

# STRATEGIC ACADEMIC PLAN



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University of California, Santa Cruz

Office of the Campus Provost/Executive Vice Chancellor

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# Strategic Academic Plan

February 2008

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*The UCSC vision is to promote academic excellence within a diverse community of scholars and learners. UCSC will lead in the development of new disciplines, advances in established disciplines and in new lines of collaboration between disciplines by its receptivity to creativity and innovation based in rigorous scholarly activity. We will celebrate the diversity of our students, faculty and staff and value their differing perspectives and contributions.*

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## A VISION FOR THE FUTURE

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The Santa Cruz campus of the University of California, having passed the 40th anniversary of its founding, is making its mark as a premier research university with a commitment to educational programs that promote active learning, critical thinking and involvement with the research mission. With recognized centers of excellence in many areas as well as emerging strengths, the campus is poised to move into a leadership role in developing and promoting new areas of research and learning based upon solid expertise in the traditional disciplines and strong inter-disciplinary foundations.

The campus was founded with a system of colleges, grouping together an array of faculty from a spectrum of disciplines. Faculty from

different colleges who were allied along disciplinary traditions then formed Boards of Study. As colleges formed around broad themes, faculty and students frequently worked at the intersections of traditional disciplines. This campus commitment to innovative interdisciplinary study extended to creating entirely new cross-disciplinary departments (across the Humanities, Arts and Engineering, and the Social, Physical and Biological Sciences) and to shifting established disciplines into new areas and unfamiliar approaches.

Conceived as primarily an undergraduate institution, UCSC has gradually developed an increasing number of graduate programs. The Academic Senate urged the campus to establish

a goal of at least a 15% graduate enrollment in order to allow all interested faculty to participate in graduate education as well as to support the research interests of the campus, provide the trained graduates needed by the state and the nation, and enhance the quality of the undergraduate experience.

UCSC has made substantial progress toward this long-standing campus goal of expanding graduate and professional enrollments. Since the last comprehensive academic plan (1988), the campus has more than doubled the number of research doctoral programs from 13 to 29 and, in the past five years, has introduced 11 new graduate programs. As a result, the campus has more than doubled the number of Ph.D. degrees it awards each year.

UCSC is recognized for its uncommon commitment to academic engagement and a quality learning experience at all levels. Our ambitions for graduate education support our continuing dedication to superlative undergraduate learning environments. Undergraduate programs have increased dramatically and we now offer 53 majors, eight of which were added since 2001, and 31 minors. UCSC is rightfully proud of its achievements in training students with a commitment to innovative scholarship and social justice. In a survey of 60 elite universities, UC Santa Cruz ranked 15th for the percentage of its students whose bachelor's degree led to doctorates and second among the UC campuses.

### The UCSC Mission

The UC Santa Cruz mission is to provide a comprehensive education for undergraduate and graduate students in focused, high quality programs. The combination of research and teaching links faculty and students in a partnership dedicated to independent, critical thinking, active understanding, creativity, and social responsibility. We believe that disciplinary excellence provides the surest basis

for inter-disciplinary collaboration that is responsive to the needs of current and future students as well as to a multiethnic and global society. *Over the coming years, we plan to utilize this strong foundation as we grow beyond our current size, emphasizing programs for which there are growing societal needs and the potential for academic excellence.* It is essential that we recruit and retain first class faculty representing a diversity of backgrounds and perspectives, provide them with facilities to enable their research to flourish and with colleagues with whom they can expand the significance of their work. Our graduates must be ready to step into their place as active and engaged citizens and our academic mission is to provide them the means to develop these abilities.

"UC Santa Cruz strives to serve California as a top ranked research university and the leading institution for the education of students—fostering a culture of excellence, inquiry, creativity, diversity, and public service in developing solutions to the world's most critical challenges.

"Here at UC Santa Cruz, our faculty are making breakthroughs relentlessly. Our students are exploring new ideas and opportunities at a pace they've never before experienced. Our graduates are changing the world. Our programs are defining education and reshaping the future.

"The UCSC community is made up of rebels and visionaries ... people who think. People who care—care enough to act, to give themselves to the world, and to change it!"

—George Blumenthal, September 2007

The highlights of this vision, building upon earlier reports, include:

- UCSC must be an **outstanding research university** with an **uncommon commitment to high-quality undergraduate and graduate education.**

- UCSC will **serve the people** of the region, the state, and the world by the engagement, development, and application of knowledge.
- A UCSC education will enable our students to become **tomorrow's leaders and lifelong learners**.
- UCSC will attract, retain, and advance a **diverse student body, faculty, and staff** from many different communities in the state, nation, and world.
- UCSC will commit itself to **high-quality production and transmission of knowledge** across all disciplines.
- UCSC will plan its growth and development with attention to **sustainability** and in consultation with the larger external community.



**College Eight** – one of ten undergraduate residential colleges providing a living and learning environment

### Guiding UCSC Academic Planning

The strategic academic plan provides an approach to fulfill our mission, retain our values and do so within the financial resources we have or can make available. We must acknowledge our present status as an institution and, most importantly, focus on where we are going. For this reason, this plan lays out the choices that we face and which options appear to best serve the campus community. Such a plan cannot simply consist of a compilation of divisional goals but must address issues that cross divisions, address our commitments in terms of delivering a

curriculum that meets student needs and fostering the ground-breaking research we have come to expect of our faculty.

The academic plan serves many purposes. To the outside community, it provides a clear depiction of the principles under which decisions are being made and the aspirations of the campus community, allowing us to present our true strengths for evaluation. It is also helpful for prospective students and their families who must make decisions about which campus to attend. It will help define the campus in attracting faculty and leadership. The plan is also important for departments and their faculty and for the Academic Senate as a measure of our goals and strategies.

### Guiding Principles

This plan is based on five principles:

- The first is that we increasingly **view UCSC as a single unit**, rather than focusing primarily on the multiple small units of which it is constituted. By sharing and building upon the strengths of each unit, a greater product can be produced than providing the sum of each small unit.
- Second, in order to maximize our ability to produce excellence in specific units, UCSC must **invest differentially** rather than incrementally and homogeneously by targeting development of departments and programs to areas where we will have the **greatest impact**. To do this we must be aware of the unique areas of strength we already possess, the specialized fields where we are poised to make significant new contributions to the advancement of knowledge, and the particular needs of the state and its citizens that we are well positioned to fulfill.
- Third, we should think of disciplines and fields of study as evolving rather than simply growing. To build the campus in this way means incorporating not only new positions funded through increased enrollment but also **reconsidering and realigning positions opened by retirement or departure**.

- Finally, it is critical that we **align academic and budgetary processes and priorities** by planning within the frame of current and anticipated resources.

