



OFFICE OF THE VICE PROVOST FOR ACADEMIC AFFAIRS

Kerr Hall, 1156 High Street
Santa Cruz, California 95064

May 18, 2009

Lawrence H. Pitts
Interim Provost and Executive Vice President
Academic Affairs
Office of the President
1111 Franklin Street, 4th. Floor
Oakland, California 94607-5200

RE: Five-Year Perspectives of Proposed New Academic Programs, 2009-2014

Dear Provost Pitts,

In response to your April 14, 2009 request for an updated list of proposed academic programs and schools proposed for establishment on the Santa Cruz campus within the next five years (2009-2014), I enclose the following:

- ATTACHMENT I:** List of academic programs on last year's list that have been deleted from this year's list.
- ATTACHMENT II:** List of proposed academic programs and schools that we have added to the five-year list.
- ATTACHMENT III:** List of academic programs and schools that continue on the list.
- ATTACHMENT IV:** Announcement of any transfer, consolidation, discontinuance, or disestablishment actions under consideration.

The proposed programs represent our continued expansion of degree offerings consistent with our plans for expanding the breadth of undergraduate, graduate, and professional offerings on the Santa Cruz campus. Please note that the Santa Cruz list you provided with your call does not reflect the changes we submitted in 2008. Please replace it with our current list. We have followed the report's historical format and the instructions received earlier this year requesting campuses provide summaries only for doctorate proposals. I anticipate that the taskforce working to revise the Compendium may provide an opportunity to streamline this annual process in a manner that reduces workload at all levels while retaining essential value.

The Divisional Senate committees on Educational Policy and on Planning and Budget, and the Graduate Council, have reviewed the Five-Year Perspectives.

If you require additional information, please contact me at (831) 459-3223.

Sincerely,



Alison Galloway
Vice Provost, Academic Affairs and
University Extension

Enclosure

cc: Academic Deans
Academic Senate
Chancellor Blumenthal
Director Draper
UCOP Vice Provost Dan Greenstein
Campus Provost/EVC Kliger
Vice Provost and Dean Ladusaw
Vice Chancellor Margon
Vice Chancellor Michaels
Principal Analyst Moses
Vice Provost and Dean Sloan
Librarian Steel
Chair Williams

ATTACHMENT I

PROPOSED ACADEMIC PROGRAMS FROM THE PREVIOUS YEAR'S LIST THAT SHOULD BE DELETED:

DEGREE PROGRAMS

STATUS

| | |
|--|---|
| Autonomous Systems M.S./Ph.D.. | withdrawn |
| Biomolecular Engineering M.S./Ph.D. | withdrawn |
| Remote Sensing/Geographic Information Systems M.S. | withdrawn |
| Visual Art M.F.A. | withdrawn |
| Technology & Information Management M.S./Ph.D. | CCGA approved, pending UCOP approval |

ORGANIZED RESEARCH

None

COLLEGES AND SCHOOLS

None

ATTACHMENT II

PROPOSED DEGREE PROGRAMS THAT SHOULD BE ADDED TO PREVIOUS LIST

DEGREE PROGRAMS

STATUS

| | |
|---|-------------------|
| Applied Mathematics & Statistics B.S. | Senate review |
| Cognitive Science B.S. | Senate review |
| Physics Education B.S. | Senate review |
| Studies in Performance M.A. | department review |
| Art Practice With A Global Reach Ph.D. | department review |
| Global Health M.S. [UC School of Global Health] | department review |
| Public Health M.P.H. [UC School of Global Health] | department review |

ORGANIZED RESEARCH

None

COLLEGES AND SCHOOLS

None

ART PRACTICE: A WHOLE SYSTEMS APPROACH WITH GLOBAL REACH PH.D.

Description of and Reasons for Establishment

Large system issues will outline the subject matter for practicing artists. The unique design of this program and its timeliness is prompted by the crisis the planet faces from turbulence in so many of the systems upon which survival is based. Training in this program will be such that the artist will participate in re-mediating the “force majeure” in which culture as a whole has created exponential systems stress.

