UNIVERSITY OF VIRGINIA
COLLEGE *and* GRADUATE SCHOOL *of* ARTS & SCIENCES

# STRATEGIC DIRECTIONS FOR THE COLLEGE AND GRADUATE SCHOOL OF ARTS & SCIENCES

2010-2015

# INTRODUCTION

Through this plan, the College and Graduate School of Arts & Sciences seeks to heighten its own and the University's stature into the top ranks for research and graduate education while maintaining its long-standing reputation for excellence in undergraduate education and exceptional teaching. The strategic directions outlined below represent attainable initial steps nested within a 15- to 20-year repositioning of the College. Ascending to the first ranks of major research universities is an expensive and complicated endeavor for which the proposed steps establish direction and momentum for subsequent investments and initiatives.

The College commences this latest round of planning from a position of both recent progress and clear and pressing challenges.

- The quality, coherence, and breadth of the undergraduate curriculum remain cornerstones. The College has added faculty positions in recent years to help accommodate considerable enrollment growth and has initiated undergraduate research programs in the sciences and arts.

- Many departments and programs are regularly recognized as among the very best in the country, including English, history, creative writing, religious studies, and several language and culture programs. Among the sciences, astronomy, psychology, and environmental sciences enjoy particularly strong reputations.

- Several critical building renovation and construction projects, including South Lawn, Ruffin Hall, and major renovations to Monroe Hall, Fayerweather Hall, and Cocke Hall, have enhanced teaching, studio, and office space in the arts, humanities, and social sciences.

- The University and College face an uncertain budgetary environment. Recent reductions have extracted approximately $9 million of state support from the College's budget. Declines in the market value of the University's endowment will likely reduce endowment support for operations in coming years.

- The College is in the midst of a demographic turnover of its faculty, with large proportions moving into retirement age, including several leaders in areas in which we seek to build.

- Many of our sciences departments and laboratories are housed in largely inadequate facilities. Completion of the new physical and life sciences building will ease immediate needs, but will be insufficient to accommodate longer-term space needs for the impending replacement and expansion of the science faculty. Renovation of Gilmer Hall and the Chemistry Building, as well as planning for at least one additional new building, is essential to meeting lab and office space needs over the next decade.

The six strategic directions presented in this plan, while comprehensive in scope, present specific guidance and focus for the allocation of resources and energies over the next several years as well as a framework through which to organize fundraising opportunities for the next phase of the campaign.

# STRATEGIC DIRECTIONS AND PRIORITIES

## STRATEGIC PRIORITY 1

**Expand size of faculty by a minimum of 35-40 tenure-track positions over the next five to seven years to balance enrollment pressures, pursue opportunities to strengthen and distinguish priority areas, support new or expanded academic initiatives, and allow for targets of opportunity to recruit outstanding senior scholars.**

Between 1994 and 2005, the number of tenured and tenure-track faculty in the College declined slightly from 551 to 535, while undergraduate enrollment increased by nearly 1,400 students. Though a recent infusion of funding from the University allowed the College to add 49 new faculty positions from 2005 to 2008, the growth of regular faculty positions continues to trail the pace of enrollment growth.

The University's overall student-to-faculty ratio of 15 to 16 students per faculty, while reasonable in comparison to that of many other public universities, pales alongside the top tier of universities and liberal arts colleges against which it competes for the most talented undergraduate students in the country. The best liberal arts colleges offer intensive faculty-led educational experiences reflected in ratios of eight students per faculty—about half that found at U.Va. Ratios of ten students per faculty member or lower are common among the top 25 research universities as well. The University's pre-eminent reputation for undergraduate education is striking when considered in light of this relative lack of faculty resources.

Faculty throughout the College are stretched to balance the demands of undergraduate teaching, graduate programs, and research. The stresses associated with a limited number of faculty members have resulted in minimal or inadequate graduate curricula in several departments. The higher student to faculty ratio also limits undergraduate student contact with the University's talented faculty. As a result, the proportion of undergraduate courses taught by tenured and tenure-track faculty has declined over the last decade as enrollments have increased. With increased emphasis and commitment to research and graduate education as core priorities in the University's strategic plan, faculty expansion will be necessary to avoid a decline in the quality of undergraduate teaching. The addition of new faculty lines is an essential component and pre-requisite for achieving the major objectives of the College's plan: maintaining excellence in undergraduate teaching, enhancing graduate education, strengthening research, and targeting multidisciplinary initiatives in areas of developing knowledge.

