expenditure declined from 8.5% in FY89 to 8.1% in FY95.

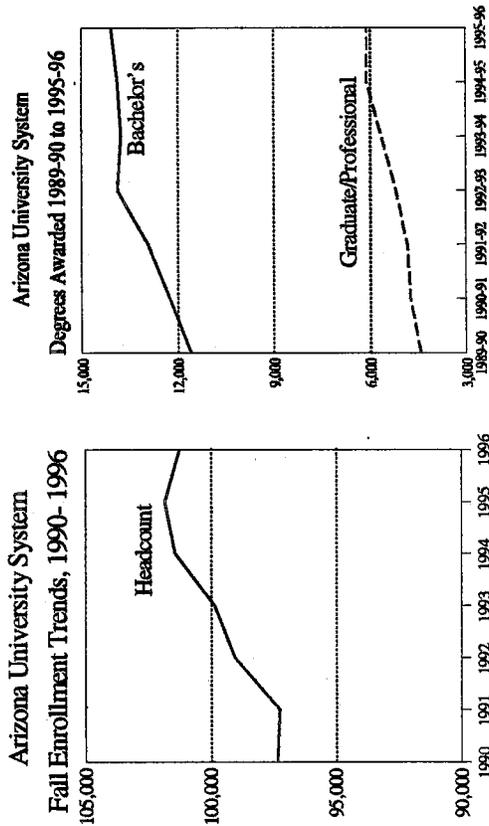
Rating:  Superior  Satisfactory  Needs Improvement

# Arizona's Universities: 1997 Report Card

## Scope, size and character of the universities

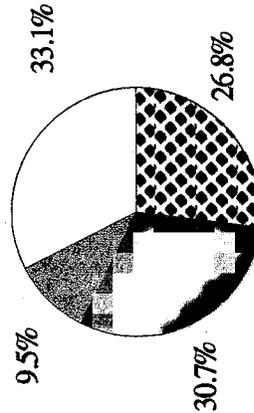
The following facts and figures provide further explanation of the condition of the Arizona university system and offer greater context to the indicators presented in the body of the Report Card.

- **Enrollment levels and patterns:** In Fall 1996, 101,228 students were enrolled in the Arizona University System, including 75,604 undergraduates and 25,624 graduate students. This level of enrollment represents a 4% increase since the beginning of the decade.
- **Number of degrees awarded by type of degree:** Systemwide, 20,144 degrees were awarded in 1995-96, including 14,062 bachelor's degrees, 4,872 master's degrees, 756 doctoral degrees, and 454 professional degrees. Overall, this represents an increase in degrees awarded of 26% over the beginning of the decade.
- **Sources and uses of funds:** Funds are divided into four main categories: general fund revenues (appropriations from the State), collections (tuition and fees in support of the state operating budget), designated funds (auxiliary enterprises, e.g. bookstores and dorms) and restricted monies (gifts, grants, and contracts). For FY 97, revenues from all sources are estimated to exceed \$1.9 billion.
- **Economic impact on local communities:** Arizona's universities receive funding from the state, and the universities give back technology, trained workers, payroll, local purchases, and a broader tax base to the economy of the state. Experts believe the overall economic impact of the universities to be over \$4.0 billion.
- **Number of employees:** The university system employs more than 22,000 people, who live and work in Phoenix, Flagstaff, Tucson and other communities throughout the state.
- **Value of Building System:** It is estimated that the replacement cost of the more than 1700 buildings of the universities is \$3.2 billion.



## University System FY 1997 Revenues

Total: \$1.9 billion

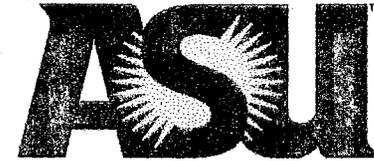


- State General Fund \$634.6 million
- Collections Supporting State Operating Budget \$182.7 million
- Designated Funds \$588.9 million
- Restricted Gifts, Grants, Contracts \$513.7 million

## Arizona's Universities: 1997 Report Card

### Scope, size and character of the universities (continued)

#### Campus Highlights:



- \* With the opening of the ASU East campus, ASU is now enrolling a record number of students at its three campuses
- \* Student satisfaction with the ASU educational experience reached 93% in 1996, the highest level since the survey was initiated three years ago.
- \* Students persisted toward graduation at higher rates for all undergraduate student levels.
- \* Minority enrollment reached 18.2%, establishing a new high for the 14th year in a row.
- \* ASU provides Arizona a competitive workforce, granting over 9,000 bachelor, masters, and doctoral degrees in 1996, 45% of all state university degrees granted.
- \* Faculty continued to receive grants and contracts at a strong pace. Grants increased by 150% in the past ten years.
- \* ASU's Extended Education program delivered educational seminars, workshops, and classes to over 105,000 registrants across the state.
- \* ASU employee teams received six Governor's Spirit of Excellence Awards in 1996 in recognition of innovation and outstanding achievement in the workplace.

# Arizona's Universities: 1997 Report Card

## Scope, size and character of the universities (continued)



### Campus Highlights:

- \* NAU received continued funding for its Research Experiences from the National Science Foundation for Undergraduates program which provides research experience for first generation students.
- \* NAU's School of Hotel and Restaurant Management received one of only two prestigious Gold Awards in recognition of its excellence for a comprehensive national and international emphasis in its education and training program.
- \* NAU faculty continue to receive national rewards and be recognized by organizations such as the Fulbright Scholar Program, Cottrell College Science Award Program, and the Geological Society of America.
- \* A team of student workers received one of the Governor's Spirit of Excellence Awards in 1996.
- \* Freshman student retention increased by 4.3% from 69.0% to 73.3% in 1996.
- \* NAU's partnerships with community colleges and K-12 continued to provide students in Arizona's rural communities with quality education by adding IITV classes to MCC in Bullhead City, PCC in Tucson, Window Rock Unified School District, and St. Michael's School.
- \* The Learning Channel premiered Elementary Spanish and Geonauts courses produced by NAU which offer educational opportunities for viewers in homes as well as schools.
- \* NAU assisted the Arizona Legislature to establish AZNET a two way interactive TV system that allows individuals from rural Arizona to speak to the Legislature without traveling to Phoenix.
- \* Students receiving national recognition and scholarships awards include an NAU-Yuma student receiving one of only ten \$1,000 scholarships awarded by the U.S. Hispanic Chamber of Commerce and an NAU student selected as one of the 55 members of the first class of Morris K. Udall Scholars.

# Arizona's Universities: 1997 Report Card

## Scope, size and character of the universities (continued)



### Campus Highlights:

#### Teaching & Learning

- The Finish in 4! program guarantees four-year graduation and enrolls all interested students.
- Learning is being enhanced through an ongoing five-year classroom renovation project and instructional computing upgrades.
- The Faculty Development Program fosters improved teaching with technology.
- UA students have won twelve Goldwater Scholarships, four Truman Scholarships, one Marshall Scholarship, one Javitts Scholarship, one Churchill Scholarship, three Fulbright Scholarships, and two Rhodes Scholarships in the last four years.
- The National Research Council of the National Academy of Sciences ranked nine UA graduate programs – Anthropology, Astronomy, Geosciences, Philosophy, Ecology and Evolutionary, Pharmacology, Physiology, Psychology, and Sociology – as among the top one quarter in the nation.

#### Health

- During the Arizona Cancer Center's twentieth anniversary year, two major studies showed promise for improving the treatment of ovarian cancer and for reducing the incidence of lung, prostate, and colon cancers using selenium.
- The past year saw tremendous growth in the Telemedicine Program, including the establishment of the Arizona Rural Telemedicine Network, designed to help meet the health needs of rural Arizona.

#### Technology, Industry, & Science

- New Industrial partnerships were launched with Hughes Missile Systems, Hughes Electro-optical Systems, McDonnell-Douglas aircraft, Semiconductor Research Corporation, Motorola, Intel, Burr-Brown, National Semiconductor, Lucent Technologies.
- Two faculty members were inducted into the National Academy of Science, to bring UA total membership to fifteen.

#### Agriculture

- A new way to control the whitefly was developed, thus improving the profitability of major crops such as cotton.
- The UA collaborated with Arizona Western Community College and Northern Arizona University, Yuma on an undergraduate degree program which serves the agricultural industry in Yuma.

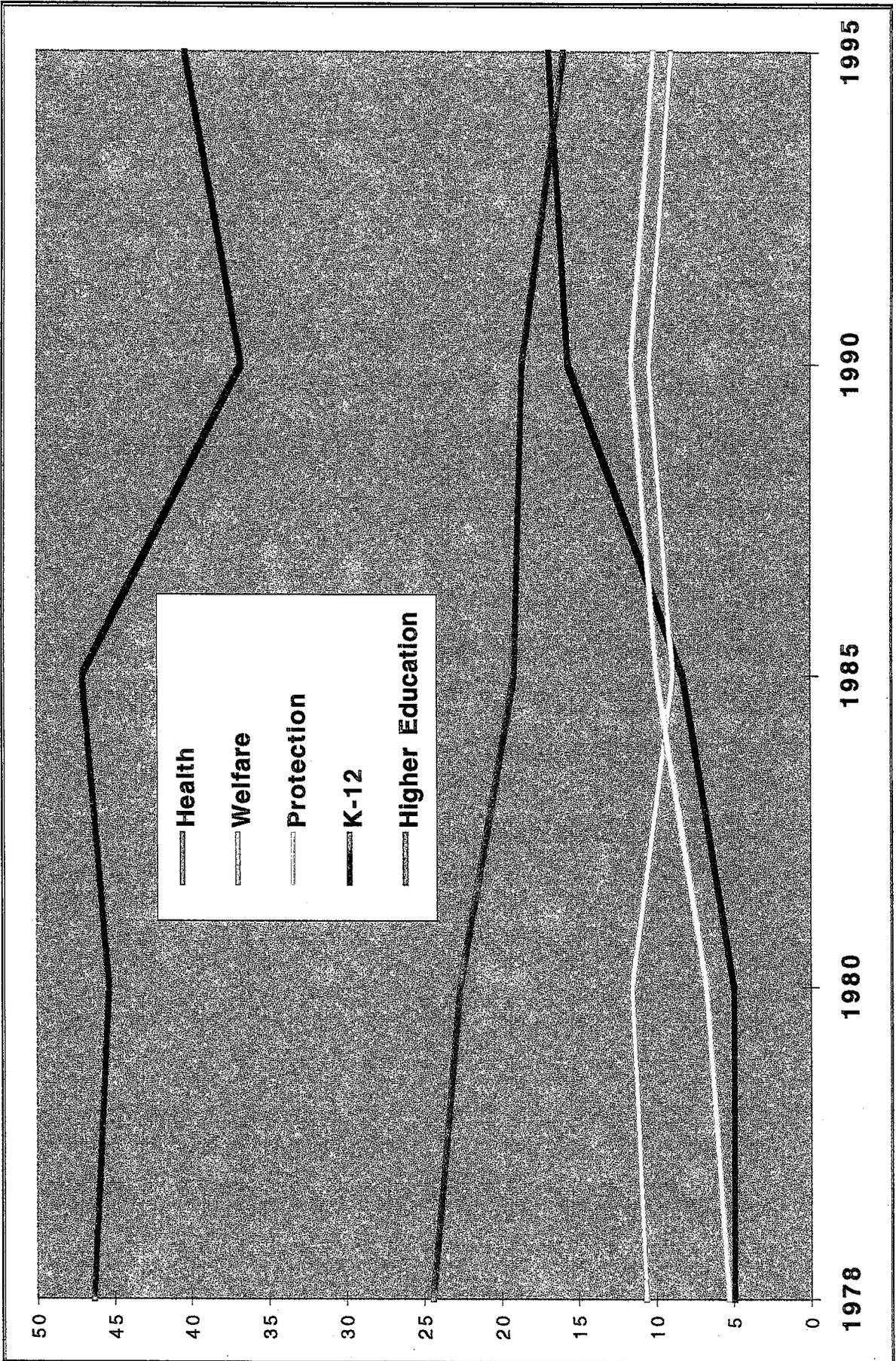
#### Optics & Astronomy

- UA faculty developed the camera for the recently launched Mars Pathfinder mission.
- The UA Mirror Laboratory is casting the world's largest telescope mirror.
- NICMOS, a new infrared imaging instrument to be installed on the Hubble Space Telescope, was delivered to NASA for transport on an upcoming shuttle mission.

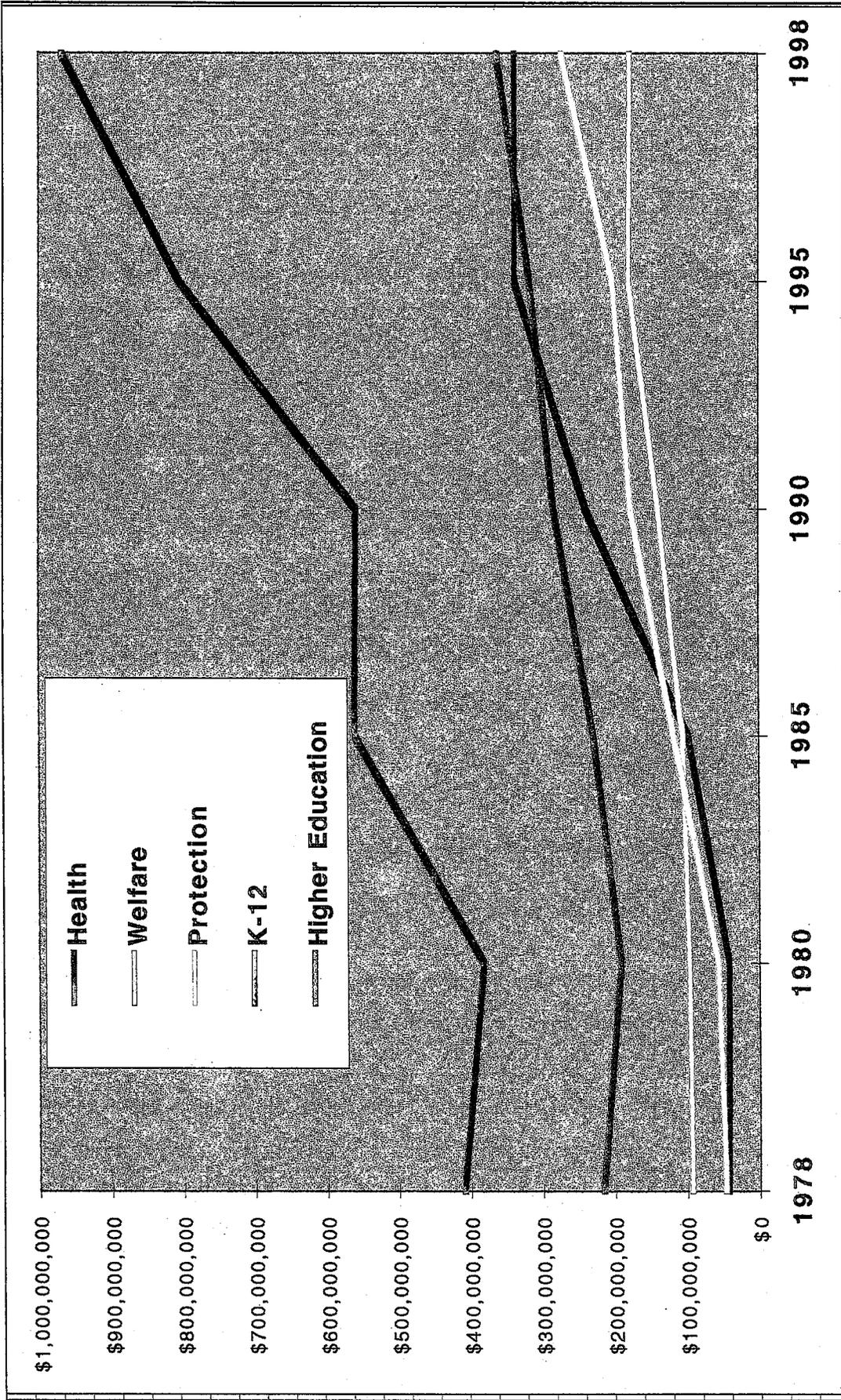
#### Efficiency & Effectiveness

- The UA won eight Governor's Spirit of Excellence Awards in 1996.
- A major W. H. Kellogg Foundation grant was garnered for employee development.
- Connectivity of all buildings and residence halls to the Internet has been completed.

