

DRAFT – 8/15/06
FROM ACHIEVEMENT TO RECOGNITION
A Work Plan for the University of Florida

Preamble

Mission Statement

The University of Florida is a public, land-grant research university, one of the most comprehensive in the United States and it encompasses virtually all academic and professional disciplines. It is the oldest and largest of Florida's eleven universities and is a member of the Association of American Universities (AAU). Its faculty and staff are dedicated to the common pursuit of the university's threefold mission: education, research, and service.

Teaching—undergraduate and graduate through the doctorate—is the fundamental purpose of the university. Research and scholarship are integral to the education process and to expanding humankind's understanding of the natural world, the mind, and the senses. Service is the university's obligation to share the benefits of its knowledge for the public good.

These three interlocking elements span all of the university's academic disciplines and multidisciplinary centers and represent the university's obligation to lead and serve the needs of the nation, all of Florida's citizens, and the public and private educational systems of Florida by pursuing and disseminating new knowledge while building upon the past.

The University of Florida is committed to providing knowledge, benefits, and services with quality and effectiveness. It aspires to further state, national and international achievements in support of human values and improving the quality of life by pursuing and disseminating new knowledge while building on the past.

Goals and Principles of the Work Plan

The University of Florida aspires to join the ranks of the nation's top public research universities. The best universities are aided by careful planning, a commitment to excellence by faculty, staff, students, alumni, and donors, and by a determination to invest in areas that enhance quality. It is this commitment to academic excellence and the resulting achievements that will lead to the university's recognition as one of the top public research universities. This work plan is formulated to help the university attain this goal.

This work plan is developed in the light of two principles.

The first principle is that strategic planning represents the highest level of planning in pursuit of the university's long range goals. Its purpose is to identify the fundamentals which are essential for achieving the overarching goals of the university and to identify areas for investment, in light of the university's current position, the research environment, and social and academic considerations. This plan concentrates on goals and areas of investment rather than on details of how to achieve them, implementation strategies, or where the resources needed are to be sought. These additional levels of planning must be undertaken in the light of the more general statement of goals in this plan.

The second principle is that strategic planning is a dynamic process and it must be sensitive to new opportunities, to changes in resources and conditions, and to new information. The work plan is therefore to be conceived of not as a static, but as a living, document which is re-evaluated and refocused periodically, in the light of accomplishments and new opportunities.

It is essential that faculty be part of this process because they see change at the discipline-level before others. Administrators, in turn, are responsible for attending to relevant changes in policy at the state and national level, new developments on the frontiers of science, and other social, academic, and cultural developments relevant to the university's mission. This requires communication and transparency between faculty and administration in order for the University of Florida to move quickly in response to change.

It is critical that we optimize allocation of our resources in those areas that promise the greatest returns in enhancing the university's recognition, in meeting its measured indicators of success and the needs of students and faculty, and in addressing state priorities. However, it is equally critical that all components of the university contribute to the university's pursuit of excellence. The ultimate goal of the university is excellence in every facet of its work, and, while recognizing the importance of setting priorities, it is not a part of the strategy of identifying promising areas of investment to let other areas fall into neglect, nor to suggest that support of other projects and areas will not also be essential. No plan formulated at this level of abstraction could encompass all of the on-going projects and goals of colleges and units which deserve support. In particular, the areas of investment identified below under the heading of 'Strategies for Maximum Impact' are not to be conceived of as being proposed in place of but in the context of, the traditional goals of Academe.

The current work plan is a successor to the University of Florida's 2002 Strategic plan. Though there are many continuities with the previous plan, in line with the conception of strategic planning as a dynamic process, this plan evaluates and refocuses the university's strategic planning, with input from the faculty through the Faculty Senate.

Human Capital

The human capital of the university consists of its faculty, students, and staff.

Faculty

The first priority of the University of Florida is investment in its faculty. The university's success begins with the success of individual faculty members and teams of faculty. Department and college recognition, and the university's reputation, rest on these successes. The University of Florida will advance its status among the public universities of this nation only as the quality, size, and research productivity of the faculty grow.

The keys to reaching these goals are: first, full engagement of the faculty in the enterprise of the university; second, effective recruitment and retention of the best faculty; third, support for professional development to ensure the greatest return on faculty investment.

Shared Governance

Shared governance, in which faculty and administration participate in significant decisions about the operation of the institution, is the hallmark of the American university system.¹ The shared governance system is a bulwark of academic freedom and of the process of free inquiry, open expression, dissent, and discovery that have given the American university system its international prominence. The shared governance system is founded on the recognition that university faculty, in virtue of their disciplinary expertise, are in the best position to make decisions about curricula, instruction, academic personnel, and research direction; that decisions about academic policy should be independent of short term or political considerations; and that the perspective of faculty is essential for making sound decisions about allocating resources, setting goals, choosing administrators, and promoting an environment for students most conducive to the university's educational mission. Shared governance invests the faculty in the university, ensures the engagement of an enormous pool of talent, creativity, and institutional memory in the pursuit of the university's goals, and increases productivity at every level. In the words of Robert Maynard Hutchins, one of the twentieth century's great university presidents, "we get the best results in education and research if we leave their management to people who know something about them."²

The university's success in the future will depend on the ability of faculty members to formulate a vision for their units and to initiate strategies to realize unit goals. Shared faculty governance at the University of Florida has undergone a renaissance in recent years, and is expressed through the structures of the Faculty Senate and their further articulation in colleges and departments.

Through these structures faculty members participate in setting important academic policy directions for the institution. It must be a central goal of the university to continue to nurture and expand the university's shared governance structure and to develop a deeply engaged culture of mutual respect and trust between faculty and administrators in the goal of bringing the university into the top ten of public AAU institutions. As a part of this process, the Faculty Senate-Presidential Task Force on the Implementation of Shared Governance Structure has recently completed its report on best practices and recommended principles for shared governance.³

Goal: Ensure the continued development of shared faculty governance at the University of Florida and its integration into all aspects of academic life at college and department levels, in accordance with the recommendations of the Faculty Senate-Presidential Task Force on Implementation of Shared Governance Structure.