While most humanities and social sciences departments in the College approximate the size of well-regarded programs, the sciences are almost uniformly undersized—by 20 to 30 percent or more in some cases-- relative to the top programs nationally. We suspect that an upcoming report from the National Research Council, to be released this spring, will confirm that the top-ranked science departments nationally expanded in size since the mid-1990s during a period of enhanced funding opportunities while the College's programs remained steady or declined in size. Larger faculty size allows for broader coverage of disciplinary subfields, greater potential research influence, and the ability to maintain larger graduate programs. These factors in turn argue for the quality of the

program and may also lead to ratings bias: the more alumni a department has, the more will become future reviewers in rankings and assessments. Program rankings have consistently demonstrated a strong correlation between faculty size and reputation.

**TABLE 1. Faculty Size Relative to Sample of AAU Universities in Selected Disciplines, 2005-06**

| | | AAU Percentile* | | | |
|---|---|---|---|---|---|
| | **UVA** | 25th | 50th | 75th | # Programs |
| *Arts and Humanities* | | | | | |
| Classics | **10** | 10 | 13 | 16 | 17 |
| English Language and Literature | **49** | 35 | 44 | 50 | 34 |
| French and Francophone Language and Literature | **15** | 10 | 13 | 14 | 21 |
| German Language and Literature | **9** | 7 | 10 | 12 | 17 |
| History of Art, Architecture and Archaeology | **22** | 12 | 16 | 18 | 25 |
| Philosophy | **14** | 14 | 19 | 22 | 40 |
| Religion | **28** | 14 | 16 | 19 | 7 |
| Spanish and Portuguese Language and Literature | **13** | 13 | 15 | 18 | 26 |
| *Sciences* | | | | | |
| Astrophysics and Astronomy | **15** | 15 | 19 | 27 | 15 |
| Chemistry | **25** | 24 | 31 | 40 | 43 |
| Mathematics | **24** | 30 | 34 | 54 | 34 |
| Physics | **38** | 29 | 43 | 72 | 35 |
| Psychology | **33** | 30 | 41 | 52 | 35 |
| *Social Sciences* | | | | | |
| Anthropology | **26** | 16 | 21 | 27 | 29 |
| Economics | **24** | 20 | 25 | 43 | 34 |
| History | **43** | 29 | 40 | 48 | 34 |
| Political Science | **37** | 21 | 29 | 35 | 34 |
| Sociology | **13** | 18 | 25 | 37 | 32 |

* Data submitted to current National Research Council program rankings by sample group of member universities in the Association of American Universities (AAU)

Over the next decade, the College expects to appoint approximately 115 to 130 new faculty members, including 35 to 40 positions created through this planning initiative and perhaps as many as 80 to 90 replacements for retirements and other departures. The probable turnover of nearly 20 percent of the tenured and tenure-track faculty represents a distinct opportunity to reshape and bolster the faculty to address future priorities in research and teaching. Not all departments should or will grow. Some will grow in response to enrollment pressures and others will grow to pursue opportunities to establish areas of distinction and excellence. A small number of departments may decline in size. The distribution of replacement and incremental faculty lines will be driven by analysis and in alignment with strategic priorities. The addition of office and lab space at South Lawn, New Cabell Hall, Monroe Hall, and the new physical and life sciences building should accommodate expansion of this magnitude, assuming adequate renovations to Gilmer Hall.

A portion of the faculty growth will be necessary to maintain the College's traditional strengths in the humanities and selected social sciences and respond to enrollment pressures in particular disciplines. However, most of the net growth must be targeted toward strengthening the sciences and multidisciplinary areas of emphasis for which we are well positioned for distinction and which

sit at the frontiers of scientific discovery over the next decade. As we enter a sustained period of faculty turnover, we will be guided by the following strategic priorities:

- Address severe enrollment pressures in departments of Spanish, Economics, Chemistry, Psychology, Politics, Biology, and Sociology through the allocation of additional tenure-track faculty lines as well as selected conversion of longstanding adjunct or temporary faculty lines into regular positions.