# % OF TOTAL ARIZONA GENERAL FUND APPROPRIATIONS 1978 - 1995



# \$ Appropriated from Arizona General Fund 1978 - 1998 \*



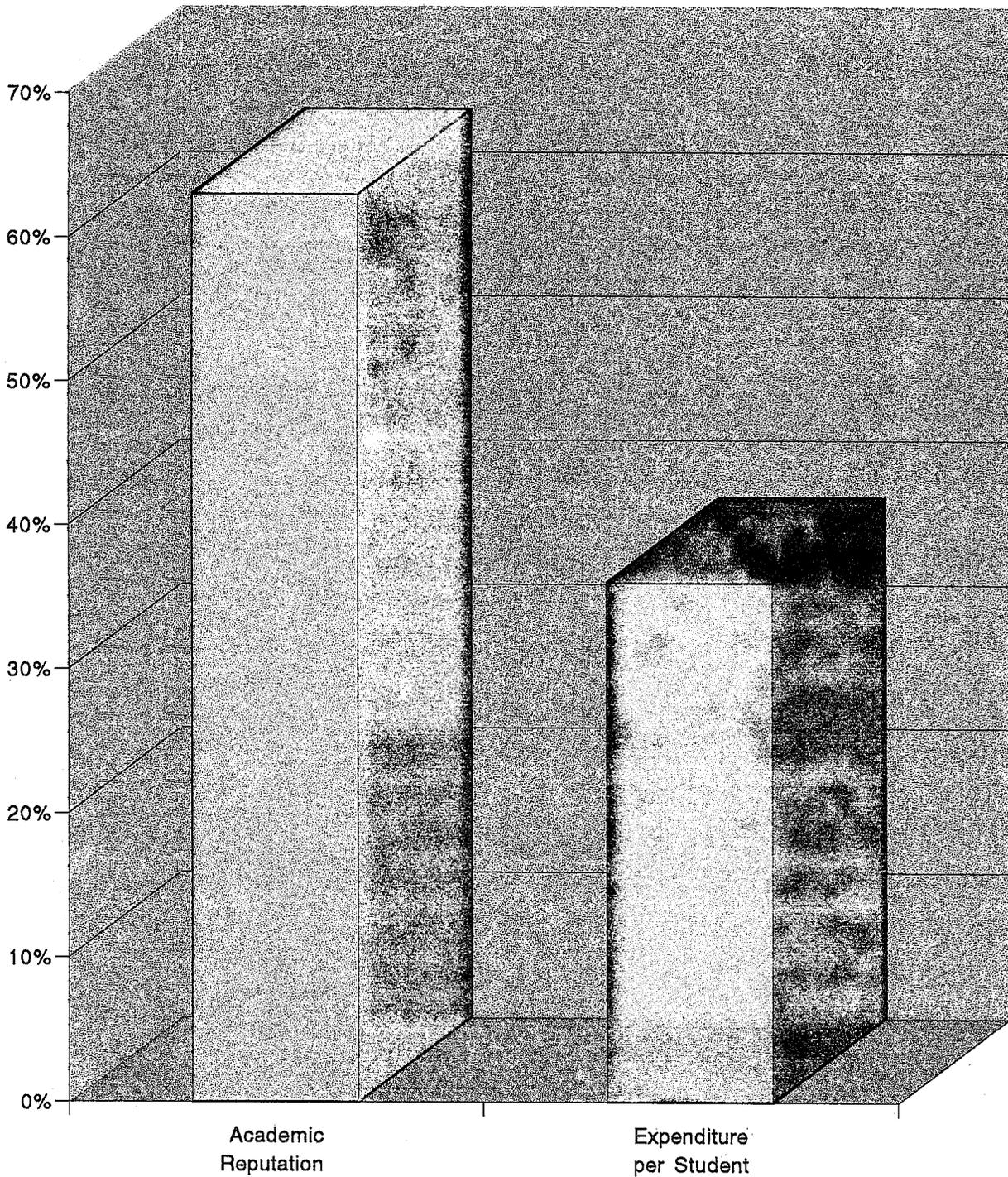
\* In constant dollars, using General Consumer Price Index

## Arizona Rankings and National Comparisons

Item	Measure	US	AZ	AZ Rank
<b>Population</b>				
Resident Population Increase est.	% Increase 1990-2000	11.1	21.1	71
Population Increase	% increase '90 to '93	3.7	7.4	71
Birth Rate	Per 1000 people	15.5	17.5	5
65 Years Old and Older	% of population, 1995	12.8	13.3	20
<b>K-12</b>				
School Enrollment, K-12	Fall '96, in millions	51.7	N/A	N/A
School Enrollment, K-8	% increase '90-'93	4.1	10.6	6
School Enrollment, 9-12	% increase '90 to '93	4.8	11.3	3
Drop out rate	% of population	11.2	14.4	1
Teacher Salaries	Average in '94	\$36,802	\$32,175	30
K-12 Public Expenditures/capita	\$/capita '93	\$987	\$915	44
<b>Higher Education</b>				
College Enrollment	% of 18-24 popul. in '90-91	43.0	58.9	3
College Enroll., Public 4-year Inst.	% of 18-24 popul. in '90-91	17.1	18.0	29
Enrollment in Public Institutions	% of total FTE Students	76.5	97.4	4
Undergraduate Enrollment	Per 1000 population '90-91	73.1	95.3	6
Enrollment, 4 year publics	Per 1000 population '90-91	31.2	34.9	26
Enrollment, 2 year publics	Per 1000 population '90-91	27.0	56.7	1
<b>Revenue</b>				
Tuition and Fees, Public 4 year	per FTE student	\$2,557	\$3,235	10
Tuition and Fees, Pub doc w Med	per FTE student	\$3,267	\$3,483	14
Rev., state & loc. approp., pub 4 yr	per FTE student	\$6,105	\$6,578	16
Rev., st. & loc app Pub doc w Med	per FTE student	\$9,277	\$8,008	27
Rev. fed. grants & con., pub 4 yr	per FTE faculty	\$32,727	\$47,204	9
Appropriations for higher ed.	per capita, '93	\$209	\$219	24
<b>Expenditures</b>				
Revenues, tuition & fees, Pub 4 yr	% of total ed. and gen. exp	20.5	23.6	16
Revenues, state approp., Pub 4 yr	% of total ed. and gen. exp	48.9	47.9	29
Instruction expend., Public 4 year	% of total ed. and gen. exp	40.3	35.6	43
Scholarship and Fellowship exp.	% of total ed. and gen. exp	4.0	5.9	7
Instructional exp., Pub 4 yr	per FTE student	\$4,955	\$4,777	25
Instructional exp., Pub doc w Med	per FTE student	\$7,799	\$5,907	33
Library exp. Pub doc. w Med	per FTE student	\$372	\$444	12
<b>Labor and Personal Income</b>				
Labor Force Participation, Male	Rate in '95	75.0	76.7	45
Labor Force Participation, Female	Rate in '93	58.9	59.6	47
Production Workers Pay in Manuf.	Avg. Hourly Earnings in '93	\$11.76	\$11.07	35
Disposable Personal Income	Constant '92 Dollars in '95	\$18,344	\$16,597	35
Disposable Personal Income	% change '90 to '93	12.4	11.0	43
<b>Economic Structure</b>				
U. S. Exports	% change '92 to '93	3.3	6.4	20
Farm Land Increase in Value	% Increase '90 to '93	4.8	16.0	3
Non-Farm Employment, Services	% of Employment in '93	27.4	28.5	13
Non-Farm Employment, Manuf.	% of Employment in '93	16.2	11.1	41
Population in Metro Areas	% of population, 1994	79.8	87.2	9

# ARIZONA UNIVERSITY SYSTEM RANKINGS: US New World Report, All Public Universities, 1996

SHOWS ACADEMIC REPUTATION VS.  
EXPENDITURE PER STUDENT



## Note on teaching workload of full-time postsecondary faculty

---

The 1988 National Study of Postsecondary Faculty (NSOPF) was a survey of faculty who had at least some instructional duties (such as teaching one or more courses) in for-credit, higher education courses during the fall 1987 term.

Unlike NSOPF-88, which was limited to faculty whose regular assignments included instruction, the faculty universe for NSOPF-93 was expanded to include anyone who was designated as faculty, whether or not their responsibilities included instruction, as well as other (nonfaculty) personnel with instructional responsibilities.

The analyses for this indicator include all those who had any instructional duties in the fall of 1987 and 1992. Therefore, it includes those faculty whose principal activity that semester was research, technical, clinical, service, or administration, as long as the faculty member taught at least one class for credit. In fact, in fall 1992, 15 percent of all faculty who taught at least one class for credit had a principal activity other than teaching.

The analysis for the indicators using NSOPF categorizes institutions of higher education into five types, as shown below. Remaining institutions, such as religious or specialized institutions, were included in the totals but are not shown separately.

### Types of institutions

*Research university:* Institution among the 100 leading universities that receives federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

*Doctoral university:* Institution that offers a full range of baccalaureate programs and Ph.D. degrees in at least three disciplines, but tends to be less focused on research and receives fewer federal research dollars than the research universities.

*Comprehensive institution:* Institution that offers liberal arts and professional programs. The master's degree is the highest degree offered.

*Liberal arts institution:* Institution that is smaller and generally more selective than comprehensive colleges and universities. A liberal arts institution primarily offers bachelor's degrees, although some offer master's degrees.

*2-year institution:* Institution that offers certificate or degree programs through the Associate of Arts level. Two-year institutions, with few exceptions, offer no bachelor's degrees, although some offer master's degrees.

### Time allocation

NSOPF survey respondents were asked to estimate the percentage of total working hours they spent on each of the activities below:

*Teaching:* Includes teaching; grading papers; preparing courses; developing new curricula; advising or supervising students; or working with student organizations or intramural sports.

*Research/scholarship:* Includes conducting research; reviewing or preparing articles or books; attending or preparing for professional meetings or conferences; reviewing proposals; seeking outside funding; giving performances or exhibitions in the fine or applied arts; or giving speeches.

*Professional growth:* Includes taking courses or pursuing an advanced degree or other professional development activities to remain current in their field of practice.

*Administration:* Performing administrative activities.

*Outside consulting or freelance work:* Conducting outside consulting or other employment.

*Service/other:* Includes providing legal or medical service or psychological counseling to clients or patients; providing paid or unpaid community or public service, or service to professional societies/associations; or participating in other activities or work not listed above.

### Classroom and student contact hours

*Classroom hours:* The number of hours per week faculty members spent teaching.

*Student contact hours:* The sum of the number of hours per week faculty members spent teaching over all classes, multiplied by the number of students in each class.

*Class size:* The total number of student contact hours divided by the mean number of classroom hours faculty spent per week.

### Research Production

Listed below are the specific types of research produced by faculty and the corresponding categories used to discuss these activities in *Indicator*

Articles/Creative works

- Articles published in refereed professional or trade journals
- Articles published in nonrefereed professional or trade journals
- Creative works published in juried media
- Creative works published in nonjuried media or in-house newsletters

Books

- Chapters in edited volumes
- Textbooks
- Other books
- Monographs

Presentations/exhibitions

- Presentations at conferences, workshops, etc.
- Exhibitions or performances in the fine or applied arts

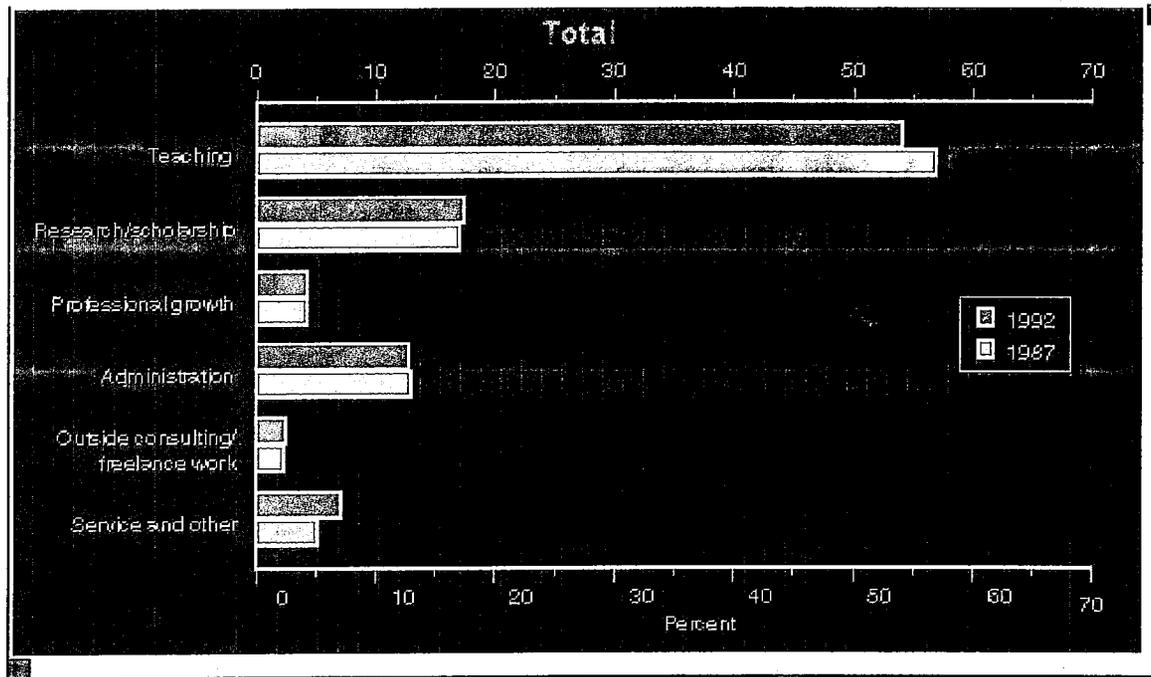
Other published reviews of books, articles, or creative works

- Research or technical reports disseminated internally or to clients
- Patents or copyrights
- Computer software products

**SOURCE:** U.S. Department of Education, National Center for Education Statistics, *Profiles of Faculty in Higher Education Institutions*, 1988.



