■ **U C BERKELEY** STRATEGIC ACADEMIC PLAN

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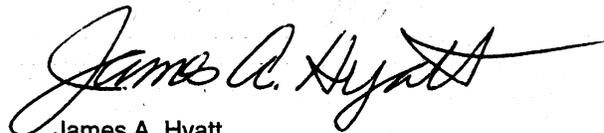
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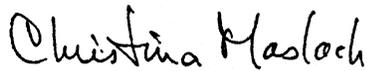
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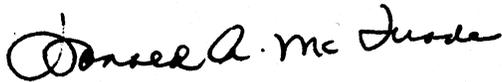
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■ INTRODUCTION

UC Berkeley enters the new century faced with profound challenges:

- to grow our enrollment by 4000 students by the end of this decade, while also ensuring an outstanding education for every student,
- to pursue exciting new paths of inquiry and discovery, while also sustaining excellence in every discipline we pursue,
- to renew the campus physical plant, while also adapting it to more interactive and collaborative endeavors,
- to maintain the breadth and rich variety of the academic enterprise, while also maximizing the potential for interdisciplinary synergy, and
- to serve the people of California, while also upholding our standard as the best research university in the world.

For all these reasons, it has become clear our future development requires the guidance of a Strategic Academic Plan, to ensure our investments in both academic programs and physical improvements reflect a sound, coherent and ambitious vision of the Berkeley campus.

In Fall 2000, Executive Vice Chancellor Gray appointed a joint Strategic Planning Committee, charged to prepare a Strategic Academic Plan for the campus by June 2002. Co-chaired by the Chair of the Academic Senate and the Vice Provost for Academic Planning and Facilities, our committee includes representatives of the faculty and executive leadership, campus staff, and graduate and undergraduate students. The committee has met regularly since its formation, and in spring and fall 2001 we held a series of 'town hall' forums on campus to present our preliminary findings and invite comments and suggestions.

In spring 2002, the committee posted a preliminary version of the Plan on the campus web, and presented updates at another round of campus forums. The comments we received on the website and at the forums have been reviewed by the committee, and have led to a number of refinements to the Plan. This final version of the Strategic Academic Plan describes the key challenges the campus faces in the coming years, principles and proposals to address these challenges, and a comprehensive strategy for implementation.

■ THE ESSENCE OF BERKELEY

At its heart, our academic strategy must reflect and further the values that make Berkeley both great and unique:

THE INTEGRATION AND SYNERGY OF EDUCATION AND RESEARCH. We strive to provide an education in which critical inquiry, analysis, and discovery are integral to the course work. Our students in turn participate in and contribute to research, under the guidance of a community of faculty and staff engaged in the creation of knowledge.

THE BREADTH AND QUALITY OF ACADEMIC PROGRAMS. We believe the rich variety of the academic enterprise at Berkeley creates a setting uniquely conducive to creative thought and insight, through the confluence of different perspectives and paradigms.

A COMPREHENSIVE FOUNDATION IN THE LIBERAL ARTS. We believe every Berkeley graduate should possess literacy and numeracy across a broad range of disciplines, and that a solid foundation in the liberal arts is as fundamental to leadership as specific knowledge within an individual discipline.

A PASSION FOR INQUIRY AND DISCOVERY. Research provides the energy that drives the modern research university. We believe Berkeley must provide a research environment that optimizes creativity and productivity, and supports vibrant, cutting edge research.

THE SYNERGY OF ACADEMIC AND PROFESSIONAL PROGRAMS. We believe professional education at Berkeley must be built on a strong foundation in the liberal arts, and that academic and professional disciplines are both significantly enriched by the insights they gain through interaction and collaboration.

A VITAL AND DIVERSE INTELLECTUAL COMMUNITY. We believe social and cultural diversity are essential to the university. They stimulate creative thought and new paths of inquiry, ensure that the research questions we tackle address the whole of society, and enable us to train leaders who encompass the entire spectrum of Californians.

THE VALUE OF CONTIGUITY. We believe a vital intellectual community can only thrive when the entire scope of the academic enterprise is located in close proximity, in order to foster the formal and informal interactions that lead to productive collaboration.

A PARTNERSHIP OF STUDENTS, FACULTY AND STAFF. We recognize the contributions of each are both essential and inseparable: no group can excel without the support of the others, and each must have adequate resources for the enterprise as a whole to succeed.

INDEPENDENCE OF MIND IN THE PURSUIT OF KNOWLEDGE. Notwithstanding the inherently political nature of a public institution, we believe the pursuit of knowledge must not be constrained by temporal economic or political considerations. The research university is by definition a place where perceived truth is under constant challenge.

THE PRIMACY OF PUBLIC SERVICE. Notwithstanding the growing pressure to seek private resources, we recognize our core purpose is to serve and benefit the people of California through the creation, dissemination and application of knowledge, including outreach to underserved communities.

EXCELLENCE IN EVERY ENDEAVOR. We must ensure each element of the academic enterprise – teaching, research and service – continues to maintain the Berkeley standard of excellence. This requires us to recruit and retain the best people from the full talent pool, and to provide the resources they need to excel.

■ BERKELEY TODAY

The need for a sound and coherent academic strategy at Berkeley is driven by the confluence of several factors, both internal and external:

PUBLIC MISSION

As a UC campus, Berkeley has a clearly defined role in the historic California Master Plan for Higher Education, which with great foresight articulated complementary missions for the Community Colleges, the California State Universities, and the University of California. Under this plan, the people look to UC to provide our state with research institutions of national and international standing, offering the most demanding and rigorous education to our most promising students.

Over the years, our performance has not only equaled but often outpaced the nation's elite private universities, despite their longer histories and far larger private endowments. The excellence of Berkeley is a testament to the public spirit and vision of the people of California, who have sustained us for over a century as a premier research university, while also ensuring a Berkeley education remains within reach of every deserving student.

CAMPUS GROWTH

The number of college age students in California is projected to grow by over 50% in the next decade. As part of the university-wide strategy to accommodate this increased demand, we have already begun to increase our enrollment by 4000 over the base year of 1998-99. This growth is a particular concern for those 'impacted' majors already at or beyond capacity. We must manage our academic portfolio to ensure Berkeley students are able to obtain a quality education in the field of their choice.

Berkeley also continues to experience steady growth in sponsored research, and this trend shows no sign of abating in the long term. We must strive to ensure the course of future research is driven by its value to the university and society, not by the physical constraints of the campus.

ACADEMIC PROGRAMS

Not only do existing fields of study continue to evolve, but new fields that transcend traditional departments continue to emerge. The health sciences initiative is only one of many at Berkeley that bring the expertise of several disciplines to bear on broad and complex topics of social importance. While individual scholarship will always have a major role, the future lies increasingly in collaboration, and Berkeley must nurture and encourage such initiatives, through both physical and organizational design.

The outside world also continues to evolve, and so does the profile of demand for our academic programs. One trend of concern to Berkeley is the shift in the ratio of graduates to undergraduates, which not only has declined, but is now also significantly lower than at many of our peer institutions. This shift is due in part to our limited resources for graduate support, and in part to low workforce demand in some disciplines. However, our graduate students are integral to both research and instruction at Berkeley, and we must find the means to compete for the best.

While we must continue to seek out new sources of funds, we must also continue to evaluate the mix and viability of academic and professional programs. It is essential for us to retain the breadth and variety that make Berkeley unique, and to recognize many fields of scholarship have enduring value that transcends current interest. However, it is also essential to be able to discern, and respond to, long-term fundamental trends in society. We must develop clear criteria to guide our decisions on which programs should grow, and which should be reorganized, redefined, or eliminated.

One area of change with profound implications is the growing diversity of the state population. California is now one of the most diverse states in the country, and this reality should be reflected in our students, faculty, researchers, and staff. We must strive to remove the impediments, and build new paths, to full participation in the life and work of the campus, including robust programs of outreach and financial aid.

INTELLECTUAL COMMUNITY
The research university should be a community of learners, united by their passion for critical inquiry and discovery, and stimulated by interaction and exposure to diverse perspectives. It is this unique setting, in fact, which sets the research university apart from other types of research venues. However, a vital and dynamic intellectual community does not arise and thrive spontaneously: its participants must be recruited, welcomed, retained, and supported.

To do so, UC Berkeley must be able to offer a quality of life commensurate with our high standards. Our ability to recruit outstanding faculty and staff is particularly critical given the demands of enrollment growth, new academic initiatives, and the age profile of our staff, which includes a disproportionate number of individuals nearing retirement age. Adequate compensation is crucial, and surveys indicate both staff and faculty salaries at Berkeley are significantly below our peer universities and other competing employers.[1,2]

Another key factor is housing. The shortage of good, affordable housing in Berkeley is a challenge for students, faculty and staff alike. Prospective faculty and graduate students, for example, increasingly cite housing cost and quality as a primary factor in their decisions whether or not to come to Berkeley. An adequate supply of good, affordable housing close to campus is essential to a strong intellectual community, and the campus must become more proactive in pursuing this goal.

PHYSICAL SPACE
While many other UC campuses have both abundant land and newer physical plants, Berkeley is an old campus, on a constrained and already intensively developed site. As the demands generated by both education and research continue to intensify over the next decade and beyond, Berkeley must become even more rigorous in assessing the nature and magnitude of further growth.

Although a limited amount of capacity for new space remains on the core campus, it is only enough to accommodate the demand to be generated by the planned growth in enrollment. Further expansion to house new academic programs, new research projects, and new student or public service functions must therefore be housed on adjacent blocks or elsewhere. This in turn requires both initiatives to create these new venues, and a clear set of priorities for location decisions.

Moreover, half the space on the core campus is over 40 years old. Both instruction and research have undergone dramatic change in this period, in terms of both the workstyles we employ and the infrastructure we require. Many instructors and researchers struggle with spaces and systems compromised not only by time, but also by decades of under-investment in facility renewal. The renewal of our physical plant is a critical factor in our ability to recruit and retain exceptional individuals and to pursue new areas of inquiry.

To address these conditions requires not only land but also adequate capital resources. While incremental state operating funds are expected to support the planned growth in enrollment, no new capital funds have been promised. The capital funds the campus now receives from the state are being consumed by projects to improve the seismic safety of existing buildings, and this need will continue.

Although the campus should continue to seek new state capital funds, future campus renewal and expansion is expected to be financed primarily from gift and other nonstate funds, and we must continue to pursue them.

However, given the scarcity of both land and capital, it is also imperative we make sure each capital investment is optimized in terms of its benefits to the campus as a whole. This in turn requires a clear and rational framework for making investment decisions, as well as initiatives to leverage our limited resources through creative partnerships with the private and nonprofit sectors.

RESOURCE DECISIONS   While state support remains critical to the future of Berkeley, in recent years it has declined in terms of both real value and as a percentage of the campus operating budget. As a result, Berkeley has become more and more an entrepreneurial culture, turning increasingly to gifts and other extramural funding to sustain and enhance the quality of the campus and its academic programs.

But while entrepreneurship is a source of energy, it also presents a challenge to academic breadth and balance. Academic disciplines are not equal in terms of access to extramural resources: in some instances they are profoundly unequal. While the flow of extramural funds into certain programs undoubtedly benefits those programs, the campus must ensure the activities they support also have long-term value to the academic enterprise as a whole. The campus must also ensure disciplines that are critical to the academic enterprise, but lack abundant extramural resources, have the support they require to thrive.

It is the purpose of the Strategic Academic Plan to provide a framework for these decisions. Toward this end, we have selected ten key aspects of the academic enterprise we believe are critical to this framework and, as presented in the sections below, some suggested principles and proposals for how they might be addressed.