- Retain flexibility to balance junior hires with a small number of opportunistic hires of eminent senior faculty, post-doctoral fellows, and visiting faculty.

- Evaluate faculty turnover for opportunities to reallocate replacement faculty to areas of greatest need. Develop a "mortgaging/pre-fill plan" to take advantage of current hiring market and opportunities to build departments prior to retirement of eminent senior faculty. Authorize searches in advance of anticipated retirements to avoid gaps and to maintain balance of younger faculty.

- Strengthen and regularize faculty review procedures for tenure, promotion, and salary increases to promote highest levels of excellence in teaching, research, and service.

- Consider professors-at-large or professors of practice to attract accomplished leaders to faculty for limited-term appointments.

- Accompany any increase in faculty positions with a review of administrative support to ensure adequate coverage.

## STRATEGIC PRIORITY 2

**Establish or expand collaborative and multidisciplinary research in targeted areas well positioned to distinguish the College.**

Centers offer a useful structure for bringing together faculty and students pursuing related research from different disciplinary approaches and perspectives. As such, they offer opportunities for joint appointments, research collaborations, and graduate study opportunities that cut across departmental and school boundaries. They also present structures through which to target seed funding to faculty competing for large-scale, particularly multidisciplinary grants. While these plans differ somewhat in scope and content, we envision similarities among the centers and initiatives with regard to the types of resources they will require, such as additional regular and visiting faculty lines (located in home departments), graduate student and postdoctoral fellowships, equipment, programming funds for symposia and outreach, administrative and technical support, office and lab space, and matching funds for grant proposals.

**Energy Research.** The increased worldwide demand for energy has intensified the competition for fossil fuel resources. This, combined with the increasing recognition of the effects of carbon emission, makes the development of sustainable and efficient energy production technologies perhaps the single most important scientific problem today. The challenge is to transition rapidly from a petroleum-based energy paradigm to an accessible system based on a combination of natural gas, wind, biomass, nuclear, and solar energies. For each of the potential energy sources that may replace petroleum, fundamental molecular- level discoveries are needed to enable large-scale use. Chemistry will play an essential role because the key component to all but wind power is chemical catalysis.

The faculties of Chemistry and Chemical Engineering already have core expertise in the field of catalysis. Additional hiring and infrastructure support will position the College more competitively for research funding, broaden educational opportunities for undergraduate and graduate students in this important area, and enhance opportunities for collaborative research in energy sciences, including chemistry, engineering, and physics. Development of a Center for Energy Research may entail three to six additional faculty positions, instrumentation and dedicated technical support. Such growth will complement existing research groups in the Chemistry department focused on surface chemistry and catalysis, surface reactivity, chemistry of complex carbohydrates, biomaterials, and homogeneous catalysts for hydrocarbons.

**Morphogenesis and Regenerative Medicine.** The University recently established a Morphogenesis and Regenerative Medicine Institute as a collaborative effort across the schools of Medicine, Arts and Sciences, and Engineering. Morphogenesis concerns the fundamental question of how biological form and structure are generated, and encompasses a broad scope of biological processes. The questions that underlie the concept of morphogenesis are basic questions in the biological sciences that involve not only development biology, but also the areas of cell biology, molecular biology, biochemistry, and neurobiology. The College seeks to augment its current strengths in this area by hiring a prominent senior-level faculty leader in the area of morphogenesis. This senior-level hire should be complemented by additional hires focused on the cell biology of neurons and the

developmental biology of zebrafish. This set of hires would further complement research groups in the Neurosciences and Cell Biology departments of the School of Medicine.

**Global Environmental Change.** Environment-related research in the coming years will focus on the causes of global change and how these alterations affect ecosystems and human populations. Global change research involves understanding the magnitude of change, the speed of change, and the response to that change in biological systems. While the magnitude and speed questions pertain most closely to environmental scientists, understanding the response to climate change is a key area of population and evolutionary biologists studying dispersal and migration, genetics and evolutionary potential, evolution of range limits, and the destruction of biological diversity. Other underlying questions relate to energy, water and land resources, air quality, and ecosystem services. Finding answers will require interdisciplinary research collaboration across many disciplines, including the social sciences. To be on the cutting edge, we must exploit the growing connections between the life and physical sciences and seek to develop better links with the social sciences. New hires in population and evolutionary biology and environmental sciences will bolster these departments' current strengths.