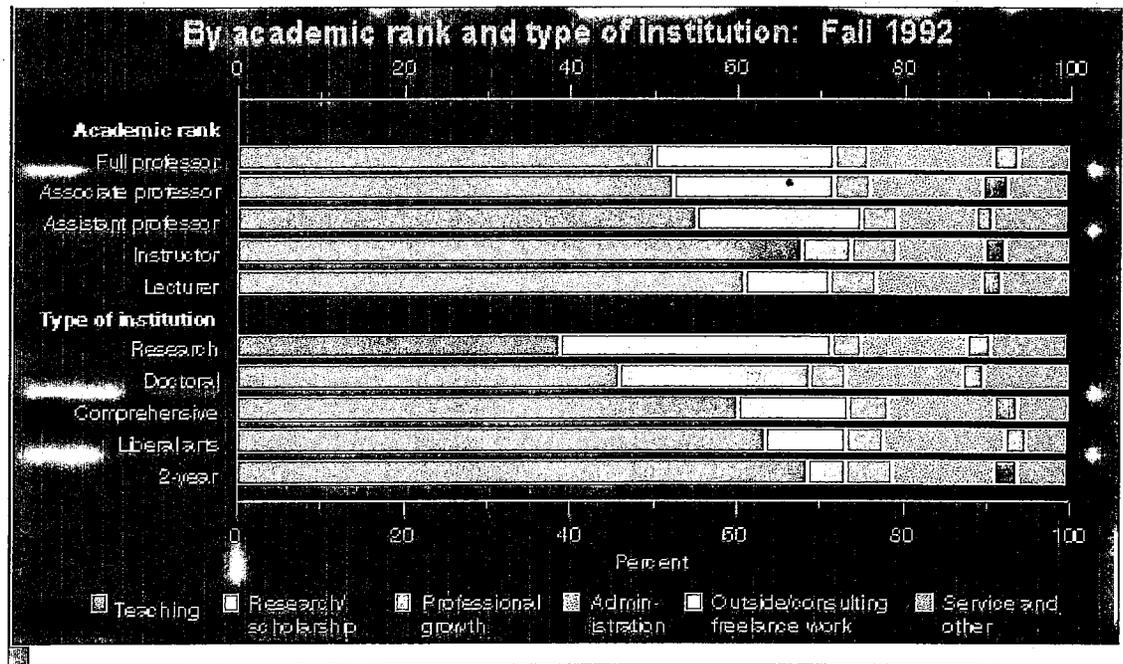
Percentage of time full-time postsecondary faculty spent on various activities



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.



Percentage of time full-time postsecondary faculty spent on various activities



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.



## Teaching workload of full-time teachers (K-12)

Ongoing debates about teachers' salaries, professional status, and instructional time spark interest in the amount of time teachers spend working, the number of classes they teach per day, and the number of students in each class. A teacher's work day does not end when classes are over. They are likely to spend additional time outside of school hours on work-related activities.

- While full-time public school teachers were required to be at school 33 hours per week on average in the 1993-94 school year, they reported working 45 hours per week. Private school teachers were required to be at school an average of 34 hours per week, but reported working 47 hours per week.
- Public and private full-time teachers reported spending extra hours (12 and 13 hours, respectively) before and after school and on weekends; of these extra hours, about one-fourth were spent in activities involving students.
- In the 1993-94 school year, public school teachers' classes were larger than those of their private school counterparts (23 students compared to 20 students per class).
- In the 1993-94 school year, less experienced teachers (those with less than 4 years of teaching experience) worked more total hours per week than did more experienced teachers (those with 4 or more years of teaching experience).

Chart 1: Average hours full-time teachers spent per week before and after school and on weekends, by control and level of school and years of teaching experience: School year 1993-94: activities involving students

Chart 2: Average hours full-time teachers spent per week before and after school and on weekends, by control and level of school and years of teaching experience: School year 1993-94: other related activities

Average hours full-time teachers spent per week at school and in school-related activities, class size, and classes taught per day, by control and level of school and years of teaching experience: School year 1993-1994

Control and level of school and teacher characteristics	Average hours worked per week	Average hours required at school	Average hours spent before and after school and on weekends				Average class size	Average number of classes taught
			Total	Activities involving students\1\	Other related activities\1\			
<b>Public</b>		<b>45.2</b>	<b>33.2</b>	<b>12.1</b>	<b>3.3</b>		<b>8.7</b>	
Level of school								
Elementary	44.0	33.0	11.0	1.7	9.2	22.7		
Secondary	46.5	33.3	13.2	5.0	8.2	23.2		
Years of teaching experience								
Less than 4 years	48.3	34.4	14.0	4.2	9.8	23.2		
4 years or more	44.8	33.0	11.8	3.2	8.6	23.2		
<b>Private</b>		<b>47.1</b>	<b>34.2</b>	<b>12.9</b>	<b>3.6</b>		<b>9.3</b>	
Level of school								
Elementary	45.8	34.4	11.4	2.3	9.1	20.0		
Secondary	49.1	34.0	15.2	5.7	9.5	19.5		
Years of teaching experience								
Less than 4 years	48.6	35.1	13.5	4.0	9.6	18.6		
4 years or more	46.8	34.0	12.8	3.6	9.2	19.8		

1/ "Activities involving students" includes coaching, tutoring, going on field trips, and transporting students. "Other related activities" includes preparing for class, grading papers, holding parent/teacher conferences, and attending meetings.

2/ Since elementary teachers do not tend to teach separate classes, only 8 percent of the teachers who responded to this question were elementary teachers, while 92 percent were secondary teachers.

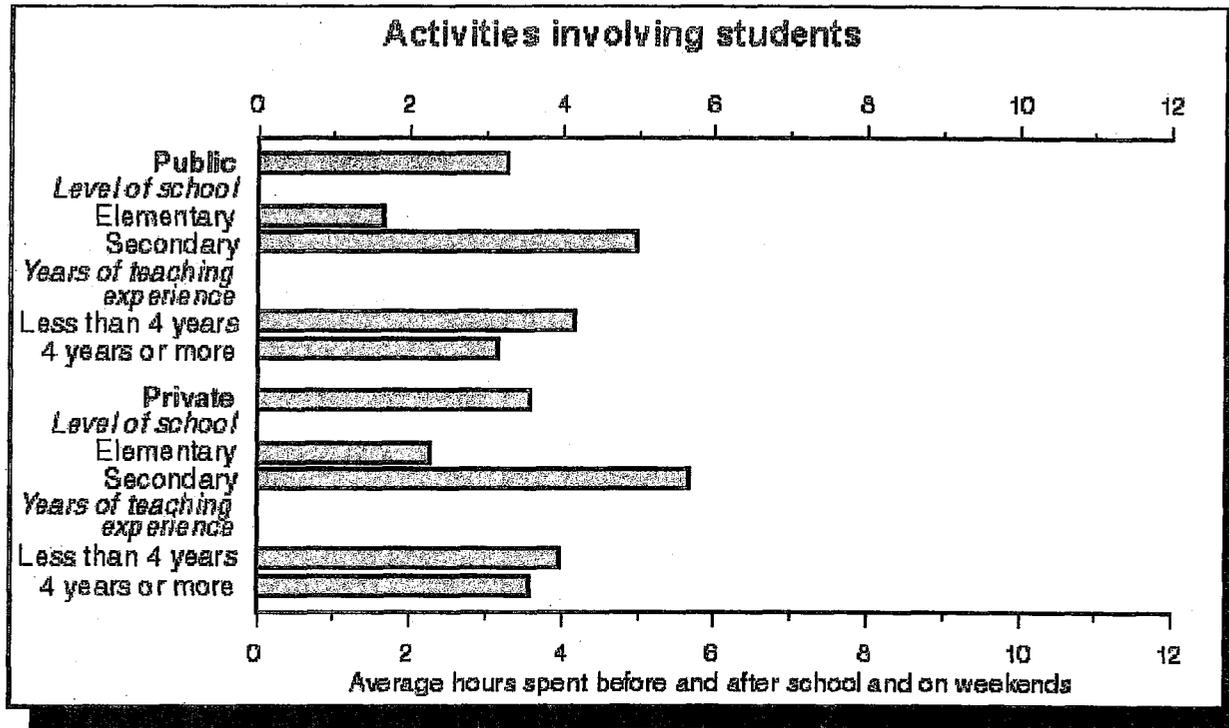
NOTE: Excludes a small number of teachers whose schools did not respond to the questionnaire. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher Questionnaire).

Table 42-4: Average hours per week full-time teachers spent at school and in school-related activities, class size, and classes taught per day, by state: School year 1993-94

State	Average hours worked per week	Average hours required at school	Average hours spent before and after school and on weekends		
			Total	Activities involving students	Other related activities
Alabama	43.3	32.5	10.8	3.2	7.6
Alaska	47.9	34.2	13.7	4.0	9.7
Arizona	49.1	35.2	13.8	4.2	9.6
Arkansas	42.5	32.9	9.7	2.7	7.0
California	45.6	31.8	13.8	3.3	10.5
Colorado	49.8	35.8	14.0	3.9	10.2
Connecticut	43.9	31.1	12.8	2.7	10.1
Delaware	46.8	33.9	13.0	3.4	9.6
District of Columbia	44.4	32.3	12.1	3.4	8.7
Florida	44.4	33.7	10.7	2.7	7.9
Georgia	46.1	35.4	10.7	3.2	7.5
Hawaii	48.0	33.9	14.1	3.1	11.1
Idaho	47.4	34.6	12.9	3.8	9.1
Illinois	45.3	32.7	12.6	3.5	9.1
Indiana	45.9	33.3	12.6	3.7	8.9
Iowa	48.2	36.1	12.1	3.9	8.2
Kansas	46.9	34.2	12.7	4.6	8.2
Kentucky	45.2	32.0	13.2	4.2	9.0
Louisiana	42.3	31.9	10.4	2.9	7.5
Maine	46.4	33.8	12.6	2.5	10.1
Maryland	47.8	34.5	13.4	2.9	10.5
Massachusetts	42.4	30.4	12.1	2.9	9.2
Michigan	44.7	32.0	12.7	2.9	9.9
Minnesota	47.8	35.7	12.1	3.4	8.7
Mississippi	43.7	33.7	10.0	3.2	6.8
Missouri	45.8	33.1	12.7	3.9	8.8
Montana	48.7	35.8	12.9	4.6	8.2
Nebraska	49.5	36.8	12.7	4.7	8.0
Nevada	43.1	31.1	12.0	2.8	9.3
New Hampshire	47.1	32.8	14.3	3.8	10.5
New Jersey	41.5	30.5	11.1	3.1	7.9
New Mexico	44.0	32.0	12.0	3.3	8.7
New York	43.6	32.3	11.3	3.1	8.3
North Carolina	47.5	34.8	12.7	4.0	8.7
North Dakota	48.2	34.9	13.3	4.6	8.6
Ohio	45.5	32.4	13.1	3.4	9.7
Oklahoma	45.4	33.2	12.2	4.6	7.6
Oregon	50.4	37.1	13.3	4.0	9.3
Pennsylvania	43.7	32.9	10.8	2.5	8.3
Rhode Island	39.9	28.6	11.3	2.8	8.6
South Carolina	44.3	33.5	10.8	2.7	8.1
South Dakota	47.4	35.0	12.4	3.8	8.6
Tennessee	43.5	32.6	10.8	3.2	7.7
Texas	47.0	35.0	12.1	3.8	8.3
Utah	46.8	34.8	12.0	3.7	8.3
Vermont	48.7	33.7	15.0	3.8	11.3
Virginia	45.3	32.4	12.9	2.9	10.0
Washington	47.1	33.9	13.2	3.7	9.5
West Virginia	44.3	33.8	10.5	2.9	7.7
Wisconsin	48.4	36.0	12.4	3.9	8.6
Wyoming	47.2	34.1	13.1	4.8	8.3

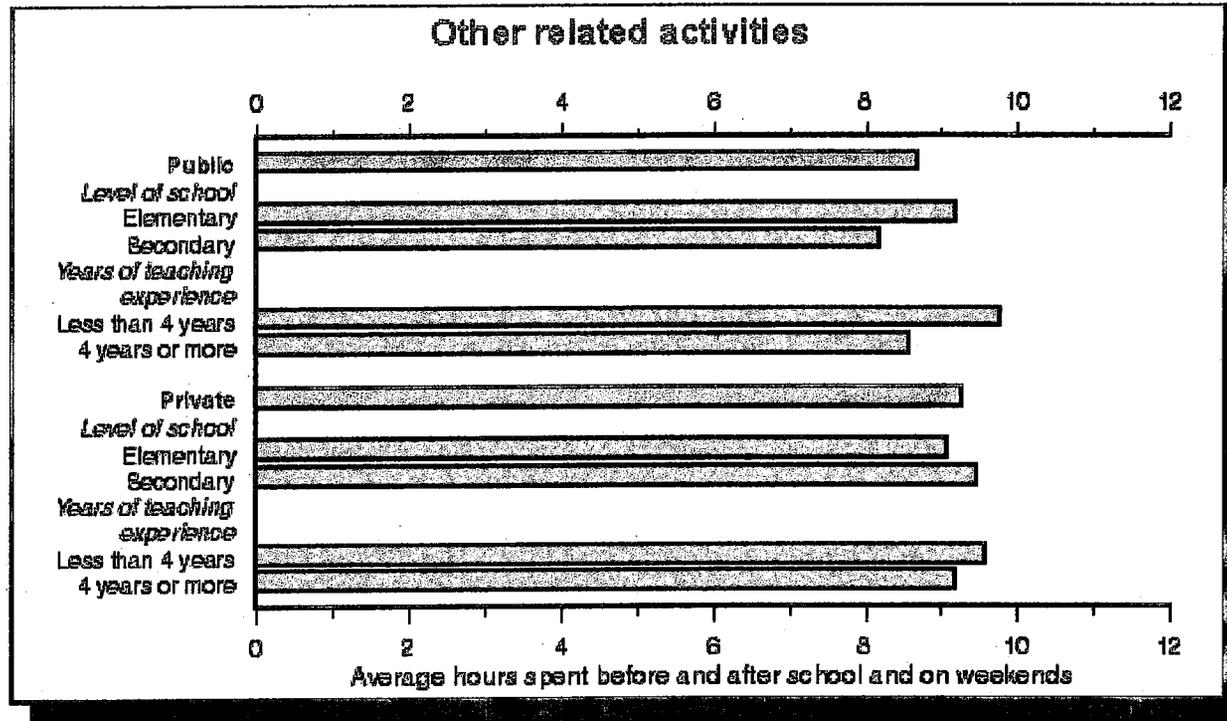
Average hours full-time teachers spent per week before and after school and on weekends, by control and level of school and years of teaching experience: School year 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher Questionnaire).