“Our academic plan is important because it lays out the choices we face and the opportunities we should consider. It will help us

- Be realistic in our goals—*thinking boldly but ensuring programs are viable & sustainable at each stage of development;*
- Set priorities; and
- Build an academic program that is more than the sum of its parts.”

—David Kliger, June 2007

### Goals and Strategies

As we begin to lay out the plan, we must first identify what are the goals to which we strive. Each goal can then be supported by a set of strategies by which we can achieve our aspiration.

#### Research and Scholarly/Creative Activity

As a member of the UC system, UCSC is a vibrant, interactive scholarly community within the resources of a larger system. With the mission to generate new knowledge, we must further the development of our faculty and the support for their research through strategic use of available resources. The strategies we will employ include:

- Expect departments to identify particular areas within their disciplines in which they are poised to excel and where investment in program development should be directed;
- Develop administrative facilitation of cross-disciplinary collaborations so that foci existing in different units can be linked in dynamic and productive ways;
- Develop programmatic plans to maximize our contribution to meeting societal needs;

- Foster an academic community where a diversity of backgrounds and perspectives are appreciated, are encouraged and prosper;
- Encourage an entrepreneurial spirit in our faculty to generate exciting research agendas and approaches to obtain funding for them;
- Expand the research infrastructure to enhance the ability of our faculty to increasingly identify and secure external funding.

#### Graduate Education

Over the next five years, UCSC aims to enroll substantially more graduate students. The bulk of these enrollments will be doctoral students, probably constituting 10-12% of the total enrollment, with the remainder being made up by students in a number of terminal masters degree programs. We plan to achieve this through several means:

- Engage all interested faculty in graduate education;
- Develop new graduate programs in which there is clear potential for excellence;



Two students in UCSC's new graduate program in Digital Arts and New Media make C-SPAN interactive

UCSC's graduate programs reflect the campus' long-standing commitment to fostering innovative, interdisciplinary research and teaching. Graduate programs at UCSC will continue to evolve in cutting-edge fields across the disciplines—as well as in the cross-disciplinary themes outlined in this strategic academic plan.

- Serve the nation and the state with professional programs and schools in which there is clear engagement with critical social needs;
- Maximize capacity and diversity in existing programs, primarily at the doctoral level, by investing in graduate support;
- Develop the foundations for at least one major professional program using a differential fee-based structure;
- Increase extramural funding that will provide support for graduate student researchers through externally funded research assistantships and scholarships.

### Undergraduate Education

UCSC seeks to become the campus of choice for students across the state, recognized for producing graduates with a strong disciplinary framework, appreciation for diversity of thought and perspective, a sense of social justice, and the ability to critically analyze and make insightful and direct presentations of their knowledge. Our college system will continue to provide a nurturing setting to introduce and support students as they address the challenges of university life. Our strategies include:

- Continue our outreach efforts to attract excellent students, including transfer students, to apply and to enroll at UCSC;
- Increase our efforts to attract students representative of the state's eligible students, in response to our changing demographics context;
- Expand programs to retain these students once they enroll in our courses;
- Facilitate the retention of students within their initial areas of interest, particularly in the sciences and engineering;
- Increase development efforts to provide funds for student scholarships and student support programs

- Develop a culture of active understanding in our educational setting to enhance not only the instructional efforts of our faculty but also the learning by our students.

We will not be able to devote sufficient resources to make even progress on all of these goals so both goals and strategies must be prioritized. This situation will necessitate delays in some of the areas we would like to emphasize in favor of those more central to the highest priorities. Emphasis on some areas will also be needed in order to lay the foundations for later investments.



UC Santa Cruz students are more likely to take courses that emphasize in-depth critical analysis and include essay exams, compared to students at other major research universities (NSSE, 2000).

UC Santa Cruz is a major research university, creating new concepts and new ways of thinking in a wide range of fields. UCSC not only offers post baccalaureate study in 33 fields but is also a place with an uncommon dedication to undergraduate students enrolled in one or more of 53 majors offered.

Faculty provide inspiration through their dedication to teaching, their commitment to eliminating barriers between what is and what can be, and their continuous pursuit of invention and innovation.

## ACADEMIC VISION AND DIRECTIONS

### Disciplinary Excellence and Cross Disciplinary Strengths

Disciplines are nucleated around methodological approaches, research topics or creative foci. However, no academic discipline is a stationary category but is a dynamic envisioning of knowledge and perspective, emphasizing specific methodologies and topics but informed by the developments seen in aligned disciplines and by new discoveries removed from the immediate focus of the discipline. As a consequence, traditional disciplines often converge on similar topics or methods, each contributing their unique history and perspective. The dynamic nature of the disciplines lends itself to the style of cross-disciplinary and inter-disciplinary work that has been the tradition of the UCSC campus. Our current vision rests on building the disciplines in ways that will advance their impact upon the academy while simultaneously complementing the related disciplines. We plan to build strategically to allow our faculty and students to advance knowledge and education in ways that will benefit all citizens in the coming century.

This strategic academic plan identifies areas of excellence where the teaching and research potential can be maximized for the advancement of knowledge of particular service to the state. Examination of the current strengths across the campus, the plans for future hires, the prospects for new undergraduate and graduate programs, and the need for university-trained graduates to meet the demands of the 21st century has revealed six themes around which the campus as a whole can be said to coalesce.

We will build programs in such a way as to maximize the impact we will have in these areas and facilitate the collaborations of departments

and programs in providing research and educational opportunities.

#### Six Themes for the Future

**Cross Cultural Initiatives:** Discover and map the human sense of self—who we are, our cultural, gender and ethnic identities

**Evolving Environments, Science and Policy:** Environmental change and scientific policy, explore the earth as a planetary model, study deep space, and much more

**Human Health Initiatives:** Health sciences, including toxicology, stem cells, assistive devices, biomaterial development, cultural understanding of and communication of health issues

**Public Documentation and Communication:** The role of public media, sound, visual and digital media, and the arts in transmitting knowledge, emotion, power, and identity

**Technological Development and Societal Impacts:** Pushing technological advancement ever forward, while exploring the ramifications for society, environment, ethics, social justice and nationhood

**Transnationalism and Globalization:** Global trade, including business management, culture, human rights, labor relations, monetary policy, international communications and much more

The plan takes into consideration the ambitions of our individual departments. Our choice in specific investments in departmental faculty and program resources will be guided by the desire to enhance the quality of the educational and research mission of UCSC as a whole. How faculty positions have the potential to interact and interface with the common themes will be one important criterion for prioritizing our investment of resources. The aspirations of the academic divisions and the School of



Engineering are presented in the third section of this plan, DIVISIONAL PLANS—TARGETING DISCIPLINARY EXCELLENCE, with notations on collaborative efforts. The efforts being made to establish one or more professional school or programs are also presented.