**Human Life Span Development.** Psychology seeks to leverage and expand its current strengths in electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) to study the problems and theories of human behavior across the life span, from early development to issues involving aging. This initiative will serve as the platform from which to break through traditional area boundaries within the discipline and apply more broadly the analytical methods development by the department's highly regarded quantitative faculty. Such a focus has significant potential for expanding the department's research grant base and for developing further international collaborations, such as the current relationship with the Max Planck Institute in Germany. The initiative has natural linkages to sixteen departments across Grounds, including several in both the School of Medicine and the College. Curricular developments stemming from this effort will apply scientific approaches and research to social issues, providing an opportunity for connections and collaborations with social scientists focused on policy.

**Radio Astronomy.** The College has a unique opportunity to leverage existing faculty strength and relationships with the nearby National Radio Astronomy Observatory (NRAO) to establish a leadership position in Atacama Large Millimeter Array (ALMA)-related science and the Sloan Digital Sky Survey/APOGEE projects. These projects offer an opportunity for the Astronomy department to position itself at the vanguard of major multi-institutional projects of great scientific importance. The department proposes to make strategic faculty hires with expertise in areas aligned with ALMA needs. The department will also pursue a new concentration in its graduate program emphasizing radio, millimeter-wave, and sub-millimeter astronomy to address the national need for more astronomers with this background and expertise. There is great potential to establish a Center for Celestial Origins focused on research concerning galaxy, star, and planet formation made possible by the ALMA initiative. Such a center could leverage both the presence of NRAO as well as interdisciplinary strengths within the university, including theory groups in Astronomy, expertise in solar system dust and ices in Materials Sciences (Engineering), and cosmo-chemistry in Chemistry.

**Chemistry of the Universe.** The College is well positioned to become an internationally recognized center for astrochemistry. The ALMA facility noted above will provide high sensitivity detection of molecules in space with unprecedented spatial resolution. For the first time it will be possible to understand the interstellar chemical processes that produce the molecules that form planets and may be responsible for seeding the universe with the chemical components needed to produce life. This presents the significant challenge of developing spectrometers for laboratory measurements to keep pace with the measurement speed gains of the next-generation telescopes. Scientists at the University have developed a major breakthrough in laboratory molecular rotational spectroscopy with the potential to reduce laboratory measurement times by a factor of 50,000. A new center, involving several well-regarded research groups across multiple departments, will develop the chemical models that explain these observations and, therefore, extend understanding of the chemistry that operates in the universe. The current lack of a center with astrochemistry focus gives this center the potential for international leadership in an important, long-term basic science problem.

The center will provide a team-oriented, collaborative research environment for graduate student and postdoctoral researchers. Students will help develop state-of-the-art experimental tools with broad applicability in chemistry. They will also have unique access to radio telescope facilities and opportunities to participate in educational programs at the NRAO. A summer undergraduate research program will be introduced that invites talented students from under-represented groups to participate in career development and center research activities. Capitalizing on the broad public appeal of space sciences, the center will develop a university-level general science course and make these materials available through its web site and develop display materials for programs in science centers and museums.

**Institute for Global Humanities.** The University is in need of a focal point for advanced research in the humanities and the humanistic social sciences. While the College and the University have funded any number of separate, largely unrelated initiatives in the digital humanities over the years, such as the Institute for Advanced Technology in the Humanities, there has been no centralized supporting structure for the broader humanities. Establishment of an Institute for Global Humanities will provide intellectual coherence and fundraising leverage for many of the traditionally strongest departments in the arts and sciences. Unlike similar institutes at other universities, the Institute of Global Humanities will have as its founding purpose a robust examination of the humanities within a global framework, both past and present, providing an ideal complement to the emerging Center for International Studies.