Average hours full-time teachers spent per week before and after school and on weekends, by control and level of school and years of teaching experience: School year 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher Questionnaire).



## II. The University of Arizona

- A. **New Realities Paper (SPBAC)** *pages 33-49*
- B. **Undergraduate Education  
(Hurwitz) Goals Report (1997)** *pages 50-61*
- C. **Fall Sections Taught by  
Permanent Faculty, 1993-1997** *pages 62-63*
- D. **Recent Accomplishments** *pages 33-49*

**Open Letter to University of Arizona Faculty and Staff**  
**From: The Strategic Planning and Budget Advisory Committee**  
**Re: New Realities Facing The University of Arizona**

**Abstract**

Although we have made great progress in the last twenty years, The University of Arizona faces serious problems in public confidence, internal direction, and finances. These problems are not unique to The University of Arizona, but are symptomatic of national changes and trends. Higher education everywhere is facing increased competition for students. The public is demanding greater accountability as well as more teaching, improved responsiveness, and reduced costs. Technology is changing the way we work and the expectations others have of us. Federal funding and support for higher education in general is decreasing. Real state funding per student has decreased and the political climate is neutral-to-hostile to real increases in budgets. Parents and students have resisted significant tuition increases. As a result, the UA has neither the central reserves nor the flexibility to address further economic downturns. The University actively and visibly must improve accountability, quality, and efficiency in order to regain confidence from all quarters. If not, the University will suffer increasing external control and lose the ability to maintain and refine its vision of a university.

**Introduction**

The purpose of this report is to identify signals of change in the environment surrounding The University of Arizona, to communicate these signs widely, to examine the implications of these early warnings, and to encourage dialogue on campus to help develop recommendations for future actions. Anticipating the future can put us in the driver's seat of change rather than letting change run over us.

The University of Arizona has come a long way in the last three decades, offering high quality education to undergraduate and graduate students while providing society with significant advances in, and applications of, knowledge. Numerous university programs are of world renown. It has taken many years of hard work by faculty, appointed personnel, staff, and administrators to position the University as it is today leading the State and the nation as the next century approaches.

At the same time, several years of reduced public support for higher education has led to staff cuts, program reductions, erosion of the capital equipment base, and reduced and deferred maintenance of buildings and classrooms. Sometimes it seems as if the University is being attacked from all sides. For the past seven years operations have continued in a state of semi-crisis -- even when both the University's State budget and tuition increase. Like many members of the University community, the members of the Strategic Planning and Budget Advisory Committee (SPBAC) find these developments perplexing and disturbing. As a result, the Committee decided to study the internal and external situation in depth. Through this document, SPBAC members would like to share with the University community what the Committee has learned in order to engage in a dialogue about how the University can move successfully into the future.

### **New Realities in Higher Education**

The University of Arizona faces serious problems. The budgetary constraints are real -- *there is \$30-40 million less for basic programs and support than there was ten years ago*. Further, this is only an indicator of more profound threats in the immediate future. Solving these problems requires a major response by the entire University community. A failure to respond will leave the University community vulnerable to externally imposed solutions.

#### **A. National Problems and Issues:**

What The University of Arizona faces is not just a University of Arizona problem. Nationally, competition for students is increasing. The proportion of high school graduates who go on to traditional higher education is flattening. There is a glut of graduates from certain graduate programs. Some private colleges are decreasing tuition rates to attract students. Private companies, such as Motorola, are developing their own degree granting postsecondary programs. AT&T recently contracted with the University of Phoenix to provide in-house training. Since increasingly more University of Arizona students are older and work while attending school, jobs that provide education, work-related

experience, and higher wages folded into one financial aid package are certain to be attractive to many students.

Distance learning provides new sources of competition. Other universities and colleges and private firms increasingly have been offering courses and degree programs without regard to state boundaries. New methods of instruction within traditional education also are changing the competitive environment. Students today expect high levels of technical support and creative use of technology in instruction. Having such capabilities is an increasing competitive advantage.

Nationally, public confidence in higher education specifically, and in public institutions generally, has declined significantly, especially since 1990 (see attachment 1). Twenty years of increased international competition and restructuring in the private sector have created expectations about and methods for improving business processes and cutting costs. The public now believes that these practices should be applied to education as they are being applied forcefully to, for example, health care. A recent national study of state legislators showed that 86% thought universities should focus more attention on undergraduate education. Only 30% believed more attention should be devoted to basic research. Nearly two-thirds of the legislators thought faculty should teach more courses. States are eliminating traditional funding formulae and are moving more towards productivity and accountability funding.

Reflecting these changes, declining legislative support for higher education is a national phenomenon (see attachment 2).

#### **B. Impact on the U of A:**

Throughout this century, the universities in Arizona have had something close to an exclusive franchise with respect to in-state students seeking higher education. Students had few in-state alternatives. It was assumed that The University of Arizona would continue to attract and enroll the number of students that are presently enrolling (see attachment 3 for a description of the enrollment model and

the revised enrollment projections). The recent growth of alternative forms of higher education and enrollments below projections (even as the numbers of high school graduates increases) make it clear that this franchise now is in jeopardy.

**1. New Forms of Competition:** Today the State is creating such alternatives as ASU East and West and the new Arizona International Campus (AIC). The governors of 21 western states, including Arizona, are developing a virtual university and the Arizona Governor has appointed a group to facilitate the development of this concept. These are political realities.

There are University of Arizona employees who currently are enrolled in courses and degree programs from NAU and other institutions, even though similar programs are also offered on this campus. Dartmouth College and Troy State University are offering degree programs and courses for credit in Tucson. Columbia University recently announced its plans to begin offering courses at the Biosphere facility. USC is offering programs at Hughes Aircraft, an audience that used to belong to The University of Arizona. Even without all of these alternatives, the ability of The University of Arizona to rely on growth in the number of students to provide increased State and tuition dollars soon will be limited by the enrollment cap of 35,000 students.

**2. Changing Needs of Students:** The students that come to the UA often want more flexible schedules, and they and their future employers want more practical and effective preparation for work. The present variety of courses, majors, and requirements makes changes in major difficult for students and increases the University's cost of system-navigation advising that serves primarily to guide students through requirements and procedures. Students and faculty alike find it confusing and frustrating.

**3. New Technologies:** With some exceptions, the UA is just beginning to exploit opportunities to use technology and different teaching methodologies to improve the quality, efficiency, and

competitiveness of instructional programs. Successful models exist for disciplines as diverse as chemistry, humanities, mathematics, and engineering.

### **C. Continuing Budget Problems:**

The number of FTE students at The University of Arizona has increased from 27,340 in 1986 to 31,370 in 1995. Attachment 4 shows that per student, State and Federal appropriations and tuition have increased during this period, but the purchasing power of the dollar has declined. In addition, in 1980, the legislature stopped funding University capital facilities and gave the universities the authority to sell bonds--and the need to pay them off. The expense associated with this capital funding responsibility has risen gradually to over \$30 million per year. Overall, real dollars per FTE student have declined by about \$750 since 1986. This figure multiplied by 31,370 students results in a loss of almost \$23.5 million each year.

Concurrent with this loss of purchasing power, the University has been making major investments in information technology. Without considering capital costs, the cost for staffing and maintaining this technology comes to more than \$10 million per year. Additional millions are spent each year to fulfill new federal and State mandates, such as those related to the Americans with Disabilities Act and federal and State health and environmental regulations. These costs exacerbate the purchasing power lost per FTE student described in the previous paragraph. Thus, the total University available revenue shortfall is between \$30 and \$40 million annually. There is no reason to believe that this downward trend is going to change.

The University has tried to meet this shortfall by deferring an average of \$8-9 million per year (over \$90 million cumulatively) in maintenance of the University's buildings and infrastructure. Other ways of meeting the shortfall have included using indirect cost revenues from research grants, giving up central reserves, cutting staff, capping travel funds, cutting the number of periodicals and books in the library, and eliminating and consolidating programs. The result is that the UA has no reserves and very little flexibility. This cannot continue.

**1. Increasing Revenue:** Some of the decline in the state budget in real terms has been offset by increases in tuition and indirect cost recovery. The SPBAC questions whether this will continue to be possible.

The University of Arizona receives 3-4 times as much tuition revenue per student from out-of-state students as from in-state students. Partly due to political pressure and partly for other reasons, the number of out-of-state students at the University has begun to decline. The proportion of high school graduates that go on to college is declining (see attachment 5). Even though Arizona is a low tuition state, students and parents are increasingly resistant to tuition increases that are greater than inflation. Part of any tuition increase is set aside for scholarships, and is not a net addition to revenue. Such set asides are important to attract the rapidly rising proportion of Arizona high school graduates who are minorities with traditionally lower family incomes and lower college attendance rates.

The University could try to raise more indirect cost recovery (ICR) funds by increasing success in obtaining research grants. Since the UA was not heavily invested in defense or Department of Energy funded research, it was not seriously hurt by the post-Cold War declines in R&D funding in these two areas. The University, however, has been enormously fortunate to do as well as it has in the face of federal funding cutbacks. Just maintaining the present level of research funding will be a success. Furthermore, although the ICR rate was increasing until three years ago, the actual recovery of indirect costs as a percentage of total grants and contracts has been declining. Marginal real increases in ICR beyond current levels are the most that can be expected.

**2. Administrative Costs:** Cutting administrative and support costs further is another possible way of saving money. The most reliable study to date was undertaken by the Joint Legislative Budget Committee in July 1994. The study concluded that the UA had lower administrative and support costs than ASU and NAU, but might have somewhat higher costs than its peers (see attachment 6).

Recent budget cuts have affected administration and support units more than academic units, and the number of executive level administrators has declined. But these declines have been offset by increased expenditures to meet legal mandates and to fund information technology. Generally, people are working hard at what is required, but often are hampered by ineffective, redundant, and costly internal and external procedures and requirements. The continuous improvement and business process reengineering efforts have helped reduce costs and increase effectiveness, but these sometimes require investments (e.g., for information technology to replace obsolete systems). These programs should pay off over time, but they are unlikely to provide big savings in the short term. Many savings accrue to departments in ways that haven't been easily recoverable for reallocation to fund the investments. A Faculty Senate committee is reviewing the support cost issue. In addition, SPBAC plans to examine administration and support costs thoroughly.

**3. Construction Costs:** Since The University of Arizona pays for the bonds, cutting back on construction also has been proposed as a way to save money. In the short term, this has had no effect since current payments are for facilities already built or under construction. In the longer term, the current space shortage is estimated to be approximately 1.4 million net assignable square feet (NASF), based on national standards. Classroom space is near standard (quantity, not quality) and marginally will exceed standard when the Integrated Instructional Facility is complete. The major components of the shortfall are offices and laboratories. Each category is about 0.5 million NASF short. In some cases, because of safety and other issues, existing buildings will have to be replaced or upgraded. Without providing the quantity and quality of space required, The University of Arizona cannot plan to expand or even maintain the current level of research. This, in turn, threatens indirect cost recovery revenues and the quality of programs.

**4. Prospects for increased State funding:** The University of Arizona's historical response to funding problems has been to

request increased funding from the legislature. Obviously, every effort must be made to address the legislature constructively. However, as **attachment 7** shows, Arizona has more students and fewer workers to support them than does the average state. Arizona has fewer private postsecondary institutions than the average state. The level of disposable personal income to support higher education in Arizona is among the lowest in the country. Thus, even if it wanted to, the legislature could not fund education at average national levels. Given the tax reductions the State has enacted and continues to enact, substantial real cuts in the University's base funding can be expected when the economy next slows down. Considering the legislative enthusiasm for ideas such as vouchers for students, educational funding may be provided in ways that facilitate students moving away from the traditional state universities.

### **Conclusions and Implications**

The University of Arizona is facing a continuing series of shifts that will affect the University for the indefinite future. Although gradual, these changes are reinforcing each other. They have now become critical.

- Competition for students thought of as our exclusive franchise is increasing; unless the University learns how to meet this competition, we may not be able to attract sufficient students necessary to reach our enrollment targets upon which the University's tuition revenue and state budget are based.

- Public confidence in higher education has waned and the public is demanding greater accountability while questioning our commitment to education.

- The public expects the University to teach more, improve quality, and reduce costs.

- Gross federal funding for education and research is decreasing, with some shifts of research funding among disciplines.

- Real state funding per student has decreased and the political climate is neutral-to-hostile to real increases in budgets.

- Resistance to further tuition increases, especially those above inflation, is growing.

As a result, the UA has neither the central reserves nor the flexibility to address the next economic downturn. Even moderate increases in funding would not allow The University of Arizona to achieve its vision. Only serious internal planning, priority setting, reallocation, and management, based on a University-wide dialogue, can do that.

Furthermore, the issues of confidence, accountability, and improved quality and efficiency must be addressed. This will affect State funding and tuition increase issues, not to mention the issues relating to increased competition for students. If these issues are not addressed, The University of Arizona will suffer increasing external control and lose the ability to refine and maintain its vision of a university.

#### **A. Internal Restructuring:**

The University community has tended to identify recent, recurring budget crises with cutting budgets and eliminating programs. The SPBAC believes that the focus should be on restructuring. This does not mean that cuts will not be required. However, many essential changes must involve improvements in service, consolidation and reorganization, and enhanced efficiencies well beyond those already achieved.

So far the University has addressed these issues by engaging in activities such as the following. These efforts must continue and be expanded.