Faculty Size

The University of Florida's student-faculty ratio, 23/1, ties for last place, out of 120 institutions surveyed, according to the figures provided by US News and World Report (March 2006). This compares unfavorably with peer public AAU universities. The University of Wisconsin-Madison has a ratio of 13/1. The Universities of North Carolina-Chapel Hill, Illinois-Urbana, Ohio State, Virginia, Michigan-Ann Arbor, and California-Berkeley range from 14/1 to 16/1, and Texas-

¹ A description of the framework for shared governance as articulated in the 1966 AAUP statement is available at <http://www.aaup.org/statements/Redbook/Govern.htm>.

² *Higher Learning in America*, New Haven: Yale University Press, 1936, p. 21.

³ The final report of the Faculty Senate-Presidential Task Force on the Implementation of Shared Governance Structure is available at <http://www.senate.ufl.edu/archives/other/finalReport.pdf>.

Austin is 19/1. Growth in the faculty is crucial to the University of Florida achieving its goals for four reasons.

First, the student-faculty ratio is a rough indicator of the resources put into the university's educational mission. Opportunities for students to work more closely with faculty and to receive mentoring by faculty are restricted by the university's high student-faculty ratio. To provide students an education competitive with that provided by the best public universities in the country, we must put comparable resources into their education.

Second, faculty size is connected with the research productivity of the University of Florida in at least three ways. (i) More research is done by more faculty. (ii) A critical mass of faculty working in related areas is needed for many research projects and increases the research productivity of faculty over what they could achieve individually. (iii) The higher the student-faculty ratio, the more time faculty must spend in their roles as instructors as opposed to pursuing research and publication. While any university must balance teaching and research, it is clear that the University of Florida's aspiration to be among the top ten public AAU universities is hampered by its relatively high student-faculty ratio.

Third, faculty size is important for the success of interdisciplinary initiatives. Interdisciplinary research can be successful only if it can draw on strong disciplinary faculties. To the extent the University of Florida's core disciplines are weak relative to peers, the University of Florida will be at a competitive disadvantage with respect to developing and pursuing interdisciplinary initiatives.

Fourth, increasing faculty size is crucial for the University of Florida's goal of increasing the strength of its graduate programs and the numbers of Ph.D. students which it trains. Graduate student mentoring is labor intensive, and, hence, an increase in the number of graduate students trained must be accompanied by an increase in faculty to train them.

Goal: Design and implement a program for increasing the number of faculty to achieve parity with top ten public AAU universities in those departments and colleges most critical for the University of Florida's core mission and academic reputation.

Faculty Diversity

At the same time the university aims to increase the size of the faculty, it must also aim to increase the diversity of the faculty in order to maintain its vitality and to reflect the diversity of the student body and the state.

The university has been quite successful in increasing diversity among students, ranking seventh nationally among all universities in both the number of African-American and Hispanic students who have received Ph.D.s in the last six years, and fourth nationally among all universities in the number of National Achievement Scholars enrolling. But substantial improvements must be made in the faculty ranks.

Goal: Develop and implement a systematic strategy to improve faculty diversity.

Salaries and Benefits

The best faculty can be recruited and retained only if the University of Florida offers competitive salaries and benefits.

Current salaries at the University of Florida rank in the bottom quartile among AAU public universities and only around the median when adjusted for cost-of-living. The University of Florida's fringe benefits package also ranks just below the median for AAU public universities. These circumstances must improve to ensure success in recruitment and retention of talented faculty. The university has begun this improvement through the Salary Performance Plan for Professors and through internal salary enhancement initiatives. The past three years have seen 4%, 5%, and 4 ½ % merit salary programs.

Goal: Raise faculty salaries to the mean of the top ten public AAU universities.

Goal: Improve the University of Florida's fringe benefit package so that it is commensurate with those of top ten public AAU universities.

Quality of Life

The quality of life at the university and in Gainesville and the surrounding communities is also essential for effective recruitment and retention of faculty.

Faculty members express keen interest in how the university addresses their concerns about quality of life issues, and in particular to what degree the University of Florida fosters a family-friendly environment. These issues arise in connection with child-care, employment of a spouse, and partner benefits, among others. The faculty survey has identified numerous issues that should be addressed involving the University of Florida policies related to climate. These results identify specific areas in need of attention.

Goal: Align the University of Florida's policies concerning quality of life issues with those at top ten public AAU universities. Improve the overall climate for faculty, with special attention to issues identified in the faculty survey.

It is also essential to recognize the importance of the city of Gainesville and surrounding counties to the future of the University of Florida. A vibrant, sustainable community with good schools, transportation, and public safety will help attract and retain the best faculty. The university must work with the community across many dimensions to promote its development as a good place to live.

Goal: Work with the surrounding community and the city of Gainesville to improve the quality of life in the community and ensure a vibrant, sustainable environment in which to live and work.

Professional Development

The university must not only hire the best faculty, it must foster an environment in which they can achieve their full potential in the academy as teachers, researchers, and leaders. This is important not only because it will help to realize the greatest return on the university's

investment in faculty, but also because it is a crucial component in retaining our best faculty and in recruiting the best new faculty.

Junior faculty must be supported in developing productive research programs and in achieving professional recognition for their work, as well as in developing their leadership and teaching skills. As they develop and establish a record of achievement, junior faculty need appropriate guidance to realize the goals set by departments, colleges, and the university. The Faculty Senate has recommended policies for mentoring junior faculty and for a mid-term review to assist them as they move toward the tenure evaluation process.

The most important decisions made about faculty are those having to do with promotion and tenure: they are the principle means by which the quality of the institution is maintained and developed. Before awarding tenure, the university must be convinced the faculty member will be a productive scholar, teacher, and leader for the long term. Faculty members should have an appropriate period of time to establish a record of achievements that reasonably predicts their success. The Faculty Senate has reviewed the university's promotion and tenure policies and has made a series of recommendations for their revision.