### Crossing Traditional Boundaries

In addition to the disciplinary strengths we will enhance during the near term development, there are a number of reasons why we should consider the opportunities presented by collaborations between the disciplines. First among these reasons is that collaborations across the disciplines have proven to be a significant stimulant to production of new knowledge. Many research clusters such as the Center for Adaptive Optics, Institute for Geophysics and Planetary Physics, and the Center for Justice, Tolerance and Community have produced “cutting edge” work, in large part because they draw together scholars from very different perspectives. The impact of this work

in driving research in new directions has been substantial since this pattern reflects changes in the disciplines themselves. Disciplinary boundaries are pushed and research areas and methodologies are often adopted from other disciplines, bringing a fresh perspective.

A second reason is the rich tradition of UCSC in developing areas of research and creativity which cross traditional disciplinary boundaries. Throughout the divisions are instances where such intersections have resulted in new programs and departments that often mark the initiation of new avenues of scholarly work. Some examples include Digital Arts and New Media, Bioinformatics, Biomolecular Engineering, History of Consciousness, Feminist Studies, Ocean Sciences, Environmental Toxicology, Environmental Studies and Latin American and Latino Studies. The foundation for the campus itself rests on the inter-disciplinary nature of the residential colleges and their core courses which integrate writing into topical studies. If this is the foundation upon which we build, it is fitting that we pursue this distinctive feature as UCSC develops and grows.

A third benefit is that broader themes allow divisions to focus growth opportunities toward the development of areas of excellence. Already, the suggested themes have shaped plans within divisions to produce collaborative efforts and prompted long and thoughtful discussions between the units. The obvious overlap in interests allows divisions to unite in their efforts, with the product being greater than the individual contributions.

A fourth reason is the perception of the campus strengths. By aligning themes along existing campus strengths, we can promote the campus in areas which frequently overlap with the complex issues that face our world.

CENTER FOR JUSTICE, TOLERANCE & COMMUNITY  
University of California, Santa Cruz

**EDGING TOWARD EQUITY**  
Creating Shared Opportunity in America's Regions  
REPORT FROM THE CONVERSATION ON REGIONAL EQUITY (CORE)

Still Toxic After All These Years  
Air Quality and Environmental Justice in the San Francisco Bay Area  
February 2007  
Manuel Pastor, UC Santa Cruz  
James Laski, Occidental College  
Rachel Morello-Frosch, Brown University

UC Santa Cruz  
Center for Justice, Tolerance & Community

Prepared for the Bay Area Environmental Health Collaborative by the Center for Justice, Tolerance & Community, University of California, Santa Cruz

An ambitious action plan for social change by a team of academics, community activists, labor organizers, and foundation representatives brought together by the **Center for Justice, Tolerance, and Community.**

### Implementation of Cross-Disciplinary Themes

The strategies for building programs that cross the boundaries of traditional disciplines involve:

- focusing on specific topics or approaches that unite or intersect two or more disciplines;
- providing the structural support and funding mechanisms for cross-disciplinary programs/efforts;
- defining and supporting a method of facilitating hires across departments and divisions;

Potential mechanisms include the facilitation of program charters, cluster and joint hires, team teaching, cross-listing of courses, integrated admissions, and re-emphasis of the academic objectives as primary.

There are some cautions in developing themes that are not clearly aligned with a single discipline. First, these themes cannot exist to the exclusion or detriment of the foundational disciplines with which the themes ally. The themes do not replace excellent departments nor transform weak departments into strong themes. Close attention must be paid to retaining and expanding upon the solid foundations.

Secondly, we must retain the inter-disciplinary character in the face of an administrative structure which separates disciplines. Our existing inter-disciplinary programs are generally housed in one division, although with substantial overlapping interests in other divisions. The divisional administrative structure facilitates some interdisciplinarity within the division but imposes obstacles to formal involvement between divisions. Resource allocation and assignment of enrollment and teaching credit present hurdles that can hinder intellectual exploration. Parallel and potentially duplicative programs have emerged, separated by administrative lines. As a result, faculty and graduate students engage in research clusters or other less formal organizations but these efforts are less likely to include substantial undergraduate participation.

The overlap between these clusters suggests that greater cooperation could be facilitated and could prove exciting for both faculty and students.

Finally, to date we have built inter-disciplinary programs, yet manage them structurally as new disciplines. Inter-disciplinary programs are expected to function as any other department and to mount both undergraduate and graduate curricula based on internal resources. As a result, we may be realizing only a portion of the true potential of these programs, hindering graduate students from entering popular and exciting fields, and limiting undergraduate participation.

The identification of campuswide themes should seek areas that will advance the goals of the participating divisions in building upon existing strengths and simultaneously build core foci of strength across the university that will facilitate collaboration in research and instruction and maximize the identification of potential funding sources.

### Six Themes for the Future

What should the main areas or themes be? The strategy employed in this document is to:

- 1) recognize the existing strengths across the departments, both in overall orientation but also in many centers of excellence;
- 2) examine the requests for new faculty in the divisional plans;
- 3) examine the proposed new undergraduate and graduate programs in the divisional plans;
- 4) assess what are critical areas for future growth in state need for graduates;
- 5) assess the possibilities that we could significantly advance research; and
- 6) determine what areas of emphasis would be of greatest service to the state. From these distinct lines of evidence, six overall themes emerged that reflect current strengths, future ambitions, and greatest potential. Each theme includes many different aspects and all cross both disciplinary and divisional boundaries.

The six areas include:

- Cross Cultural Initiatives
- Evolving Environments, Science and Policy
- Human Health Initiatives
- Public Documentation and Communication
- Technological Development and Societal Impacts
- Transnationalism and Globalization

### Cross Cultural Initiatives

How we construct our definition of ourselves, how our identity is determined by external forces, our connection to our ethnic, regional and national histories and how these definitions are swayed by global movements all fall under the broad category of “Cross-Cultural Initiatives.” These issues are at the forefront of work in the Divisions of the Arts, Humanities and Social Sciences.

One set of clusters focuses on the effects of diaspora on identity and ethnicity construction. The treatment of groups as they move into new areas and establish new contacts, how they are active participants in defining their role in the political and economic structures and how they retain or demolish links to their homelands all fall into this area. The Divisions of the Humanities and Social Sciences are actively pursuing collaborative efforts around this cluster with initiatives in Asian diasporic studies. These may well be supplemented by inclusion of South Asian and of Muslim studies.

Gender studies is another cluster within this theme which already enjoys considerable collaborative effort. Combined with our already existing strengths in Humanities and Social Sciences, this subfocus should be further highlighted.