- Consolidating courses when similar courses are offered in multiple departments.
- Consolidating duplicative degree programs to release faculty time for instruction.
- Encouraging faculty teaching outside their traditional departments (e.g., in general education courses).
- Cutting low demand degree programs that are unjustifiable.
- Continuing to implement our total quality management (CORE) and business process reengineering efforts to reduce costs and improve services.
- Simplifying the degree program curricula for our degrees and making degrees less specialized.

## B. Questions We Must Answer:

The faculty and the entire University community must start addressing the above issues in new ways. There must be increased inter-college and inter-department cooperation, activity and resource management, and flexibility in thinking. The internal budgeting and continual re-budgeting issue, not just the external budget issue, must be addressed. The Committee seeks answers to the following types of questions:

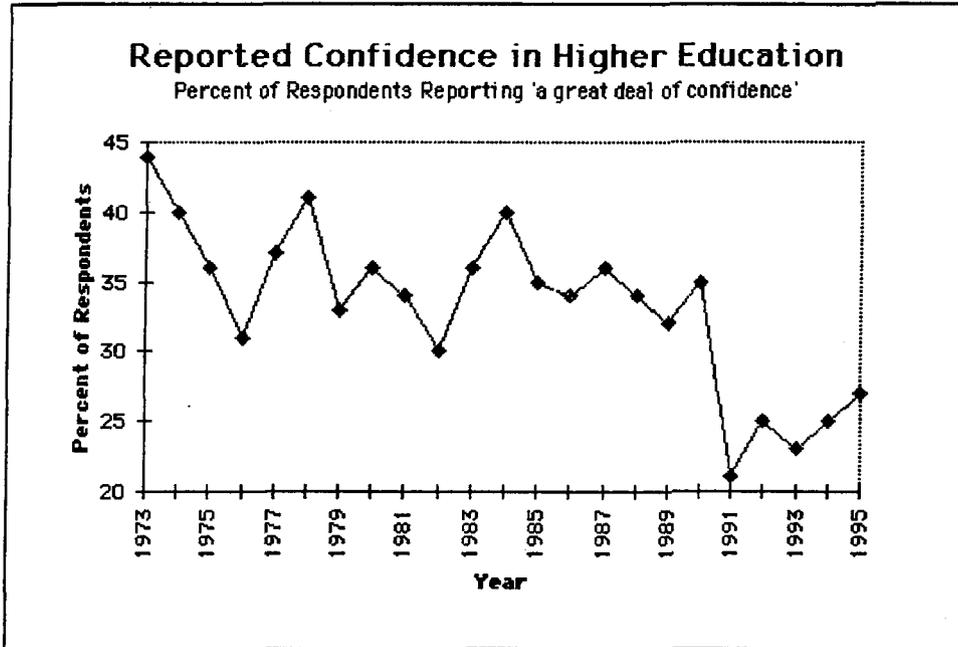
- How can The University of Arizona develop clarity about who it is, what it realistically can do, and what its priorities are?
- How can The University of Arizona decide what program areas to emphasize given limited resources and increased competition for students?
- How can The University of Arizona determine what the competitive advantages ought to be?
- How can the University community focus energies and resources on those programs and activities that will increase quality and respond to external needs and changes?
- How can The University of Arizona use consolidation, attrition, and incentives for voluntary movement of resources and effort to areas of higher need?
- How can The University of Arizona build flexibility and resilience into procedures, budgets, and organizational structure?
- How can The University of Arizona handle short- and long-term shifts in student course and major demand quickly and effectively?
- How can The University of Arizona become a more engaging place for students?

## Next Steps

Now is the time to broaden the discussion of the University's future course to include the entire campus community. The members of SPBAC are asking you to consider these questions and present your colleagues, SPBAC, the Faculty Senate, the Staff Advisory Council, Associated Students of the University of Arizona, and the administration with proposals about what can be done to transform, not just incrementally tinker with, the University and that respond to the issues it faces. 4/96

### Public Trust and Accountability in Higher Education

Public trust in public institutions of all types has declined in the last decade; demands for accountability are increasing in all public areas. The chart below shows the decline in those reporting a great deal of confidence in higher education since 1973 (Gallup Poll Data). Higher education declined from 44% to 27% with an especially dramatic drop since 1989.



This is part of a larger trend that affects many public institutions. Similar numbers in other fields illustrate that this erosion of public confidence is not confined to higher education.

**Reported Confidence in Selected Institutions**  
Percent of Respondents Reporting 'a great deal of confidence'

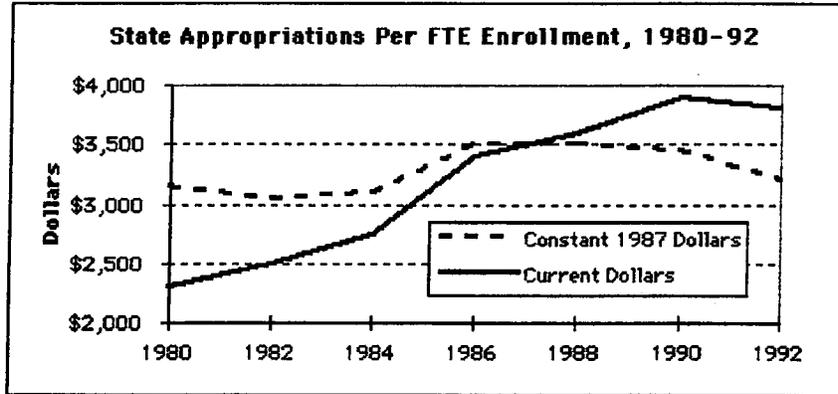
Institution:	1973	1979	1985	1990	1995
Medicine	57%	30%	39%	35%	26%
The Press	30%	28%	16%	18%	11%
Executive Branch of Fed. Govt.	19%	17%	18%	NA	9%
Congress	NA	18%	16%	12%	10%

While some institutions may be affected less by these significant declines in the level of public trust, they create additional pressure for transparency and accountability, sometimes for micromanagement, in the management of public universities.

The University of Arizona, Decision & Planning Support 4/30/96

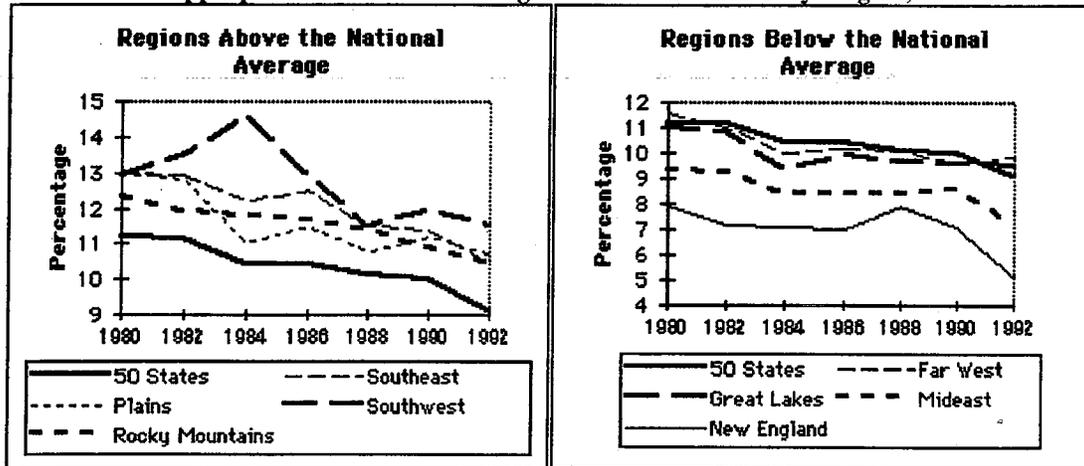
### Declining State Appropriated Dollars per Student Nationally

The problem of state governments being unwilling to fund higher education at the same level as in the past is a national one. The graph below shows national data reflecting the decline in both real and current dollars per student that has taken place since 1990.



The same trends are seen in state appropriations as a proportion of total state revenues. The heavy solid line in the two graphs below show the national average which has been trending steadily downward for the last 15 years. The southwest appears to be lucky because it receives the highest proportion of state appropriations of any region. This is misleading. This region also has unusually high numbers and growth rates of the student age population and is more heavily dependent on public education (compared to private) than the below average regions.

### State Appropriations as a Percentage of State Revenues by Region, 1980-92



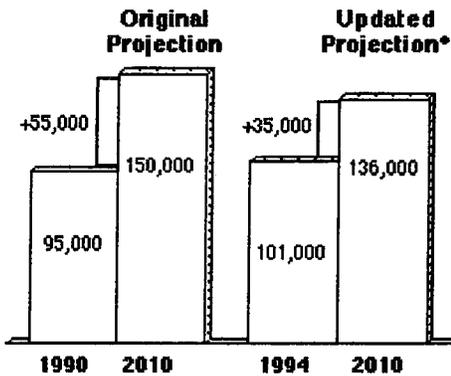
Source: Graphs from American Council on Education, Research Brief, Vol. 5, No. 5, p 7,9  
The University of Arizona, Decision & Planning Support 4/30/96

**DAPS FACTS**  
**ARIZONA UNIVERSITY SYSTEM ENROLLMENT PROJECTIONS**  
**55,000 More Students by 2010? Where are they?**

In 1989, the Board of Regents contracted a consultant, Carol Frances and Associates (CFA), to develop a dynamic computer model to estimate total demand for higher education in Arizona. The model projects demand for community college and university enrollment, including demand from out-of-state students. Based on the initial version of the model, CFA estimated that total demand for university programs (undergraduate and graduate) in the year 2010 would be 150,000, or about 55,000 more students than were enrolled at the three universities in 1990. Four years into the projection, many observers are wondering when the impact of increased enrollment demand is going to be felt by Arizona's universities.

**Update**

ABOR staff formed a technical advisory committee to test and update the Arizona Enrollment Demand Model as new data become available (e.g., updates to economic, demographic, and enrollment variables). Preliminary results from the most recent update to the model indicate that the projection of a 55,000 increase by 2010 may be too high. Data collected during the last four years demonstrate that the initial version of the model over-estimated college enrollment rates among some population subgroups, and over-weighted the influence of economic conditions on enrollment. The updated model projects total enrollment in 2010 at 136,000, or about 14,000 fewer students than the original projection. Using 1994 as the new base year, the total increase over the next 16 years is projected to be 35,000 students.



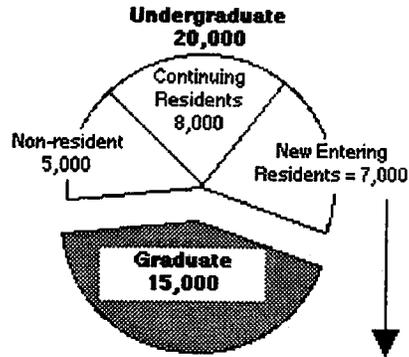
\* Preliminary, unofficial update to CFA model.

**Implications for UA**

DAPS staff recently projected that new resident undergraduates entering UA will increase by about 150 a year for the next 5-10 years. A common response to this projection is, "How can the UA projections be so low when state-wide demand is supposed to increase so dramatically?" In fact, the projected annual increase of 150 new resident undergraduates is consistent with the updated projection for Arizona if you consider that in any given year the number of entering freshmen and transfers at UA represents only a fraction of the total number of students enrolled at the three universities.

To illustrate, the following chart shows that after accounting for graduate, non-resident, and continuing students, the increased enrollment attributable to new resident undergraduates (freshmen and transfers) is only 7,000 out of the total 35,000 student increase projected for 2010. Assuming UA continues to attract its current share (31%) of new in-state students, our increase in freshmen and transfers would total 2,170 by 2010. Dividing 2,170 by 16, the number of years between 1994 and 2010, results in an average annual increase of 136 new resident undergraduates for UA:

**State-Wide Projected Increase in Enrollment**  
**Total Increase by 2010 = 35,000**



Potential UA share of new resident undergrads:  
 31% of 7,000 = 2,170  
 Annual Increase = 2,170 / 16 years = 136 per year

**Managing Growth**

The projected UA share of increased enrollment is labeled "potential" because UA is committed to an enrollment cap of 35,000. There are currently several initiatives designed to help manage enrollment growth:

- a plan to reduce the percent non-resident in UA undergraduate enrollment
- establishment of the New Campus in Pima County
- expansion of evening/weekend, video campus, and other programs across the state
- changes in freshman and transfer admission requirements

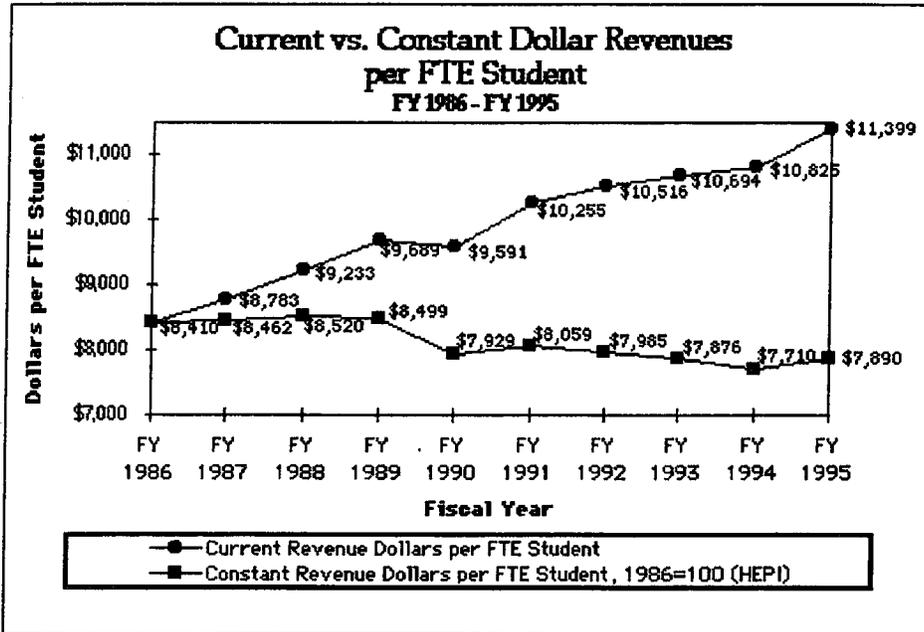
An understanding of the composition and timing of projected enrollment growth is critical to ensuring that the various enrollment management initiatives do not conflict.

*Revised 4/10/95*

The University of Arizona  
 Decision and Planning Support  
 John Wilson, Director  
 Administration Bldg., Room 116  
 P.O. Box 210066  
 Tucson, AZ 85721-0066  
 tel. (520) 621-7807

### Revenue per Student Available to the University

How can the University have less financial resources per student when state and federal appropriations and tuition have been increasing each year? The problem is that nominal funding increases from these sources have not kept up with increased enrollment and inflation. The resulting decline in real dollars per student is obscured by rising nominal state and federal funding.