This program will be subject-driven and will generate a new and much needed genre in the Arts. A subject-based systems approach (in contrast to a discipline-based approach, i.e., painting, sculpture, digital media, etc.) begins with an issue or problem that requires cross-disciplinary research. The outcome of the research determines the imagery, content, and even the style that the work will take, i.e., the disciplines serve the subject matter. By using a whole systems approach, work will address issues from local, regional, or global perspectives. This program will transform the overall practice of “activist art-making.”

Relationship to Existing Campus Programs, Units, and Mission

The proposed program shares points of interest, but no significant overlap, with other campus units. We expect that the visual culture of this program will interface with other disciplines that do not normally include a visual component or a visually interpretive aspect, e.g. Physical Sciences, Philosophy, Engineering, or Agro-Ecology.

In the most recent Arts Division Comprehensive Plan, expansion of graduate enrollment was identified as our highest priority. Also in line with campus goals for growth in graduate education outlined in the UCSC Academic Strategic Plan, this program will cross traditional boundaries, create disciplinary excellence by optimizing cross-disciplinary strengths, and can address each of the six “themes of the future:” Advanced Technology and Society, Communication and Visual Media, Environment and Planetary Health, Human Health Studies, Identity and Heritage Studies, and Transnationalism and Globalism.

Resources

The Art Department currently has 11 appointed ladder faculty FTE and is recruiting a 12th faculty. In addition, they have 2 open faculty lines used to hire lecturers or visiting professors. While the Division’s academic plan has projected 2 new faculty in support of the graduate program, the Department is confident that they could offer this program within their current faculty resources augmented with subject matter experts from other departments.

Completion of the new Digital Arts Research Center will free up studio space in the Visual Arts Research Facility for graduate student use. There will be modest new operating costs associated with new graduate students, i.e., network connectivity, lab maintenance, etc. as well as a graduate student advisor and incremental increases in

technical staffing. The department controls a significant number of teaching assistant positions from which they will be able to offer support to their students. In addition, they have access to a modest level of fellowship funds.

Funding

The department will need new I&R funds for the program. With the allocation of new faculty FTE, we would hope to receive new funding for: network costs, student recruitment, staffing, etc. We will work with the Division to identify funding sources and with the Development Officer to pursue endowments. The department firmly believe the program can be offered with only a modest infusion of funds.

Students

This program will begin small, with an initial cohort of 4 growing to a steady state of 12 candidates over a 5-year period.

Employment Implications

Government, at all levels, is implementing new approaches to the ecological challenges of the historical moment in which we find ourselves. Private industry is newly open to input from members of the world community regarding resource use, planning and design. Those who graduate from this program will be assertive, capable, practicing artists who generate or who are invited to generate projects at-scale for museums and other cultural institutions. Since we are training artists to become ecologically savvy, graduates of our program will be uniquely positioned for both public and academic positions.

UC Campuses and Other California Institutions With Similar Offerings

As far as we know, this is the only Ph.D. program in the Arts, which as a central theme takes the pedagogical position of using a scientific model for advanced education. The only Ph.D. in Art Practice offered in the UC system is a concentration developed recently at UCSD. Their program is distinctly different in focus from that envisioned here in that it places emphasis on the interaction between art production, critical theory, and history. The collaborative efforts it envisions take place within a humanities context and does not explicitly seek relationship to the experimental sciences nor intervene in large systems. Performance Studies in the Department of Theater and Dance at USD permits artists to use their practice as a form of experimentation or probing of the research question.

Anticipated Campus Review and Implementation Dates

| | |
|---------|---------------------------------------|
| 2008-09 | preliminary planning and consultation |
| 2009-10 | formal campus review |
| 2010-11 | formal off-campus system wide review |
| 2011-12 | advertise and admissions |
| 2012-13 | first student majors enroll |

Current Status

This proposal is currently in the drafting/informal consultation stage. Some letters of support have been solicited. The department hopes to submit the proposal for divisional review by the end of Spring 2009 and hopes for formal campus review during 2009-10.