Institute activities will focus around annual themes of broad interest to students and faculty in humanities disciplines. Guided by themes such as the past and future of the book, public humanities and the modern university, and languages, translation, and the global university, the Institute will garner new international visibility to the College's humanities programs. The Institute will also serve as a keystone through which to leverage new funds for innovative research collaborations, course and curricular development, public humanities projects, and faculty-led initiatives in humanistic inquiry. The lack of a humanities center within the College has proved a severe disadvantage in pursuing the large-scale foundation support our peer universities consistently receive for advanced work in the humanities. With

the institute in place, the College can demonstrate a commitment to innovative scholarship in the humanities while maintaining the core of humanistic scholarship that represents one of the University's traditional strengths.

**Empirical Research in the Social Sciences.** This initiative is envisioned as a University-wide endeavor drawing together faculty and students from across departments and schools, but with a particular emphasis on Economics, to study issues of social and political importance. The center will develop and promote quantitative and experimental methods to explore data and complex issues across social science disciplines. It will provide structure and support for collaborative research projects of varying scales that explore a common problem from multiple disciplinary and methodological perspectives. The center may also support projects applying a common analytical approach, such as game theory or the incorporation of behavioral elements from psychology, to different issues or research questions. The center represents a critical strategy toward the aim of enhancing the external funding success of the social sciences and for providing meaningful research and collaborative opportunities for faculty, undergraduate, and graduate students in these disciplines. Activities will include topical workshops, hosting guest speakers and potentially visiting faculty members and postdoctoral fellow, seeding promising projects teaming individuals from multiple disciplines exploring a common issue, and providing a forum for the presentation of multidisciplinary research in the social sciences.

**National Resource Centers and the Asia Institute.** The existing centers for both South Asia and East Asia provide interdisciplinary forums for faculty and student interested in the study of South Asia- its diverse peoples, languages, cultures, religions and history. The College seeks to elevate the status of these two centers to federally-designated National Resource Centers (NRCs) by consolidating them within a newly-formed Asia Institute with enhanced academic and public outreach programs. In addition to increased federal support for graduate fellowships, establishing NRC centers will enhance the stature of our language and social science programs in these critical areas. Achieving NRC status requires the addition of faculty positions in the related languages as well as additional faculty strength in the related social science and humanities fields, such as anthropology, history, and the arts. In addition, we must augment the administrative support for the centers with associate director and outreach coordinator positions. In future years, we will work toward pursuing NRC status in the Middle East and Russia and Eastern European areas.

## STRATEGIC PRIORITY 3

**Secure sufficient and regular funding to provide appropriate start-up packages to new faculty to attract strongest candidates and enable them to mount aggressive research programs.**

The replacement of senior faculty in the sciences entails substantial financial costs in terms of start-up packages, which can easily exceed $500,000 per faculty member, and the need for expanded laboratory space to support emerging research programs. Start-up packages often involve lab renovations, equipment purchases, funding for graduate and postdoctoral positions, and summer salary support.

Nearly half of the faculty retirements in the College expected during the next five to seven years will be in the science departments of Astronomy, Biology, Chemistry, Environmental Sciences, Math, Physics, Psychology and Statistics. Even controlling for the fact that some of these retirements will be in less equipment-intensive fields, such as mathematics, and the increasing emphasis on expanding theoretical presence in many disciplines, the costs of supporting the inflow of junior faculty in the sciences will be staggering. For financial planning purposes, we project the costs of start-up packages associated with this transition will be in the $20 million range for the next five to seven years. This figure excludes the start-up costs for new incremental lines in the sciences, which could require an additional $15 million depending on the distribution across fields. Existing restricted funds and grant overhead funds returned to the College can cover only a fraction of these costs, making it essential to secure additional resources in order to avoid deferring critical hiring opportunities as we strive to build in the sciences.

We view this challenge as an opportunity for strategic investment. This new commitment to the sciences is an essential pre-requisite to our priority goal of enhancing the stature of scientific research at the University more broadly. At the same time, it has the potential to return unprecedented resources to the College in the future as junior faculty research programs develop and begin competing for federal and other sponsored research awards, which will increase overhead returns to the University, College, and departments.