Source: Annual Financial and FTE Reports, HEPI, Decision & Planning Support

Note: Includes State & Federal Appropriations, Tuitions, & Other Revenues (excluding Other Auxiliary & Restricted); Less Academic Debt Service, Waivers, & Financial Aid Setaside from Tuitions

- Between 1986 and 1995, the number of students at the University of Arizona increased from 27,342 to 31,371 full-time equivalent (FTE) students.
- After adjustments for debt service, waivers and financial aid setaside, nominal revenue per student increased over this period from \$8,410 to \$11,399.
- This apparent increase was more than offset by inflation, however; in 1986 dollars, the revenue per student actually declined from \$8,410 to \$7,890, a funding decrease of \$520 per student. In 1996 dollars, this is a drop of \$751 per student.
- \$751 times 31,371 students creates a funding reduction of over \$23.5 million in the current period compared to the 1986 level.

Our budgets appear to be going up, but the real financial resources available to meet the instructional needs of each student have declined.

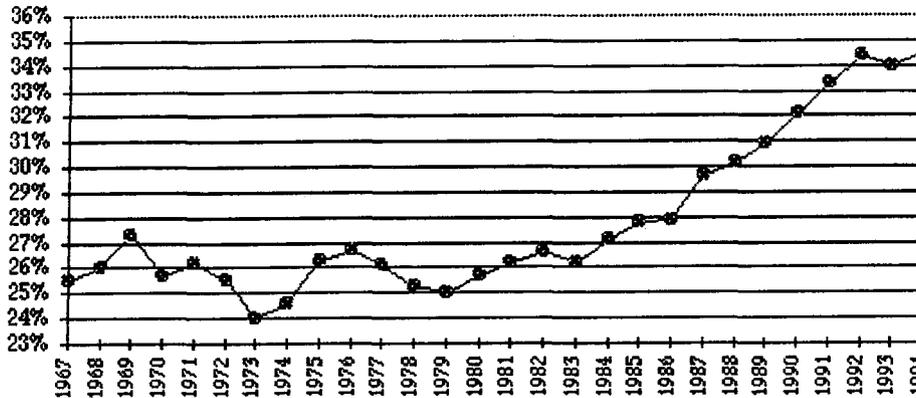
The University of Arizona, Decision & Planning Support 4/4/96

[Graph originally developed by The University of Arizona Budget Office.]

### Participation in Higher Education

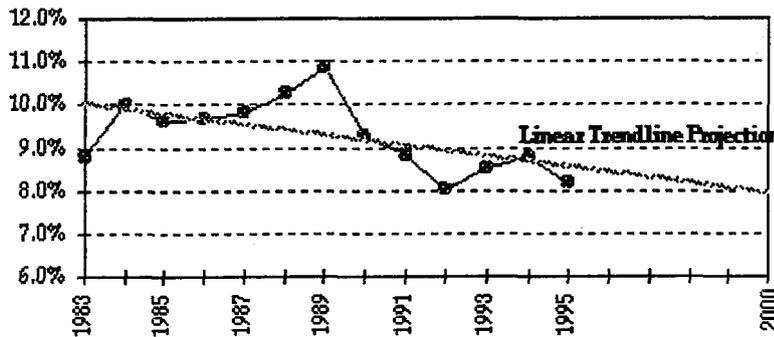
Has the rate of participation in higher education peaked? The percent of 18-24 year-olds enrolled in institutions of higher education has hovered around 34% for the last three years, but more time is needed to determine if the rate has reached a stable plateau.

**Enrollment Rates of 18-24 Year-Olds in Institutions of Higher Education - Annual U.S. Census Bureau Surveys 1967-1994**



For the University of Arizona, the ratio of new resident freshmen to the number of Arizona high school graduates is a good estimate of participation rates because about 95% of resident freshmen enter the university directly after graduation from high school.

**Ratio of UA New Resident Freshmen to AZ H.S. Graduates**



The downward trend in enrollment rates is partly explained by lower eligibility rates for underrepresented minority high school graduates. Based on the most recent eligibility study conducted in Arizona (1989, ABOR) only about 35% of underrepresented minorities graduating from Arizona high schools meet the minimum eligibility requirements for admission to the university, compared to 50% eligibility among non-minority high school graduates. If eligibility rates of minority students do not increase, enrollment rates are likely to continue to decline as minority populations increase.

The University of Arizona, Decision and Planning Support, Student Research Office 4/25/96

## Administrative and Support Costs

The University of Arizona has been criticized both internally and externally for administrative "bloat", the number of administrators, and for a business-as-usual attitude while other public and private institutions have been forced to cut back. The issue is real even though some of the 'facts' are not.

Definitions of administrative costs vary from the Auditor General's definition, which included much research activity, to the more conventional ones used by the Office of Strategic Planning and Budgeting and the Joint Legislative Budget Committee (JLBC). Similarly, there are multiple definitions of "administrator".

One of the most careful studies of administrative costs was done by the JLBC in July 1994. This report showed that the UA had relatively lower administrative costs than ASU and NAU. This difference was large enough on early drafts that the JLBC staff had the Budget Office redo parts of the study. The result was the same. The study also included a peer comparison in which the UA seemed to have higher administrative costs. The peer comparison, however, ignored size of institutions. Since the UA has both a College of Medicine and a College of Agriculture, its overhead costs are higher than smaller and simpler institutions. When this is taken into account, the UA fell in the middle of the peer group. When these data were sent selectively to the press, John Lee of the JLBC publicly disavowed the incorrect interpretations of this data set.

The recent Auditor General's report used such an unusual definition of administration, including much research activity for instance, that it doesn't permit comparison over time or with other institutions. Many of the report's conclusions are unobjectionable, however, and the report needs to be taken seriously as an indicator of how the public, government officials, and legislators see the UA.

To address the lack of consistent measures, the UA is developing a more rigorous system for measuring administrative and support costs and for defining administrators that will be comparable to national norms. This proposal has been reviewed by the Faculty Senate Committee on Administrative Costs and has been sent to the president's cabinet for approval.

The University has been attempting to address the issue of administrative and support costs for several years. In the major budget reallocations of recent years, non-academic units generally have taken larger cuts than academic units. Some of this has been offset by increased allocations for information technology and for federal and state mandates such as the Americans with Disabilities Act.

The Continuous Organizational Renewal (CORe) and, more recently, business process reengineering programs have reduced or can reduce costs and improve service. For instance, major successes have been achieved in reducing utility costs through efforts that have been largely self funding. Generally, the easy gains have been made and future gains will be gradual or save future costs. Because such gains often require up front investments, such as replacing an obsolete administrative system, substantial immediate savings are now rare.

## Funding of Public Education in Arizona A Comparison to National Averages and Rankings

The demographics and economics of the state of Arizona combine to guarantee that expenditures per student will be below national averages at all levels. The table below shows some of the data behind this conclusion.

Item	Measure	US	AZ	AZ Rank
<b>Population</b>				
Resident Population Increase est.	% Increase 1990-2000	11.1	21.1	7
Birth Rate	Per 1000 people	16.3	18.2	5
65 Years Old and Older	% of population, '93	12.7	13.4	19
<b>Educational Demand</b>				
School Enrollment, K-8	% increase '90 to '93	4.1	10.6	6
School Enrollment, 9-12	% increase '90 to '93	4.8	11.3	3
K-12 Public Expenditures/capita	\$/capita '93	987	915	44
Drop out rate	% of population	11.2	14.4	1
College Enrollment	% of 18-24 pop. in '90-91	43.0	58.9	3
College Enroll., Pub. 4-year Inst.	% of 18-24 pop. in '90-91	17.1	18.0	29
Enrollment in Public Institutions	% of total FTE Students	76.5	97.4	4
Undergraduate Enrollment	Per 1000 population '90-91	73.1	95.3	6
Enrollment, 4 year publics	Per 1000 population '90-91	31.2	34.9	26
Instructional exp., Pub. doctoral w/ Med.	Per FTE Student	\$7,799	\$5,907	33
<b>Labor and Personal Income</b>				
Labor Force Participation, Male	Rate in '93	75.2	71.8	45
Labor Force Participation, Female	Rate in '93	57.9	53.4	47
Production Workers Pay, Manuf.	Avg. Hourly Earnings in '93	\$12	\$11	35
Disposable Personal Income	Dollars in '93	\$18,177	\$15,921	37

Source: Statistical Abstract of the United States and State Higher Education Profiles  
Seventh Edition, FY 1991, U.S. Department of Education, NCES

### Results:

- We have some of the highest population growth rates and birth rates in the country.
- This gives rise to high and growing rates of young people of school and college age.
- We have a slightly higher percentage of those 65 and older.
- This means we have more students and fewer workers to support them.**
- At the 4-year college level we have a somewhat higher than average percentage of the population actually going to college.
- We have a higher than average dependence on public education at the 4-year level.
- This means dilution of the higher education money available over more students.**
- On the income side we have low labor force participation rates (proportion of the workforce age population known to be working).
- They receive below average incomes per person and per family.
- This means less income available to finance education, K-12 as well as higher education.**

# UA Undergraduate Education (Hurwitz) Goals Report May 1997

---

## Contents:

### Introduction

### Regular Faculty Teaching

### 10 New Undergraduate Initiatives

### Outcome Measures

#### Outcome #1

#### Outcome #2

### Progress on Specific Goals:

#### Item #1 Class Availability

#### Item #2 Advising

#### Item #3 Classrooms

#### Item #4 Lower Division

#### Item #5 Training

#### Item #6 Faculty Members

#### Item #7 Research Experience

### UA Undergraduate Goals Report Card

---

## Introduction

The University of Arizona continues to make substantial progress toward the undergraduate goals adopted in the summer of 1994. The seven goals established for the U of A have a total of 36 measures. Of these, the University has already met or continues to make progress for 34. We are confident that the strategies developed to meet our few remaining goals will keep us on target for meeting all measures by 1998.

Pursuit of these goals has resulted in major improvements in the quality of undergraduate education at the U of A. Required courses are more readily available in a timely fashion, substantially more students are taught at the lower division by regular faculty, all freshmen have access to senior faculty in small courses through the freshman colloquia, large numbers of classrooms dedicated to undergraduate instruction have been renovated and fitted with modern technology, the use of GTA teaching has been reduced in the lower division, and professional advising is greatly improved. And, a new, comprehensive core curriculum has been adopted and will be implemented for all students.

## Regular Faculty Teaching

For the second year in a row, there were significant increases in teaching by regular faculty at the lower division at the University of Arizona. In fact, the proportion of lower division student credit hours taught by regular faculty has increased more than ten percent in each of the last two years (see graph Goal 4.1a). Similar consistent increases have been achieved in lower division non-proficiency courses -- the proportion taught by faculty has also increased about ten percent in each of the last two years (see graph Goal 4.1b). The proportion of these credit hours taught by GTAs has fallen by 26% since the Fall of 1994. And, the percent of students with two or more courses per semester taught by regular faculty has increased to 87%--nearly a 20% increase from the Fall 1994 figure. (see graph Goal 4.2) These gains have resulted from a University-wide effort, in all Colleges, to revise curriculum, to change teaching assignments, and to upgrade courses. In the general education area alone, more than 40 new courses have been designed and taught by regular faculty. The greatly expanded freshman colloquium series has resulted in the circumstance that any freshman may take as many low enrollment courses with senior faculty as they choose. Given current trends, it is likely that the university will achieve the goals for these measures one year early.

## New Undergraduate Initiatives

Several major new initiatives designed to affect the quality of the undergraduate experience were launched by the University this past year. Other projects, initiated to pursue advance in the measurable goals for undergraduate education project continued to be stressed, such that the University has in place many newly created initiatives to enhance the quality of undergraduate education. Included in new initiatives are:

### 1. University-wide General Education Program

This past spring, the Faculty voted to adopt a *new* general education program. This new curriculum moves the University away from the college based general education programs to one University-wide curriculum that meets the educational needs of all undergraduates. The structure focuses on proficiency in composition and mathematics; a second language; and rigorous foundations in science, culture and humanities, and social science. Each course offered is subject to strict quality guidelines about substance, active learning and the use of technology. The aims of the new core curriculum include: A) Streamlining the curriculum; B) Providing all students with essential foundational materials; C) Reducing the number of small, highly specialized courses in general education; D) Involving faculty from all colleges in teaching in the general education program.

## **2. The Freshman Year Center**

The Freshman Year Center was created and housed in Bear Down Gym. The center is devoted to the support of freshmen as they make the transition from the high school environment to the university. The aim is to provide "one-stop-shopping" for any advising issue confronting freshmen.

Services include:

1. Academic advising for freshmen
2. Freshman Mandatory Meetings- Fall: Academic Information; Spring: Career Development
3. Major exploration for all university students
4. First Year Study Center (open evenings)
5. Mentoring Program
6. First-Year Programs
7. Courses-in-Common
8. Finish-in-Four!
9. University Partners

## **3. University Partners Advising Program**

This program was developed to assist those provisionally admitted freshmen who enter with conditional aptitude and academic deficiencies. Beginning this fall, all such students will be admitted to the University College as "Exploratory Students" with a pre-major area of interest identified by the student. Each student will be assigned a specially trained faculty advisor. These students will have an opportunity to receive that extra guidance and advice from a member of the faculty with whom they have a close relationship.

## **4. UA/Pima Community College Joint Education Plan**

The UA/PCC Transfer Coordinating Committee has prepared an educational plan for their common student body. This individualized plan is modeled after the plan adopted last year for freshmen and includes:

- a. an academic plan for every major in Pima and U of A course numbers;
- b. a career development plan;
- c. a calendar plan for transferring (dates for advising, for admission application, for orientation enrollment); a calendar plan for graduation (dates for priority advising, for graduation application, and senior degree check filing).

## **5. Faculty Training in New Technologies**

The U of A launched a major Faculty Development program that provides basic training in instructional technologies, teaching methods and evaluation procedures for groups of faculty. Groups that complete the program return to their units with computer equipment and instructional tools necessary to stimulate curricular change. To date, over 400 faculty have been involved in the faculty development program.

## **6. University Distinguished Professors (3<sup>rd</sup> year)**

Modeled after the Regents Professorships, these professorships recognize faculty who have made outstanding contributions over a sustained period of time to undergraduate education at the University. Faculty may be nominated by peers and students for this prestigious recognition. Eight faculty member now hold this title.

## **7. Classroom Renovations (3<sup>rd</sup> year)**

The University will initiate the third phase of the renovation project this summer. A set of criteria for renovation was developed for undergraduate classrooms (frequency of use, needed repairs, suitability for modernization, etc.) and the University dedicated \$10 million of reallocated funds to a five-year program of modernization. Renovations for this past year have included rooms in Harvill, Social Sciences, and Music. The renovated classrooms are upgraded with respect to technology, acoustics, comfort, accessibility, sight-lines, etc.