### Evolving Environments, Science and Policy

An existing strength of the campus is in the area of environmental studies, sciences and

sustainable use of resources, as seen in the Divisions of Physical and Biological Sciences and of Social Sciences. Within these divisions are departments founded on the merging of disciplinary strengths. In addition, the campus has made a commitment to the research aspects through the STEPS Institute for Innovation in Environmental Research. This area also includes the functions of the earth as a planetary model, the factors that influence the movement of its continents and oceans, its climate and ecosystems and its ability to sustain life, and a broader understanding of how planets form and exist in the universe.



The adaptive optics system at **Lick Observatory** includes a laser-produced guide star that corrects distortions to incoming light caused by atmospheric blurring.

We can further promote cross-cutting themes in the area of environment and public policy along the lines of coastal policy and climate change. Evidence of this blending is seen with the renewed interest in a program on coastal/marine policy. In addition, the Center for Justice, Tolerance and Community conducts research into environmental degradation and social justice. Possible development of a professional school is under consideration.

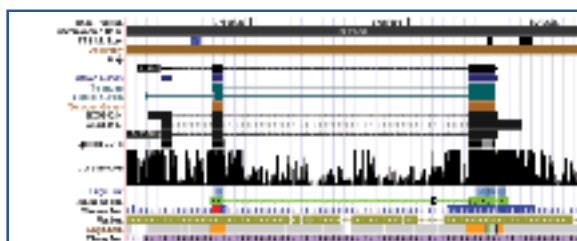
The Departments of Earth and Planetary Sciences and of Astronomy and Astrophysics demonstrate that the traditional focus on our planet has been incorporated into a broader view. Study of the formation and reformation of the Earth leads to an understanding of the formation of more distant objects. UCSC and its companion institute, the UC Observatory at Lick, have established a premier record in the study of deep space, origins of the universe, dark matter and many other phenomena. The quality of the programs and units associated with this work must be maintained and enhanced.

### Human Health Initiatives

The field of human health enjoys extensive support from the School of Engineering and the Divisions of Physical and Biological Sciences, Humanities and Social Sciences, all of whom have faculty conducting research complementary to this theme. Within Engineering, biomolecular engineering, modeling of disease patterns, development of assistive devices and biomaterials are critical areas for integration of science and technology with human health. Basic research in health, disease and toxicology, as well as academic programs in health sciences, is strong with the Division of Physical and Biological Sciences. Increasing collaboration is evident between these divisions and must be promoted. Stem cell research opens new opportunities to promote the integration of biomolecular engineering with molecular, cellular and developmental biology. The recent surge in enrollment in the Health Sciences major suggests that student interest in

programs specifically designed to prepare them for professional careers in health care is high.

Class and gender differences in access to health care, the history of biomedicine and disease, cultural understanding of health issues and communication about disease and wellness are also strong binding interests across the campus.



**Genome annotation tracks** from the UCSC Genome Browser [<http://genome.ucsc.edu/>]

“Health-related research and education programs are thriving at UC Santa Cruz, where faculty members are working on solutions to major public-health problems and students are preparing for rewarding careers in health care and biomedical sciences ... the fact is our faculty have earned international acclaim for their basic biomedical research in many areas.

It was at UCSC that the human genome project was originally proposed, here that David Haussler and his group assembled and published the first draft of the complete genome, and here that Harry Noller and his team first determined the structure of the molecular machines that synthesize proteins in our bodies. Faculty are working on cancer, neurodegenerative diseases such as Alzheimer's and Parkinson's, and infectious diseases including AIDS, cholera and malaria. We have groups working on an artificial retina to restore sight to the blind, a glucose sensor for diabetics, and arsenic in groundwater supplies in Bangladesh.

The excitement of our research and education programs and the explosion of biology-related career opportunities have made biology our largest undergraduate program ... many of these students are working toward secondary-school teaching credentials ... others are pursuing degrees in biotechnology or preparing for medical school. And they are remarkably successful, with a large fraction continuing their educations to earn graduate and professional degrees

—Stephen Thorsett, April 2007

Students are also expressing interest in these health care related courses and programs, examining the accessibility of health services across class, gender and ethnicity groups, cultural differences in the understanding of health and disease, alternative health care providers, and the economic impacts of health care and our changing demographics.

A clear vision of our areas of strength will allow us to organize cluster hiring, to develop faculty collaborations, to build appropriate facilities, and to mount a targeted philanthropic campaign.

### Public Documentation and Communication

A recurring theme in the Divisions of Arts, Engineering, Humanities, and Social Sciences is the role of public media, sound and visual media and the arts in transmitting not only knowledge but emotion, identity, and power. Throughout the disciplines, these studies incorporate reflection on how media are shaped and shape the artists and society in which they are produced and through whom and in which they occur, how they change the perception of those who hear or view them and how they are utilized to construct or deconstruct power and control. The production of art and communication occurs in many disciplines and our programs focus on critical choices made in production and documentation and how these are transmitted, altered and adapted.



Undergraduate **game design** students demonstrate the game they created to their classmates.

Investment in this area could focus more explicitly on the use of digital media and on how new media are changing the presentation and distribution of expression, information and data. At the intersection of theory and production, this theme also forms natural links to analysis and study of cross-cultural movements and the processes of globalization and transnationalism.

### Technological Development and Societal Impacts

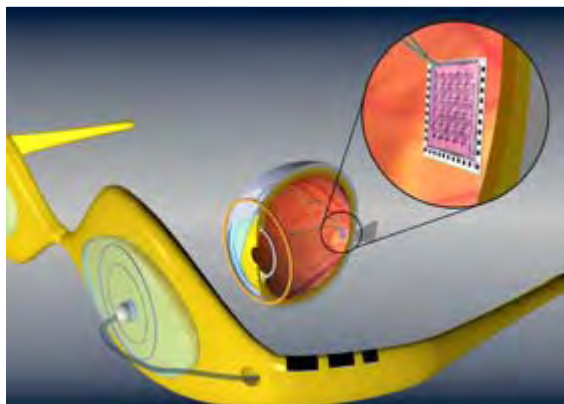
Technological Development and Societal Impacts is a broad umbrella that covers a number of programs in Engineering and Physical and Biological Sciences. It incorporates the cutting edge developments in info-, nano- and biotechnology proposed by Engineering. However, this cluster also includes the basic science research underlying this production and how, in Humanities, Arts and Social Sciences, these advances in technology have ramifications for society, environment, ethical considerations, the human interface with technology, social justice, and nationhood.

Several close collaborations have already emerged. The first would be around the interests in digital media, building around the existing collaborative efforts such as those seen around Digital Arts and New Media and Computer Game Design. The second synergy is between Engineering and Physical and Biological Sciences, focusing on the development of biomaterials and bioengineering. Sharing of courses, laboratory space and research facilities as well as cooperation in hiring between BME and departments in Physical and Biological Sciences will be important. A third proposed area is on computational initiatives. Building upon the foundational work of mathematics, alliances devoted to computational biology and computational linguistics are already thriving. The final cluster proposed within this theme is in technology and public policy, including extensive work in the areas of ethics and social justice.