Goal: Implement at department and college levels the Faculty Senate recommendations on tenure, promotion, mid-term review, and mentoring.

Senior faculty must be encouraged to continue their development as teachers and graduate student mentors, and also to continue their professional development, through a competitive sabbatical program. The university's sabbatical program is not competitive with the best public universities either in number or levels of support. This now has two negative results. First, an equally talented faculty will produce less research, fewer books, fewer interdisciplinary initiatives, and gain over the course of their careers less recognition than at a university with a better research leave program. Second, it puts the university at a competitive disadvantage in recruiting both at the junior and senior levels, and in retaining faculty recruited by universities with better research leave programs.

Goal: Increase the number of opportunities for sabbaticals and levels of support to align more closely with sabbatical programs at top ten public AAU universities.

In addition, the University of Florida must assist faculty members in obtaining national and international recognition in national and international academies. The University of Florida is proud to have a number of faculty members holding such membership, but not all the University of Florida faculty worthy of these honors have been recognized to date. Both faculty and administrators should highlight exceptional work of colleagues in meetings and publications and should nominate them for appropriate awards and recognitions.

The university has created several internal awards and titles that recognize outstanding achievements. These include the title of Distinguished Professor, the Academy of Distinguished Teaching Scholars, the University of Florida Research Professor awards, Teacher of the Year awards, Doctoral Mentoring awards, and the Teacher-Scholar of the Year award.

Through the University of Florida Foundation, the university has initiated a \$150 million campaign to further enhance the scholarly environment and foster the creative work of the faculty. This Faculty Challenge campaign will help to provide endowed chairs, research funds,

graduate student support, and modern teaching technologies to enable faculty to produce leading research and to prepare the next generation of the nation's leaders.

Goal: Develop strategies to recognize and reward, internally and externally, the University of Florida faculty who have demonstrated outstanding achievement.

Goal: Complete the \$150 million Faculty Challenge Campaign.

Goal: Develop strategies to increase faculty membership in national and international academies.

Postdoctoral Fellows and Associates

Postdoctoral Fellows and Associates are significant contributors to research and teaching and play a critical role in the university. In order to compete nationally and internationally for the best possible candidates, postdoctoral fellows and associates need to be provided with competitive salaries, benefits, office space, professional development opportunities, and other support services.

Goal: Provide Postdoctoral Fellows and Associates with competitive salaries, benefits, office space, professional development opportunities, and other support services commensurate with those at top ten public AAU universities.

Students

Students represent a major component of the human capital within the university. Measures of the university's excellence must include the quality and academic success of its undergraduate, graduate, and professional students. The university has attracted an increasingly outstanding caliber of students poised to become significant contributors to the state, the nation, and the world. In order to continue in this direction and to be competitive with AAU top ten public institutions, some changes must occur.

For the university to achieve its mission to provide an unparalleled experience where the very best create and share knowledge, the student body must be further diversified. Increased cultural, ethnic-racial, and socioeconomic diversity will enrich the educational experience of all students and better prepare them for life after graduation. In reaching this goal, the university must strive for fair access to educational opportunity for all sectors of the state.

Goal: Increase the cultural, ethnic-racial, and socioeconomic diversity of the student body.

Co-curricular and extra-curricular activities as well as accessible, high-quality student support services are important to maximizing student development. They complement and enrich the academic curriculum, foster critical thinking, and promote wellness. These factors positively contribute to student engagement and enhance quality of life. They support recruitment and retention of a diverse student body. Furthermore, they provide opportunities for students to develop multicultural competencies, responsible citizenship, and leadership skills.

Goal: Provide a wide range of excellent co-curricular/extra-curricular activities and student services to maximize students' development as outstanding scholars, leaders, and citizens in the state of Florida, the nation, and the global community.

Due to its physical limitations, the Gainesville campus of the university can accommodate only a limited number of students. However, the university has an obligation to the state's citizens to provide as much access as possible to educational opportunities. The university has begun to meet that obligation in recent years through development of distance education programs. Using innovative blends of technology and courses conducted by faculty at sites around the state and the nation, the University of Florida is making several undergraduate, graduate, and professional education programs available to people in or near their homes.

Goal: Develop strategies to expand student access to educational programs through distance education.

Undergraduate Students

The quality of the University of Florida's undergraduate student body compares favorably to that of any university in the nation. The university's students are exceptionally high achievers and will graduate from the university to become the next generation of leaders. The university is committed to maintaining the quality of its undergraduate student body and to providing them an outstanding undergraduate education comparable with the best public universities in the country.

Graduation rates are one measure of the university's success in meeting its commitments to students. Four and six-year graduation rates place the University of Florida among some of the best public universities in the nation. The quality of the student body is a major contributor to the university's exemplary graduation rate, but effective university academic policies and procedures also help students to remain on track and graduate in a timely fashion. Among the factors which are important for good graduation rates are (i) matching students to majors that fit their interests and talents, (ii) ensuring that courses needed for their degree programs are available frequently enough or with enough seats for them to get the courses they need to stay on track to graduate in a timely manner, and (iii) developing procedures and policies that promote student's making timely progress toward their degree goals.

Goal: Continue to improve the academic quality of undergraduate students and develop strategies to improve the graduation rates incrementally while maintaining the academic integrity of degree programs and providing students the flexibility to find a major which is a best fit for their interests and talents.

The very best students in the state deserve the very best educational opportunities and programs. The university offers several signature programs, including the Honors Program and the university Scholars Program, but there are areas in which improvements can be made. Class sizes should be lowered in areas where a lower student/instructor ratio is especially important for achieving the goals of the course. The number of undergraduate advisors should be increased to improve the advisor/student ratio. Undergraduate research opportunities should be expanded. Students should have access to the latest technology. At the same time, students should be expected to demonstrate excellence in written expression. Faculty in every major should make sure that all students take some courses in which there is substantive discussion and in which they have an opportunity to develop analytical, critical thinking, and research skills. The university should also provide greater access to high-quality tutoring and course assistance.