■ PRINCIPLES & PROPOSALS

1   PLACING A LIMIT ON GROWTH

Where research universities are concerned, there is no evidence to indicate bigger is better. Of those universities perennially ranked among the top ten in terms of the overall quality of research programs, Berkeley has by far the largest student body: our 1999-2000 enrollment of 31,300 compares to an average of 12,300 for the other nine. We are nearly twice the size of Harvard, triple the size of MIT and Yale, five times the size of Princeton.[3]

Size does have certain advantages. It supports the comprehensive scope of our academic enterprise, the equal of any university in the world, and provides the critical mass required to maintain our many unique programs. And, lest we forget, our larger size also enables us to offer a Berkeley education to larger numbers of students. However, as a result of the 'tidal wave 2' mandate to accommodate the projected increase in the state's college age population, we are heading toward a student body of 33,000 by 2010-2011.[4] At this point, we must stop, for several reasons.

First, growth beyond this point would pose a serious threat to both the quality of education and the strength of our intellectual community. The 1957 Academic Plan presented to the Regents proposed a cap of 25,000 students for Berkeley: a figure later revised upward to 27,500 in the 1960 Master Plan, in order to accommodate the postwar 'tidal wave 1'. This target was based not only on the physical limits of the campus, obvious even forty years ago, but also on the belief an academic department should be not just an administrative unit, but a community of colleagues.[5] Just as a department must be large enough to provide a 'critical mass' of interaction, it must not be so large the faculty and staff are unable to engage in informed critical self-evaluation.

Second, Berkeley is a small and intensively developed campus in the middle of a city. While a few parking lots and other infill building sites remain on the core campus, and a few other buildings can be enlarged or replaced, the cumulative potential to increase core campus space is on the order of 10%-15%.[6] This increment is barely adequate to accommodate the growth mandated by tidal wave 2: it provides no capacity for further growth or for new academic initiatives. University-owned sites on the blocks adjacent to the core campus could, if redeveloped more intensively, contribute as much as another 10%. However, these sites are also ideal for new student housing, for which Berkeley has a critical need.

Third, the ability of the city of Berkeley to absorb the impacts of further growth is also limited. Housing near campus, due in large part to the demand generated by the university, is both scarce and very expensive.   These conditions would only be exacerbated by further growth. And fourth, there is no assurance capital would be available to fund investments in new academic space. While we should continue to pursue such funds, the state capital program for Berkeley for at least the near future is composed almost entirely of seismic retrofits to existing buildings.

PROPOSAL 1.1   **LIMIT ENROLLMENT AT BERKELEY TO NO MORE THAN 33.000 STUDENTS.** Moreover, if in the future we are able to reduce enrollment under circumstances that also promote academic excellence, we should do so.

2   ENSURING EXCELLENCE

UC Berkeley, as the original 'multiversity', offers as rich a portfolio of academic disciplines as any university in the world. The breadth and quality of disciplines is, in fact, a defining element of our identity as a great research university. Many have changed in name, scope, and direction over the years, and the academic enterprise continues to evolve: for example, through the new interdisciplinary initiatives in the health sciences.

However, such new initiatives cannot be accommodated simply through unlimited expansion. The size of the academic enterprise at UC Berkeley is limited both by resources and by the finite capacity of an already intensively developed urban campus. Each decision to undertake a new field of study or expand an existing one, therefore, inevitably has at least some impact on the resources available to other fields.

ACADEMIC BALANCE   The coexistence and interaction of our rich mix of disciplines is essential to our identity and continued vigor: the multiplicity of disciplines itself generates a diversity of perspectives that provoke critical reflection and self-evaluation. The public university must serve as a model of a heterogeneous place of open, productive discourse, for a society increasingly heterogeneous in composition.

Berkeley should expect and encourage each discipline to evolve and renew itself, as existing fields of study are redefined and new fields are created. However, it is also essential to retain and keep vital the breadth and variety that make us unique, and to take full advantage of the rich diversity of talents and perspectives California and the world offer us. While temporal variations in both demand and resources are inevitable, we must ensure these variations do not compromise the scope and ecology of the enterprise as a whole.

For example, many programs, although small, have longstanding records of distinction, as well as irreplaceable libraries and research collections, and serve as resources to scholars throughout the state and beyond. Berkeley should seek creative ways to retain such programs, for example by partnering and sharing resources with other institutions. One never knows when a previously obscure topic, such as the languages and cultures of certain central Asian regions, might acquire new societal importance.

Berkeley should also seek to maintain a balance between disciplines that are primarily theoretical, and those that involve direct experience with tangible subjects in the studio, laboratory, or field. While computer simulation has begun to replace certain kinds of physical investigation, we must ensure any decisions to shift this balance are based on solid academic reasons, and are not driven primarily by relative cost.

PROFESSIONAL PROGRAMS   A great university must have the agility not only to embrace promising new fields of study, but also to respond to changes in society. In recent years, one of those changes has been the growth in demand for professional education. But while Berkeley has a long and distinguished tradition in the professions, these programs do not exist as separate cloisters. On the contrary, they are an integral part of the academic enterprise.

Professional education at Berkeley is built on a solid foundation in the liberal arts. Moreover, many programs offer doctoral as well as masters' degrees, and their faculties include many individuals whose life work is focused on research rather than practice. These factors ensure a professional education at Berkeley represents more than simple competence in the standards of practice.

As we seek to accommodate increased demand in the professions, we must also preserve the quality our academic breadth and balance make possible, and the special distinction it confers upon our graduates.

INTERDISCIPLINARY
PROGRAMS

There is no question both teaching and research have become far more interdisciplinary over the last several decades. An enormous amount of 'interdisciplinarity' already takes place on the Berkeley campus, and this trend is certain to continue: few if any of our most urgent societal problems fit neatly within a single academic discipline. Berkeley has no alternative but to become more conducive to interdisciplinary initiatives. Yet, at the same time, we must ensure the organizational structures we create for those initiatives are in the best interest of the academic enterprise as a whole.

At Berkeley, there are interdisciplinary teaching programs and research programs. Most of our interdisciplinary research takes place in organized research units, or at centers or other more informal organizations with the same purpose. These units primarily serve faculty and graduate students, although some units also provide research experiences to undergraduates.

Undergraduate interdisciplinary teaching is concentrated in the Undergraduate and Interdisciplinary Studies and International and Area Studies programs: these programs include twelve fields of study, established in response to the convergence of student and faculty interest around fields of study that transcend existing departments. At the graduate level, Berkeley includes many programs with explicitly interdisciplinary agendas: for example, graduate groups represent over a third of our 95 doctoral programs, and over half are interdisciplinary in nature. A problem common to both undergraduate and graduate interdisciplinary programs, however, is the lack of dedicated faculty positions: UGIS and IAS have no ladder faculty of their own, nor do most graduate groups.

While the energy and ingenuity of our faculty have enabled a wide variety of interdisciplinary programs to flourish on at Berkeley, we must make sure these programs are organized and supported to enable them to excel. Decisions to establish new programs should, therefore, include a critical analysis of the right structure for each initiative. Permanence should be reserved for those initiatives which have clear promise of longterm viability, and we should then make sure those initiatives have the resources, including dedicated faculty and adequate budgets, to realize this promise.

ACADEMIC PORTFOLIO

For all the above reasons, decisions to create new programs, or to grow or shrink existing programs, are far too critical to be made ad hoc. While there is no magic formula for such decisions, they should be based on findings that reflect an holistic, coherent, and longterm vision of the academic enterprise.

PROPOSAL 2.1

CONDUCT REGULAR EXTERNAL REVIEWS OF ALL ACADEMIC PROGRAMS. As important as breadth is to Berkeley, quality is more important. Given our limited resources, we must ensure the Berkeley standard of excellence is maintained in each program we offer. External reviews of our academic programs, at regular intervals and based on a clear set of required findings, are a necessary first step toward action plans to either improve, or to phase out and eliminate, programs that do not fully measure up to this standard.

PROPOSAL 2.2   **ESTABLISH CLEAR CRITERIA FOR PROGRAM REVIEWS.**   If program reviews are to be fair and credible, they should be based on a common and universally accepted set of findings, including:

- **Is this program a recognized leader in its field?** Excellence is our standard for every academic endeavor: each program at Berkeley is expected to be a leader in terms of its reputation, its contributions to knowledge, and its inclusion of new talents and concepts, and each new program should have the potential to be so.

- **Does this program have the vigor and resources to yield significant advances in knowledge?** Each program at Berkeley is also expected to remain a leader. While many programs at Berkeley have a long and noble history of contributions, they must also demonstrate the capacity to continue at this level in the future.

- **Does this program foster inquiry-based education and student-faculty interaction?** A great research university enables its students, graduate and undergraduate, to actively participate in research, under the direct mentorship of faculty who are leaders in their fields. This is why our best students come to Berkeley, and each of our programs must be committed to this principle.

- **Does this program engage students and faculty from the full talent pool?** Diversity is integral to excellence, and programs should demonstrate their efforts to recruit, retain, and engage the best minds from the whole of society.

- **Is this program required to provide a comprehensive liberal arts education?** The value of a program lies not only in discovering, but also in conveying knowledge. In order to ensure our undergraduates become literate and numerate in a broad range of disciplines, we must retain and strengthen those programs that enable us to do so.

- **Does this program address a topic of critical importance to society?** Academic programs cannot be evaluated entirely in terms of the practical value we perceive today.   In fact, our role as a research university includes the advance of knowledge beyond its current application. However, many of our programs do have clear relevance to societal problems, and as such contribute to our mission of public service.

- **Does this program represent a unique and valuable academic resource not duplicated elsewhere in California?** Berkeley has many programs that serve as resources to the entire state and beyond. However, while such programs deserve special consideration, we should also consider whether they might be enhanced through partnerships with other institutions.

- **Does this program require autonomy, or could it be incorporated into an existing program?** Berkeley already has a multiplicity of academic units of various types and sizes. A program should be created or maintained only when it is demonstrably clear its goals can not be met within another program.

- **Does the program have a strong and committed core faculty?** Particularly for new programs, there must be a core of faculty who can be expected to spend the time and energy required by the program over the long term.

Evaluations of proposals to establish **new** academic programs should utilize the same basic set of criteria as reviews of existing programs. Reviews of both existing and new programs should elicit and incorporate student, faculty, and staff input.

PROPOSAL 2.3   **INTEGRATE BOTH DEPARTMENTAL AND NON-DEPARTMENTAL PROGRAMS INTO THE CYCLES OF PROGRAM REVIEWS.** The campus has a number of interdisciplinary programs, originated by core groups of committed faculty and students, which operate outside traditional academic departments. Over time, however, the lack of dedicated resources and faculty positions has become a serious problem for many such programs. Reviews of these programs should be integrated into the same cycle as departmental programs.

However, these reviews should not focus exclusively on the adequacy of resources. On the contrary, they should be true, comprehensive 'sunset reviews', based on the criteria outlined above. Such reviews, moreover, should address the physical as well as the organizational needs of these programs, including interior and exterior spaces conducive to interaction and collaboration.

PROPOSAL 2.4   **INTEGRATE THE GRADUATE GROUPS INTO THE CYCLES OF PROGRAM REVIEWS.** Over the past five years, the Graduate Council and the Dean of the Graduate Division have conducted critical reviews of 29 of the 37 graduate groups, and continue to review 3-4 groups each year. While these reviews should continue, they should be integrated into the same cycle of reviews as departmental programs.

PROPOSAL 2.5   **EXTEND PROGRAM REVIEWS TO NON-ACADEMIC UNITS.** Because our excellence as an institution depends upon the quality of support we provide to our students, faculty and staff, the principle of regular reviews should be broadened to include campus units that provide academic and institutional support. Building on the work of the Near-Term Planning Committee, the campus should establish comparable criteria and protocols for performance reviews of non-academic units.

