

STRATEGIC PLAN SUMMARY • 2005-2009

College of Agriculture and Life Sciences

INTRODUCTION

The CALS strategic plan identifies areas where the college will focus and our relationship to the University of Arizona strategic plan. It is a strategic plan and therefore provides context and a roadmap for navigating what we see in the next 5 or so years. With the collaboration of our stakeholders we reviewed the major driving forces of change and their implications for CALS, and identified some near-certainties and uncertainties.

We will maintain traditional programs but the programmatic focus will change. Internal reallocation of resources will be an important financial tool in addition to funding by state appropriation or sponsored projects. We update annually a 10-year budget plan, also with the aid of our stakeholders, to continually reevaluate our focus. We also expect that collaboration and partnerships will increase but so will competition; in addition market-based funding must increase if public support remains low. This summary describes highlights of the plan, which includes our living in a VUCA world — volatile, uncertain, complex, and ambiguous (a concept developed by U.S. Military). In our college we can address these factors by focusing activities and using the FAIR approach — flexible, agile, innovative, and responsive.

Vision: To provide valuable learning experiences for our students and stimulate a richer and sustainable quality of life for people in Arizona, the nation and the world.

Mission: To develop, integrate, extend, and apply knowledge.

Values:

1. Mutual Respect in a Diverse and Inclusive Community
2. Excellence
3. Innovation and Entrepreneurial Action
4. Integrity
5. Partnerships

A WORD ABOUT OUR LAND-GRANT STATUS

The Morrill Act of 1862 established the original “land grant” colleges (one college per state was developed from the sale of public lands and hence the reference to land grant). Subsequent legislation added the Agricultural Experiment Station (1887), the Cooperative Extension Service (1914), black colleges in 1890, and tribal colleges in 1994. The original purpose of the land grant colleges focused on the practical subjects (at that time) of agriculture, engineering, and home economics, but also included traditional academic programs and military training.

The Kellogg Commission on the Future of State and Land Grant Universities (2000) published several reports, with the last one titled “Renewing the Covenant: Learning, Discovery, and Engagement in a New Age and Different World”. In short, they recommended moving from the old teaching, research and service model that provided research and services focused on agriculture and mining to a model that addresses learning, discovering and engagement and that focuses on pressing educational, social, economic, scientific, and medical challenges of our times. Other studies have made similar conclusions. CALS has incorporated this new model and principles into our values and guiding principles, our approach in applying this plan, and our terminology (teaching becomes learning, research becomes discovery, and extension becomes engagement). We will use these new terms in this report.

ASSUMPTIONS

Our assumptions influence how we develop and implement the plan. These are the assumptions we used in developing the plan:

1. *We will maintain traditional programs but the programmatic focus will change.*
2. *The student mix (full-time, part-time, lifelong learning) and how students learn will change during the next 10 years.*
3. *Changing times will require institutional flexibility, innovation, adaptability and deliberate administrative effort.*
4. *Internal reallocation of resources will be an important funding method in addition to new funding by state appropriation or sponsored projects.*
5. *Collaboration and partnerships will increase but so will competition.*
6. *Market-based changes for our operations will increase as public support remains low.*

NEAR CERTAINTIES

These trends in Arizona are nearly certain. What is not known is what form the impacts will take.

- Increased diversity (especially Hispanics for Arizona).
- Aging and migrating populations.
- Infrastructure constraints become more evident (including transportation, energy, water, education).
- Financial impact of the national debt and trade deficits, demands of Medicare/Medicaid in 2010-2015 period.
- Collaboration, communication and working relationships among various groups become common.
- Technology and intelligent devices become pervasive, including their use in education.
- Increased competition for university resources (e.g., appropriated funds, research grants, high quality students).

UNCERTAINTIES

There are many uncertainties and we need to continually be flexible and alert to changes in the external environment. We need to plan for uncertainties and also be flexible and agile so we can respond to those that come on short notice.