Campus Contact Person

Professor Elizabeth Stephens, Art Department, Elena Baskin Visual Arts,
estephe@ucsc.edu, 831-212-8384

ATTACHMENT III**LIST OF ACADEMIC PROGRAMS AND SCHOOLS THAT CONTINUE ON THE LIST.****DEGREE PROGRAMS****STATUS**

| | |
|--|---------------------|
| Coastal Policy M.A. | departmental review |
| Comparative U.S. Studies Ph.D. | departmental review |
| Computer Game Design M.S. | departmental review |
| Electrical Engineering M.Eng. | departmental review |
| Feminist Studies Ph.D. | departmental review |
| Jewish Studies B.A. | departmental review |
| Latin American & Latino Studies Ph.D. | departmental review |
| Robotics Engineering B.S.(previously mechatronics) | departmental review |
| Planetary Sciences M.S./Ph.D. | departmental review |
| Software Engineering M.S./Ph.D. | departmental review |

COLLEGES AND SCHOOLS

| | |
|----------------------|---------------------|
| School of Management | departmental review |
|----------------------|---------------------|

COMPARATIVE U.S. STUDIES PHD

Description of and Reasons for Establishment

The objectives of the graduate program in Comparative United States Studies Graduate Program (CUSSP) are to: 1) provide students and professors with dynamic and rigorous training in multi-disciplinary scholarship on the study of the United States; and 2) serve as a resource for public and private institutions who aim to expand their understanding of the United States in its past, present and future forms.

This graduate group on the United States is global in scope and comparative in approach. By this we mean that although we focus distinctly on the United States, we understand the U.S. to be a nation that has important global dimensions and to be a nation that is also critically defined by its multi-national, immigrant based citizenry. This comparative and global approach represents a new approach to the study of the United States. It will also represent an innovation in the field of “American Studies” of which CUSSP is a part. “American Studies” when practiced from this perspective, will fundamentally define the United States as an international, multi-national, multi-racial and ethnic nation with cultural, technological and economic global significance. This new approach accounts, in part, for our decision to use “United States” over the more commonly used “America” in our program title. We believe, based on our research, that this will be the first Comparative U.S. Studies Ph.D. program in the country.

Our three primary areas of study will be defined by the following three research clusters: Expressive Practices and Media Studies; Nation, Diaspora and Borderlands, and Democracy, Law and Public Life. These three areas of exploration make room for a wide variety of research projects with several axes of concern. CUSSP will thus represent something new and distinctive in the study of American life, and as such should be able to attract a distinguished group of graduate students and make a major contribution to the intellectual life of UC Santa Cruz.

Relationship to Existing Campus Programs, Units, and Mission

CUSSP builds on existing programs and establishes a new endeavor at the same time. At this point, the interdisciplinary study of the United States takes place in several existing departments, but no single department or program is dedicated exclusively to this area of research and graduate programming. Our program will bring in new faculty who study the United States and will bring existing faculty into synergistic relation across several departments and three divisions (Humanities, Social Sciences and the Arts Divisions).

CUSSP will offer new courses and will share courses with many departments and programs on campus. In addition, some of the principal CUSSP faculty will be drawn from existing departments. Levels of existing faculty participation in CUSSP will be based on department and faculty interest and needs.

CUSSP will offer new courses as well as share existing courses taught by existing faculty and will work closely with the current undergraduate American Studies program, especially in relation to TA support and with other graduate programs, perhaps offering students a

parenthetical notation and other cross-curriculum exchanges. CUSSP is expected to enhance interdepartmental graduate student and faculty exchanges, dialogue and research.

Although housed in the American Studies Department within the Humanities Division, the program/group will function trans-divisionally, in support of campus initiatives articulated in the Millennium Report, for interdisciplinary graduate programs with cooperative relationships across departments and divisions. Such strong interactions among departments have long been a hallmark of UCSC and with CUSSP these more extensive departmental and divisional exchanges will be brought to bear on the field of American Studies.