3   PURSUING NEW AREAS OF INQUIRY

To sustain excellence, an organization must be able to recognize in each challenge the potential for positive change, and act on it. For example, faced with the monumental task of improving seismic safety in nearly 60 campus buildings, we recognized we could leverage this investment to also upgrade the facility inventory. Stanley Hall is only the first of several future projects at Berkeley where state funds are being utilized, not to retrofit an obsolete building, but to replace it with a new, state-of-the-art facility.

The 'tidal wave 2' mandate to grow our enrollment by 4000 students by the end of this decade presents Berkeley with another major challenge, but like the seismic safety program it also offers great potential. The state has committed to fund the incremental cost of our new students: the campus should utilize these resources not only to expand the capacity of high-demand programs, but also to extend existing programs in promising new directions, and create new programs to pursue new areas of inquiry.

PROPOSAL 3.1   **SOLICIT IDEAS FOR NEW ACADEMIC INITIATIVES FROM THE FACULTY.** In a place as large, diverse, and entrepreneurial as Berkeley, no 'top down' effort can hope to provide more than a superficial scan of the academic enterprise. Ideas for new initiatives both within and across disciplines should be encouraged.

The Strategic Planning Committee has already taken the first step: a 'request for ideas' was distributed to campus faculty in fall 2001, to which we received over 120 responses from individuals and groups. The Committee has undertaken an extensive review of these ideas, and we are impressed with their range and quality.

Many of the ideas we received suggest expansion of current high quality programs into new areas within their disciplines. Others appear to suggest the creation of new programs to serve as the primary focus of one or two faculty in a very specialized subject. The Committee felt both of these types of responses were more suitable for another, future phase of the academic plan.

PROPOSAL 3.2   **IDENTIFY THEMES OF EXCEPTIONAL PROMISE.** Within the remaining ideas, the Committee found many advocating new directions that appear to have a compelling combination of originality, scope, and importance. Many of the ideas suggested by different individuals or groups approached the same general areas of inquiry from different perspectives. The Committee felt the interdisciplinary synergy resulting from combining these ideas into more comprehensive 'themes' made them both stronger and more comprehensive.

Our review identified ten broad academic themes of exceptional promise:

- **Computational Biology.** The interface of the complex mechanisms being explored in biological research, and the new computational methods and technology this research demands.

- **Nanosciences & Nanoengineering.** The enormous potential of nanoscale materials, and the fundamental research required to understand, develop and manipulate them.

- **Society & Technology.** The rapid advance of technology, and its pervasive and transformative impacts on cultural and ethical values and the fabric of society.

- **Cultural Evolution & Preservation.** How cultures take shape, evolve, and influence each other, and the role of cultural heritage in an era of growing interdependence.

- **Metropolitan Studies.** The dramatic growth of global urbanization, and its implications for human and environmental health and the distribution and consumption of resources.

- **International Relations & Global Security.** The challenge to traditional state-centric models of international order, and the critical balance of civil liberty and global security.

- **New Economic Theories.** The potential of emerging alternative models to yield new insights in understanding both individual behavior and economic growth.

- **Complex Systems, Design & Human Interfaces.**   The integration of systems analysis and information technology toward the solution of large and complex societal problems.

- **New Media.** The expanding frontiers of communication and creative expression made accessible by the ongoing revolution in digital media.

- **Environment.** The impacts of human activity on our planet's ecosystems, and how to manage and mitigate those impacts.

PROPOSAL 3.3   **REQUEST PROPOSALS FOR NEW PROGRAMS WITHIN THE THEMES.** Next academic year (2002-2003) there will be a general solicitation for specific proposals within these ten themes. As described in **Path to Implementation**, below, an organizational structure will be established to evaluate these proposals and select two or three to develop into new programs, based on the principles articulated in the Strategic Academic Plan.

We envision this process will occur once or twice more during this decade, resulting in perhaps five to eight new programs. Proposals not selected in this first round will be eligible for reconsideration in the next, along with other new ideas that may emerge from a new solicitation prior to the next round.

4   ENHANCING UNDERGRADUATE EDUCATION

The growth in demand for a Berkeley education has led to an undergraduate student body of unprecedented caliber. A decade ago, the campus admitted 40% of our 20,000 freshman applicants. In 2001, we admitted 24% of 36,000 applicants. As we confront a decade of enrollment growth, our challenge is to continue to deliver an education commensurate in quality with our exceptional students.

At the same time, Berkeley has the potential to emerge as a leader in undergraduate education through initiatives that capitalize upon, rather than compete with, our historic strengths in research and graduate education. We offer the undergraduate not only the opportunity to acquire a comprehensive liberal arts education, but to do so in the company of faculty who are leaders in their respective fields, and teach from a base of original inquiry. Moreover, our mission of public service enables us to offer a wide range of service learning programs to enrich the on-campus experience.

STUDENT ENGAGEMENT   Research literature indicates that students' levels of engagement are critical to their long-term achievement. Key benchmarks of engagement include level of academic challenge, active and collaborative learning, enriching experiences, student-faculty interaction, and institutional support. While creating such outcomes is a challenge for any university, it is particularly so for a large public research university like Berkeley, where student-faculty ratios are high, and the academic culture tends to reward research over instruction. However, these challenges are offset by the tremendous advantages of our outstanding faculty, library, and research programs.

National studies such as the Boyer Report[7] have called on research universities to draw upon their historic strengths in research to transform undergraduate education, by expanding the opportunity for 'inquiry-based' learning. The Boyer Report suggests the unique advantage of a research university education is the student's direct participation in the discovery of knowledge, under the mentorship of faculty who are leaders in their fields. In particular, the report highlights the importance of small lower-division seminars, mentored research, and 'capstone' projects as key points of faculty-student engagement.

The Boyer findings were underscored at Berkeley by the report of our own Commission on Undergraduate Education,[8] which proposed several specific initiatives to improve the undergraduate experience at Berkeley. In this section we expand upon these points to further reconcile the report with our core values of community, the synergy of teaching and research, and a comprehensive foundation in the liberal arts.

PROPOSAL 4.1   **INTEGRATE INQUIRY-BASED LEARNING INTO UNDERGRADUATE EDUCATION.** Inquiry-based learning can begin in the first year with an introduction to critical thinking, and to basic research skills fundamental to a broad range of disciplines. As students enter a major, they should also be integrated into the research life of the university, both through focused methodology courses and through direct, mentored participation in research projects, service learning and/or field investigation.

Inquiry occurs naturally in small groups formed around topics of academic interest. The large lecture model, while optimal for some subjects, does not encourage such inquiry, nor does it foster collaborative approaches to problem solving. The freshman seminar program provides over half our new students with the experience of a small, interactive learning community, and Berkeley should encourage broader participation in this program.

Berkeley should also encourage and enable undergraduates to engage in a 'capstone experience', which can take many forms, both individual and team-based, including a thesis or other research, design, creative or service learning project. Such experiences require the student to synthesize previously acquired skills in the execution of a sustained project, usually in the senior year. They entail the framing of a significant problem or set of questions, the research or creative exploration to find answers, and the communication skills to convey their findings to both expert and lay audiences.

PROPOSAL 4.2   **ENSURE ALL UNDERGRADUATES BECOME LITERATE, NUMERATE AND CAPABLE OF CREATIVE THINKING IN A BROAD RANGE OF DISCIPLINES.** Given the time demands in major fields of study, it is a challenge to also provide undergraduates with a strong and broad foundation in the liberal arts, but several areas require improvement. First, not only should writing be more deliberately integrated as a fundamental element across the disciplines, but the effort should be enlarged to include oral communication.

Berkeley should also develop programs to improve competency in quantitative analysis and ensure at least basic literacy in information technology. Moreover, if Berkeley is truly committed to the ideal of a broad liberal arts education, we must ensure the courses designed for students outside the major do more than just convey information. These courses, like those within the major, need to engage students in critical evaluation, creative problem solving, and the origin and meaning of knowledge.

The goal of a broad education, however, also requires that students have access to the requisite courses, and the fact that some programs are severely impacted can discourage the very spirit of inquiry we should hope to foster. The campus should address this problem both by devoting at least a portion of the resources we receive for enrollment growth to these impacted programs, and by identifying and advertising alternative courses outside those programs for interested non-majors.

PROPOSAL 4.3   **IMPROVE THE AVAILABILITY AND QUALITY OF MENTORING, ADVISING, AND ACADEMIC SUPPORT FOR BOTH DECLARED AND UNDECLARED STUDENTS.** Faculty, staff and fellow students all play invaluable and essential roles in guiding our students' academic and personal growth. The engagement of faculty and staff with students as mentors and advisors is critical to improving undergraduate education.

Faculty mentorship is particularly critical: faculty draw upon personal experience and knowledge that come from being engaged in the same field of inquiry at a more advanced level, and are uniquely able to advise students on topics such as publications, research projects here and elsewhere, centers of scholarly activity, and trends in the field. As such, the mentor can serve as both a guide and a role model, particularly so for those students interested in pursuing advanced work in the field.

Not only should all students, both undergraduate and graduate, have access to a faculty mentor, but each residence hall should also be designed to accommodate mentors in residence, who may be faculty, lecturers or graduate students. Moreover, given the increasing diversity of our student body, we must strive to ensure these mentors also represent the full spectrum of society.

We must also recognize and more effectively support the mentoring and advising provided by graduate student instructors, graduate researchers, and staff. College and departmental advising staffs should be reviewed and augmented as required: for example, the staff for Letters and Sciences is barely large enough to enforce critical regulations and monitor students on probation, let alone provide individual guidance.

The campus must also recognize the crucial role that academic partners such as the Teaching Library, Educational Technology Services, the Student Learning Center, and other academic support programs and services play in our educational mission. The campus should continue to find ways to encourage closer partnerships between these academic support units and faculty and to support these units in performing their crucial functions in support of undergraduate education.

PROPOSAL 4.4   **REGULARIZE THE ASSESSMENT OF UNDERGRADUATE EDUCATION AT BERKELEY.** The regular reviews of academic programs described in section 2 should include an assessment of their progress in the areas described above. In conducting these assessments, we should make more extensive use of survey data on student preference patterns, performance outcomes, and student evaluations, particularly with respect to key gateway courses. The scope of this ongoing assessment should also include periodic reviews of the undergraduate experience as a whole, including curricular requirements.

PROPOSAL 4.5   **ENCOURAGE ALL FACULTY TO CONTRIBUTE TO UNDERGRADUATE EDUCATION.** All faculty should be encouraged to play a role in undergraduate education, not only through classroom instruction but also through advising, research mentoring, and other activities. Academic units without undergraduate majors or programs should also be given incentives to find creative ways to contribute, so the education of undergraduates becomes a campuswide endeavor.

PROPOSAL 4.6   **SUPPORT AND FACILITATE TIMELY GRADUATION.** A critical consideration in the quality of undergraduate education is time to degree. Comparing freshman cohorts entering in fall 1983 and fall 1996, the four-year graduation rate for new freshmen has improved from 29% to 51%, and the five-year rate from 68% to 79%.[9] In this respect, we already rank highly among US public universities.

However, we must continue to improve, because we believe that timely graduation is in the best interest of our students and because a Berkeley education is a precious resource. It is in the strategic interest of the campus, the state, and our students to maximize throughput, to minimize the impacts posed by further enrollment growth.

To do so, the campus must address the personal, financial and academic challenges our students encounter in their progress to graduation. These include not only improving access to courses required for graduation, particularly in impacted majors, but also addressing the disparities in workload and unit value in many disciplines, particularly the sciences and engineering, which make graduation in four years extremely difficult. They also include financial support for students from low and middle income families whose resources may not otherwise permit continuous, full-time enrollment.

PROPOSAL 4.7   **ENCOURAGE AND FACILITATE INTERNATIONAL EDUCATION.** In recognition of our increasingly global culture and economy, the campus should encourage and facilitate the participation of students in Education Abroad and other international education programs, through better promotion, specialized advising, more financial aid and scholarships, and streamlined approvals of EAP courses.

