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# External Conditions and Preparing a University Department for the Future

What is causing change,  
what will the world look like,  
and what do we plan to do about it?

# Roadmap for Today's Discussion

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- Understand the major driving forces of change and critical choices facing universities
- Watch out for too much hype or too little attention; do not make specific predictions
- Consider the implications to the department

# Snapshot of the Future

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- Events will be more complex and interrelated
- Some events will be “near-certainties”
- Change is high, many uncertainties exist
- Simply extrapolating trends is dangerous
- Society AND universities are in for big changes – but it is hard to know details

*Bottom line: Decide your own future, but within the context of the big picture*

# Another Snapshot –Futurewise Book

## Patrick Dixon: [globalchange.com](http://globalchange.com)

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These six terms begin with the letters that spell the word FUTURE

- *Fast* -- economic instability, top speed decisions, virtual working, new technologies
- *Urban* -- megacities, aging population, feminization of society, increasing consumer expectations
- *Tribal* -- the greatest force in the world, corporate tribes, building tribes not teams
- *Universal* -- unstoppable forces, global citizens, global branding, mega-corporations
- *Radical* -- new political movements, gathering power of single issues such as the environment, altering the way we live
- *Ethical* -- how do we want to live in a fast, urban, tribal, universal and radical world?

# The Philosophical Perspective

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- The only certainty is that nothing is certain - *Chinese Fortune Cookie*
- If everyone is thinking alike, then somebody isn't thinking - *George Patton*
- To predict the future, we need logic; but we also need faith and imagination, which can sometimes defy logic itself - *Arthur C Clarke*
- We always plan too much and always think too little - *Joseph Schumper*
- The herd instinct among forecasters makes sheep look like independent thinkers – *Edgar Fiedler*

# Driving Forces of Change

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## 1. Historic Driving Force Categories

- Demographic and Social Shifts
- Economy and Funding Sources
- Technology and Its Use
- Resources and Environment

## 2. Critical Choices for Universities

- Resources and Demographic Trends
- Learning Styles and Places
- Focusing on Basics
- Competition and Cooperation

# Emerging Themes

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1. Complexity and simplicity

Address complexity by making it appear simple

2. Globalization and regionalization

World is more interdependent, tribes are still important

3. New Approaches and Tools

Innovate, new applications of old tools, hybrid solutions

4. Individualization and Collaboration

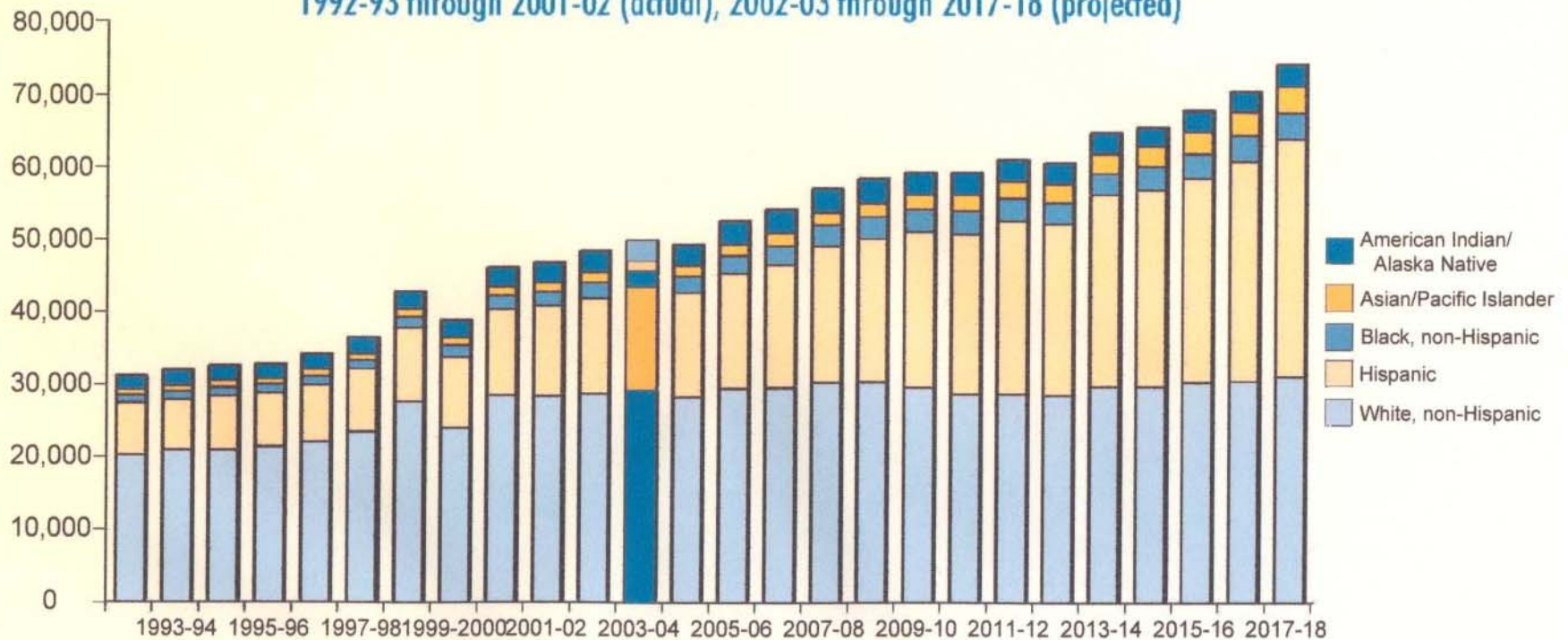
Personal focus, work with others, accept diversity