Resources

The Humanities Division hopes to provide three FTE as well as physical space for new CUSSP faculty, administrative support funds and administration offices within the American Studies Department. The program will share a full-time Administrative Assistant III with the American Studies Department. The current staffing formula of a total of 1.42 FTE will be adjusted upward to 2 FTE, the standard staffing for departments with graduate programs. In addition to the 3 faculty FTE, annual funds needed for faculty participation buyouts of existing faculty will need to be determined more specifically, based on final decisions regarding types of faculty participation. It appears that these buyout costs should total approximately \$42,000 annually for the first three years. As new hires are secured, this buyout budget will be proportionately reduced. The projected annual budget for events, lectures, honoraria, and office supplies is projected to cost an additional \$7,500 per year. To augment considerable current McHenry holdings, we will be able to allocate library start-up fund at the normal rate of \$6,000 per faculty FTE for each of the three permanent CUSSP appointments, for a total of \$18,000. In addition, library staff suggest an increase in the base materials budget of \$16,479. Computing costs are still being calculated, but we expect them to be commensurate with existing/start-up budgets for humanities and social science related programs.

Rough Estimate of New Resources Required

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-------------------------|------------------|------------------|------------------|-----------------|-----------------|
| Buyout Funds | \$42,000 | \$42,000 | \$42,000 | \$34,000 | \$34,000 |
| Events, etc. | \$7,500 | \$7,500 | \$7,500 | \$7,500 | \$7,500 |
| Faculty FTE | \$55,000 | \$55,000 | \$55,000 | | |
| Library Start up | \$6,000 | \$6,000 | \$6,000 | | |
| Staff Salary & benefits | \$23,750 | \$23,750 | \$23,750 | \$23,750 | \$23,750 |
| Totals: | \$134,250 | \$134,250 | \$134,250 | \$65,250 | \$65,250 |

Funding

These resources will be funded primarily by the Humanities Division, with additional funds provided by the Social Sciences Division and Arts Division. We expect the establishment of CUSSP to contribute to the campus wide mission of expanding graduate programs, and do not for see any trade-offs beyond those associated with any new growth.

Students

| | 13- 14 | 14- 15 | 13- 14 | 14- 15 | 15- 16 | 16- 17 | 17- 18 | 18- 19 |
|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| # first-year students | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Total # of students | 5 | 10 | 15 | 20 | 25 | 30 | 30 | 35 |

Employment Implications

Currently there are approximately 30-40 jobs listed in the Career Network job listings under fields directly related to CUSSP. Jobs in American Studies, Ethnic Studies, American Culture, Media and Popular Culture, and many other fields are jobs for which CUSSP students will be especially qualified.

UC Campuses and Other California Institutions With Similar Offerings

As of this point, there are extremely few American Studies Ph.D. programs in the western region of the United States, and even fewer within the State of California and none in the University of California system. Aside from a new program recently launched at the University of Southern California, there is only one, small Ph.D. program in American Studies on the west coast, at Washington State University. An American Studies Ph.D. program has recently been established at the University of Southern California that borrows heavily from existing Ethnic Studies program curriculums. CUSSP does not employ this curriculum model and is therefore significantly different from ethnic studies programs within the University of California and California State campuses.

Anticipated Campus Review and Implementation Dates

| | |
|---------|--------------------------|
| 2009-10 | Informal consultations |
| 2010-11 | Campus approval |
| 2011-12 | Systemwide approval |
| 2012-13 | Advertise and Admissions |
| 2013-14 | First Students Enroll |

Current Status

A full draft of the proposal is currently under review and should be ready for formal campus consideration as early as January 2010.

Campus Contact Person

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 Department: Department of American Studies
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 Telephone: 831.459.5287
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FEMINIST STUDIES PH.D.

Description of and Reasons for Establishment

The proposed Feminist Studies Doctoral Program is designed to foreground transnational analyses that move beyond traditional notions of the international and the comparative, to

formulate problem-based research methodologies, and to develop an institutional structure that situates the formation of knowledge within a collaborative learning environment. This program builds upon the strengths of an already well-established and highly successful undergraduate program in Feminist Studies. A graduate parenthetical notation in Feminist Studies that involves seven cooperating departments has been in place since 1992. To date, over fifty students have graduated and forty students are currently in the Parenthetical. Progression to a doctoral program is the natural next step, especially in light of the establishment of the Institute for Advanced Feminist Research within the Humanities Division. The doctoral program has two main objectives: first, to provide scholars and teachers with a rigorous training in feminist methods and research; and second, to serve the needs of other professionals in areas such as public policy and human rights research.