### Transnationalism and Globalization

The dual processes of globalization and transnationalism will shape the future of the world. Globalization entails the increasing connectedness in the economic markets throughout the world, the common and linked environmental factors that affect and are affected by human habitation of the planet, the spread of language and culture, and the standardization of political expectations in terms of human rights, labor regulations, freedom of the press and of expression. The initial presumption that globalization would center on western traditions has quickly given way to an understanding of multiple globalizations. Transnationalism, in its broader definition, is similar to globalization but can also be defined more closely as interactions across one or more national borders. Whereas globalization can be said to emphasize homogenization across expanses, transnational emphasizes the duality or multiplicity of existences as events occur in different political, economic and cultural settings across the boundaries imposed by nation-states.

This theme already shows strong investment and established strength on campus, particularly in the social and environmental consequences and the modes by which these dual processes operate, the effects of migration on social and economic stability and advancement, and in the consequences of technological changes in communication and media distribution. Because this theme is so widely dispersed throughout the campus, uniting the threads will be challenging. Proposals under development for a School of Management may further increase the focus on transnationalism by combining interests in advanced technology and information transfer within a context of a global economy.



**Research at UC Santa Cruz** covers a wide range of innovative activities, including the development of an artificial retina providing sensory support for people with sight impairments.

UC Santa Cruz faculty and students have made significant contributions to research in virtually every field. At UCSC, however, some of the most innovative discovery is conducted at the confluence of disciplines. For example,

- Engineers are working with doctors to develop technologies that will enable blind people to see;
- Literature faculty have joined with historians to study recently-discovered texts of ancient India;
- Anthropologists are collaborating with earth scientists to study the diet of early human ancestors; and
- UCSC's new undergraduate major in computer game design—involving art, technology, storytelling, and business—illustrates the campus's commitment to discovery outside departmental boundaries.

### Arenas for Exploration Across the Disciplines

Our challenge is to facilitate and promote this work which crosses traditional disciplinary boundaries in such a way that the productive efforts of our faculty and students can be enhanced. We also need to provide arenas or “testing grounds” where new collaborative ideas can be tried, matured and implemented.

The foremost arena for research across the disciplines lies in the efforts of our faculty as they form natural alliances around common themes. Many of these are relatively informal but many receive some seed funding as focused research clusters. We must foster these efforts but also be willing to assess the potential for success and redirect resources if that potential is low. Success can be measured in many ways but should include significant scholarly productivity, development of new undergraduate or graduate programs, ability to raise external funding, and sustainability of faculty interest.

Scattered throughout the campus are research centers which unite faculty around topics. These groups have formed around internal and external promoters, may be divisionally located, and may provide a cluster or team of researchers who are able to access funds to a greater extent than a single individual. The centers often also stage symposia, lecture series, and colloquia which attract other faculty and graduate students. While some divisional funds are usually required to initiate these groups, there is the expectation that external funding will replace this, freeing the divisional funds to support other worthy activities.

Finally, an often over-looked but exceptional arena for border-crossing work is the college system. Aside from its interdisciplinary core course structure, colleges continue to house faculty offices and small research groups. To varying degrees based on their level of funding, they also sponsor upper division courses which draw upon the faculty fellows. Many of these courses are team-taught, uniting faculty from divergent perspectives. The independent nature of the colleges lends themselves ideally to an incubator for exploration across and between disciplines.



UCSC's Silicon Valley Center is based in the NASA Research Park and includes distance learning classrooms, faculty offices, and computer labs. Shown is an artist's rendition of the University Reserve.

UC Santa Cruz is expanding its research facilities and partnering with NASA and Silicon Valley companies to conduct basic and applied research in critical areas important to the region and the nation.

- The University Affiliated Research Center (UARC), a partnership between NASA and the University of California, is a ten-year research contract managed by UC Santa Cruz.
- The Bio-Info-Nano Research and Development Institute (BIN-RDI) is designed to focus on emerging technologies at the nexus of the biotechnology, information technology, and nanotechnology convergence.
- The Advanced Studies Laboratories (ASL) is a strategic joint venture that emphasizes integrative, interdisciplinary science and crossover technologies.

### DIVISIONAL PLANS—TARGETING DISCIPLINARY EXCELLENCE

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Each of the academic divisions and the School of Engineering have developed plans for enhancement of established strengths, development of new academic programs including research objectives and educational programs, and faculty recruitment alignments for new and replacement positions. Following is a discussion of the divisions, in light of the campus objectives to build on research and scholarly work, develop and expand graduate programs and enhance undergraduate opportunities within the resource window available.

#### Division of the Arts

The Arts are affected by the rapidly changing digital technologies and the “urgent need to address these sea changes in the way art is produced and understood, as well as how the arts affect society and the economy.” An essential goal of the Arts Division is the achievement of a balance between theory and practice throughout all levels of the curriculum. The divisional academic plan responds to the challenging new technologies in research and instruction, to establishing an array of graduate programs, to the maturation and distinction of existing programs, to diversification of faculty, to globalization of the curriculum, and expanding capital facilities. Strongly interdisciplinary in approach, the Arts Division has been instrumental in developing the intersections of art and engineering through digital media. Portions of the division also merge interests with Humanities and Social Sciences, avenues also being actively pursued and developed by the faculty.

**Divisional Goals:** The development of graduate programs is the division’s highest

priority and the division has chosen to differentially invest in this area. The relatively new Digital Arts and New Media program successfully integrates faculty and research from Arts and Engineering into a dynamic new graduate program. Proposals are under review in Film and Digital Media (PhD) and Visual Studies (PhD). The academic plans also discuss the possibilities of graduate programs beyond the certificate in Theater Arts (PhD or MFA) and consideration is being given to an MFA in Visual Art through the Art Department.

Strategic distribution of new faculty is primarily made with regard to the development of graduate programs. Those departments where programs are either established or emerging are slated for growth positions in the near term with other units receiving later hires as graduate proposals are generated. Areas identified for new faculty hires represent a continuation of current department specialties. Faculty replacement in the Arts Division is less critical than in other divisions as a smaller percentage of faculty are at or near retirement age. Discrepancies between the vision held by senior and junior faculty must be handled with an eye toward building to meet the needs of rapidly evolving views on visual and performance studies and practice.

Developing and mounting new graduate programs while maintaining a high demand undergraduate program will be difficult. An additional but important constraint will lie in graduate support which promises to rely heavily on teaching assistantships, in turn dependent on maintaining undergraduate enrollments. Efforts toward the development of external funding sources, including a sympathetic donor base, will be critical if the graduate expansion is to be maintained.