Goal: Lower class sizes in areas where large class sizes are especially detrimental to the pedagogical goals of those classes improve the advisor/student ratio, provide students with opportunities to develop research and writing skills, and enhance academic support for students.

One of the factors that influence graduation rates is the ability of students to muster the financial resources needed to follow a full-time course of study. Financial need can also affect the diversity of the student body by limiting access. The University of Florida must ensure that financial need does not impede the ability of the state's talented students to attend and graduate in a timely manner.

Goal: Provide financial aid sufficient to meet the needs of students.

Graduate and Professional Students

The university's recognition and success depend heavily on the quality of its graduate programs. Graduate and professional students represent the next generation of scholars, practitioners, and entrepreneurs who will advance the frontiers of knowledge, develop new technologies, help promote economic growth, and provide vital services to this state, nation, and the world. Faculty members mentor them as they make the transition from students to colleagues. In return, they stimulate and assist faculty in research projects. They will play a large role in determining the university's recognition as they move into the upper echelons of their fields.

Because the relative size of the University of Florida graduate program ranks below the relative size of graduate programs in the top universities around the nation (as a proportion of the total campus student population), the university began several years ago to increase the graduate student population on campus, while limiting growth in the undergraduate population. As the University of Florida research program expands and deepens, the size and quality of the graduate program must keep pace. The goal is to respond to state, regional, and national needs in the professions and to increase the overall quality of all graduate programs. This may or may not result in an overall increase in program size.

Goal: As appropriate, increase the size and quality of graduate and professional programs to align with top ten AAU public institutions while addressing state, regional, and national needs.

There is intense national and international competition to recruit the best prospects for each graduate program. From the student applicant's point of view, the recognitions of the university, the college, the department, and, often most importantly, one or more faculty members, are of paramount importance. Other criteria then enter the decision to choose a school. These may include the general academic atmosphere, support services, the physical plant and facilities, and the location of the school. A comparison of stipends and benefits is often a deciding factor, and in this area, the University of Florida lags behind its AAU counterparts. The Alumni Fellowship program is nationally competitive, but barely so. An increase in the number of dissertation fellowships is needed in areas where such support is lacking.

Goal: Improve graduate assistant stipends and Alumni Fellow stipends, increase dissertation fellowships, and provide competitive benefits for graduate assistants and fellows.

Deans, department chairs, and faculty must pay serious attention to graduate student recruitment, mentoring, retention, and placement. Because students often choose graduate school based on areas of excellence in a department and even on the specialties of individual faculty members,

success in recruiting depends largely on the motivation, enthusiasm, and personal contact of faculty in the units. Post 9-11 policies and mounting competition from universities abroad have increased the need for careful attention to international recruits. As graduate students progress through their academic programs, faculty have a responsibility to include them in the academic life of the department, to help them develop and refine their teaching skills, and to assist them in understanding and navigating the professional academic culture. Retention rates and time-to-degrees that are competitive with our AAU peers are good indicators that these responsibilities are taken seriously in departments. Program assessment on these dimensions must occur to ensure maximal student success.

Goal: Review the recruitment, mentoring, professional development practices, retention rates, and time-to-degree statistics in individual departments and seek appropriate improvement.

Every investment in a graduate student must count. Placement of graduating students reflects on the university and should be undertaken seriously. A university's recognition is determined in part by the number of alumni placed in their fields.

Goal: Review department placement records and develop state-of-the-art placement and tracking services to support placing University of Florida graduates in nationally and internationally recognized programs, institutions, and other relevant settings.

Staff

Staff members provide all manner of services critical to the operation of the university. Without them, the university would be unable to fulfill its mission. The university has a responsibility to structure a comfortable and productive environment to help the staff succeed and to grow in their jobs. In a recent campus-wide survey of the workplace, staff communicated numerous areas that are working well at the university, including diversity, physical working conditions, and work/life balance. At the same time staff expressed concerns regarding compensation, technology, organizational change, and communication.

Goal: Through Human Resource Services, develop specific initiatives aimed at enhanced recruitment, retention, and development of staff in order to be competitive with local, regional and national markets.

In recent years, staff employment plans and benefits have been revised to provide new opportunities. However, in order for the University to be able to continue to attract and retain quality staff, there must be ongoing and regular review of compensation structure for staff.

Goal: Structure a competitive compensation program that rewards staff performance.

In recent years, staff members have faced formidable challenges from new technology which has transformed job requirements. In addition, as the university community has confronted natural disasters, staff have consistently been called upon to assist before, during, and in the aftermath of such events. Indeed, many employees designated as essential personnel have been staff. In order for staff to best meet these workplace challenges, it is important to assure access to quality training workshops and employee support services.

Goal: Design and deliver various training opportunities for staff to advance competencies and career development.

Infrastructure

A modern infrastructure, state-of-the-art facilities, adequate research, laboratory, library, studio, classroom, and office space is necessary for the university to carry out its primary missions of research, education and service, and to attract and retain the best faculty, graduate students, and postdoctoral fellows and associates.

Facilities

The university has made significant progress on a number of major building priorities, specifically, the Cancer and Genetics Research Complex, the Nanosciences Research Fabrication Facility, the Pathogens Research Building, and the Biomedical Sciences Building. (See the discussion below on the life sciences for how these buildings fit into the university's research initiatives.)

However, many space and facilities needs remain unmet, and will become increasingly urgent in the future.

More classroom space is needed, particularly in the northeast quadrant of the university, and particularly with respect to large lecture rooms.

Office space in many units is a significant constraint on reaching parity with top ten public AAU universities and cramped quarters and inadequate office space are a serious obstacle to recruitment and retention of faculty. Many departments, below strength relative to peer institutions, cannot expand significantly because there is no space available for additional faculty. Planning for growth in the university's faculty and programs must go hand-in-hand with planning for adequate space.