5. Sustainability

This pervades everything and gives a long-term outlook

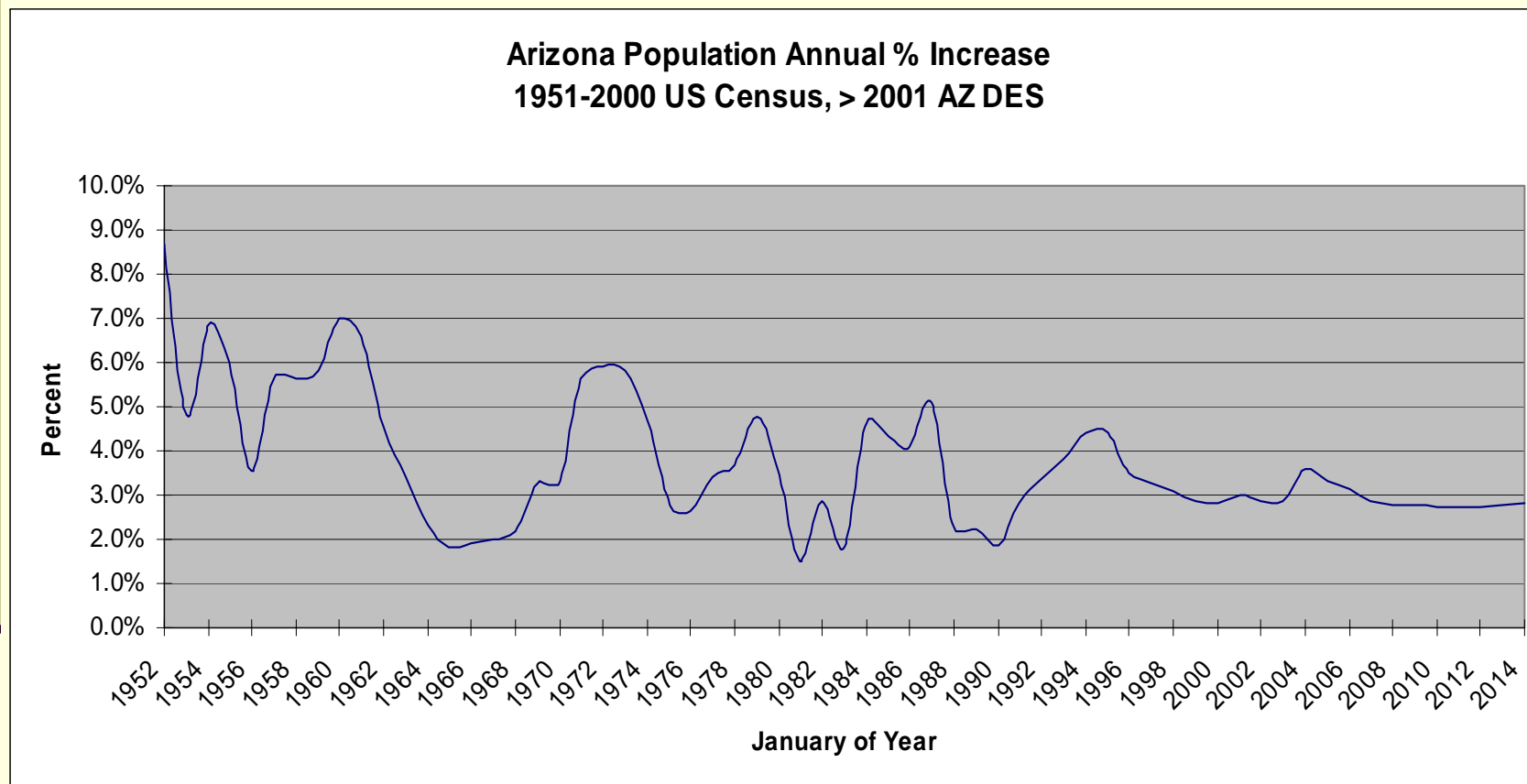
# Second Challenge: Enhancing Diversity

Figure 4. Arizona Public High School Graduates by Race/Ethnicity  
1992-93 through 2001-02 (actual), 2002-03 through 2017-18 (projected)