The second goal of the division is the maintenance of quality in the undergraduate curriculum in the face of increasing demand and collaborative efforts with other disciplines. Undergraduate Arts curriculum has historically served students from non-arts majors by offering very popular and diverse electives and minors. In addition, it serves a large number of majors, particularly drawing enrollments in Film and Digital Media. Curriculum diversification extends widely to non-European cultures as demonstrated by the Theater Arts sponsored African and African American and Chicano and Mexican theater companies. Dramatic changes in this enrollment trend are not anticipated.

The growing Arts focus on digital media places new demands on Arts to support undergraduate curriculum for programs such as the Computer Game Design B.S. sponsored by the Computer Science Department. Balancing divisional responsibility to inter-disciplinary undergraduate programs while simultaneously managing student demand within traditional programs will be a challenge.

The arts undergraduate curriculum may be further constrained by the divisional priority on graduate growth as the departments reorganize their instructional responsibilities to incorporate graduate curriculum and student advising. Workload at the undergraduate level is a consideration and some faculty allocations will address the impact of heavy enrollments compounded by pedagogical needs for small classes in studio courses.

The continued need for studio classroom space in both undergraduate and graduate programs will constrain the size of these programs. The scope of the undergraduate curriculum will need evaluation especially in the offering of gateway courses and institutional research will be critical in monitoring and predicting critical impacts due to changes in enrollment and course accessibility. Summer session may offer some possibilities for relief in gateways to degree flow at the undergraduate level.

The third goal is the increase in funding from indirect costs and from development efforts to support the scholarly work of the faculty, maintain the dedication to individualized instruction and to promote the construction of the facilities that Arts will need to accommodate its instructional, creative, research and service needs. External funding is limited in comparison to the sciences and the majority of available sources do not produce indirect cost returns to the department. Increased focus on digital arts may attract more large scale overhead bearing grants and there are collaborations with private industry benefiting computing infrastructure. The Arts Research Institute, established in 2003, is poised to substantially increase the number of individual grant applications and increase faculty productivity. In addition to the scheduled Digital Arts Facility, faculty are interested in buildings to serve as a creative focal point for student/faculty interactions and exhibitions.

Allocation of faculty to departments within the Arts should await the production of graduate proposals that 1) have the potential to bring distinction to UCSC, 2) are inclusive of the faculty in the department, 3) are inter-disciplinary in structure to ensure that there are sufficient faculty to encompass a range of perspectives and maintain the curriculum, and 4) are viable with the available resources. Until departments are able to meet these criteria, they may wish to establish parenthetical notations within their own department, develop a truly inter-disciplinary program as a collaboration among a dispersed cohort of faculty members, or participate in the other established and inter-disciplinary programs both within the Arts and emerging elsewhere.

### Jack Baskin School of Engineering

Engineering programs promote an integrated vision of science and engineering, serve the needs of the greater Silicon Valley region and the diverse population of our state, and produce graduates who are contributing citizens in a high technology society. The Jack Baskin School of Engineering (BSOE) specializes in 6 interwoven research areas: bioengineering, bio-info-nano technologies, cyberinfrastructure, mathematical and statistical modeling, software and service engineering, and system design. These designated research areas are synergistic in nature with activities in each area supported and enhanced by contributions from the others, and leveraging campus expertise. They form the conceptual basis for the School's research and instructional objectives.

**Divisional Goals:** BSOE will continue its trajectory as a research leader in emerging fields of engineering. The six areas of focus allow the school to not only concentrate its efforts but also maximize the interconnections between areas. The focus on bio-info-nano technologies links with a number of established centers and institutes, which form the basis for expansion in MEMS, NEMS systems, thermal to electric energy conversion devices, renewable energy technologies, molecular diagnostic devices, implantable chips and nanowire fabrication. In the realm of bioengineering, the school aims to solidify its leading role in bioinformatics, expanding its focus and expertise in areas of stem cell technology, biotechnology, and in areas of public health, collaborating closely with other programs in Engineering, Social Sciences and Physical and Biological Sciences. Research goals in cyberinfrastructure include building out from the core strengths in storage systems, database systems, and networked systems. The fourth concentration of mathematical and statistical modeling will expand its collaborations across disciplines, solving real-world problems in science and engineering. Software and service engineering goals include developing methods to improve efficiency and effectiveness of software

production, management, maintenance and developing tools for management of high technology industries. Research is system design will focus attention on computer and computer system design, autonomous system and microelectromechanical system design.

BSOE will continue development of its instructional programs. With the initial emphasis on graduate programs, BSOE quickly became a significant provider of campus graduate degrees. In its academic plan, Engineering continues to invest differentially in graduate studies as it has the capacity to support these students through externally funded research. New graduate programs planned (or proposed) include

- Autonomous Systems graduate program,
- Biomolecular Engineering M.S./Ph.D.,
- Electrical Engineering M.Eng.,
- Software Engineering M.S./Ph.D.,
- Technology & Information Management M.S./Ph.D., and
- Computer Game Design M.S..

These programs are highly interdisciplinary, both within the division and with other divisions. The growing momentum for a School or Program in Public Health is also an arena in which BSOE may play a central role.

Its increasing number of undergraduate degrees mark the rise of its role in undergraduate education. BSOE plans to further accelerate undergraduate growth with the introduction of new programs, broadening its range of majors as, for example, the new undergraduate major in Computer Game Design, the first program of its kind in the UC system. The proposed new programs include an Applied Mathematics B.S., Statistics B.S., Mechatronic Engineering B.S., Sustainable Technology B.S., and an Environmental Technology/Environmental Engineering minor. Student workload

projections are relatively low within the school in comparison to the other units on campus and with established Schools of Engineering. We anticipate that Engineering will accommodate a larger portion of the undergraduate student body as it develops new undergraduate majors, bringing the school's student:faculty ratio to the UC engineering average for established programs.

Throughout its research and instructional efforts, Engineering will continue to focus strongly on programs that attract a diversity of students, continued efforts to increase retention in the majors, and effective instructional coordination with other divisions. The intensity of its efforts so far are evident in its ability to attract a large number of women faculty and the fact that it ranks 3rd in the nation in percentage of women graduating at the masters level. These remarkable achievements will be the starting point for further efforts. With its many outreach efforts, BSOE aims to significantly exceed the national averages in its ability to attract, retain and graduate engineers from currently under-represented populations.

Engineering promotes connections with the technology industry by expanding its curricular and research presence at the Silicon Valley Center (SVC). The development of the program in Technology and Information Management is an example of the close collaboration being developed with industry, which has supported and helped formulate program need. Currently with research and some instructional missions in SVC, Engineering is poised to greatly increase its interaction and influence with the leading technology industries. Future undergraduate and graduate student internships with Silicon Valley corporations and UARC research ventures will enhance external funding and student job opportunities.