Goal: Identify critical space and facilities needs across the university and implement a long-range plan to resolve them.

Libraries

Special attention should be paid to the central libraries because they are the repository of research materials for the whole university. Despite the expansion of the Smathers Libraries, the space available at the main library facilities and at many branch libraries at the University of Florida compares unfavorably with top ten public AAU institutions, and the University of Florida lags behind peer AAU institutions in library collections, library physical amenities, library staffing, and specialized information services for undergraduates, graduates, and faculty. The library is a partner in the research and IT enterprise and provides a variety of singularly important primary source and research materials that are of fundamental importance to the university's educational and research programs. The University of Florida must ensure that library resources meet the needs of students and faculty as a part of its overall strategy.

Goal: Given the central importance of the libraries to the research and teaching missions of the university, develop a separate strategic plan specifically devoted to long range planning to meet

future needs for library resources and facilities and to bring library resources at the University of Florida in line with top ten public AAU universities.

Information Technology

A state-of-the-art information technology (IT) system must be built to meet the needs of faculty and students in research and teaching. Information technology has become a core resource in every institution of higher education in America. It facilitates computation, communication, information collection, storage, processing and dissemination, and therefore all aspects of university's enterprise. The University of Florida is a pioneer in several aspects of information technology. Notable examples include the NSF-sponsored Virtual Data Grid under construction, applications in the McKnight Brain Institute, and the new initiative in Digital Arts. In some areas, such as general access to IT by students, the University of Florida lags behind its counterparts. As more technologies converge in IT, the University of Florida must create and sustain an information technology structure that supports the university's mission and goals. The renovation of the Hub to a center of student technological and social life is a first step to providing students updated IT facilities.

Goal: Review IT needs and develop a state-of-the-art IT infrastructure to support faculty and students.

Goal: Increase from the standpoint of the end-user, the compatibility of IT units, while maintaining their integrity.

Strategies for Maximum Impact

Introduction

A number of areas are singled out below for attention in pursuit of the university's goals of becoming a top ten public research university and meeting its obligations to its students and to the citizens of Florida. No single strategic plan can pretend to direct all of the disciplinary activity of faculty and departments. Nor would it be sensible for a group of strategic planners to attempt to direct faculty efforts to a few centrally-planned projects on which the university pins its hopes. The following list of areas of investment will help guide some large scale planning, but it is not an exhaustive list of areas of investment at the university. Neither is this list in any priority order. The strength and success of the American research enterprise depends in large part on the ability of faculty to choose their own research programs and to move quickly in new directions to advance them. Faculty, departments, and colleges must have incentive, drive, and access to resources to pursue promising new areas. Much of the university administration's work must be directed to providing an environment that enables them to do this effectively.

Many of the areas listed below are interdisciplinary in nature, and an increasing number of emerging areas of research draw on a wide range of disciplines. It will be critical for success that every effort be made to empower interdisciplinary research and study at the university and to facilitate the administration of initiatives that cut across traditional university structures.

Strong interdisciplinary research requires strong contributing disciplines. The natural and mathematical sciences underpin our understanding of the workings of the natural world at the most fundamental level. Engineering plays a central role in the translation of basic research into

practical application. The social and policy sciences lay a foundation for sound analysis in the aid of important decisions in connection with social, economic, public health, and educational policy issues. Though they may not be mentioned specifically below, it must be part of our conception of the pursuit of some of the major science, engineering, medical, social, and professional projects mentioned in the following, that they be supported by a strong foundation in the natural, mathematical, social, and engineering sciences.

1) The Arts and Humanities

No university can aspire to recognition as one of the country's great public universities which is not recognized as a leading center of research and teaching in the arts and humanities. They give the university its moral weight and have a fundamental role in the university co-ordinate with that of the basic sciences. The vitality of the arts and the humanities, and their contribution to the intensity and seriousness of the intellectual life of the university, are crucial to the vitality of the university as a whole. Study in the arts and humanities is an important component of what it is to be a civilized and educated human being. It is crucial for achieving the synoptic view of ourselves and our enterprises that locates us on a larger scale than the individual life, and it plays a central role in teaching students how to express themselves clearly and effectively and to engage in extended critical and interpretive thinking.⁴

The central role of the arts and humanities in the university is reflected in the strength of the arts and humanities at the best public and private research universities. The University of Michigan at Ann Arbor and the University of California at Berkeley, among the premier research universities public or private, have very strong arts and humanities departments, with many graduate departments ranking in the top ten nationally.

A recent AAU report notes that the humanities nationwide have "suffered from both low investment and the absence of structures to support effective engagement around issues of central concern." On the basis of a review of the status of the arts and humanities, it recommends that "university presidents and chancellors should make the humanities a major focus of institutional strategic planning, and should regularly emphasize to the university and the broader community the fundamental importance of the humanities."⁵

At the University of Florida, over the last 25 years, growth in the arts and humanities faculties has not kept pace with growth in the student population, and, while this is true of other segments of the University of Florida as well, the growth in the arts and humanities faculties has lagged behind growth in the social and natural sciences. In addition, a comparison of department sizes at public top ten AAU institutions such as Ohio State University, the University of Michigan, the University of North Carolina, Chapel Hill, and the University of Texas, Austin, shows that among the arts and humanities, the social sciences, and the natural sciences, the arts and humanities departments at the University of Florida are relatively further behind with respect to their peer departments.⁶ Even relative then to the general decline in support across the nation for

⁴ Arts and Humanities students scored higher on the verbal and analytical writing components of the GRE than any other group, as reported in the ETS publication *2005-2006 Guide to the Use of Scores*, pp. 18-20, during the survey period from July 2001 to June 2004 (<http://www.ets.org/Media/Tests/GRE/pdf/994994.pdf>).

⁵ *Reinvigorating the Humanities: Enhancing Research and Education on Campus and Beyond*, p. iv, available online at: <http://www.aau.edu/issues/HumRpt.pdf>.