## STRATEGIC PRIORITY 4

**Support research and teaching capacity through staffing, instrumentation, and facilities.**

Achieving success in the College's strategic priorities requires investment in facilities, equipment and instruments, and technical and administrative support. Ensuring access to research instrumentation and lab facilities in the sciences as well as studio and performance space in the arts presents a critical prerequisite to recruiting excellent faculty and students to our programs and making progress toward the College's strategic initiatives. Here our efforts will be guided by the following priorities:

- Establish a faculty research advisory group to provide guidance on critical needs, infrastructure, and strategic priorities as the College increases its commitment to and support of the sciences.

- Renovate and repurpose vacated space in Gilmer Hall to accommodate other priority faculty office, research lab, and support needs, primarily in Psychology and Biology.

- Commence planning for a new 100,000 gross square foot science building to accommodate continued faculty growth and renewal in the sciences.

- Build a new thrust theatre and wing adjacent to Culbreth Theatre to house additional faculty offices; dance studio; black box/rehearsal theatre; and costume, sound, and design studios.

- Pursue support for the construction of a new Music building, preferably in the arts precinct of Grounds, to alleviate inadequate quality and quantity of space for music instruction, practice, and performance.

- Upon renovation of New Cabell Hall in the next few years, the College proposes renovation of Wilson, Randall, and Levering Halls to complete the renovation cycle of faculty office and teaching spaces in Central Grounds.

- Secure resources to continue participation in and partnership with world-class telescope projects, such as Apache Point Observatory, Steward Observatory, and the Large Binocular Telescope as operational costs for these projects continue to increase.

- Support growth of computational center in sciences and potential expansion of theoretical faculty in each core science discipline; develop plan for enhancing departmental computing capacity.

- Regularize funding support for the Keck Center for Cellular Imaging, which provides state-of-the-art optical imaging for faculty in the schools of Medicine, Arts and Sciences, and Engineering.

- Develop an Environmental Sciences Analytical Center to centralize equipment used to analyze the chemical constituents in various environmental media and will include a modern stable

isotope facility. Also needed is a facility to support remote sensing and geographic information systems (GIS), which serve as critical components of modern environmental science.

- Maintain the distinctive advantage afforded by the field stations at Blandy Experimental Farm, Mountain Lake Biological Station, and the Anheuser-Busch Coastal Research Center. These stations are essential to the College's efforts to hire and retain talented faculty in Biology and Environmental Sciences, help to secure external grant support, and provide opportunities for research collaborations with faculty at other institutions.

## STRATEGIC PRIORITY 5

**Increase financial support for graduate students to make our programs more competitive nationally and allow for more timely completion of graduate degrees.**

Graduate students work at the vanguard of research and innovation in the twenty-first century university. Their laboratory work and dissertations form the backbone of research innovation around the world. In the highly competitive arena of the modern research university, the novel contribution or discovery is the ultimate quest in the scholarly enterprise. Such contributions require a large and steady infusion of talented graduate students who will come to the University of Virginia brimming with new energy and new ideas, assisting our faculty in their scholarly efforts and emerging as distinguished scholars themselves. Graduate students are the next generation of scholars that we must attract and develop. They move us forward as a university in tangible and lasting ways.

However, graduate education presents a long-standing challenge to the College, in terms of program size, competitiveness of students, breadth and depth of curricular offerings, and general stature relative to the University's highly ranked undergraduate and professional programs. Any plan for enhancing the quality of graduate programs must address the critical issue of financial support.

The inadequacy of financial support for graduate students in the College has been well documented through studies and analysis over the past decade. Discussions with departments and program reviews consistently, and almost universally, identify support for graduate students as one of the most pressing quality-related challenges facing individual departments. Faculty members rank the need for additional investment in graduate student support more highly than new facilities, staff support, even their own compensation as essential to our quest to become a world-class research university.

Enhancing financial support for graduate students has become a ubiquitous and prominent component of recent university campaigns, including those at Brown, Stanford, Southern California, UCLA, Chicago, Wisconsin, Penn, Notre Dame, and Maryland. Stanford and Wisconsin are in the midst of raising $200 million each to enhance graduate fellowships support. The College's signature President's Fellowship program offered to the most competitive candidates trails the typical or standard packages offered at top programs. The *standard* packages at other top universities can exceed $20,000 or more, be guaranteed for five years with limited teaching commitments, and provide for health insurance and summer and travel support.