These programs should also be designed to maximize the benefits of reciprocal student exchanges, in which foreign students come to Berkeley to study. The new perspectives these students bring from their own traditions and experiences further enrich the diversity of the campus community and further stimulate creative thought.

5   TRANSFORMING INSTRUCTION

A number of changes occurring at universities nationwide, including Berkeley, are making it imperative for us to re-examine who teaches our students, the methods they employ to do so, and the support necessary to ensure they succeed.

The mandate of the university to teach the top 12.5% of California's high school graduates delivers to our campus a student body too large to be taught entirely by ladder faculty, given our current resources. As at many other universities, the Berkeley faculty has authorized the hiring of non-ladder faculty for certain kinds of under-graduate instruction, primarily within the lower division. However, such hiring decisions are often ad hoc, driven by specific needs rather than a coherent vision of education.

Moreover, while graduate enrollments are declining in many disciplines, Berkeley also faces a significant increase in undergraduate enrollment over the next decade. This shift in the ratio of graduates to undergraduates presents us with critical questions about how best to use graduate student instructors and other teaching specialists in delivering the best possible education. As a large public university, we are challenged both to maintain our historic standards of educational quality, and to provide our students with access to the coursework they need to graduate in a timely manner.

In accordance with our core value of excellence in every endeavor, education at Berkeley must reflect the same high standard we demand for research. The perception that research universities such as Berkeley place a lower priority on teaching, and in particular undergraduate teaching, is destructive to both the public image of the campus and the morale of our own students, and we must take action to counteract it.

PROPOSAL 5.1   **ESTABLISH CAMPUSWIDE GUIDELINES FOR THE ROLES OF LADDER FACULTY AND OTHER INSTRUCTORS.** One of the great and unique advantages of a research university education is the experience of learning from individuals with distinguished records of achievement in original research. Because all Berkeley students deserve this experience, the guidelines should embody the fundamental principle that ladder faculty should teach at both the undergraduate and graduate levels, while also recognizing the valuable complementary roles of lecturers and graduate student instructors.

PROPOSAL 5.2   **ESTABLISH A FORMAL SYSTEM OF INSTRUCTOR TRAINING /MENTORING, PERFORMANCE INCENTIVES AND ASSESSMENT.** Based on the guidelines, the campus should implement a program to define and ensure a baseline set of teaching skills for all instructors, by:

- Articulating a campuswide understanding of teaching excellence,
- Training instructors to be better teachers and mentors,
- Identifying methods to help instructors evaluate and enhance student progress,
- Developing criteria to assess teaching and mentoring performance, and
- Establishing a clear system of incentives for participation and rewards for exemplary performance.

PROPOSAL 5.3 **REQUIRE DEANS' REVIEWS OF PROGRAMS IN WHICH LADDER FACULTY OR EQUIVALENTS TEACH LESS THAN HALF OF UPPER DIVISION COURSES.** In some instances, this review may conclude the program suffers from a real shortage of ladder faculty. In other instances, however, the problem may be more a matter of faculty deployment. Practices that should be reviewed include the frequency of graduate course offerings and the percentages of courses that regularly fall below campus minima for enrollment.

PROPOSAL 5.4 **ENSURE STUDENT ACCESS TO LADDER FACULTY IS COMPARABLE IN DEPARTMENTAL AND NON-DEPARTMENTAL MAJORS.** The problem of access to ladder faculty takes on a special urgency in nondepartmental programs that do not have faculty of their own. As proposed in 2.3, these programs should be comprehensively reviewed to ensure students have the same quality of experience as those in majors within academic departments.

PROPOSAL 5.5 **PREPARE A NEW MASTER PLAN FOR THE TEACHING INFRASTRUCTURE.** The campus has no formal mechanism for locating or funding new classrooms: decisions to include classrooms in new buildings tend to be ad hoc, and not adequately informed by campuswide strategy. Meanwhile, many existing classrooms need to be equipped with instructional technology in order to be utilized more fully and effectively.

This master plan should assess the teaching infrastructure at Berkeley, and determine how it should be renovated and/or augmented to meet the needs of the future, in terms of the spaces themselves, the technology they provide, and the instructor training and support they require. The plan should be informed by early and ongoing consultation with instructors whose knowledge of classroom needs results from actual experience.

The master plan should consider not only distributed but also centralized solutions, like the new undergraduate center at the University of Washington, which combines classrooms with student services, computer labs, and spaces for individual and group study to provide a far more complete educational resource for the student.[10]

6   SUPPORTING GRADUATE EDUCATION

While it is true that a great faculty is necessary to recruit the best graduate students, it is also true that the quality of those graduate students is a significant factor in the reputation of the faculty: both in terms of what they contribute to research while at Berkeley, and what they go on to achieve on their own. They also, of course, play a significant role in the education and mentoring of undergraduates.

Berkeley does not, at present, have a problem in recruiting exceptional undergraduates. But while most of our undergraduate students are California residents, our graduate students come from around the world, and we compete with the best universities in the world to recruit them. Because we continue to insist on high standards, yet compete at a distinct resource disadvantage against well endowed private universities, the recruitment of graduate students at Berkeley is increasingly challenged.

The Academic Plan presented to the Regents in 1957 proposed a split of 32% graduates and 68% undergraduates.[11] In fact, as recently as 1991, graduate students comprised 31% of the student body. The percentage has since fallen to 27% today. Our private counterparts maintain much higher ratios: Harvard, MIT and Stanford, for example, all range from 54% to 56%. But we are also lower than some of our public peers: Michigan and North Carolina at 31%, Virginia at 35%.[12]

While there is no magic formula for the ratio of graduates to undergraduates, any further decline should be viewed with great concern, for several reasons. First, the graduate programs are an integral part of the research enterprise. Not only does the quality of faculty research depend to a considerable extent on the contributions of our exceptional graduate students, but those students also provide the faculty with a community of colleagues, who bring new energy and perspectives to every field of inquiry.

Second, graduate students are also crucial to the quality of undergraduate education: particularly in the larger gateway and service courses, the students often have far more contact with graduate instructors than with faculty. Graduates can also play a valuable role as mentors and models as well as instructors: their own student experiences are not only more recent but often more relevant than those of the faculty.

Third, and more subjectively, adequate numbers of graduates are crucial to the intellectual community both within and beyond the boundaries of individual disciplines. They can help bridge the gap in discourse that often divides undergraduates and faculty and, because our graduate students come from around the world, they further enrich the social and cultural mix of the campus community.

Because graduate students contribute so much to both research and education, it is important to remember graduate students are students first, and the quality of their educational experience must be our primary concern. Toward this end, the program reviews of both departments and graduate groups described in proposals 2.1-2.4 must ensure uniformly high standards of teaching and mentoring to support the individual progress of each graduate student.

However, our graduate students also require more specific initiatives to address the profound impacts of inadequate financial resources.

PROPOSAL 6.1   **DEVELOP A COMPREHENSIVE STRATEGY TO IMPROVE GRADUATE FINANCIAL SUPPORT.** The problem of underinvestment in graduate education in California is well recognized. California ranks last among the 15 largest states in graduate enrollment growth over the last decade: in fact, we are one of only five states in which graduate enrollment actually declined in this period.[13]

The recent report of the Commission on the Growth and Support of Graduate Education proposes a range of initiatives, drawing upon both public and private resources, for the university as a whole. At Berkeley, the Chancellor has already made increased endowments for graduate support one of his top fundraising priorities for the next 3 years.

UC Berkeley should also, however, augment direct financial support with other incentives of special interest to graduate students. Only a few of our peer institutions, for example, provide housing to first year graduates: to do so at Berkeley, as proposed in 9.2, would give us a significant advantage, particularly given the cost and shortage of housing in this market. Similarly, child care and health insurance benefits can be powerful incentives for students with families.

PROPOSAL 6.2   **NORMALIZE CRITERIA FOR DISTRIBUTING FINANCIAL SUPPORT AMONG PROGRAMS.** Programs vary widely in the resources they have for graduate support. Before the campus begins to distribute new supplemental resources to these programs, it should establish clear criteria for doing so. Such criteria should include improved measures for academic performance and time to completion.

PROPOSAL 6.3   **REDEFINE AND NORMALIZE THE ROLE OF GRADUATE INSTRUCTORS.** As proposed in 5.1-5.2, the campus should establish guidelines for the roles of graduate instructors, to enhance both their own educational experiences and their contributions to the academic enterprise.

For example, to the extent financial aid resources permit, graduate instructor positions could be limited to those students with at least one year of graduate study. During their first year, these students could receive some basic training in teaching to better equip them for their future role.

7   MAINTAINING RESEARCH LEADERSHIP

Research provides the energy that drives the modern research university. The passion for discovery is at the core of everything we do. While the mission of the university has three dimensions - research, education, and public service - excellence in research is fundamental to the other two.

We serve the people of California in two principal ways. One is through the direct benefits of the research and scholarship we undertake, from improved agricultural and industrial productivity, to advances in human and environmental health, to new insights into personal and social behavior. The other is through our education of new generations of leaders, innovators, and educators reflecting and serving the full spectrum of society. A vital research enterprise is essential to both.

Education at a research university is not, and is not meant to be, the same as education at a liberal arts college. The research university provides its students, both graduate and undergraduate, with a unique kind of learning experience, one in which critical inquiry, analysis, and discovery are integral to the coursework. The student expects, and is expected, to play an active role in the research enterprise, under the guidance of faculty who are themselves engaged in creating, not merely imparting, knowledge.

Productive research occurs in many kinds of venues: national laboratories, nonprofit institutes, and many leading-edge companies. However, the best research is not merely productive but creative, and the university provides the researcher with a setting far more conducive to creative insight. Her daily life is stimulated by interactions not only with exceptional faculty in a wide range of fields, but also with exceptional students, whose fresh perspectives and challenges often reveal new paths of inquiry.

Leadership in research requires not only exceptional faculty but also exceptional staff. UC Berkeley staff members author and co-author published research, design and/or conduct experiments and surveys, manage laboratories, train students and researchers, collect and analyze data, and develop web sites and other tools to provide access to campus research. The critical role of staff must be recognized and adequately supported if Berkeley is to maintain its leadership in research.

RESEARCH PORTFOLIO   From 1996 to 2001, sponsored research at Berkeley – research supported by federal agencies and other extramural sources – grew in dollar terms by an average of 8.5% a year,[14] and we might have pursued additional projects if not for the limits on physical space. While those limits are making this rate of growth more and more difficult to sustain, we must do everything we can to accommodate productive new initiatives.

PROPOSAL 7.1 **ESTABLISH CLEAR CRITERIA TO GUIDE DECISIONS ON NEW RESEARCH INITIATIVES.** In order to establish a new research initiative that would require new space and/or other campus resources, positive findings should be made for at least 4 of these 5 criteria:

- **Would this initiative advance the frontier of knowledge?** Is it genuinely creative in concept and approach, and does it promise to significantly augment our fundamental understanding in the field?

- **Is this initiative critical to Berkeley remaining a leader in the field?** If Berkeley is to strive for leadership in every discipline we pursue, we must be strategic in identifying and prioritizing those research initiatives that are key to leadership.

- **Would this initiative enhance the value of other research at Berkeley?** Initiatives that complement existing research activities may have the potential to create new synergies and discoveries that are not otherwise achievable.

- **Would this initiative engage graduate and/or undergraduate students in inquiry, analysis, and discovery?** Many research initiatives have potential for active student participation, and as such they support our educational mission and provide our students with experience unique to the research university.

- **Does this initiative address a topic of critical importance to society?** Much of our research at Berkeley pursues fundamental new knowledge beyond any known, near-term application. However, many initiatives do have clear relevance to societal problems, and as such they contribute to our mission of public service.