⁶ See the preliminary report of the Faculty Senate's Arts and Humanities Working Group for relevant data: http://www.senate.ufl.edu/archives/faculty_senate/2006/20060420ahwg.pdf.

the arts and humanities, the arts and humanities have suffered from a paucity of investment at the University of Florida.

Goal: Develop faculty resources specifically in the arts and humanities by (i) providing a supportive research environment to increase faculty productivity, (ii) recruiting and retaining the best faculty possible in the arts and humanities, and (iii) developing a plan to build the size of arts and humanities programs to achieve parity with top ten public AAU institutions.

Goal: Promote the arts and humanities to the university community, the national and international academic communities, and to the public at the local, state, and national level. Support outreach programs to the state and local community and important institutional affiliations such as, the collaboration between the College of Fine Arts and New World School of the Arts in Miami.

2) **Internationalization**

The last fifty years has seen the rise of a truly global community, a trend that will accelerate rapidly in the next few decades. Increases in global travel, the integration of the world's economies, the migration of peoples, and the great advances that have been made in the development of a global information infrastructure have significantly diminished the effective distance between different cultures and societies. Understanding the world's cultural and linguistic diversity has consequently become an urgent practical matter. We will all, in the future, be in closer contact with peoples who are not native speakers of English, who come from different cultural and religious backgrounds, and whose political and social perspectives differ from ours. The University of Florida has an obligation both to develop resources for understanding different cultures and societies so that we are prepared as a state and as a nation for the increasing integration of the global community and to inculcate this understanding in its students. The University of Florida has embarked on some significant initiatives to these ends. The university's study abroad programs have provided students with the opportunity for the transformative experience of living and studying for extended periods in other countries. Its scholarly exchange programs provide faculty the opportunities to teach and conduct research abroad, and bring international scholars to the University of Florida. The university has been competitive in getting Fulbright awards and a variety of other international research grants and awards. The university's faculty engage frequently in collaborative research with scholars from other countries, and carry out research on international issues in medicine, health, business, law, agriculture, science, language, religion, culture, and art, among others. To fulfill its obligations the university needs to continue support for these efforts and to develop new programs to deepen our understanding of the world's cultural diversity and promote international research and education.

Goal: Enhance existing and develop new programs to promote international research, teaching, and study abroad and exchange programs.

Of particular importance for the University of Florida's stature as a center for international studies are its prestigious Title VI centers. The university has been a national leader in competing for and winning funding from the United States Department of Education (USDE) through the Title VI program. Currently the University of Florida has five such centers, making it a leader among AAU universities in this regard. Three focus on area studies (the Center for Latin American Studies, the Center for African Studies, and the Center for European Studies) and two are thematic (the Center for International Business Education and Research and the Center for

Transnational and Global Studies). All of these centers are nationally ranked. Latin American Studies is one of the top-ranked centers in the world and is consistently ranked number one or two nationally. African Studies has been ranked as high as number three nationally. These five interdisciplinary centers collect faculty from all sixteen of the university's colleges.

Goal: Support Title VI centers in making competitive grant applications to secure USDE funding.

3) Life Sciences

The biological and life sciences form a large component of most top university research portfolios. Investment in these areas must play an important role in the university's research programs in the future.

The University of Florida's research agenda in these areas spans a substantial number of programs across many colleges. In particular, the College of Liberal Arts and Sciences (CLAS), the College of Engineering (COE), and the Institute of Food and Agricultural Sciences (IFAS) partner with the six colleges in the Health Science Center (Medicine, Dentistry, Veterinary Medicine, Pharmacy, Nursing, and Public Health and Health Professions) and numerous Centers and Institutes whose missions focus on life sciences research. Given the range of programs across which research in the life sciences is spread, there is a special need to coordinate research and teaching programs across administrative unit boundaries.

Goal: Identify where there is fragmentation in research and teaching programs in the biological sciences at the university and introduce coordinated training in biology as a way of addressing it.

The University of Florida will be a major player in biology, the life sciences, and biotechnology by assuming a leadership role in carefully chosen sectors of these fields. To accomplish this, the university's investment strategy must be part of a coherent plan to share the talents and resources of the colleges involved in life sciences research and their partners, such as Shands HealthCare and Scripps Florida, and to focus and coordinate their research efforts.

Goal: Develop a plan to achieve leadership in fields in the life sciences selected to match the strengths of the University of Florida and its partners by (i) sharing talents and resources of the colleges and units involved in life sciences, and (ii) focusing and coordinating their research efforts.

The McKnight Brain Institute has matured to become a premiere international institution that integrates efforts across colleges and units to understand and treat the brain and nervous system. The university is moving rapidly to invest in other new programs and must consider investing in emerging areas such as bioimaging, diabetes mellitus, cardiovascular medicine, regenerative biology and medicine, and emerging pathogens. The university's first new investment is the rapid development of the Cancer and Genetics Institutes, to be housed in the new Cancer and Genetics Research Complex. The second is construction of the Nanoscale Research Facility, which will play an important role in providing support for the relatively new field of bio-nanoscience. Plans for this building are currently under way. The third is a new life sciences research facility, the Biomedical Sciences Building, which is the university's next building priority. The fourth is a new building for research and programs in emerging pathogens.

Goal: Strengthen the faculty and programs in the areas of cancer and genetics, bio-nanoscience, life science, and emerging pathogens in conjunction with the completion of the Cancer and Genetics Research Complex, the Nanoscale Research Facility, the Biomedical Sciences Building, and the Pathogens Research Facility.