## **8. Classroom Technology Project (3<sup>rd</sup> year)**

Similar to the renovation project, all undergraduate classrooms with heavy use have been surveyed for technology and audio-visual needs. Each is provided with up-to-date equipment to establish a sophisticated learning environment. The University dedicated \$1.2 million of reallocated funds for this purpose.

## **9. Finish in Four! (2<sup>nd</sup> year)**

A program designed to ensure that students have the opportunity to graduate in four years if they so desire. Students sign up during their freshman orientation. Each year approximately 600 freshmen sign up.

**10. First Year Colloquia (3rd year)**

The colloquia have become extremely popular with students and parents alike. Now in its third year, this program affords students an opportunity to take a small class taught by a senior faculty member. Over 140 colloquia were offered this past year.

**Outcome Measures**

By their nature, student outcome measures are the result of many influences, including student academic preparation and background, as well as the impact of the University environment. Moreover, the curricular changes that we have recently implemented will take some time to affect student outcomes. Consequently, the outcome measures established in the Undergraduate Education Goals Report are more difficult to change, particularly in the short run.

Although the current levels of our outcomes show mixed progress toward the goals, we have made significant longer term progress in Outcome 1, as shown by the graph of student graduation rates. For freshmen, rates have increased since 1981 (from 42% to 51%) while lower division transfer students show a 32% increase (38% to 50%).

**Outcome #1:**

**OUTCOME #1 Student Persistence and graduation rates will improve over time.**

**Strategies**

Implement Items 1-7.

**Measures**

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
1.1 The percentage of freshmen returning for their second year	1992	1995	1998	78%	75%	84%
1.2 The percentage of fulltime freshmen graduating in six years	1987	1990	1998	49%	51%	63%
1.3 The percentage of fulltime lower-division transfer students graduating in five years	1988	1991	1998	51%	50%	56%
1.4 The percentage of fulltime upper-division transfer students graduating in four years	1989	1992	1998	60%	62%	66%

**Outcome #2:**

**OUTCOME #2**

The average length of time and number of academic credits required to complete academic degrees will remain steady and perhaps be reduced over time.

**Strategies**

Implement Items 1-7.

**Measures**

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
2.1 Average time taken by students entering as freshmen to complete a baccalaureate degree	1992-93	1995-96	1998-99	4.9 years	5.0 years	4.4 years
2.2 Average number of credits earned by baccalaureate degree recipients entering as freshmen in programs requiring 120-137 units.	1993-94	1995-96	1998-99	139 units	141 units	136 units
2.3 Average number of credits earned by baccalaureate degree recipients entering as transfers in programs requiring 120 - 137 units.	1993-94	1995-96	1998-99	149 units	152 units	145 units
2.4 Percentage of seniors with more than 160 earned credit hours, excluding transferable hours from out-of-state institutions and Arizona private institutions.	1994	1996	1999	4.1%*	4.1%	2.3%
2.5 Percentage of seniors with more than 160 earned credit hours, excluding transferable hours from out-of-state institutions, Arizona private institutions, and Arizona community colleges.	1994	1996	1999	2.3%*	2.4%	1.7%

\* Revised to be consistent with ASU methodology

---

**Progress on Specific Goals:**

**ITEM #1 -- CLASS AVAILABILITY**

**Progress**

- All departments serving large numbers of undergraduates participate in assisting students at registration.
- Students are taking advantage of Class Availability being available on the Internet. This service allows students to make inquiries about closed, canceled and opened classes, the number of seats available in the classes, the meeting time and place and the instructor on a

**ITEM #1 CLASS AVAILABILITY**

Students will be able to obtain classes necessary for meeting their general education and major requirements when they need them.

**Measures**

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal #
1.1a Availability of general education courses through-out registration period	Fall, 1993	Fall, 1996	Fall, 1997	Space in all Study Areas was available throughout registration	Space in all Study Areas has increased or held steady	Monitor and e availability in education through University
1.1b Availability of proficiencies	Fall, 1993	Fall, 1996	Fall, 1997	Composition, languages & basic mathematics are offered every semester	Availability remained stable	Maintain regul in composition mathematics; offerings of la courses
1.1c Space in proficiencies relative to projected number of students expecting to register	Fall 1994	Fall, 1996	Fall, 1997	Composition - 93% Mathematics - 121% Foreign Languages - 70%	Composition - 101% Mathematics - 100% Foreign Languages - 90%	Composition - Mathematics - Foreign Langu
1.2a Student reports of course availability in the major	1993-94	1996-97	Fall, 1997	61%	72%	85
1.2b Student reports of course availability in general education	1993-94	1996-97	Fall, 1997	53%	71%	80
1.3 Percent of freshmen who place into English 101,102,103, and 109 and can get the class they place into	Fall 1994	Fall, 1996	Fall, 1997	80%	87%	100

**ITEM #2 -- ADVISING**

**Progress**

- Finish in Four!, a framework for completing a degree in four years, Courses in Common, an opportunity to share three courses with 20 other freshman during first semester at UA, and Freshman Year Center, a center which mentors and advises all undeclared freshman have contributed to our progress
- Academic program reports laying out in table form the requirements for each major to students in 1993-95 and subsequent Catalogs in all colleges are electronically available.
- A new on-line catalog allows students to receive just the information applicable to them

**Strategies**

- SIS 2000 Projects on On-line Admissions Application, Registration, Financial Services and Transfer Evaluation are under design and will support the development and delivery of curriculum and services to students in support of their progress toward their degrees.
- New University-wide general education program approved by Faculty Senate with full implementation by Fall '98 will simplify degree requirements.
- Focus on developing materials supporting faculty advisors and advising, to reduce the need for longterm training.

**ITEM #2 ADVISING**

Students will receive adequate advising for their program and career needs.

**Measures**

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	
2.1 Percent of students with educational (academic/career) plan by end of freshman year	Fall, 1993	Spring, 1997	Fall, 1996	some majors	100% of freshman in all colleges	
2.2 Percent of entering freshmen assigned to ranked faculty advisor/mentor	Fall, 1993	Spring, 1997	Fall, 1996	some majors	100% in all majors	
2.3 Percent of students satisfied with advising	Fall, 1993	Spring, 1997	Fall, 1997 Fall, 1999	66%	60%	
2.4a Availability of academic program reports	Fall, 1993	Fall, 1996	Fall, 1995	75% of degree programs	100%	a
2.4b Availability of 'automated progress reports', which will update undergraduates on their fulfillment of degree requirements	Fall, 1994	Spring, 1997	Fall, 1999	Reports available for BPA and Engineering students in 1993-95 catalog	100% of students in 1993 or later catalogs	Rep stud
2.4c Electronic access to progress reports	Fall, 1994	Fall, 1996	Fall, 1995 Fall, 1999	None	100%	

**ITEM #3 -- CLASSROOMS**

**Progress**

- A first year teaching building intended to integrate classrooms, advising services, and library resources, and employing multi-media and high-technology instructional aids is planned.
- The second phase of the plan to upgrade basic classroom equipment across campus and to support the delivery and use of more sophisticated technology was completed in 1996-97.
- The second phase of the renovation of instructional space will be completed before the beginning of the fall semester.

**Strategies**

- Continue to invest University resources to make available the facilities required.
- Support the University Teaching Center's development of training programs for faculty members in new teaching technologies and changing pedagogical techniques.
- The second phase of the renovation of instructional space will be completed before the beginning of the fall semester and the third phase is in design.

**ITEM #3 CLASSROOMS**

Classrooms will be adequately equipped to deliver instruction using modern instructional techno

**Measures**

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
3.1a The number of classrooms available for multi-media	1994	Spring, 1997	2000	38	178	185
3.1b The number of classrooms equipped for computer-based instruction	1994	Spring, 1997	2000	46	55	60
3.2 The percentage of undergraduate students who have their own computer	1994	Spring, 1997	1998	54%	64%	100%
3.3a Student access to the network	Fall, 1993	Spring, 1997	1999	20-30%	75%	100%
3.3b Faculty offices with access to the network	Fall, 1993	Spring, 1997	1999	50%	75%	100%
3.4 The number of faculty trained in new teaching technologies	Fall, 1993	Spring, 1997	1998	150	430	500
3.5 The creation of an information commons with student stations	1995	Spring, 1997	1999	+	++	+++

+Idea Conceived; ++ Design Stage; +++ Completion

**ITEM #4 -- LOWER DIVISION****Progress**

- All colleges submitted explicit proposals for increasing ranked faculty at lower division and each department and college is monitored.
- A proposal to modify lower division curriculum to meet the foundational educational needs of undergraduates was passed by the faculty.
- The factors that negatively impact the presence of faculty in lower division are being identified, such as, for example, adding classes late in the registration cycle.
- The percent of lower division student credit hours taught by regular faculty has significantly improved from fall, 1994 (from 53% to 65%), as has the percent of above proficiency lower division student credit hours (from 63% to 76%) and the percent of full-time lower-division students with two or more courses per semester (from 73% to 87%).

**Strategies**

- The number of students required to meet minimum enrollment was raised at lower division, upper division, and graduate levels, a change which shifted resources to lower division.
- Identify factors, including incentives, that affect the presence of faculty members in the lower division and redirect faculty resources accordingly.
- Support the University-wide faculty General Education Committee in monitoring course availability, faculty teaching, the content of

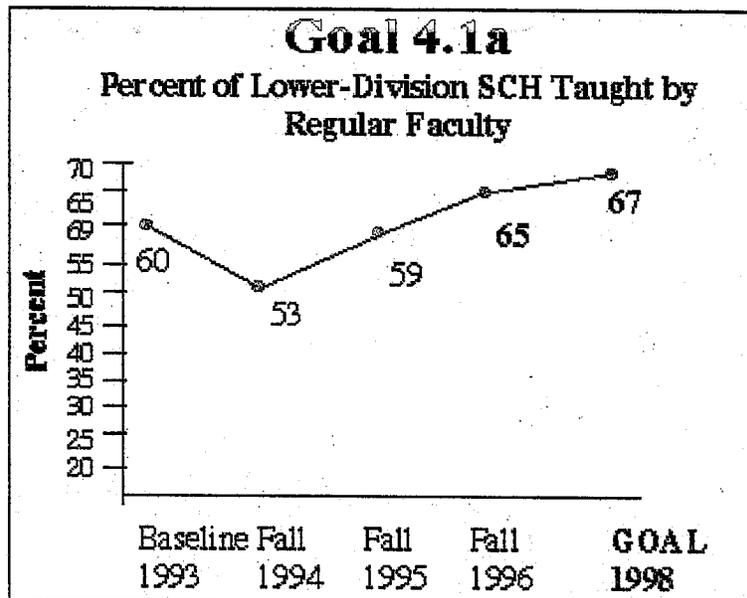
**ITEM #4 LOWER DIVISION**

The number of lower-division courses taught by ranked faculty will increase.

**Measures**

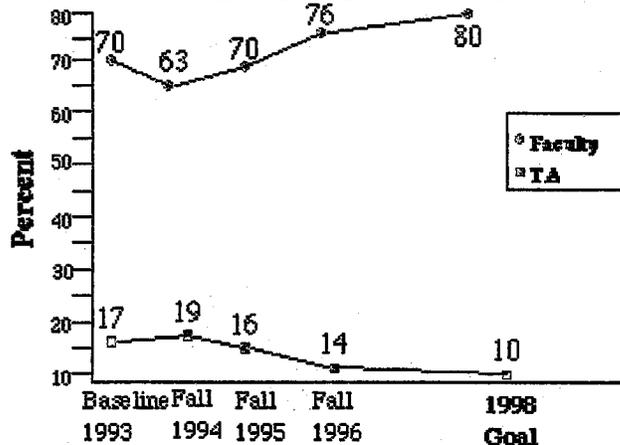
Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
4.1a Percent of lower-division student credit hours						
--taught by regular faculty	Fall, 1993	Fall, 1996	Fall, 1998	60%	65%	67%
--taught by other than TAs	Fall, 1993	Fall, 1996	Fall, 1998	76%	76%	80%
--taught by TAs	Fall, 1993	Fall, 1996	Fall, 1998	24%	22%	20%
4.1b Percent of above-proficiency lower-division student credit hours						
--taught by regular faculty	Fall, 1993	Fall, 1996	Fall, 1998	70%	76%	80%
--taught by other than TAs	Fall, 1993	Fall, 1996	Fall, 1998	83%	86%	90%
--taught by TAs	Fall, 1993	Fall, 1996	Fall, 1998	17%	14%	10%
4.2 Percent of full-time lower-division students with two or more courses/semester						
--taught by regular faculty	Fall, 1993	Fall, 1996	Fall, 1999	82%	87%	90%
--taught by final degree faculty	Fall, 1993	Fall, 1996	Fall, 1999	91%	89%	95%
4.3a Percent of freshmen participating in Freshman Colloquia taught by ranked faculty	Fall, 1993	Fall, 1996	Fall, 1998	5%	20%	50%
4.3b Number of Freshman Colloquia offered	1994	1996-97	1998-97	30	144	125