Every research initiative we pursue, of course, must respect the integrity of the university and the independence of the researcher in the pursuit of knowledge.

RESEARCH FACILITIES Excellence in research in turn requires adequate facilities to support it, and this has become increasingly problematic in recent years, for two reasons. One is the age and condition of our buildings. Over half the space on campus is in buildings over 40 years old, and the nature of research has changed significantly over this period, in terms of both the workstyles employed and the infrastructure required.

Another reason is the lack of space for expansion. Berkeley is a mature and intensively developed campus, located in the middle of a city. While a few building sites remain, the core campus as a whole has the capacity to grow only by another 10-15%. Since Berkeley must absorb an increase in enrollment of roughly this magnitude over the next decade, most further growth in research must be housed on sites outside the core campus.

In fact, this shift has already begun. A few research units are already housed in leased space, in various locations on the blocks around campus. But to continue leasing space for individual units case by case is not a viable long-term strategy. For one thing, the Berkeley lease market is far too constrained: the entire city has under 500,000 square feet of class A space compared, for example, to over four times this amount in Emeryville.

Moreover, our current ad hoc reliance on leased space is not merely impractical, but ultimately destructive. The key advantage the university has over other types of research venues is the vitality of our intellectual community, and the stimulus it provides to creative thought and insight. The more we become fragmented and dispersed, the more we lose this advantage. In the short run, this makes us less able to compete for new research projects. In the long run, it makes us less able to recruit the new students and faculty we want, and retain the best we have.

PROPOSAL 7.2   **RESERVE CORE CAMPUS SPACE FOR FUNCTIONS THAT SERVE OR DIRECTLY INVOLVE STUDENTS.**
All research is not the same: many projects are conducted by faculty with graduate
and/or undergraduate students engaged actively and directly in the research endeavor.
Many campus research units also organize intellectual exchanges among faculty and
students through lectures, workshops, seminars, and conferences.

Because faculty and students have multiple roles on campus, and must be able to move
from one to another during the day, research activity that requires the integral
participation of faculty and students should be located on the core campus.

Many other projects, however, are conducted primarily by postdocs and other research
staff, whose responsibilities do not extend beyond the project itself. Such projects
should be housed on adjacent blocks or elsewhere, depending on their facility require-
ments and environmental impacts. However, to realize this objective the campus must
take a proactive role in creating suitable off-campus space, as described in 7.3.

Moreover, most research units provide a range of administrative services to the research
team, including hiring, purchasing, financial reporting, and publishing. Depending on
the extent of daily, face to face interaction with the team, such functions should be
relocated to the research centers described in 7.3 or more remote sites. In either case,
we should seek to co-locate these functions in single buildings wherever feasible, both
to achieve economies of scale and to provide flexibility as individual units grow or shrink.

PROPOSAL 7.3   **EXPLORE DEVELOPING ONE OR MORE NEW RESEARCH CENTERS ADJACENT TO CAMPUS.** Such
centers should be designed to provide flexible research space for existing and new
research projects that, although they may not involve extensive student and faculty
participation, do gain a real benefit from proximity to the core campus. If the site
capacity is greater than initial demand, a research center could also include some
incubator space for lease to startup firms: this space could serve as an expansion
reserve for future campus growth while providing near-term cash flow to the joint
venture partner.

Both to encourage intellectual collaboration and to maximize synergy with the core
campus, these research centers should be planned in terms of disciplinary clusters: so,
for example, a center housing social science units could be located to the south of
campus, while one oriented to the health and biological sciences could be located to
the northwest. However, because the future directions of research cannot always be
predicted, the space in these centers should be designed to be flexible and adaptable to
a wide range of research programs.

PROPOSAL 7.4   **EXPLORE STRATEGIES TO MAKE RICHMOND FIELD STATION A MORE VIABLE LOCATION FOR
RESEARCH.** Certain types of research, for reasons of scale, service requirements, or
environmental impacts, are not suitable for locations on or around the core campus. In
consultation with the faculty, the campus should conduct a realistic feasibility analysis
of the capital and operating investments, including information and transportation
systems as well as on-site facilities and amenities, required to make this site a true
'research campus' that would be viable for a wider range of research activities.

8   BUILDING THE INTERACTIVE CAMPUS

The breadth and quality of our academic programs are the equal of any university in the world, but Berkeley is more than the sum of its parts. A great university also requires a vital and dynamic intellectual community, one that provides exposure to a wide range of cultures and perspectives, and generates the encounters and interactions that lead to new insight and discovery. For such a community to thrive requires a campus organized and designed to foster those interactions.

CONTIGUITY

Although the academic structure of the campus is based on the traditional disciplines defined over a century ago, they are no longer insular and self-contained. On the contrary, the potential for creative interaction is everywhere.

The health sciences initiative, for example, brings researchers from physics, biology and chemistry together to study phenomena at the molecular level. The various fields of study at Berkeley focused on culture, gender, and ethnicity integrate the humanities and social sciences. Because we can not predict where productive synergies may emerge in the future, our first principle of organization should be to retain and reinforce the contiguity of the academic enterprise on and around the core campus.

PROPOSAL 8.1

ACCOMMODATE FUTURE GROWTH OF THE ACADEMIC ENTERPRISE ON THE CORE CAMPUS AND ADJACENT BLOCKS. The core campus itself has some limited potential to accommodate growth: the university also owns several parcels on adjacent blocks with the potential for more intensive use. The New Century Plan includes preliminary estimates of the capacity of sites both on and adjacent to the core campus.

PROPOSAL 8.2

RESERVE CORE CAMPUS SPACE FOR FUNCTIONS THAT SERVE OR DIRECTLY INVOLVE STUDENTS. As described in 7.2, this includes research in which graduate or undergraduate students have an integral role, since the synergy of instruction and research is a critical element of a Berkeley education. The New Century Plan includes guidelines for the location of academic and other campus units, as well as guidelines for space utilization. Both sets of criteria should be employed in evaluating future space actions or capital investments of significance, in order to ensure the optimal utilization of core campus space.

PROPOSAL 8.3

PRIORITIZE SITES ON ADJACENT BLOCKS FOR RESEARCH AND SERVICE UNITS THAT REQUIRE CORE CAMPUS PROXIMITY. As defined in the New Century Plan guidelines, these include certain student services, administrative units, and research units in which students do not have an integral role. Units that require frequent and multiple trips per day to and from the core campus should have first priority for sites on adjacent blocks. However, some of these sites may be suitable for mixed-use projects that include program space, housing, and/or retail space, particularly where such projects would also help create more active and livable streets, and a more graceful transition from campus to city.

PROPOSAL 8.4

COLLABORATE WITH THE CITY TO ENCOURAGE THE REDEVELOPMENT OF PRIVATELY OWNED SITES. Many privately owned sites on blocks adjacent to campus are now underutilized: for example, those with one-story retail buildings. These sites could be redeveloped more intensively in ways to benefit both city and campus, but to achieve this requires a collaborative strategy with common objectives. The campus should take a proactive role in pursuing such a strategy with the city and property owners.

CONNECTIVITY   While there is no substitute for face-to-face conversation, today it is only one of the ways scholars communicate. The introduction of e-mail alone has transformed the nature of collaboration: many faculty today communicate more often with colleagues in other parts of the world than they do with those in the next office. The campus of the future must support the seamless interaction of wired and wireless technologies across the domains of education, research and administration.

The revolution in information technology has also furnished researchers with new tools for analyzing and discovering patterns and connections in enormous sets of data, leading in turn to changes in the very ways we conceptualize and approach problems. Information networks enable scholars around the world to have real-time access to the same data, enabling research programs to be productively undertaken by multiple institutions.

Information technology has also begun to alter the delivery of education, although so far primarily through individual, ad hoc initiatives at Berkeley. For example, webcast Berkeley enables students to access lectures online, while web-based learning modules and interactive tools enable students to learn, interact and collaborate online, extending and enriching the classroom experience.

Because the pace of change will only accelerate in the future, the quality of our networks is just as crucial to academic excellence as the quality of our interior and exterior spaces. Again, because the potential for creative interaction is everywhere, our first principle for information technology must be to ensure state-of-the-art connectivity for the entire campus.

PROPOSAL 8.5   **COMPLETE THE INTRACAMPUS COMMUNICATION SYSTEM.** While nearly all campus buildings are connected to the campus information network in some way, many are linked to it through ad hoc pathways such as old utility conduits. Many of these conduits are at capacity, many others are damaged or hazardous: in both cases, such conditions limit or preclude further upgrades in capability.

The construction of a common interbuilding 'backbone' to replace these ad hoc pathways, and provide capacity for future growth, began in 1985: to date, 3 of the 7 elements have been completed. The campus must continue to pursue the completion of the interbuilding system as a funding priority.

PROPOSAL 8.6   **INTEGRATE INTRABUILDING INFORMATION SYSTEM UPGRADES INTO NEW CAPITAL INVESTMENT.** The interbuilding backbone provides service to each building, but the quality of service also depends on the intrabuilding infrastructure, the quality of which varies enormously across the campus.

The campus network was built at the advent of distributed information technology, before standards were in place. As a consequence, many of our intrabuilding systems have been unable to keep up with the tremendous growth in performance demand. In response, the campus has initiated the 'riser project', a phased investment program to equip each building with a modern fiber-optic infrastructure. The project will ultimately provide every campus user with equal access to state-of-the-art network resources.

Many campus buildings require seismic improvements. Many also require extensive renovation due to the age and condition of their program spaces and systems.   The campus must ensure the requisite improvements to the information infrastructure, as prescribed in the riser project, are incorporated into the budgets and undertaken in conjunction with these projects.

PLACES OF INTERACTION
While the compact size of the campus encourages an interactive culture, its physical design does not. Buildings on the Berkeley campus provide few places conducive to informal, unstructured interaction. The Free Speech Cafe in Moffitt Library shows how productive and valuable such places can be.

The lack of social places at Berkeley is a longstanding problem. Clark Kerr writes of the 'tragedy' visited upon the campus when, during the great expansion of the 1960s, the state refused to fund requested space for student and faculty lounges in each new building. Kerr had experienced the value of such spaces as a graduate student at the London School of Economics, and knew a friendly chat over coffee was the best way for scholars to get to know one another and get things done.[15]

The same is true for exterior spaces. While the campus landscape is an incredible amenity, there are few places conducive to social interaction, and even fewer with any sort of visual connection to activity within the buildings around them. This is a special dilemma for those who must use the campus at night: exterior spaces unlit and unobserved by active interior spaces are perceived as unsafe, often with good reason.

Leading edge biotechnology, infotechnology, and creative services firms understand places of interaction and design for them as a matter of course: they are just as crucial to the work of the research university.

PROPOSAL 8.7
MAKE SPACES CONDUCIVE TO CREATIVE INTERACTION A PRIORITY IN NEW CAPITAL INVESTMENT. The Haas School has set a new standard for how campus buildings can be designed with intellectual community in mind. The new Stanley Hall, for example, will have both a student lounge and café facing the Mining Circle. Each major capital investment should consider how intellectual community can be advanced through creative design.

Two buildings that deserve special, and early, consideration are King Student Union and Moffitt Library. While both provide important services to undergraduate students, both also have the potential, given their key locations, to become far more dynamic, 24-hour centers of student life. The campus leadership should begin now to partner with students toward creating a new vision, and funding strategy, for both buildings.

PROPOSAL 8.8
CREATE PLACES OF INTERACTION AT KEY NODES OF CAMPUS ACTIVITY. While the campus has a variety of open spaces, a few of these have special potential to become true 'places of interaction', because:

- They are located on or at the intersection of major pedestrian routes, and/or
- They are framed by buildings housing a variety of programs with potential synergy.

The New Century Plan has designated a dozen such places on campus: some exist now, others would be created in conjunction with new buildings. With some investment, these places can become magnets that encourage people to linger on campus and extend the intellectual and personal dialogues that begin in the office, lecture hall or conference room.