4) Ecology and the Environment

The University of Florida is poised to become an internationally recognized institution for research and education in ecology and environmental studies. Maintaining our existing strengths and building on them will enable the University of Florida to make an important contribution to the research necessary to understand and maintain the health of the world's ecosystems. The health of the world's ecosystems in turn is crucial to the health and well being of our human population. Florida in particular is home to many fragile ecosystems found nowhere else. These ecosystems now face an unprecedented threat from climate change and human activities. In this, Florida is part of a much larger syndrome of global environmental change due to human activities which threaten the health of ecosystems around the world. The University of Florida can be a bellwether for studies of ecological and environmental issues for the state of Florida, the nation, and the world. Climate change, human-environment interactions, and invasive species all reflect the intertwining of many nations and ecosystems across the globe. The study of environment change thus has important political, cultural, social, moral, religious, and behavioral dimensions. Institutional initiatives to foster cutting-edge research in basic and applied ecological and environmental science must therefore also draw on the humanities and the social sciences. Many departments and colleges, as well as existing interdisciplinary programs and research centers and institutes across the university, contribute to our understanding of ecology and the environment. These include the School of Natural Resources and Environment, the Tropical Conservation and Development Program, the new Water Institute, and the Land Use and Environmental Change Institute, among others. Achieving national and international stature in this arena requires both maintaining strength in many disciplines and fostering creative interdisciplinary efforts.

Goal: Create a campus-wide Institute of Ecology and Environment, an integrative and broadly conceived entity similar to the McKnight Brain Institute, to focus the efforts of the widely dispersed faculty and coordinate the activities of existing units concerned with environmental studies.

5) Energy

Global environmental change is driven to a significant extent by human energy use, and the two are inextricably linked. Environmental concerns over the use of fossil fuels and their contribution to greenhouse gases, national security concerns over the dependence on foreign oil, and a growing public awareness for the need for a cleaner environment are stimulating the demand for renewable energy. The development of alternative sources of energy, new energy distribution systems, and renewable energy programs are essential for our future. The University of Florida must maintain its commitment to research excellence in these areas. Comprehensive programs and courses in renewable energy require bridging disciplinary divides and requirements. The disciplines of ecology, environmental science, biotechnology, forest resources, agronomy, public health, biology, chemistry, and microbiology all contribute toward an understanding of the impact of the development of renewable energy on societies and ecosystems. Further, there are aspects of economics, finance, policy, political science, and law involved in any significant alternative or renewable energy project, as well as a role for community planning, building

construction, and architecture. The impact of energy technology on the developing world and the use of appropriate technology draws on many social sciences, including anthropology, sociology, and international development.

Goal: Continue and strengthen the University of Florida's activities to generate and promote renewable energy technologies through integrated research, education, and training.

6) Agriculture and its Impact

The importance of agriculture to the state, region, nation, and the world makes it an important area of research and service. While a number of academic units contribute to this broad initiative, the Institute of Food and Agricultural Sciences (IFAS) is dedicated to developing knowledge in agriculture, human, and natural resources and to make that knowledge accessible to sustain and enhance the quality of human life. It is a central component of the land grant mission of the University of Florida. IFAS contains the College of Agricultural and Life Sciences, Florida Agricultural Experiment Station, and Florida Cooperative Extension Service. Through a network of Research and Education Centers and Extension Offices they have a presence in every county in the state. Their teaching, research, and extension programs extend into every community in the state providing services and expertise for counties, cities, industry, and individual citizens.

Goal: Strengthen the University of Florida's statewide network of extension, research, and academic programs to continue to be relevant and provide science based solutions to Florida's citizens.

IFAS' research and educational programs focus on agricultural, natural resource, and human systems. While contributing to the success of Florida's agriculture, IFAS faculty have also developed a national and international reputation. As Florida's population grows, new challenges are posed for the future of agriculture, Florida's natural ecosystems, and the quality of life of its citizens. Many of these challenges are also echoed globally and hence Florida is well positioned to be a leader and a model in the world. IFAS' research and educational programs must continue to expand to meet new needs and answer new questions. Extramural funding and faculty productivity must increase to enable IFAS to make these critical contributions of knowledge to Florida and to the planet.

Goal: Increase extramural funding and scholarly productivity for research, extension, and academic programs which span basic discovery, innovation, and application.

7) Nanoscale Science and Technology

The University of Florida has launched a major research initiative in nanoscale science and technology with the construction of the new Nanoscale Research Facility. The Nanoscale Research Facility will provide world-class facilities and technical support for University of Florida faculty and students to pursue multi-disciplinary research and education in the areas of nanoscale science and technology. Nanoscale science and technology involves understanding the fundamental properties of atoms and molecules at the nanoscale (one billionth of a meter) and utilizing this understanding to create new devices and sensors for the communication markets, new drug delivery systems, and biotechnology innovations, among other new technologies. Fundamental properties of materials at the nanoscale, such as their chemical reactivity, and their optical, magnetic, and electrical properties, can be significantly different from their properties at larger scales. Nanoscale technologies aim to exploit these special properties to develop

structures, devices, and systems with novel properties and functions because of their size. Exciting new materials and applications have already been invented, and the commercial, scientific, and medical potential of nanoscience is enormous. Given the scientific and technological significance of nanoscale research, the University of Florida must have a significant investment in this area.

As the Nanoscale Research Facility is completed, the university must develop a staffing plan and a plan to coordinate the participation of faculty across the various disciplines concerned with nanoscale science and technology. The disciplines concerned include physics, chemistry, the biological sciences, engineering, and medical sciences. Since there are significant questions that arise about the effect of the development of nanotechnologies on the environment and on human health, it will be important to develop in parallel the ability to assess the impact of anthropogenic nano-compounds and materials on our health and our environment. The study of natural nano-materials will be an important component of understanding the potential affect of anthropogenic nano-compounds on the environment.

Goal: Develop a staffing plan and a coordinating plan for the participation of faculty in nanoscale science and technology research in conjunction with completing construction of the Nanoscale Research Facility.

Goal: Develop a plan for assessing the impact of anthropogenic nano-compounds and materials on our health and environment, including attention to research on natural nano-materials.