Some include:

- Will sufficient funding be available (from all types of sources) to accomplish what we believe should be done? How will competition for these funds affect us?
- How will the growth rate of undergraduate and graduate student demand and the composition and preparation of the students be addressed by the Arizona universities and the State of Arizona?
- How will students learn in the future? Where will they get their education? How will the University of Arizona and CALS respond to possible changes in student needs and preferences and the affordability of higher education?
- Will the early indicators of significant cultural shifts and resource constraints (e.g., of water and energy availability at affordable prices, increasing diversification) disrupt the smooth functioning of society?
- How will concern over terrorism (physical, biological, electronic) impact our ability to function? How will regulatory responses impact us (e.g., foreign students and scientists and their travel constraints)?
- How will taxes vs services and private vs public good conflicts be resolved? How and when will the initial impacts of global climatic change occur?
- How quickly will the mix of various learning styles change (e.g., lecture, field trip, study abroad, e-learning, internships)?
- How will the Arizona Board of Regents study on restructuring the university system affect us (results expected summer 2005) and the new Phoenix Biomedical Campus of the Arizona University System impact the University of Arizona?

IMPLICATIONS OF THE EXTERNAL ENVIRONMENT FOR CALS

The changes in the state's culture, resources, services, population and environment will have significant impacts on the universities and our college. We should anticipate change, take advantage of the new opportunities, and help our various audiences adjust to the new conditions. These changing times will require flexibility, agility, innovation, and responsiveness in our administrative structure and policies. Specific implications include:

- Modifications to curricula, programs, and degrees must occur in response to changes in employment opportunities, financial considerations, student interest, and societal needs.
- Relative audiences will change for all our traditional programs and existing approaches for teaching, research, and extension need modification.
- Production agricultural activities will decrease on private land and increase on Indian reservations. The use of agricultural biotechnology (including energy and pharmaceutical products from plants) will continue to increase. The increasing urban population will cause an increase of our efforts in urban problems and activities.
- Internal reallocation of funds and more market-based, entrepreneurial funding will increase.
- Collaboration, partnerships, and alliances will increase within the campus, with other universities, and with private, public, and non-profit groups as sources for learning, discovery, and engagement/outreach programs.
- Obligations to provide lifelong educational opportunities will increase as Arizona adjusts to globalization and changes in diversity, information technology, and the work force.
- Learning technologies will become more integrated into e-learning opportunities which will be blended with the traditional teaching methods.

- Greater competition among universities for scarce resources (including state appropriations, federal support, and gifts and contracts).

SIX FOCUS AREAS

At the broadest level, the college will be involved in learning (undergraduate and graduate), discovery (research), engagement (extension — off-campus education and applied research), and public service. Some activities cross all focus areas:

- *Programs involving an interdisciplinary or international scope* — where we cross borders of all types - International, Cultural, Ethnic and Disciplinary
- *Programs involving production agriculture* — Agriculture in this context includes plants and animals used for food or other commercial purposes
- *Programs involving the life sciences* — This area recognizes the changes in many of our activities that relate to plant and animal basic biology and genome structures and function.

CALS is organized along disciplinary departmental units and geographically oriented units, so the six focus areas below are the basis for budget allocations and annual program reviews as well as a way to organize the blending of disciplines that are involved in a holistic approach to learning, discovery, and engagement. The University of Arizona has a strategy of “Focused Excellence”, where each college and the campus as a whole focuses on key activities. This listing of six focus areas is the CALS contribution to the UA focused excellence program.

1. ENVIRONMENT, WATER, LAND, AND NATURAL RESOURCES

Is concerned with the issues related to protection, enhancement and sustainable use of our basic environmental resources. These are soil, air and water, and the conservation, management and use of renewable natural resources including wildlife, fisheries, rangelands, forests, watersheds, flora and fauna ecosystems, and other landscapes on lands in both private and public ownership. Our emphasis on the sustainable use of natural resources and environmental protection requires attention to public policy as well as resource assessment, monitoring and management. Approaches and solutions to environmental and natural resource issues seek to involve an integration of ecological principles in the design, planning, and implementation of the management of ecosystems and landscapes.

2. PLANT SYSTEMS

Addresses the production and biology of plants used for food, fiber, livestock feed, industrial products, and for environmental, aesthetic, conservation and ornamental purposes. Optimal and sustained productivity is based on best cultural management practices, the molecular genetics of plants and an understanding of molecular, plant, microbe and insect interactions. Emphasis will continue on integrated pest management, use of high value/ specialty plants, and unique conditions of arid environments.

3. ANIMAL SYSTEMS

Encompasses contemporary methods of biology to improve productivity and increase the quality, composition, safety, and desirability of animal products; promotes the use of integrated and long term, sustainable production systems that are compatible with arid environments; enhances genetic diversity and biological performance; and improves the health and well-being of food and companion animals.