Relationship to Existing Campus Programs, Units, and Mission

The Doctoral Program in Feminist Studies will complement and contribute to graduate programs in other UCSC departments. A number of graduate programs in the Humanities and Social Sciences have concentrations or tracks in feminist scholarship. These include the departments of History, History of Consciousness, Literature, Anthropology, Politics, Psychology, and Sociology. Students from these and other departments have enrolled in the interdisciplinary graduate courses that the Feminist Studies department has offered for the last thirteen years. The Doctoral Program in Feminist Studies will offer a broader range of courses that can also contribute to the training of graduate students in other departments. In addition, it will provide a forum for graduate students across departments and divisions in which to share their feminist research interests.

This proposal has been included in the campus ten-year academic plan, as part of the Humanities Division's ten-year plan. Final internal campus reviews of the doctoral program proposal should be completed in 2008-09, while UC-wide review would take place in 2009-10.

Resources

Estimated faculty FTE: The proposed program relies on a Principal Faculty of 13, drawn from the Department of Feminist Studies and five other departments (, Anthropology, History, History of Art and Visual Culture, History of Consciousness, and Latin American and Latino Studies) in three divisions (Humanities, Social Sciences, and Arts). It will be administered by the Department of Feminist Studies, where there are currently six FTE. These faculty resources are sufficient for launching the program; however, eight FTE from within Feminist Studies (as proposed as a minimum in the Humanities Division Academic Plan) would better sustain the program. Preferred rank for new Feminist Studies hires: one Associate to Full, one Assistant (subject to negotiation and divisional priorities). The program will benefit from additional designated hires in gender and sexuality studies included in the Humanities Division Academic Plan, whether they occur in Feminist Studies or in other departments.

Estimated additional library acquisition costs: Sustainable minimum, \$15,000 (in faculty start-up funds); additional costs anticipated as faculty are added (normal Divisional start-up allocations should be sufficient).

Estimated additional computing costs: For faculty, start-up funds usually available. For graduate students, the program would need assistance from the Division to provide access to computers and printers in the amount of \$7,490-\$7,990.

Estimated Staff FTE: The Feminist Studies staff was recently augmented to 1.75 FTE in anticipation of the new doctoral program. An additional .25 staff FTE would allow optimal functioning for the program.

Estimated Space Needs: Space needs for faculty and staff are accounted for in the new Humanities 1 building. The department will need an additional 350 square feet for graduate computing lab/commons, as well as another 350 square feet for use as a graduate seminar room.

New Courses: Feminist Theories (200), Feminist Methodologies (201), Disciplining Knowledge (202A); Culture, Power Politics (202B); Technologies of Modernity (202C); History and Memory (202D); Feminist Pedagogies (203); Group Independent Study (296); Independent Study (297); Collaborative Research (297F - two units, one hour per week); Group Dissertation Research (298); Dissertation Research (299).

Funding

A key advantage to this program is that it maximizes the use of existing resources while minimizing the need for additional financial outlays. By drawing on an excellent group of faculty currently at UCSC, a new Doctoral program can be mounted now, though it would benefit from some additional but modest FTE allocation for program leadership and administration. A letter of funding support from the Dean of Graduate Studies has committed resources for graduate student support. The Department has already established the 21st Century Feminist Scholarship Endowment Fund.

Students

The Feminist Studies Doctoral Program will admit five to seven students per year. At maturity, there will be approximately 25 students in the program.

Employment Implications

The past few years of the academic job market have demonstrated a clear and sustained growth in the number of feminist studies jobs available. There is increasing demand for teachers of feminist studies and critical gender studies at both the two-year and four-year college levels, as well as in the growing number of graduate programs in women's/gender/feminist studies.