**GRAPHS TO ILLUSTRATE GOAL 4:**



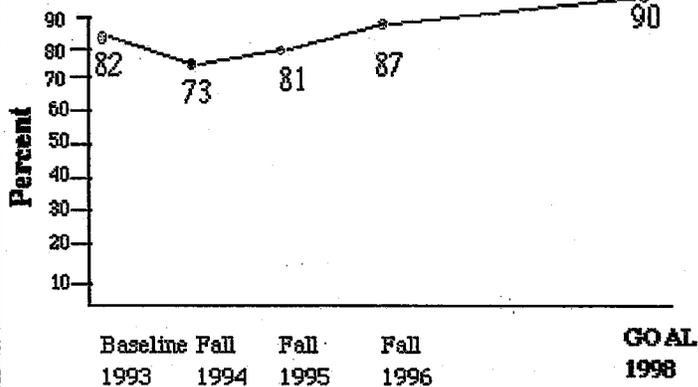
### Goal 4.1b

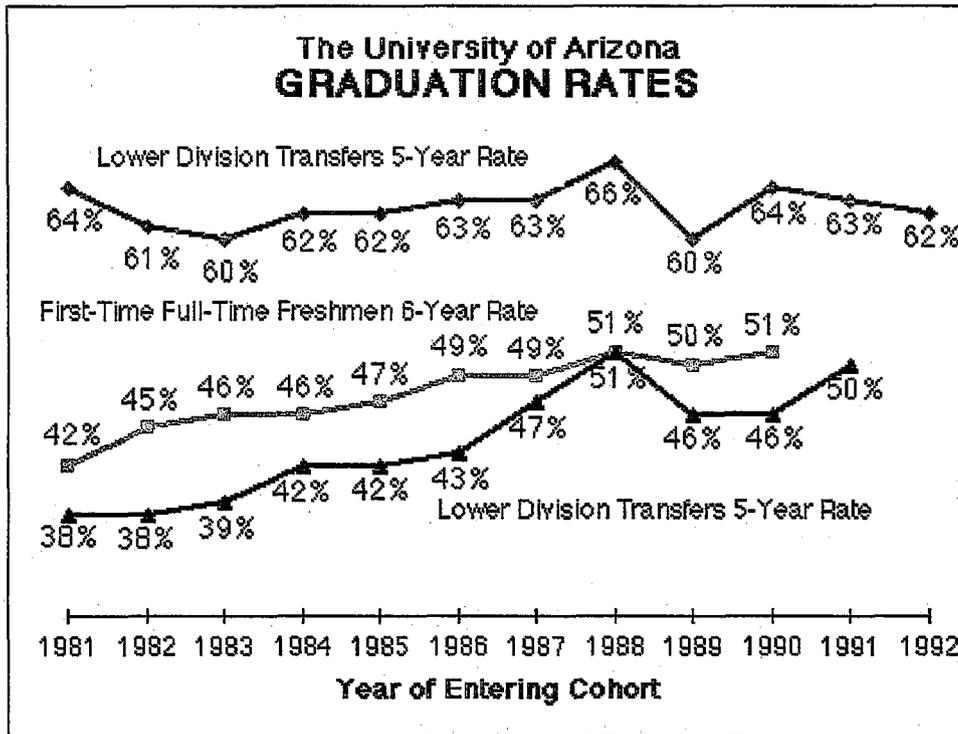
Percent of Lower-Division "Above-Proficiency" SCH Taught by Regular Faculty



### Goal 4.2

Percent of Full-Time Lower-Division Students with Two or More Courses/Semester Taught by Regular Faculty





## ITEM #5 -- TRAINING

### Progress

- Career Services continues to offer services using new technology.
- The University Learning Center continues to provide significant on-campus employment opportunities for students as peer advisors and tutors which emphasize core employability strategies for any career: communication and listening skills, presentation skills, team management, conflict resolution, report writing.

### Strategies

- Support college efforts to create apprenticeships and organize university service to support internships.
- All freshman have career advising session.

## ITEM #5 TRAINING

Graduates are properly trained and educated to compete in their chosen fields.

### Measures

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
5.1 Level of satisfaction of Arizona employers with recent graduates	1995-96	1996-97	Fall, 1999	Excellent - 24% Good - 68%	Excellent - 13% Good - 82%	Maintain
5.2a Percent of recent graduates reporting that they are satisfied or very satisfied with their educational experience	Spring, 1996	Spring, 1997	Fall, 1999	88.8%	*	Maintain
5.2b Percent of recent graduates reporting adequate or better than adequate preparation for longterm career goals	Spring, 1996	Spring, 1997	Fall, 1999	83.5%	*	Maintain
5.3 Number of students who have career-related work experience during their undergraduate career	1993-94	Fall, 1996	Fall, 1996	31%	70%	50%

\* Survey taken every other year

## Progress

- Number of departments offering capstone experience has increased.

## Strategies

- Concentrate on three points in the undergraduate experience: (1) the first year; (2) early experiences in a major; (3) capstone experience in major.
- Increase faculty participation in lower division classes.

## ITEM #6 FACULTY MEMBERS

Increase in student contact with ranked faculty during the many aspects of the student's educational experience.

### Measures

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
6.1a Percent of students reporting that they discussed coursework or assignments with a faculty member outside of class a few times or more per semester	1994-95	1996-97	1997-98	70%	82%	Maintain
6.1b Percent of students reporting that they know one or more faculty members well enough to ask for a letter of recommendation	1994-95	1996-97	1998	69%	89%	85%
6.2 Percent of full-time lower-division students with two or more courses/semester						
--taught by regular faculty	Fall, 1993	Fall, 1996	Fall, 1999	82%	87%	90%
--taught by final degree faculty	Fall, 1993	Fall, 1996	Fall, 1999	91%	99%	95%
6.3 Percent of departments reporting a capstone experience	1994-95	1996-97	1997-98	46%	75%	100%

## ITEM #7 -- RESEARCH EXPERIENCE

### Progress

- The University continues to maintain and strengthen its outstanding research departments, with the consequence that undergraduates may partake of our rich and varied research environment.

### Strategies

- Departments will increase opportunities for honors credit.
- Deans and department heads will provide incentives, support, and recognition to faculty members who offer undergraduates opportunities to participate in research.

**ITEM #7 RESEARCH EXPERIENCE**

Undergraduates will be more completely integrated into research-related activities.

**Measures**

Item #	Baseline Year	Current Year	Goal Year	Baseline Measure	Current Measure	Goal Measure
7.1a Percentage of graduating seniors who have participated in a research experience	1995-96		2000	34.7%	42%	60%
7.1b Percentage of graduating seniors who have participated in a capstone experience	1995-96		2000	46% <sup>*</sup>	40% <sup>**</sup>	75%
7.2a Percentage of departments offering a capstone experience	1994-95	Spring, 1997	1997-98	46%	75%	100%
7.2b Percentage of departments offering a research experience	1994-95	Spring, 1997	1997-98	100%	100%	increase quality

Note: <sup>\*</sup> revised 4/97 from 32.7 to 46  
<sup>\*\*</sup> decline not statistically significant

---

**UA Undergraduate Goals Report Card** (.pdf file)

The freeware [Adobe Acrobat Reader](#) is required to view or print .pdf files.

---

[Back to top of file](#)

[Back to University of Arizona Public Records](#)

[Back to University of Arizona UA Info](#)

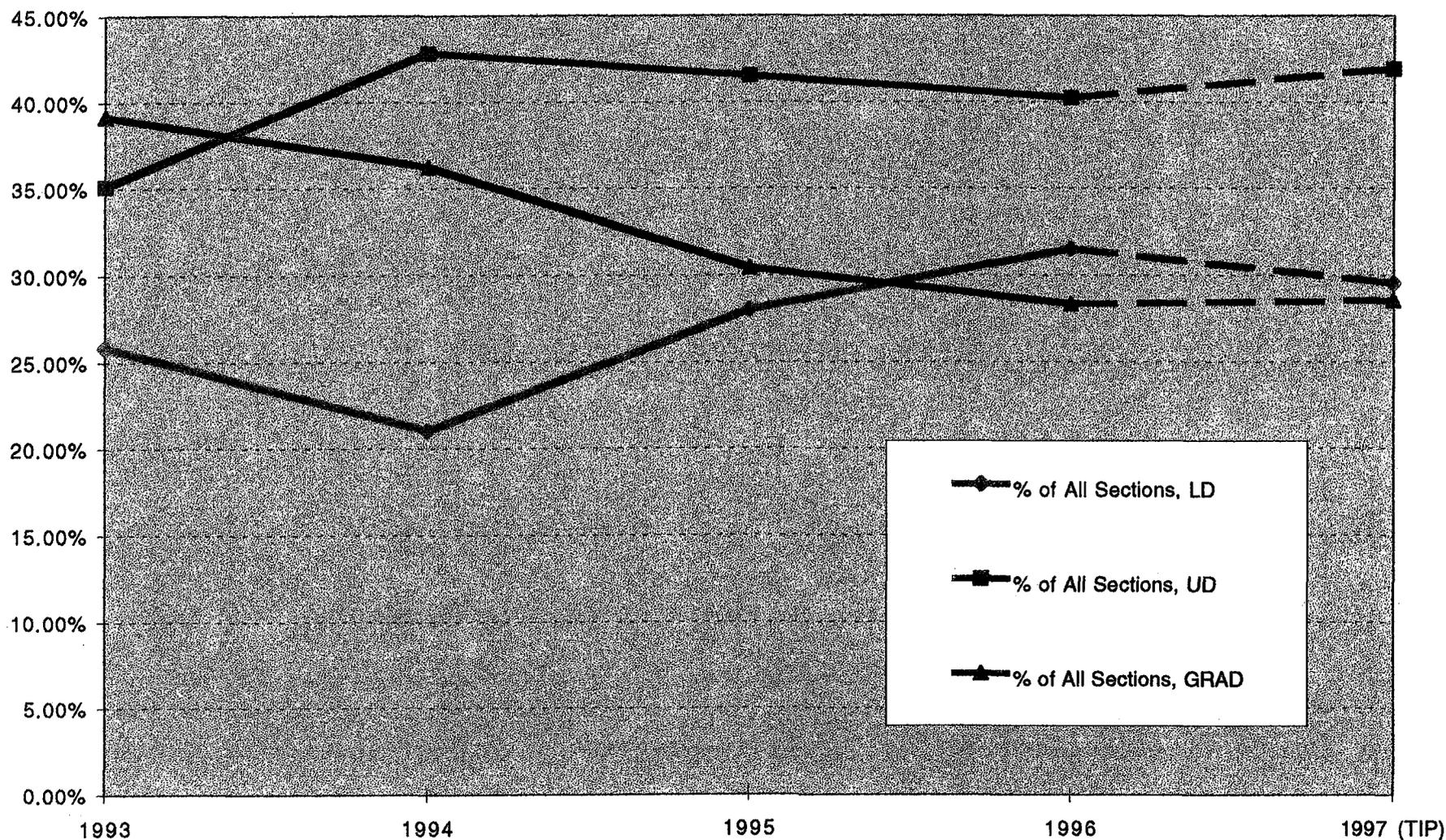
**Fall Sections Taught By Permanent Faculty at U. of Arizona  
1993-1997**

Type Instructor	1993	1994	1995	1996	1997 (TIP)	Change
<b>Lower Division</b>						
Permanent Faculty	551	453	658	740	760	38%
Total Lower Division Sections	2,205	2,276	2,314	2,238		
% of Division by Perm. Faculty	25.0%	19.9%	28.4%	33.1%		
<b>Upper Division</b>						
Permanent Faculty	751	922	973	944	1,079	44%
Total Upper Division Sections	1,304	1,648	1,646	1,618		
% of Division by Perm. Faculty	57.6%	55.9%	59.1%	58.3%		
<b>Graduate Division</b>						
Permanent Faculty	836	781	713	666	734	-12%
Total Graduate Division Sections	995	1,019	873	832		
% of Division by Perm. Faculty	84.0%	76.6%	81.7%	80.0%		
<b>Total</b>						
Permanent Faculty	2,138	2,156	2,344	2,350	2,573	20%

62

# PROPORTION OF ALL TEACHING BY PERMANENT FACULTY: AT LOWER DIVISION UPPER DIVISION, AND GRADUATE LEVELS, 1993-1997

	1993	1994	1995	1996	1997 (TIP)
% of All Sections, LD	25.80%	21.00%	28.00%	31.50%	29.50%
% of All Sections, UD	35.10%	42.80%	41.50%	40.20%	41.90%
% of All Sections, GRAD	39.10%	36.20%	30.40%	28.30%	28.50%



# THE UNIVERSITY OF ARIZONA: Accomplishments

---

When the Men's Basketball team won the 1997 NCAA National Championship, and the Woman's Softball Team won the 1997 National Championship a few months later, people used words like "surprising," "tenacious," "confident," and "incredible drive" to describe the athletes. But you'll discover amazing things in the rest of the University too. There is a spirit, a drive, and a cohesiveness that permeates the student body, the faculty, and the community. Here are some things that may surprise you.

- University Medical Center is one of America's best hospitals in heart and cancer care, according to U. S. News and World Report. They ranked UMC 18th in cardiology, 29th in cancer and 38th in urology among 7000 hospitals.
- She's a genius -- officially. On June 17, 1977, Professor Nancy A. Moran was named as one of 23 recipients of the John D. and Catherine T. MacArthur Foundation "genius" awards of \$250,000. She is a professor of ecology and evolutionary biology.
- In terms of academic reputation, U. S. News and World Report ranked The University of Arizona 16th among all public universities.
- The Chronicle of Higher Education has ranked the UA 14th among public universities in its ability to attract National Merit Scholars, and 29th among all universities.
- The National Science Foundation has named the University of Arizona one of the ten universities that do the best job in integrating research and education.
- NICMOS, the new "eyeglasses" that allow the Hubble Space Telescope to look farther back in time than man has ever seen before was developed and produced at The University of Arizona.
- UA has top-rated undergraduate programs. Among departments highly ranked by U.S. News and World Report are Management Information Systems (3), Nursing (6), Pharmacy (7), and the undergraduate business program (20).
- The Anthropology Department ranks 5th, Philosophy ranks 11th, Linguistics 12th, and Geography and Regional Development ranks 19th, in the National Research Council's ranking of all universities.
- Other graduate programs are also highly ranked by U. S. News and World Report. Analytical Chemistry ranked 3rd, Geosciences and Creative Writing ranked 9th, the Tectonics program ranked 4th, Sociology ranked 10th. The Hydrogeology program ranked 1st in the nation! The College of Law ranked 16th in terms of reputation, and 10th of 178 schools in Trial Advocacy.
- The Department of Mathematics received the Hesburgh Award for faculty development to enhance undergraduate teaching, ranking it among the top five in the nation.

- In 1995, Computer World magazine ranked the UA 5th in the nation among business schools with accredited MBA programs with computer technology specialization.
- The National Science Foundation's most recent research rankings place the UA 11th among all public universities.
- The National Research Council reviewed 29 UA graduate programs last year. Of the UA programs ranked, one in three was in the top twenty-five in faculty quality, and one in four was in the top twenty-five in teaching effectiveness. Twenty-seven of twenty-nine programs had improved since the previous review.
- During the past four years, honors students at the University have won national and international scholarships including 14 Goldwaters, six Trumans, one Marshall, one Javits, one Churchill, three Fulbrights, one Udall, two Luce, and two Rhodes scholarships.
- With 3,400 students, the UA Honors Program is the second largest program in the National Collegiate Honors Council.
- The world's most powerful telescope mirror is being cast underneath the east side of the football stadium.
- The UA overall athletic program was ranked 6th in the nation in the 1995-1996 Sears Director's Cup Standings.
- The University ranks among the top ten in the nation in terms of industrial support (businesses that give grants or contracts to the UA), according to the NSF.
- Five UA physicians have been named "The Country's Best Heart Doctors" by Good Housekeeping in 1996.
- The University Medical Center has been ranked among the nation's best hospitals for cancer and rheumatology treatment by U.S. News and World Report.
- In light of these accomplishments, it is not surprising that The College Choice report said, "The University of Arizona is one of the nation's most distinguished Universities, public or private, and its stature grows year by year."