The College's strategy for enhancing the competitiveness of graduate fellowship support involves three basic components: expanding and enhancing the existing President's Fellowship program; augmenting standard awards with a series of newly established enhancement fellowships; and expanding the availability of dissertation-year support. Studies on graduate funding report that financial support is among the most important considerations in deciding among programs, paling perhaps only to the research reputation and the match of the department and potential mentors to student interests. We have tested this premise, albeit in limited fashion, by augmenting offers made by departments to selected top applicants by $3,000 in 2008-09. The resulting yield rate was 58%, which is notably higher than the 45% yield for Presidential Fellowship recipients receiving the standard award. Our strategy for enhancing graduate support includes the following initiatives:

- Increase level of support for Presidential Fellowship program from $18,000 to $22,000, extend the time period from four to five years, add a $6,000 summer research fund, and expand the size of the program from 40 to 60 new students each year. Overall, the number of President's Fellows enrolled at any given time would increase from approximately 160 to 300. The enhancements would add $5.0 million to the annual operating budget.

- A second fellowship program will allow us to enhance the packages for the broader group of students who currently receive more modest awards than the signature Presidential Fellowships. Each fellowship will provide $5,000 of additional support during each of a student's first four years of graduate study. Assuming 30 new awards, or 120 students enrolled at any time, the cost of this program will be $600,000 per year.

- Expand the availability of dissertation year fellowships, which are critical to ensuring timely completion of the degree, by awarding 40 additional fellowships annually. Each award will include a $15,000 fellowship plus insurance and tuition coverage for an annual cost of $808,000.

We will not distribute the improvements to graduate fellowships evenly across departments, but will instead target them toward improving our position in the sciences and maintaining strength in currently eminent programs in the humanities and social sciences. The specific allocations will be informed by our ongoing strategic planning and program review process.

Additional initiatives to enhance the stature and quality of graduate education programs in the College include:

- Adjust the workload formula for teaching assistants in discussion sections to achieve greater enrollment-based equity with graduate students teaching course sections.

- Revisit fee structure for graduate students, such as tuition charges beyond third year and out-of-state residency for teaching and research assistants.

- Conduct review of the Graduate School to determine optimal administrative structure, program review, advocacy and external support linkages, and analytical support. Establish criteria and metrics for evaluating the quality, needs, and progress of graduate programs, including reputational measures, student quality (admission and placement), completions and time to degree, teaching and research contributions of graduate students, competitiveness of financial support, and student satisfaction. Elevate advocacy role of associate dean on behalf of graduate education and programs within and outside the University.

- With expansion of the faculty, particularly in the sciences, review graduate curricula to ensure adequate depth and breadth, and identify promising areas of graduate study crossing departmental boundaries.

- Identify forums for discussing broader issues of graduate education with both faculty and graduate students, such as a working group of faculty or quarterly lunches with graduate student groups. Establish colloquia or seminar series for graduate students to discuss professional career preparation issues.

- Improve departmental and common spaces for graduate students to work, meet with undergraduate students, and collaborate socially and academically.

- Strengthen process through which the teaching of graduate students is monitored, mentored, and acknowledged.

- Increase awareness of the role and importance of the graduate school through establishment of annual honorary award to one or more accomplished alumni of the College's graduate programs.

## STRATEGIC PRIORITY 6

**Enhance the undergraduate educational experience.**

While the major priority initiatives of the College's near-term plan target enhancements to research capacity and graduate education, it is essential that the College maintain its enviable reputation for excellence in the undergraduate experience. Continued enrollment expansion requires careful analysis of course-taking and major patterns to ensure that the College aligns its teaching and advising resources appropriately. Emerging faculty research and student interests argue for increasing attention to development of new interdisciplinary programs and enhanced opportunities to engage undergraduates in research. Many of the most pressing and important problems and issues today require global perspectives and collaboration. This argues for increasing attention to international study opportunities, additional courses with international perspectives, and renewed support for area studies programs, such as East Asian, South Asian, Latin American, and African studies. Like the sciences, the visual and performing arts present opportunities for increased emphasis in coming years. In the near term, strengthening the place of the arts within the College will focus on strategies to increase undergraduate participation and engagement and take advantage of the substantial improvements to arts-related facilities in recent years.