With a relatively young faculty, Engineering must continue to pay close attention to faculty development. Given that the fields in which instruction and research occurs are ones that

advance rapidly, allowing faculty to update their skills and explore new areas will be essential. For the School, such activities will be more important for the next few years than the examination of replacement positions required in the other academic divisions.

Given the sizeable investment needed to increase faculty in the engineering fields, new faculty positions should be contingent on 1) approval of new programs at the graduate and undergraduate levels, 2) collaboration with other divisions in inter-disciplinary areas, 3) agreement on a space plan addressing the laboratory and fabrication needs of current and future faculty, and 4) an increase in the student:faculty ratio.

### Division of Humanities

The Division of Humanities' scholarly emphasis in human expression, critical evaluation of ideas and actions, and intensive study of cultural traditions, underscore the Humanities' critical importance to understanding and solving contemporary problems. Particularly vital now are approaches that address the growing ethnic and cultural diversity in California, increasingly complex human problems and opportunities associated with advancing technologies, and mutual interdependencies of physical, social and cultural worlds. The Division will build upon its academic and intellectual strengths centering on 1) world cultures and civilizations, 2) languages and literacies, 3) philosophy of science and technology, and 4) gender and sexuality. A fifth emerging field of study may focus on religion and society.

**Divisional Goals:** The Humanities plan calls for interdisciplinary focus on major themes that transcend the departmental boundaries. Within the "world cultures and civilization," the newly revised History curriculum placing U.S. history within a global perspective exemplifies the approach. An "Ancient World Studies" will link traditional Classics with ancient civilizations

throughout the Old World. The development of this first theme must be accompanied by expansion of language offerings and study of the associated literatures. In particular, a greater emphasis on East and South Asia would be in line with California demographics, the development of world power centers and the potential for generating external funds. The critical study of science and technology already spans several departments and will be expanded in the coming years. Gender and sexuality studies have been integral to research in Literature and in History of Consciousness and gave rise to the department of Feminist Studies. The development of a Feminist Studies graduate program remains a focus of Humanities planning. Finally, while not in the foreground of the departmental plans, a recurring interest in the study of religion should be highlighted. The proposal for a BA in Jewish Studies, a Muslim Studies initiative and an endowed chair in Sikh Studies are but the most recent moves toward developing this trajectory.

The identified priorities are investment in the traditional disciplines while simultaneously encouraging faculty to establish collaborative arrangements with the smaller interdisciplinary units in the Humanities. The pillar departments are primarily History and Literature, which are staffed at substantially lower levels than seen at other UC campuses. Both areas have developed new perspectives on their respective disciplines, placing the national context within the broader global framework. The excellent, nationally ranked program in Linguistics also warrants additional investments. This department has already demonstrated its ability to work in cooperation with other divisions to push the frontiers of the discipline. Expanding into experimental and computational linguistics would position this program to move forward.

A further divisional goal focuses on the nature of the graduate programs. The highly interdisciplinary approach of the faculty is often reflected in the graduate students but the programs themselves remain steadfastly siloed.

A rethinking of graduate studies around research clusters, in line with the research clusters of the faculty, could be helpful. This re-envisioning raises the issue of the future of History of Consciousness. The division may emphasize the interdisciplinarity of this stellar program with both prestigious root appointments and joint appointments with other departments. On a broader level, graduate studies should provide students with training applicable to the many formats in which humanities play a critical role in the modern world.

The division faces a number of challenges. Foremost is the need to find alignment between resources and divisional aspirations. The relatively large number of departments, the interdisciplinary approaches of faculty and students and the number of available new faculty positions call into question the current organizational structure. Growing campus enrollments will also place new demands on division instructional capacity, particularly in such areas as the Language and Writing Programs.

Faculty replacement and development of leadership varies considerably within the Humanities departments. While, in some areas, the faculty profile suggests a small number of retirements, others suggest almost complete turnover. This situation presents an opportunity for the programs to utilize these positions in realigning the department with current trends in the discipline and with campus and divisional themes.

The divisional plans call for difficult choices, critical assessments of potential areas of strength, and breakdown of the rigid bureaucratic boundaries that mark disciplinary lines. The campus will be looking for 1) plans that set priorities between the competing interests, and 2) enhanced interdisciplinary interaction within the disciplinary structures of the humanities.

### Division of Physical and Biological Sciences

The Division of Physical and Biological Sciences (PBSci.) reaffirms its continued focus on the broad theme of service to society in three extensive areas which align with the campus themes, 1) biomedical and health sciences, 2) the study of regional and global environmental processes and ecosystems, and 3) the development and application of new technologies to societal problems and to fundamental research. In each area, the rapid pace of advancement and change has created opportunities for PBSci. programs to achieve excellence, secure external funding sources, and build on established high quality programs to launch broader inquiries. The inherently multidisciplinary themes enable department and division cross-connections which explicitly inform faculty hiring decisions.

**Divisional Goals:** Planning goals include providing essential support to significantly enhance the research and educational stature of the departments through the hiring of high quality and productive faculty. The expectation is that this investment will be reflected in “top quartile” ranking in the National Research Council’s regular assessment of doctorate programs and in other national or discipline-specific assessments. A significant portion of new resources will be allocated to relieve critical staffing issues generated by program growth, and to support core research activities with broad impact.

Stature is also affected by the strategic use of replacement positions within the departments and across the division. These positions are routinely evaluated as to appropriate new alignment within the division. Most departments do not have large percentages of faculty close to the minimum retirement age so retirements are less of a concern than elsewhere on campus. Similar to Engineering, faculty

development and enrichment is a factor that must be integrated into planning. Retentions are difficult in the sciences due to the costs associated with hiring replacement faculty. The difficulty in retaining faculty whose research attracts national and international attention is common and UCSC has not escaped this situation. Unfortunately, these staffing fluctuations can impair the ability of departments to move steadily forward.

A second priority of the division centers on its educational mission. Three key instructional objectives are to sustain current and develop new instructional programs to train leaders and innovators in our technological society, to continue supporting co-curricular activities, and to increase division enrollments through several approaches. The PBSci. Division has already developed an array of undergraduate programs, many of which are highly inter-disciplinary. The ability to develop additional offerings must be weighed against the impact on the already flourishing programs and the need for foundational laboratory courses. An immediate plan of the division focuses on the development of the California Teach program, including a Science Technology, Engineering and Math minor run jointly with the Department of Education.

In the conception of new graduate programs, the division plans to build upon its existing departmental strengths by proposing new cross-disciplinary programs. New graduate programs include Biomedical Sciences, Materials Science, and Planetary Sciences pathways in existing Ph.D. programs. They are exploring the possibility of a professional masters program in Coastal/Marine Policy. An integrated admissions process in biomedical sciences is already under consideration.