PROPOSAL 8.9
ENHANCE THE ROLE OF THE LIBRARY AS INTELLECTUAL COMMONS. The library is the traditional place on campus where people gather to study. In their current form, the many campus libraries offer quiet and well-equipped places for individual work, particularly for those students who live in group quarters where focused study is sometimes impossible.

The library also provides a special kind of commons where students, faculty and staff, although engaged in individual work, acquire the sense of being part of a community of learners that has endured for generations. Our outstanding library remains a strong asset in recruiting and retaining students, faculty and staff.

However, despite the increasingly collaborative nature of both instruction and research, in general the library does not accommodate the dynamics of group study nearly as well: while rooms for group work are sometimes available, they are often remote from the common space. And of course the traditional library strongly discourages informal conversation, yet as the Free Speech Café in Moffitt Library has shown, the value of the library as a destination is greatly enhanced when we include a place for them.

Demonstration projects for collaborative learning should be evaluated at the new Doe reference center as well as the facilities planned for Moffitt. Several other campus libraries are now completing or contemplating spatial reconfigurations: the campus should take advantage of these projects to demonstrate how the role of the library as an intellectual commons might be re-envisioned and enhanced, through both physical design and operations.

PROPOSAL 8.10   **DESIGN BOTH INTERIOR AND EXTERIOR COMMUNAL SPACES TO HELP CREATE A SAFE AND ACTIVE 24-HOUR CAMPUS.** The campus must be a safe place to work at any hour. While we must be able to ensure the security of buildings and their contents, we should also design at least our most active communal spaces so they can be open as late as demand warrants, and locate them so they observe exterior paths and places and help make them safe.

9   INVESTING IN HOUSING

A Berkeley education is far more than what the student experiences through formal instruction. The few hours a week one spends in the classroom provides only the raw material for personal discovery. Our extraordinarily rich and diverse campus community provides the real-world 'laboratory' within which each student examines, evaluates, and incorporates the classroom experience into her own intellectual growth. Adequate student housing is a critical and indispensable aspect of this community.

Students come to Berkeley because they seek both the open and dynamic atmosphere of a large research university, and the social and cultural variety of a great metropolis. In our case, the proper and necessary role of student housing is to provide a base of security and personal connection within the stimulating but often overwhelming flux and challenge of the Berkeley experience.

LOWER DIVISION   The nature of this role, however, evolves as students progress through their education. For lower-division students, who are new to both independent living and the intense demands of university coursework, group housing in close proximity to the educational resources of the core campus is the most desirable solution.

PROPOSAL 9.1   **PROVIDE TWO YEARS OF UNIVERSITY HOUSING TO ENTERING FRESHMEN WHO DESIRE IT, AND ONE YEAR TO ENTERING TRANSFERS WHO DESIRE IT.** This goal includes freshmen admitted as fall extension students. To ensure these new undergraduate students have the best possible access to the academic life and resources of the university, this housing should be located within a mile of the center of campus, and should provide every resident with high-speed access to the campus information infrastructure.

New undergraduate housing should be planned to include apartments for graduate students and/or faculty in residence. While formal advising and guidance programs are critical, new students also benefit from the informal experience-sharing and mentoring that graduate students and faculty who live on site can provide.

New undergraduate housing should also include spaces for lectures and seminars as well as group workspaces. These spaces and events should be open to non-resident as well as resident students, so all undergraduates have equal access to the advantages they offer. Our commuter students must be made to feel as much a part of the student community as those who are able to live near campus.

UPPER DIVISION & GRADUATE

As they progress, students gravitate toward affinity groups based on their major fields of study or other shared interests; they also continue to mature and acquire the social experience required to live as independent adults. By the third year, it is no longer necessary for the university to take as direct a role in creating a residence-based intellectual community. However, it is essential to assure these students continue to have access to suitable and affordable housing.

Not only does the cost and scarcity of housing in this market make it more difficult for students to focus on and excel in their academic endeavors: in the case of first year graduate students, it also makes it far harder to recruit them in the first place. For graduate students, apartments are the right solution, not only because older students tend to prefer a less structured environment, but also because apartments, being a conventional market product, offer a wider range of delivery options, including partnerships with developers.

PROPOSAL 9.2

PROVIDE ONE YEAR OF UNIVERSITY HOUSING TO ENTERING GRADUATE STUDENTS WHO DESIRE IT. To ensure these new students have access to the academic life and resources of the university, this housing should be located within a mile of the center of campus or within a 20 minute transit trip of campus, by campus-operated shuttle or public bus or rail. In the latter case, it should be located within a short and safe walk of the nearest transit stop. New graduate housing should provide every resident with high-speed access to the campus information infrastructure.

PROPOSAL 9.3

MAINTAIN THE CURRENT NUMBER OF UNIVERSITY HOUSING UNITS SUITABLE FOR STUDENTS WITH CHILDREN. It is particularly difficult for students with children to find suitable housing in the constrained Berkeley market. While UC Berkeley currently operates over 850 units of housing suitable for children, many of these units are in need of major repair or replacement. As the campus pursues these improvements in the coming years, it is critical the number of units be maintained and not reduced.

PROPOSAL 9.4

PARTNER WITH PRIVATE AND NOT FOR PROFIT DEVELOPERS TO CONTINUE TO EXPAND AND IMPROVE THE RENTAL HOUSING STOCK AVAILABLE TO STUDENTS. Our first objective in these partnerships should be to assure suitable and affordable housing for all first year graduates. Because all first year graduates may not avail themselves of this option, the balance should be made available to other upper division and graduate students.

The ambitious goals described above for both graduates and undergraduates will have a significant positive impact on student housing, by reducing demand on the private market. However, even once these goals are achieved, we should continue to monitor market conditions in relation to demand, and seek new housing initiatives that could make a significant contribution to intellectual community and the quality of student life.

FACULTY   There is substantial anecdotal evidence to indicate Berkeley is at a severe disadvantage in competing for the best faculty and staff candidates due to housing cost. The university has already begun to address the long-term housing needs of faculty through its down payment and mortgage subsidy programs. However, these programs do not address the need for good rental housing, particularly for new faculty hires.

PROPOSAL 9.5   **PROVIDE UP TO 3 YEARS OF UNIVERSITY HOUSING TO NEW UNTENURED LADDER FACULTY WHO DESIRE IT.** This housing may be separate or co-located with the graduate student housing described above. In either case, it should be located within a mile or within a 30 minute transit trip of campus. If units remain after new faculty hires are accommodated, they should be made available to staff and other faculty. Longer-term housing solutions for faculty and staff, i.e. beyond 3 years, should be achieved through improved financial subsidy programs, not the direct provision of housing.

10 ALIGNING PROPOSALS AND RESOURCES

In the preceding sections, we have presented what we believe to be the key challenges the academic enterprise at Berkeley must address in the coming years, and proposals to address those challenges. Unfortunately, many strategic plans never get beyond this point, because they are not realistic in terms of the people and resources required to implement them, nor the political obstacles, and organizational inertia, strategic plans must overcome.

PROPOSAL 10.1   **ENSURE THE INCLUSION AND ACTIVE PARTICIPATION OF STAFF, FACULTY AND STUDENTS IN THE PREPARATION OF EACH ACTION PLAN.** Identifying the proposals the campus wants to pursue is only the first step toward an academic strategy: the next step is to design and undertake the action plans required to implement them. While we recommend the campus designate a specific individual as the 'point of responsibility' for each set of related proposals, the action plans these individuals prepare should draw upon the full range of knowledge and experience represented in our staff, faculty and students.

PROPOSAL 10.2   **ASSESS THE IMPACTS OF EACH ACTION PLAN ON STAFF RESOURCES, AND IDENTIFY SPECIFIC MEASURES TO ADDRESS THEM.** The implementation of these proposals, and other fundamental changes such as a new academic calendar and a more comprehensive summer session, must adequately address their impacts on staff workload, training, compensation, and systems infrastructure.

Moreover, as one of the world's great universities, Berkeley should also strive to become a model knowledge-based workplace. Staff who choose to build a career at the university should be not only enabled, but also encouraged, to progress to their full potential along clear and well supported paths of development. The recommendations of the Compensation Advisory Committee[16] provide a foundation for improving the work environment for all campus staff: each of the proposals in the Strategic Academic Plan represents an opportunity to advance the CAC recommendations.

■ THE PATH TO IMPLEMENTATION

The strategy the SPC recommends to implement the proposals in this Plan has three essential elements:

- Institutionalizing the plan
- Structuring implementation
- Establishing responsibility

INSTITUTIONALIZING THE PLAN

From its inception, the Strategic Academic Plan has been envisioned as a set of principles and proposals to guide the future course of the academic enterprise and provide a strategic context for campus decisions. In order for the Plan to serve this purpose, it must be endorsed by both the Chancellor and the Academic Senate, and must be regularly and publicly revisited to ensure its principles remain valid, and its proposals are being implemented. Toward this end, the SPC recommends the following actions:

ACTION A.1   **STATE OF THE CAMPUS.** The Chancellor should give an annual "State of the Campus" address to the campus community, which should include a review of our progress on the proposals outlined in the Strategic Plan.

The State of the Campus address should be followed by a leadership retreat to prioritize the campus' strategic objectives for the coming year. This retreat should be chaired by the Chancellor and should include representatives from the executive, faculty, staff, and graduate and undergraduate student leadership.

ACTION A.2   **COMMITTEE ALIGNMENT.** The Executive and Senate leaderships should undertake reviews of their respective committee structures, to examine how the scope of each committee aligns with elements of the Strategic Plan, and how the potential for collaboration on Plan proposals might be enhanced.

ACTION A.3   **STRATEGIC OVERSIGHT.** The Chancellor should designate the Vice Provost for Academic Planning and Facilities as the office responsible for monitoring progress on the Strategic Plan, and also for ensuring its integration with other major strategic programs on campus, such as the workforce initiatives being developed by the Staff Infrastructure Steering Committee.

To facilitate collaboration with the Senate, SPC recommends the Vice Provost be invited to attend the Committee on Academic Planning and Resource Allocation. CAPRA and the Divisional Council should be designated as primary sources of Senate input to the Chancellor on all matters of resource allocation except those related to faculty FTE resources, which should remain the purview of the Committee on Budget and Interdepartmental Relations.

STRUCTURING IMPLEMENTATION

The campus is already a very complex organization, with myriad offices and committees, each focused on a particular aspect of the academic enterprise. For most of the proposals in this Plan, there are already logical places within the organization where the lead responsibility for implementation should reside.

In such instances, the SPC strongly recommends the campus utilize these existing offices and committees rather than create new ones, as described in **Establishing Responsibility**, below. However, the SPC has identified three areas within the campus organization where clear responsibility for implementation does not yet exist, and must be established:

- Organizing and conducting academic program reviews
- Evaluating and selecting new academic themes
- Pursuing a strategic capital investment program

ACADEMIC PROGRAM REVIEWS

The Strategic Plan recognizes the key role of critical program reviews in sustaining academic excellence. The Plan proposes:

- Reviewing academic programs at regular intervals, based on a clear set of review criteria (proposals 2.1-2.2)
- Integrating non-departmental programs and graduate groups into the cycle of program reviews (proposals 2.3-2.4)
- Expanding the scope of reviews to non-academic units (proposal 2.5).

A working group comprised of Academic Senate and Administration members has prepared a set of principles to revise departmental program reviews, which was endorsed by the Senate Divisional Council in April 2002. These principles, along with the comments of the Council, are summarized in appendix A. The SPC recommends the following actions:

ACTION A.4 **PROGRAM REVIEW SUPPORT.** The EVC/Provost should establish an organizational structure and budget to support external program reviews, based on the principles presented in appendix A for departmental reviews, and on the guidelines now in use by the Graduate Council for graduate groups.