8) Space Science

The University of Florida has made great strides in the space sciences over the last decade. The Astronomy Department's focus on the development of image-detection devices has led to increases in funding, telescope time, and significant scholarly achievements. Faculty in organic chemistry have made notable discoveries in astrobiology, while faculty in physics have participated actively in the Laser Interferometer Gravitational-Wave Observatory (LIGO) project. Through the Department of Mechanical and Aerospace Engineering, the University of Florida is the lead institution on the NASA University Research, Engineering, and Technology Institute (URETI) for Future Space Transport project to develop the next generation space shuttle. The University of Florida is therefore well positioned to become a major center of space science research. The university should continue to support and expand its activities in space science research, considering areas where it may develop new programs that build on current strengths. For example, there is currently no state university in Florida which has a planetary sciences program, and filling this gap is fully within the grasp of the University of Florida. The Departments of Astronomy, Physics, Chemistry, Geological Sciences, and Mechanical and Aerospace Engineering, as well as the Florida Museum of Natural History, all have critical roles to play in this project.

Goal: Continue to expand the University of Florida's activity in space science and look for ways to increase interdisciplinary research and collaboration in this area.

9) Professional Preparation

The University of Florida's professional colleges play an important role through their research in enhancing the university's recognition, and they play an important role through their educational programs in advancing the professional and economic needs of the state and nation. These

colleges include the College of Agricultural and Life Sciences, the College of Design, Construction and Planning, the College of Education, the College of Engineering, the College of Health and Human Performance, the six colleges of the Health Science Center, the College of Journalism and Communications, the Levin College of Law, and the Warrington College of Business. They contribute to responsible citizenship, public policy and governance, new technologies and technology transfer and implementation, economic stability and growth, and public health and education. The scholarship and academic programs these colleges provide intellectual support for interdisciplinary initiatives. Graduates of these colleges have provided important leadership and service to the state and nation for several generations, and the University of Florida must ensure the successes of these programs as part of its overall strategy. In all professional programs the emphasis will be on achieving or sustaining national recognition in order to provide Florida residents access to the best quality professional education.

Goal: Strengthen the educational and research facets of professional programs and colleges, with special emphasis on interdisciplinary endeavors, as appropriate.

Of special importance in the information age is the need for information technology professionals trained in the departments of Computer and Information Science, Engineering, Electrical and Computer Engineering, and Decision and Information Sciences.

Goal: Review resources available for training information technology professionals and develop as necessary plans to provide adequate resources to assist the state and the nation to meet their needs for professionals educated in information technology.

10) Health Professionals and Health Care

The state has focused attention on its critical shortage of health care professionals. The university has an obligation to help meet these needs through expanded education and training of a broad range of health care professionals. The range of health care professionals currently trained by the university extends well beyond physicians and nurses to include pharmacists, allied health professionals, and professionals in health policy, health service delivery, counseling, mental health, rehabilitation, epidemiology, etc. Retention of trained doctors in the state is an important consideration as well, and this can be accomplished through expanded availability of resident training programs in the state.

Goal: Assist the state in addressing critical shortages of health care professionals.

Units in the HSC also serve the health needs of Floridians directly by staffing clinics and hospitals around the state. This is an important outreach service for the public good that also enhances the university's recognition.

Goal: Maintain and strengthen the system of clinics and hospitals and strengthen the Shands HealthCare partnership.

11) Education, Children, Families

The state and nation need new approaches to learning, from birth through post-secondary education. The University of Florida will lead in this area by conducting multidisciplinary research and by developing demonstration programs and outreach to school districts, community

agencies, and other higher education institutions. Special emphasis will be placed on literacy, pre-K, and high poverty schools. In higher education, efforts are needed in teacher preparation and in math and science education.

Goal: Assist the state to improve the pre-K to 20 educational system through research, demonstration programs, outreach with school districts, community agencies, other higher education institutions, and training more educators and teachers, especially in high need areas.

The University of Florida will also be a leader in the field of health care for children and families. Four million children under the age of 18 live in Florida. Approximately 18% live in poverty and lack health insurance. Nearly one-third of Florida teens are overweight or obese; 10% report binge drinking, cigarette use, or marijuana use; and 8% are school dropouts. Faculties across colleges at the University of Florida are working on important research, education, and service programs to address social problems facing children and families and to promote their health and well-being.

Goal: Improve the health and well-being of children and families through research, education, and service. Promote interdisciplinary approaches to complex health and social problems facing children and families.

12) Aging

The state of Florida has the largest proportion of persons age 60 years or older in the nation and this age group represents the fastest growing segment of the population. There is therefore a special need for the University of Florida to develop programs that address the health and quality of life of older persons. Expertise in aging is extended across many areas of the university, and the University of Florida Institute on Aging serves as the major catalyst for developing interdisciplinary models and synergisms in research, education, and health care across colleges, other institutes, and centers at the University of Florida and its affiliates to improve the health, independence, and quality of life of older adults. Programs on aging at the University of Florida are dedicated to developing interdisciplinary, catalytic, and cross-cutting research that emphasizes translation between social, health services, behavioral, clinical, and basic sciences. Nationally recognized strengths include basic and clinical research of physical and cognitive decline, prevention and rehabilitation research, research related to nursing care of the elderly, behavioral and social studies of later life, and outcomes evaluation research. In addition to coordinating and integrating its diverse expertise in aging-related academics, it is important for the university to develop educational programs for undergraduate and graduate trainees that integrate research and health care of older adults, such as geriatric clinical and research training, geriatric nursing, rehabilitation sciences, neurosciences, and psychosocial programs with strong aging concentrations. The University of Florida also needs to foster programs of integrated health care and professions for older adults, with the provision of "one-stop" state-of-the-art health care for frail as well as healthier older persons. Referral and consultation networks among geriatric medicine and all the health professions are key components of this integration. The University of Florida also needs to partner with local and state agencies, and Councils of Aging to coordinate its efforts with the local and larger community dedicated to improving the lives of older persons.

Goal: Enhance faculty, resources, and interdisciplinary connections between relevant units to address the social, medical, and legal aspects of aging.