A third priority is focused specifically on the ability of the division to attract external funding through its research mission. Such funding is particularly crucial for graduate support aside from its use in promoting scholarly activity.

Division success in increasing external contract and grant funding is contingent on faculty growth. A proportionate increase in research activity and funding is assumed as faculty increase with some allowance for changing seniority demographics. Critical mass in departments and inter-disciplinary groups increases the possibility of further leveraging compelling and large scale center-based proposals. The division goal to increase research funding will increase indirect cost returns to sustain and build research infrastructure. While external funding does increase indirect cost returns to the campus, these funds are largely offset by the cost of start-up packages and laboratory support. Decisions regarding priorities must, therefore, be made on programmatic grounds and not in expectation of financial benefits to the campus.

The division should emphasize areas that will 1) allow strong inter-disciplinary development, 2) emphasize strength and excellence in programs, and 3) take advantage of changes in technological and scientific knowledge. The cross-divisional activity required under the plans for the coming growth cycle is a challenge. Strong leadership and continued effort is indicated to promote a more efficient and integrated approach to the collaborative undergraduate and graduate curriculum.

### Division of Social Sciences

The Division of Social Sciences identifies five themes for the future that build on existing divisional strengths: 1) culture, learning and cognition; 2) environment and sustainable development; 3) globalization and governance; 4) science, technology, and humans; and 5) social justice, identity, and power. Thematic shifts may occur as a product of dynamic disciplinary evolution, extending boundaries of knowledge in traditional and emerging fields. Development will show comparative advantages for UCSC in claiming a place within a discipline

or within social sciences, address a societal concern, perpetuate positive images of the social sciences, and/or capitalize upon the campus location. Recognition of budgetary constraints will be incorporated into the planning effort.

Programmatic expansion in graduate education, starting in the early 1990's, has enhanced faculty research endeavors and contributed to campus professional program growth. Faculty distinction is marked by professional awards and influence on their distinct disciplines, and through the impact they have on international discourse of issues ranging from trade, social documentation, open space, educational reform, and leadership development.

**Divisional Goals:** The Social Sciences plan reiterates the goal of extending the boundaries of knowledge in both traditional and new social science fields conducted through interdisciplinary and disciplinary lines of inquiry with a major focus on the study of human relationships in society. As social, economic, political and technological changes transform global society, UCSC social scientists inquiry ranges broadly from racism, economic inequity, educational reform, environmental degradation, international trade and finance, and how the human mind works.

Graduate program maturation and national ranking are priority goals. With all but one department already having at least one graduate program, the primary focus will be in promoting these, attracting superb graduate students from diverse backgrounds, and in raising national and international reputation. Increasing funding in support of graduate studies will be essential. Cross disciplinary and divisional collaboration opportunities are evident with strong faculty linkages to future professional schools under discussion in education, public policy, environment, health, and management. Affiliations are already in place with Humanities, Arts, Engineering, and Physical and Biological Sciences.

Retaining existing excellence in the undergraduate curriculum is a constant division goal. Social sciences is the campus most popular undergraduate discipline, with the division consistently awarding 48% of the bachelor degrees. Emphasis on undergraduate research is demonstrated in experiential education offered in local and global field work opportunities.

Three new programs are under active development: Latin American & Latino Studies Ph.D. (Latin American & Latino Studies Department with affiliated faculty from Arts/Humanities/Social Sciences); Science, Technology & Engineering Minor (Education Department with PBSci. Division); and Global Information and Social Enterprises minor (GISES) (Sociology Department with affiliated faculty from Arts/Engineering/Social Sciences).

In addition, a newly revised professional degree in Education—the Ed.D. in collaborative leadership—is proposed. The program is designed for the practitioner and will prepare a new generation of leadership in K-12 to solve the complex interdisciplinary and political problems facing our schools.

The division plan serves as a road map to enhance research excellence during a period of slowed campus growth in enrollments, faculty, and resources. By strategically redirecting future faculty recruitment, targeted disciplines will have opportunity to increase national recognition, exceeding historical levels and enhancing external funding and graduate program placements.

### Professional Schools

In its recent reaccreditation report on UCSC, the Western Association of Schools and Colleges (WASC) strongly recommended the addition of professional programs and schools to the array of programs offered at UCSC. The step into professional education, begun with the School of Engineering, is seen by WASC as the transition

of UCSC into a truly comprehensive research institution. Two other lines of thought argue for a significant move in this direction in the coming planning cycle. The first is the need within the state for increased production of high-quality graduates to move into professional areas. In some fields, the number of available professionals is limited and programs that will appeal to and train students in the changing demographic patterns of the state are desperately needed. This need is compounded by two other trends: a) the growing perception by professional licensing organizations that a masters or a doctorate is the appropriate terminal degree, and b) the subsequent need for those with advanced degrees to teach in professional programs throughout the state.

The second line of thought is that the ability of a growing campus to expand graduate offerings often rests on the development of terminal masters programs designed to attract a diverse group of students to move into practice upon graduation. Particularly around a campus size of 19,000 students, professional programs become a primary means of adding graduate students. At UCSC, our ability to add new graduate program at the Ph.D. level is limited by the mentoring ability of the faculty, the need to hold cohort sizes to levels that facilitate close interactions between and among students and faculty, and the availability of graduate support of a sufficient quality to attract high quality students. Consequently, adding more faculty to established programs has not necessarily resulted in a substantial increase in the number of graduate students.

Professional programs often form the step by which college graduates acquire the advanced skills and conceptual framework that allows them to excel in the workplace. As such, the demand for such programs often reflects the enrollment levels seen in the undergraduate majors. Development of professional schools and programs will, therefore, increase the opportunities for further development of the undergraduate as well as the graduate curricula.

Terminal masters degrees and professional doctorates are often produced in self-supporting programs, utilizing a differentially higher fee structure to cover at least a large portion of the expenses to the campus. Even without this higher fee structure, professional programs are usually mounted with significantly less campus financial support for graduate students.

A business plan for the proposed School of Management is currently under consideration and would be a bold step for UCSC into the Silicon Valley. Preproposals for two other schools in Public Policy and in Public Media have received funding to move them forward to the proposal stage. In addition, faculty interest is mounting around two new concepts:

- 1) Environmental Science and Policy, and
- 2) Public Health. Both of these initiatives have received administrative support from the divisions from which these units would draw faculty and from the Graduate Division. Consideration is also being given to moving Education toward a school structure.

Each of these proposals, and others which may develop, must receive careful attention. The choice of professional program, programs or school we should initiate will require weighing of a number of factors. These include the match with 1) need within the state for specific professions, 2) existing campus strengths, 3) financial feasibility, 4) sustainability of student demand and 5) fit within the UC system.