This structure and budget should be adequate to support ten departmental reviews each year: this would allow each department to be reviewed once every seven years: each review should take no more than one year to complete. The structure and budget should also be adequate to support the continued review of graduate groups, as well as the future inclusion of interdisciplinary programs, as described in action A.5.

The EVC/Provost and Senate should meet each year to identify departments to be reviewed. While in general departments should be reviewed once every seven years – whether or not problems are evident – the process should be flexible enough to accommodate departments that would benefit from early reviews.

ACTION A.5 **REVIEWS OF INTERDISCIPLINARY PROGRAMS.** The Vice Provost for Undergraduate Education and the Committee on Educational Policy should collaborate on guidelines for the review of interdisciplinary undergraduate programs. Once these guidelines are in place, these programs should then be incorporated into the regular cycle of reviews.

ACTION A.6 **3-YEAR PILOT PLAN.** The next set of departments scheduled for review should be reviewed under the revised procedures proposed in appendix A, under a 3-year pilot plan. Progress should be assessed at the end of each year, to evaluate both the quality of reviews and the adequacy of resources and timeframes.

ACTION A.7   REVIEWS OF NON-ACADEMIC UNITS. The Chancellor should establish a working group to recommend criteria and protocols for these reviews, building upon the work of the Near-Term Planning Committee.

NEW ACADEMIC THEMES   The Strategic Plan recognizes the new resources accruing to the campus as a result of enrollment growth offer the potential not only to expand the capacity of high-demand programs, but also to extend existing programs in promising new directions, and to create new programs to pursue new areas of inquiry. As described in the Plan, the SPC has already taken the initial steps toward these new programs, by:

- Soliciting new ideas from the faculty (proposal 3.1)
- Identifying themes of exceptional promise (proposal 3.2)

However, the next step, requesting formal proposals for new programs within the themes (proposal 3.3), and the subsequent selection of programs to implement, require an organizational structure for this purpose. The SPC recommends the following actions:

ACTION A.8   CALL FOR INITIATIVES. In fall 2002, a call should be issued to invite faculty interested in any of the ten themes to attend an organizational workshop for that theme. During this and subsequent workshops, the interested participants would develop a comprehensive proposal for a new academic program to address the theme. Proposed initiatives would be due at the end of fall semester 2002, in order for selections to be made in spring 2003. Criteria for the evaluation and selection of initiatives, based on the general criteria for program reviews in proposal 2.2, are presented in appendix B.

The SPC recommends only one proposed initiative be accepted in each theme area. The purpose of this exercise is not only to identify promising new areas of inquiry, but also to encourage ventures that are both broad in scope and explicitly collaborative. Given the fact these new programs would be supported with enrollment growth funds, the proposed initiatives must also demonstrate significant potential for student participation at both the undergraduate and graduate levels, including coursework.

ACTION A.9   SELECTION OF INITIATIVES. From this initial round of proposed initiatives in 2002-2003, 2-3 themes should be selected for funding. It is envisioned the selection process would be repeated once or twice more during this decade, resulting in 5-8 new programs. Initiatives not selected in a given round would be eligible for reconsideration in the next round, along with any new ideas that emerge from future solicitations.

ACTION A.10   INITIATIVE PROCESS SUPPORT. The EVC/Provost should establish an organizational structure and budget to support submittal preparation, evaluation and selection. The budget should include provisions for logistical and clerical support to participants developing proposals within their respective theme areas.

STRATEGIC CAPITAL
INVESTMENT   The need for an integrated, strategic program of capital investment underlies several elements of the Strategic Plan, including:

- The master plan for teaching infrastructure (proposal 5.5)
- The new research centers (proposals 7.3-7.4)
- The expansion of university housing (proposals 9.1-9.5)
- The location priorities (proposals 7.2 / 8.2-8.3)
- The information network upgrades (proposals 8.5-8.6)
- The places of interaction (proposals 8.7-8.10)
- The new partnership models (proposals 7.3 / 8.4 / 9.4)

While several existing campus offices have roles in the capital investment program, this is not itself a problem. The project approval process, administered through the Executive Campus Planning Committee, provides the forum for a comprehensive review of each new capital investment, to ensure these offices are acting in concert.

However, there are two areas where existing campus organizations are inadequate: in the first case, because no responsible office or committee now exists, and in the second case because the role of an existing committee must be redefined. The SPC recommends two actions, described below: for both actions, the Chancellor should, as a first step, order an analysis of the initial and ongoing staff resources they would require.

ACTION A.11   **REAL ESTATE.** The campus has already recognized the need for a new Office of Real Estate to provide a more coherent and proactive approach to space acquisition. This new office should be established and charged with:

- Identifying and pursuing strategic land acquisitions, particularly on the blocks adjacent to campus and, for housing, along major transit corridors.
- Exploring joint ventures with private developers to create new campus facilities.
- Partnering with other public and private organizations to create new facilities that benefit the campus as well as other organizations, such as a new downtown hotel/conference center.

Once this office is established, as an initial step it should prepare a five-year workplan of real estate actions required to support the Strategic Plan proposals, including an analysis of alternate funding models, and present it to the EVC/Provost for review.

ACTION A.12   **ASSET STEWARDSHIP.** Given the age and condition of the facility inventory, the limited land and resources available for new construction, and the potential environmental and fiscal impacts of new university construction outside the core campus, we must strive to optimize our use of existing campus space, and ensure our investments in facility maintenance and renewal are strategic rather than ad hoc.

While the Space Assignments and Capital Improvements Committee is the most logical point of responsibility for asset stewardship, its present charge is primarily administrative rather than strategic. The charge of the Space Assignment and Capital Improvements Committee should broaden to include:

- Guidelines and required findings for location priority,
- Guidelines and required findings for space utilization,
- An ongoing program of space audits to verify the actual use of campus space, and
- Comprehensive reviews of campus instructional and research space. While the quality of the entire facility inventory is a challenge at Berkeley, research and instructional space are particularly critical, because it is in those spaces where functional obsolescence is most acutely felt.

As an initial step toward implementation, SACI should prepare a five-year workplan and budget for this broader mandate and present it to the Chancellor for review.

ESTABLISHING RESPONSIBILITY

With the exceptions of the new and redefined organizational structures described above, the SPC recommends the implementation of the Strategic Plan should be vested in existing offices and committees. For this to succeed, however, requires that clear points of responsibility be designated.

ACTION A.13   **ANNUAL UPDATES.** The SPC recommends each individual with primary responsibility for an element of the Plan be required to submit a brief update and action plan to the Vice Provost for Academic Planning and Facilities prior to the annual State of the Campus address described in action A.1. The reports would inform both the address itself and the subsequent Leadership Retreat.

ACTION A.14   **POINTS OF RESPONSIBILITY.** The SPC recommends the following points of responsibility for the ten Strategic Plan elements. For each, the primary point of responsibility is an executive office, but for most elements an Academic Senate committee, or an executive committee with Senate participation, is also designated, with which the executive office is expected to collaborate.

1   **PLACING A LIMIT ON GROWTH**
   - EVC/Provost

As an initial step, the SPC recommends the EVC/Provost establish a coherent and integrated system to manage undergraduate and graduate admissions, so the campus does not exceed the maximum enrollment of 33,000.

2   **ENSURING EXCELLENCE**
   - EVC/Provost, in collaboration with the Chair of the Academic Senate.

The SPC recommends the initial steps described in actions A.4-A.7, above.

3   **PURSUING NEW AREAS OF INQUIRY**
   - EVC/Provost, in collaboration with the Chair of the Academic Senate.

The SPC recommends the initial steps described in actions A.8-A.10, above.

4   **ENHANCING UNDERGRADUATE EDUCATION**
   - Vice Provost for Undergraduate Education, in collaboration with the Committee on Educational Policy.

As an initial step, the SPC recommends the Vice Provost prepare a prioritized ten-year plan and budget to enhance undergraduate education, in collaboration with CEP, and based on the principles articulated in proposals 4.1-4.7.

5   **TRANSFORMING INSTRUCTION**

   - Undergraduate: Vice Provost for Undergraduate Education, in collaboration with the Committee on Educational Policy.
   - Graduate: Dean of the Graduate Division in collaboration with the Graduate Council.

As an initial step, the SPC recommends the EVC/Provost establish a task force, led by the Vice Provost and Dean, to develop guidelines for the roles of all instructors, including graduate student instructors (proposal 5.1).

The task force could then go on to define a formal system of training and performance incentives based on those guidelines (proposal 5.2).

The SPC also recommends the Vice Provost take a lead role in identifying the criteria for the comprehensive review of instructional space by SACI proposed in action A.12, as an initial step toward preparation of a master plan for the teaching infrastructure (proposal 5.5).

6   SUPPORTING GRADUATE EDUCATION

- Dean of the Graduate Division, in collaboration with the Graduate Council.

As an initial step, the SPC recommends the Dean take a lead role in defining the criteria for distributing supplemental resources among graduate programs, including measures for academic performance and time to completion (proposal 6.2).

7   MAINTAINING RESEARCH LEADERSHIP

- Vice Chancellor for Research, in collaboration with the Committee on Research.

The SPC recommends the Vice Chancellor take a lead role in defining the criteria for the comprehensive review of research space by SACI proposed in action A.12, as an initial step toward the development of new research centers (proposal 7.3).

8   BUILDING AN INTERACTIVE CAMPUS

- Proposals 8.1-8.3: Vice Provost for Academic Planning and Facilities, in collaboration with the Committee on Space Assignment and Capital Improvements.

For proposals 8.1-8.3, the SPC recommends the initial steps described in action A.12, above.

- Proposal 8.4: This proposal would become the responsibility of the Vice Chancellor in charge of the new Office of Real Estate, as described in action A.11.
- Proposals 8.5-8.6: Associate Vice Chancellor for Information Technology, in collaboration with the Executive Campus Planning Committee.
- Proposals 8.7-8.10: Vice Chancellor for Capital Projects, in collaboration with the Executive Campus Planning Committee.

The New Century Plan, the campus' master plan for capital investment, has been revised and augmented to incorporate the principles of the Strategic Academic Plan. This new version is being reviewed by ECPC and several other campus committees during summer 2002. Once finalized in fall 2002, the New Century Plan will serve as the policy framework for the review of all capital projects through the ECPC approval process, including those pursued under proposals 8.4-8.10.

9   INVESTING IN HOUSING
- Vice Chancellor in charge of the new Office of Real Estate, in collaboration with the Vice Chancellor for Undergraduate Affairs and the Dean of the Graduate Division.

While a limited amount of new university housing can be accommodated on university-owned land, the majority of new housing required to achieve the Strategic Plan objectives requires partnerships with private developers, direct acquisition of new sites, or both. The Office of Real Estate would collaborate with the Vice Chancellor and the Dean to identify a program of investments in undergraduate and graduate housing, respectively.

10   ALIGNING INITATIVES AND RESOURCES

- All points of responsibility

In action A.13, the SPC recommends each individual designated as a point of responsibility be required to submit a brief update and action plan to the Vice Provost for Academic Planning and Facilities, prior to the annual State of the Campus address. We urge that these action plans reflect the principles articulated in proposals 10.1 and 10.2 regarding the inclusion and active participation of staff, faculty and students, the consideration of impacts on staff resources, and the potential to enhance the work environment.