4. FAMILY, YOUTH, AND COMMUNITY

Focuses on economic, social, psychological, and biological factors affecting individuals, families, and groups over their lifespan. The audiences include families broadly defined, Indian communities (on- and off- American Indian Reservations), and rural/urban and border living areas. Discovery (research) contributes to the knowledge and understanding of family processes and transitions, interpersonal relationships, and developmental pathways of children, adolescents, and adults. Educational and outreach programs target diverse youth, family, and community needs including such topics as effective parenting, violence prevention, resource management, responsible decision-making, the economic well-being of families and consumers in the marketplace, leadership, and access to community support systems.

5. HUMAN NUTRITION, HEALTH AND FOOD SAFETY

These programs focus on the relationships of the life sciences to human health promotion, disease prevention and food safety. Programs use innovative interdisciplinary approaches to discovering, translating, and applying how nutrition and physical activity can prevent disease and promote good health and well-being. The safety and quality of food for human consumption is addressed by programs directed towards transportation, processing and consumer handling of food. Programs encompass a broad range of approaches from basic cellular and molecular research to clinical human research studies and educational programs. These programs enable people

and communities in the state, nation and other countries to translate research based life sciences discoveries into nutrition, physical activity and food safety practices that promote health and prevent diseases.

6. MARKETING, TRADE, AND ECONOMICS

Deals with economic analysis of natural resources including water, land, and the environment. It also contains the economic analysis and resource allocation processes of businesses, governments, and consumers. Also deals with the strategic analysis of the environments in which market participants operate—including competitive, consumer, economic, cultural, and technological environments—to create successful strategies and tactics in the global, value-added chain for food, fiber, services, and other consumer goods. The results of these efforts will impact on economic development, on the marketplace and the communities, on global trade and on natural resources and the environment.

FIVE GOALS

The five goals below are taken from the University of Arizona Strategic Plan for FY 2006-2010. The College of Agriculture and Life Sciences uses the same goals so we are consistent with the university, but implements them in different ways to address our strategic choices. Specific objectives are not part of this strategic plan, but will be found in more detailed and short term operational plans.

1. *Build a world-class and diverse academic community at the forefront of discovery.*
2. *Increase student engagement, achievement, retention and graduation rates.*
3. *Extend the concept of a “land-grant university” to position the University of Arizona, across all colleges, as a model for linking scholarship and creativity to societal and community needs.*
4. *Achieve a strong financial foundation.*
5. *Increase recognition as a research university committed to an outstanding educational experience and connected to its community and the world.*

ASSESSMENT CRITERIA

Formal assessments will be conducted in concert with the University of Arizona academic program reviews, USDA Cooperative State Research, Education and Extension Service (CSREES) reviews, and the annual CALS departmental planning and resource reviews. The assessments will be used to determine resource allocations and priority setting among the six focus areas. In addition to the formal assessment above, the college will obtain input on programs from advisory boards associated with county extension offices, agricultural centers and various academic departments. Periodic statewide surveys and stakeholder feedback sessions will be conducted to determine current needs, how well goals were accomplished, and program acceptance and impact. Assessments will focus on the following topics:

1. Relevance to college mission and strategic plan.
2. Undergraduate education needs and relevance of the curriculum.
3. Unique academic programs (including interdependence or duplication).
4. Extent of collaborative and cooperative efforts.
5. State needs or unique geographical emphasis.
6. Existing strengths and weaknesses.
7. Developments in new knowledge for the discipline.
8. Availability of space and other non-financial resources.
9. Possible impact of changes related to other units.
10. Student outcomes assessments results as affecting programmatic changes.

PERFORMANCE INDICATORS

Progress toward college goals will be measured by the performance indicators listed below. As conditions change, the specific indicators may also change.

1. Number and types of changes in learning, discovery, and engagement/outreach programs.
2. Number of partnerships and cooperative arrangements initiated, existing, and concluded.
3. Placement rate and positions for undergraduate and graduate students.
4. Number of awards and honors and leadership positions acquired by students, faculty and staff.
5. Stakeholder surveys and meetings for program value, impact, and quality.
6. Percent of students, faculty, and staff involved in mentoring and professional development.
7. Use of effective communication methods and their acceptance by stakeholders.