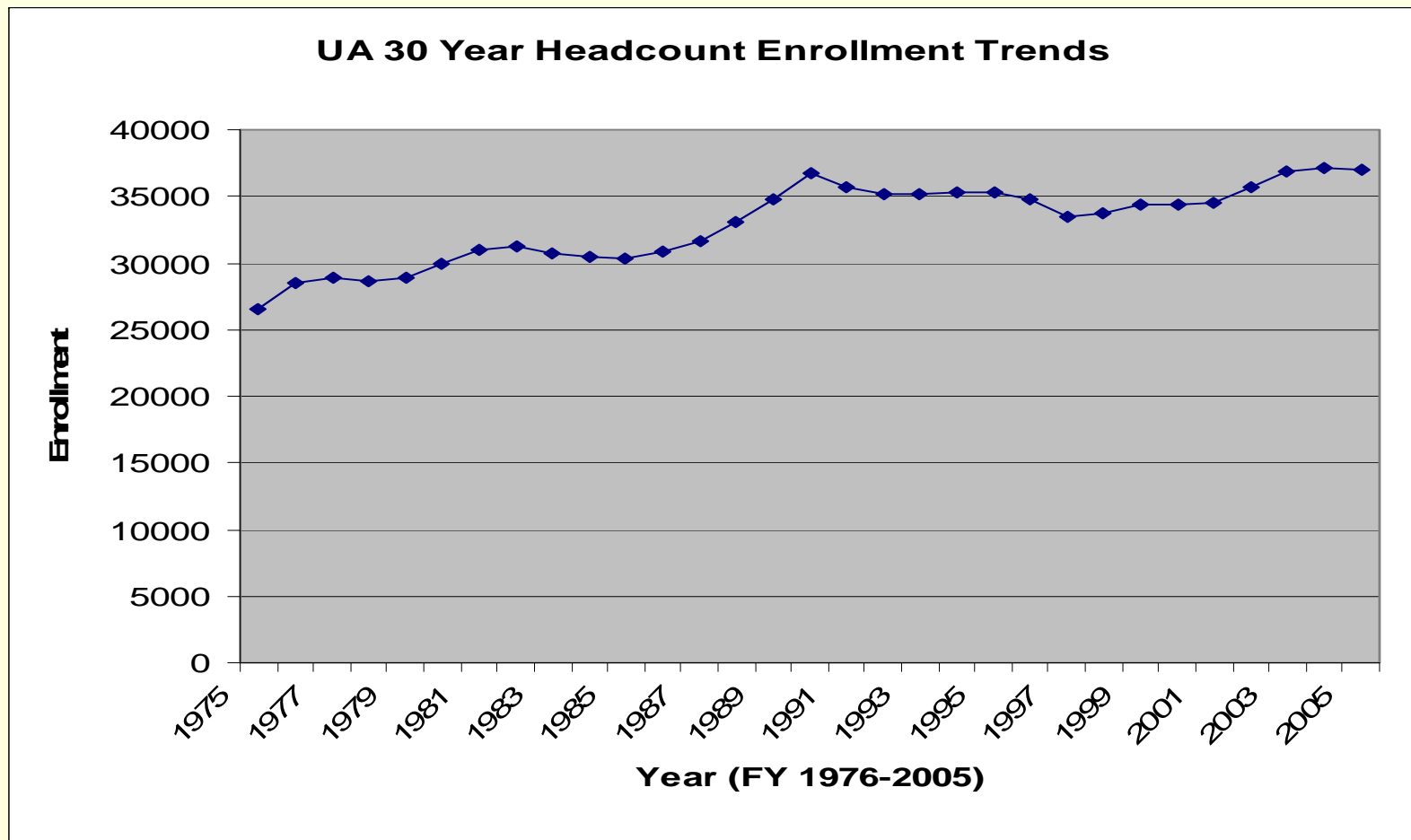




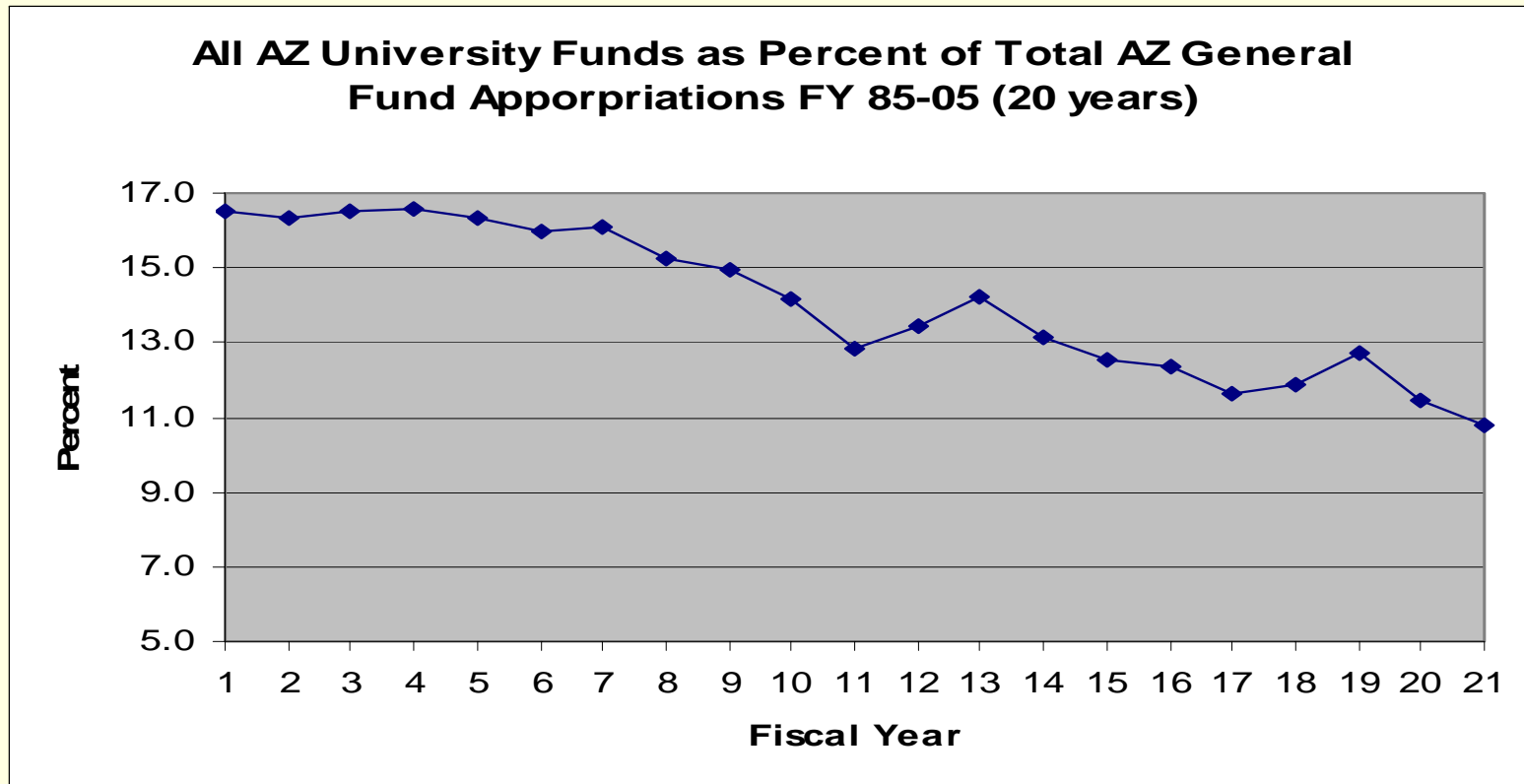
# Arizona Population Growth Rates



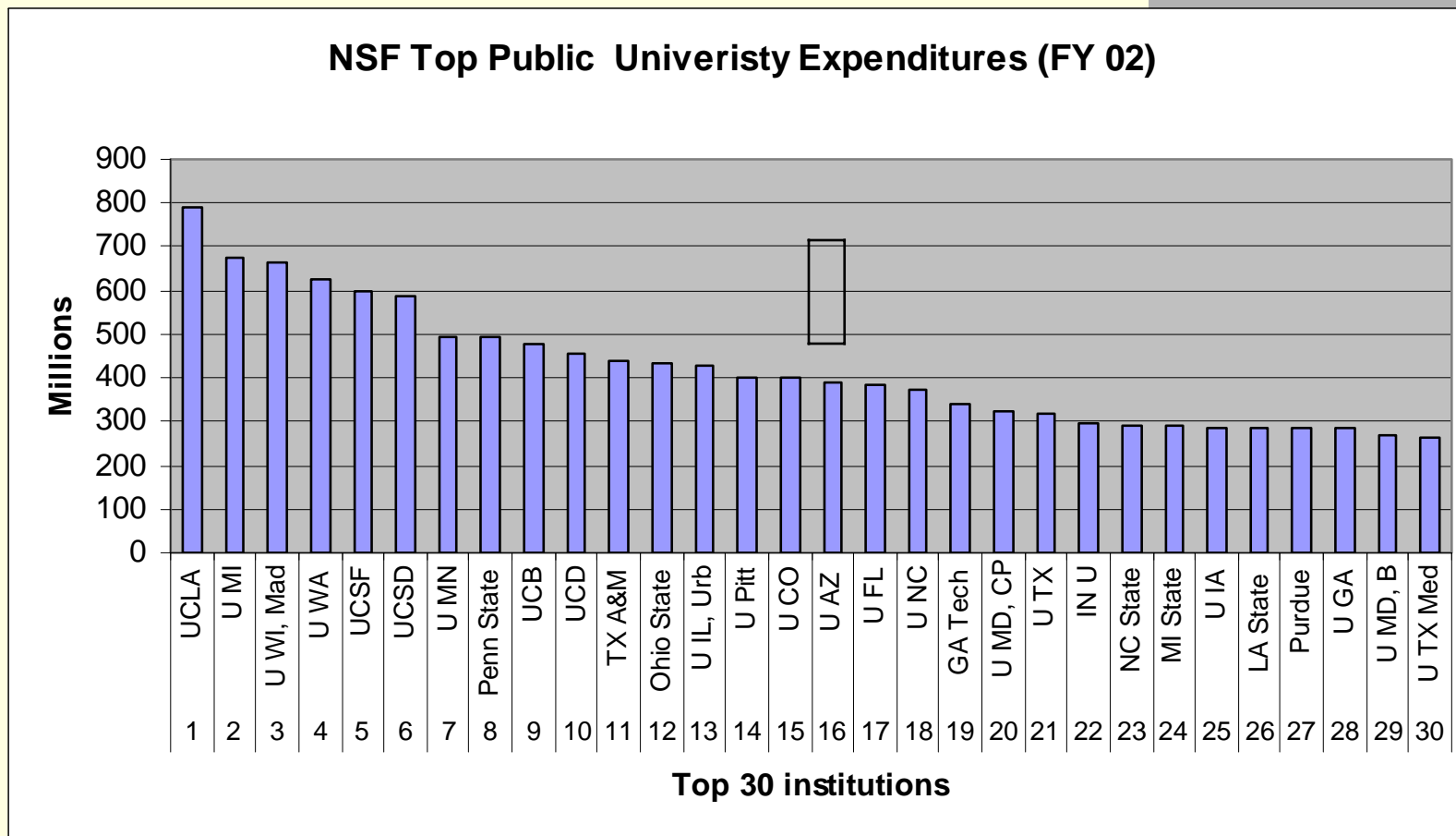
# UA Head Count 1975-2005



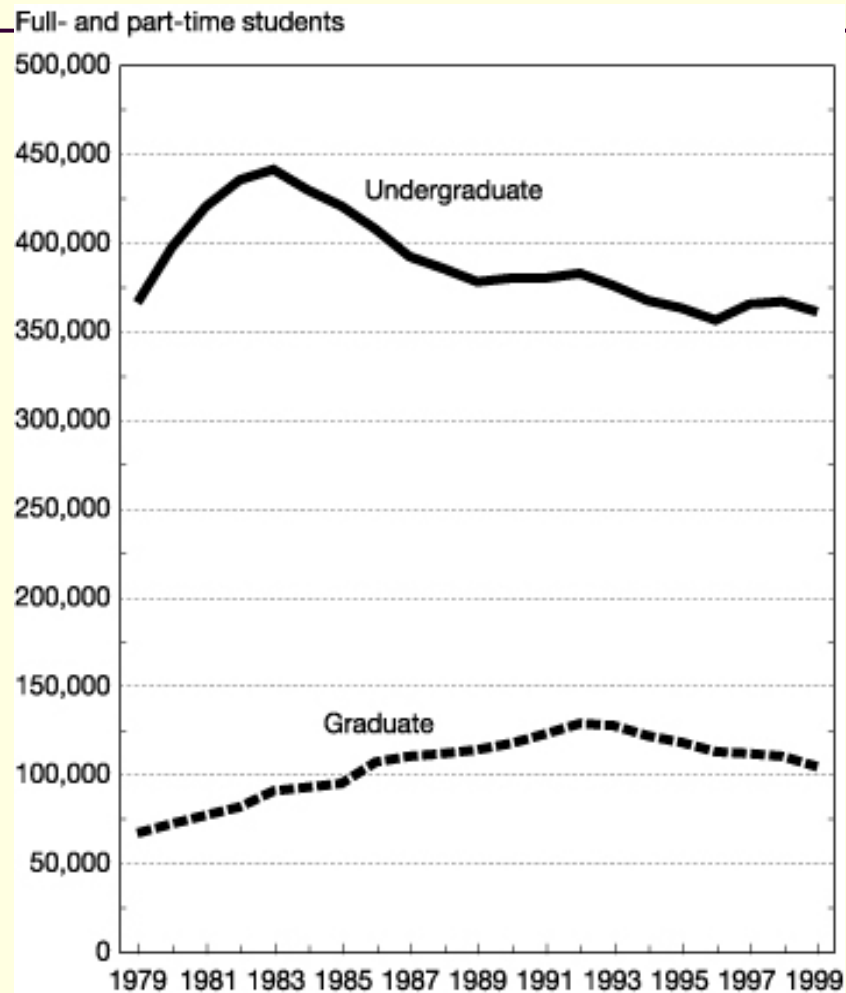
# AZ Universities State Funding



# NSF Rankings Public Universities

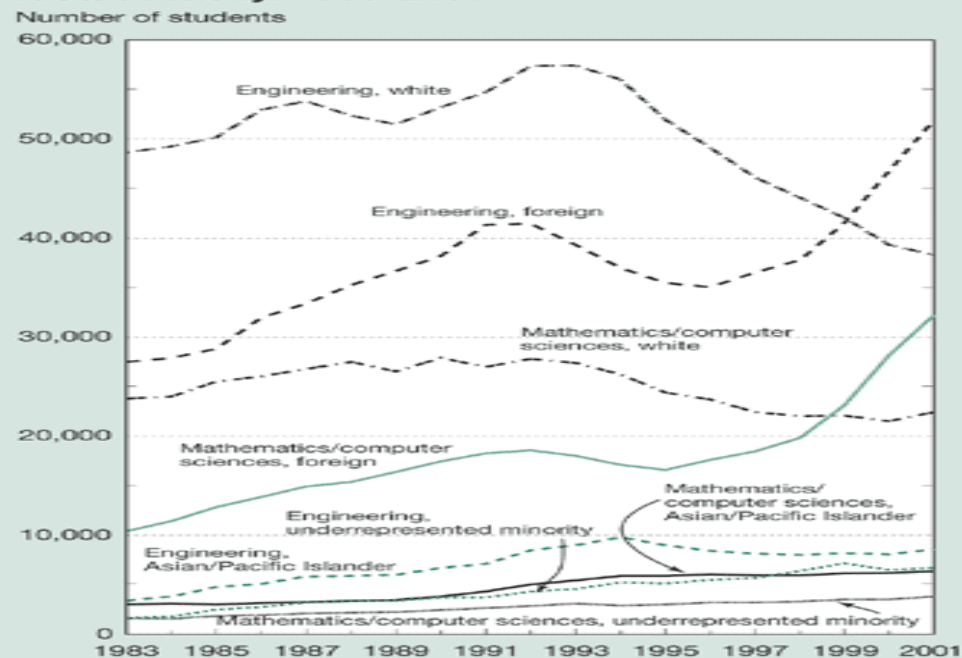


# U.S. Engineering Enrollment, by Level: 1979–99 - NSF



# Trends in Grad Enrollment, NSF

Figure 2-6  
Graduate enrollment in mathematics/computer sciences and engineering, by citizenship and race/ethnicity: 1983-2001