■ STRATEGIC PLANNING COMMITTEE [Membership June 2002]

CO-CHAIRS	David Dowall	Chair, Academic Senate
	William Webster	Vice Provost, Academic Planning & Facilities
ACADEMIC SENATE	Lisa Alvarez-Cohen	Chair, Committee on Educational Policy
	Michael Hanemann	Chair, Graduate Council
	Robert Holub	Member, Committee on Budget & Interdepartmental Relations
	Catherine Koshland	Vice Chair, Academic Senate
	Stephen Mahin	Chair, Committee on Academic Planning & Resource Allocation
	Trond Peterson	Chair, Committee on the Status of Women & Ethnic Minorities
	George Sensabaugh	Chair, Committee on Research
DEANS	George Breslauer	Dean, Social Sciences
	Ralph Hexter	Dean, Arts & Humanities
	Paul Licht	Dean, Biological Sciences
	Richard Newton	Dean, Engineering
ADMINISTRATION	Edward Denton	Vice Chancellor, Capital Projects
	Jan de Vries	Vice Provost, Academic Affairs & Faculty Welfare
	James Hyatt	Vice Chancellor, Budget & Finance
	Thomas Leonard	University Librarian
	Christina Maslach	Vice Provost, Undergraduate Education & Instructional Technology
	Donald McQuade	Vice Chancellor, University Relations
	Robert Price	Associate Vice Chancellor, Research
CAMPUS STAFF	Alix Schwartz	Director, Academic Planning
	Walter Wong	Associate Registrar
STUDENTS	Tony Falcone	ASUC Senate
	Michael Larice	Graduate Assembly
COMMITTEE STAFF	Patricia Cascardi	Principal Analyst, Academic Planning & Facilities
	Dennis Hengstler	Executive Director, Planning & Analysis
	Thomas Koster	Asst Vice Chancellor, Capital Budget & Planning
	Kerry O'Banion	Associate Director, Physical & Environmental Planning

■ APPENDIX A: PRINCIPLES FOR PROGRAM REVIEWS

May 10, 2002

EXECUTIVE VICE CHANCELLOR AND PROVOST PAUL GRAY

The Academic Program Review Task Force forwarded its report and recommendations to the Academic Senate in September 2001. The Divisional Council and the involved Senate committees reviewed the report and recommendations. The committees did not agree on some of the suggested actions. The Senate then worked with the stakeholders to develop a set of shared principles for revising the academic program review process. The principles document that I am forwarding to you is a result of this process.

The Divisional Council reviewed and endorsed the principles with three comments.

- First, the council wished to clarify that the external reviewers would look at the whole department, including quality of life issues. There was some concern that this point was not clear in the principles document.

- Second, the council suggested that a meeting should be convened each year to determine which departments will be reviewed in that year. While departments should be scheduled for review every seven years, the process should be flexible enough to take into consideration departments in crisis that may benefit from an advanced review. The council did acknowledge that all departments, whether running well or facing challenges, could benefit from the review process.

- Third, some council members suggested using a standardized report card in the review process to ensure consistency in the assessment process.

I am forwarding the principles for revising the academic program review process along with these comments from the Divisional Council for consideration and action. Please contact me if you would like to meet and discuss next steps.

Sincerely,

s/ David Dowall
Chair

cc: Lisa Alvarez-Cohen, Chair, Committee on Educational Policy
        Sandy Ellison, Principal Policy Analyst
        Michael Hanemann, Chair, Graduate Council
        Christina Maslach, Vice Provost, Undergraduate Education
        Mary Ann Mason, Dean, Graduate Division
        Jeffrey Reimer, Associate Dean, Graduate Division
        Linda Song, Assistant Director, Academic Senate

PRINCIPLES FOR REVISING ACADEMIC PROGRAM REVIEW PROCESS

April 29, 2002

Berkeley Division Chair Dowall; Lisa Alvarez-Cohen, Chair, Committee on Educational Policy (CEP); Michael Hanemann, Chair, Graduate Council; Christina Maslach, Vice Provost-Undergraduate Education (VPUE); Mary Ann Mason, Dean, Graduate Division; and Jeffrey Reimer, Associate Dean, Graduate Division drafted the following principles for revising the academic program review process based on Senate committee responses to the recommendations of the Program Review Task Force. Divisional Council (DIVCO) endorsed these principles at its meeting on April 22, 2002.

The details of how the academic program review process will be revised will be left to a working group that Executive Vice Chancellor and Provost Gray convenes. This working group should review how the suggested administrative structure and staffing are organized to insure that they promote productivity and efficiency.

It should be noted that these principles address the review of departments. The Graduate Council will continue to review graduate groups under the guidelines it has developed. CEP will work with the office of the Vice Provost for Undergraduate Education to develop and implement guidelines for the review of interdisciplinary undergraduate majors.

EXTERNAL VS. EXTERNAL/INTERNAL REVIEW:

The external review will be conducted as outlined in the Comprehensive Guide for the Review of Existing Programs. The number of members on the external committee will be determined by the number of faculty FTE in the department under review (i.e., the number of external reviewers shall be calculated as roughly 10% of the number of FTE in the department, with a minimum of two reviewers).

There will be an opportunity (time length is unspecified) during which the chairs of the Committee on Educational Policy (CEP) and Graduate Council (GC) can appoint a faculty member from the Berkeley campus to join the external review committee members in meeting with administrators, faculty, students, and staff and any other interviews or meetings that are arranged for the external review committee. The internal review committee member will be from outside the unit to be reviewed and will focus on the general environment in the department (e.g., faculty-student relations, status of women and ethnic minorities, staff morale, teaching quality and quantity) rather than on curricular or research issues. The Berkeley faculty representative will not participate in writing the external review committee's report, but will report directly to CEP and GC. If the CEP and GC chairs are unable to appoint a Berkeley faculty member to join the external review committee during its visit, then the external review will proceed without a Berkeley faculty representative.

DISCUSSION MEETING (AKA "Monster Meeting")

The chairs of the GC, CEP, and BIR have the right to call for a discussion meeting at their discretion. The participants in the discussion meeting might vary from case to case, but may include faculty and students from the department, Review Committee representatives, campus administrators, or other relevant individuals. The meeting would be held in time for the GC, CEP, and BIR to respond through the Divisional Council of the Academic Senate within the allotted eight weeks. (NOTE: This text is quoted verbatim from the Graduate Council's response to the task force's recommendations.)

Additionally, attendees at the meeting expressed a desire that departments have the opportunity to respond to the external review committee's report and Berkeley faculty representative's report. If there is a discrepancy between either report and the department's response, the discussion meeting should be called.

WRAP UP MEETING AND FOLLOW UP TO THE REVIEW

The cognizant dean should be present at the wrap-up meeting because the dean is in the best position to work with the department in implementing changes.

When the committee proposed by the GC, known as the Program Review Oversight Committee (PROC), identifies new programs for review it could also follow up on departments' responses to program reviews that have been completed recently.

TIMELINE AND RESOURCES

If EVCP Gray allocates sufficient funds, it would be optimal to review each department every seven years. Each review should take approximately one year to complete. There are approximately 60 departments on campus. To review each one every seven years means that 10 departments would be reviewed each year. Increasing the number of departments reviewed each year is dependent upon the allocation of sufficient resources to do so.

The number of reviews will increase over three years. During the first year, six departments will be reviewed. During the second year, eight departments will be reviewed. During the third year, ten departments will be reviewed.

Based on numbers provided by Graduate Division, the Academic Senate will write up a budget for conducting six, eight, and ten reviews per year. Chair Dowall will forward this budget to EVCP Gray when he forwards Senate comments on the program review process.

PILOT PROGRAM

The next group of departments identified for review will be reviewed under these revised procedures as a pilot program. The pilot program will be assessed at the end of each year for the next three years. One component of that assessment will be to reassess the feasibility of meeting the target number of reviews per year based on how well the reviews are proceeding.

■ APPENDIX B: CRITERIA FOR NEW ACADEMIC INITIATIVES

The review process for the selection of new academic initiatives, as described in proposals 3.1-3.3, will be based on the five criteria listed below. These selection criteria are, in turn, based on the general criteria for program reviews presented in proposal 2.2, but are tailored to the specific considerations relevant to new programs. The first four of these criteria refer to the academic merit of the proposed new program, while the final criterion refers to its implementation.

INTELLECTUAL CONTENT

- Does the program embody a field of inquiry sufficiently different from existing programs to justify a separate enterprise?

- Is this field of sufficient depth to support a vibrant research program that significantly advances knowledge?

- Is there strong potential for Berkeley to become and remain a leader in this new field of inquiry?

SOCIETAL IMPORTANCE

- How would this program benefit California, the nation, and society at large?

- Do these prospective benefits respond to urgent societal needs?

- Is there strong potential for this program to have significant positive impacts?

RESOURCE BASE

- Is there a core of current faculty who are appropriate and sufficiently motivated to initiate and sustain this program?

- Does the program leverage and enhance the current strengths of the Berkeley campus?

- Would this program create or enhance intellectual synergy across multiple disciplines?

STUDENT BASE

- Is the potential for student enrollment sufficient to support the program, and how soon could this potential be realized?

- Would the program be structured to encourage student/faculty interaction, and the active participation of both graduate and undergraduate students in research?

IMPLEMENTATION

- Is there a clear path to implementation including program leadership?

- What University resources are required for implementation of this program? *(The proposal must provide a table that details year-by-year needs for faculty and staff hiring, startup packages, space, equipment, research support, supplies, expenses, and any other resource needs.)*

- What is the potential to leverage outside funds to support this program?

- Would the research activity associated with this program generate a new ORU and if so, what resources are required for the support of this ORU?

- Are the University resources required by this program commensurate with the extent of student and faculty participation?

■ ENDNOTES

[1] Compensation Advisory Committee, UC Berkeley, *Final Report*, May 2001 *http://cac.berkeley.edu*

[2] Chronicle of Higher Education, 19 April 2002

[3] Top ten institutions include MIT, UC Berkeley, Harvard, Cal Tech, Princeton, Stanford, Chicago, Yale, Cornell, and UC San Diego, based on mean reputation scores for all programs from National Research Council, *Research-Doctorate Programs in the United States*, 1995, as compiled in Diamond and Graham, *How Should We Rate Research Universities?*, table 11 *http://www.vanderbilt.edu/ans/history/graham/change.htm* Enrollment figures drawn from web sites of respective institutions.

[4] The figure of 33,000 represents the average total headcount for the fall and spring semesters. It includes the general campus and health sciences programs (Optometry and Public Health), as well as evening MBA and other self supporting programs. The 4,000 student growth targeted for Berkeley by the state represents full-time equivalent students, not headcount, and includes only general campus programs. Full time equivalency is based on the number of units in which a student is enrolled on the census date : 15 units per semester for undergraduates and 12 units per semester for graduate students.

[5] Clark Kerr, *The Gold and the Blue*, University of California Press 2001, pages 75-76

[6] Department of Capital Projects, UC Berkeley, *New Century Plan*, June 2002. Based on a physical capacity analysis of potential development and redevelopment sites on the core campus.

[7] Boyer Commission, *Reinventing Undergraduate Education: a Blueprint for America's Research Universities*, 1998 *http://notes.cc.sunysb.edu/pres/boyer.nsf*

[8] Commission on Undergraduate Education, UC Berkeley, *Final Report,* September 2000 *http://learning.berkeley.edu/cue*

[9] Office of Student Research, UC Berkeley *http://osr.berkeley.edu/Public/student.data/ucbdeg.html*

[10] Office of Undergraduate Education, University of Washington, *Mary Gates Hall* *http://www.washington.edu/oue/office/mary_gates.html*

[11] Kerr*, op cit,* page 83

[12] Office of Planning and Analysis, UC Berkeley, *Fall Graduate Headcount Enrollment Trends at Selected Peer Institutions,* August 2001. Comparisons exclude first professional students to avoid skew due to medical schools.

[13] Commission on the Growth and Support of Graduate Education, *Innovation and Prosperity at Risk*, September 2001 *http://www.ucop.edu/services/gradeduc.html*

[14] Sponsored Research Office, UC Berkeley, 2001 *op cit*

[15] Kerr*, op cit,* page 120

[16] Compensation Advisory Committee, *op cit*