- Related to increasing the size of the faculty (Strategic Priority 1), expand program of first-year seminars across disciplines; maintain or decrease the student to faculty ratio; increase number of courses offered at both the undergraduate and graduate levels; increase the proportion of undergraduate courses taught by tenured and tenure-track faculty, especially upper division courses; and maintain or decrease median class size despite increasing enrollment.

- Enhance opportunities for undergraduate students to engage in meaningful research opportunities, particularly as they relate to the centers and areas of focus outlined in Strategic Priority 2, through initiatives like the College Science Scholars program. In addition, the College will support the development of faculty workshops to encourage multiple forms of student research opportunities, determine ways to monitor the expansion of undergraduate research, identify "point persons" among the faculty to champion undergraduate research, and seek external funding opportunities.

- Expand and make permanent the College Arts Scholars program to provide intensive immersion opportunities in the fine and performing arts.

- Further encourage student coursework and engagement with the arts through an increase in the number of introductory arts courses and sections; enhanced coordination of the resources supporting digital media to promote more interaction among faculty and students from different fields; increased support for student projects fostering an interdisciplinary perspective on the arts; and expanded partnerships with regional and national arts organizations for residencies, masters classes, and internships.

- Initiate a systematic, cross-departmental review of its language and culture programs, encouraging chairs and program directors to collaborate and work toward integrating best practices and long-term planning into language instruction programs.

- Strengthen existing international area studies centers and programs by regaining National Resource Center status in several critical areas through hiring and program building (see references to East Asia and South Asia centers in Strategic Priority 2); enhance current strengths in Latin American and African studies through the addition of faculty appointments and graduate student recruitment efforts; and bolster collaborative research and exchange opportunities with other universities around the world.

- Launch an interdisciplinary major in Global Development Studies drawing from the departments of Economics, Anthropology, History, Environmental Sciences, Politics, Sociology, and others. The new major will address student interests in issues of social justice, sustainable economic development, global interconnection, and public service.

## CONCLUSION

The six strategic directions described above will serve as the core planning priorities for the College over the next five to seven years. As such, they will be guideposts for the allocation of resources, faculty and staff hiring priorities, and fundraising efforts. The College is a large and complex organization. While the six strategic directions will not encompass all that we do as an academic community, they will be the major focus of our efforts in the years to come. Success will be measured by the progress we make in these critical areas.

As our planning shifts from articulating priorities to implementation, we are developing specific benchmarks and action items for each strategic direction, as well as the means to monitor and report progress. The measure of our success should also be taken from a broader view against our primary objective of repositioning the College as an eminent research institution still widely acknowledged for the excellence of its undergraduate teaching. Evidence of this will be found in the following:

- Ascendancy to the top 25 universities in terms of federally sponsored research;
- National recognition for centers of excellence in several key areas and regular placement of departments and programs among the top 20 nationally;
- Increased numbers of national academy members on the faculty through both recruitment of established faculty and support of our own promising younger scholars; and
- Enhanced competiveness of our graduate programs in attracting the most talented and promising young scholars and in placing them in positions at top research universities.

Success will require substantial investment of new resources during a period of continuing budgetary uncertainty. In the coming weeks, we will update the College's long-term financial planning model to develop scenarios for incorporating the strategic directions and priorities into the operating budget. We will refine cost estimates, action plans, and funding models for particular initiatives, including the development of several phasing scenarios and a multi-year hiring model. The financial plan will also be integrated with the campaign plan to ensure that we identify appropriate giving targets for key areas, such as professorships, fellowships, and program support.

The strategic directions set an aggressive and ambitious course for the College, particularly with regard to their emphasis on the sciences and graduate education. The strength of the College's faculty, recent and planned enhancements to teaching and research facilities, and the distinction of the undergraduate program position the College well as it seeks to ascend to the top tier of major research universities. It is time to begin.