NOTES: Foreign citizen includes temporary residents only. Race/ethnicity groups include U.S. citizens and permanent residents. Underrepresented minority includes black, Hispanic, and American Indian/Alaskan Native.

SOURCE: National Science Foundation, Division of Science Resources Statistics, WebCASPAR database system, <http://caspar.nsf.gov>. See appendix table 2-12.

Science & Engineering Indicators - 2004

# Department Trends (UA DAPS)

DEPARTMENT	FY 00	FY 01	FY 02	FTY 03	FY 04	FY 05
BS Majors	580	579	653	668	721	745
MS Majors	49	54	80	96	86	57
PhD Majors	54	45	39	35	35	44
Undergrad degrees	89	78	92	96	118	
Grad degrees	28	30	22	39	55	
Grant expenditure	2,289,301	3,274,730	2,741,992	2,065,582	2,665,263	

# FAQs About UA Operations

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1. How does money from tuition and student fees get allocated?
2. What is the status of differential tuition rates for different colleges and programs?
3. How are departmental budgets impacted by departmental enrollment changes?
4. How will funds raised in the recent Capital Campaign be used?
5. How does one become a focus for “focused excellence”?
6. Will employee related expenses continue to be paid from central funds for state paid employees?
7. How will the 0.5% departmental budget annual recentralization of units funded by state and locally allocated funds be accomplished? How will the above recentralization funds be reallocated? (Financial Planning Bulletin #41).
8. Where can I get more information about funding and planning information?



# Key Factors Affecting Higher Ed

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- Students are different and learn differently
- Learning spaces replace classrooms
- Resources are limited, competition high
- Technological world – internal and external
- Focus on the necessary and appropriate
- Trends that are not sustainable, don't last
- Universities need a new approach for new conditions but internal reform is unlikely

# University of Arizona Changes

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- Phoenix Biomedical Campus, TGen
- Arizona Biomedical Collaborative - ASU/UA in Phx
- University System Redesign Status
- Focused Excellence Philosophy
- Limit enrollment to 40,000 (from 37,000 in fall 2004)
- Increase grad students to 25% (from 23% in 2004)
- Increasing diversity (primarily Hispanic)
- Losing our “public-ness” (shifts in funding)
- New president, several VPs in summer 2006

*Some of these trends are mutually inconsistent*