The UCSC program is also uniquely situated to provide intellectual training in policy and non-governmental research, to name a few select areas, and is thus capable of meeting the new demand for professionals with women's studies or feminist studies degrees in public

and private sector agencies. As policy-making organizations, state institutions, and businesses continue to confront issues of diversity in the workplace and beyond, the demand will grow for scholars, activists, and consultants with experience and expertise in areas such as gender equity, international feminist issues, multiculturalism, women's health, family planning, and education.

UC Campuses and Other California Institutions With Similar Offerings

The other established doctoral programs in feminist studies in the University of California system are at UCLA and UCSB. The proposed Doctoral Program in Feminist Studies at UCSC should not conflict with these other programs because of focus and design. Cooperative work between the three programs, and others in development, is expected.

Anticipated Campus Review and Implementation Dates

| | |
|-----------|----------------------------|
| 2009-2010 | campus review |
| 2010-2011 | off-campus review |
| 2011-2012 | advertising and admissions |
| 2012-2013 | first students matriculate |

Current Status

The revised proposal is being re-submitted to the Dean of Humanities and to the Vice Provost for Academic Affairs after various informal reviews.

Campus Contact Person

Gina Dent

Associate Professor, Feminist Studies, History of Consciousness, and Legal Studies
Chair, Feminist Studies Department - UCSC

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831-459-342

LATIN AMERICAN/LATINO STUDIES PH.D.

Description of, and Reasons for, Establishment

A PhD program in Latin American/Latino Studies remains a long-term goal for the Division of Social Sciences. Planning for the program began in 2005.

- To respond to emerging demands for intellectual approaches that are capable of analyzing historical and recent social processes that are the products of globalization in the Americas;
- To train students in interdisciplinary approaches that interrogate the processes that link peoples and ideas across borders and help them to conceptually and methodologically identify and design new objects of study, as well as to rethink and situate their work while being mindful of conventional disciplinary approaches;

- To prepare students for a job market that will include newly defined positions within academia as well as in policy centers, public/private institutions (such as museums), nongovernmental organizations, and private foundations;
- To sustain the department's synergy with the many scholarly activities sponsored by key research centers, which creates a vibrant intellectual climate on campus. These centers include: the Chicano/Latino Research Center; the Center for Justice, Tolerance and Community; the Center for Cultural Studies; the Center for Global, International and Regional Studies; and the Institute for Advanced Feminist Research.¹

Relationship to Existing Campus Programs, Units, and Mission

The department has developed a Parenthetical Notation in LALS, which was approved by the Graduate Council in summer 2003. Currently, the department has entered into agreements with the following graduate degree granting departments: anthropology, environmental studies, history, history of consciousness, literature, politics, psychology and sociology. The Graduate Council has approved all these agreements. Since this program transcends disciplinary boundaries and has a distinct intellectual mission, the curriculum could not be offered within any existing structure, either as a pathway or emphasis with an existing graduate program.

There are no overlaps between the proposed curriculum and the curricula of other units on this campus.

Resources

Unknown at this time.

Funding

Division of Social Sciences.

Students

Enrollments in LALS have grown dramatically over the past five years. In fall of 2007, we had 134 majors (some combined), 98 who declared they intend to become majors, and 18 minors. The majority of our majors are Latino/as. The long-term growth of the major is the major indication that the demand for this program will be stable and long lasting.

Employment Implications

Unknown at this time.

UC Campuses and Other California Institutions with Similar Offerings

This program has no competition with other UC campuses or regional or private institutions at this time. There are no comparable PhD programs in the UC. The closest is the program in World Cultures at UC Merced. There are other somewhat related programs at UCSB (Chicano/a Studies), UCSD and UCB (Ethnic Studies), and UCD (Native American Studies).

¹ See < <http://lals.ucsc.edu/clrc/>>, < <http://cjtc.ucsc.edu/> >, <<http://humwww.ucsc.edu/CultStudies/index.html>>, <<http://www2.ucsc.edu/cgirs/>> and <<http://iafr.ucsc.edu/>>

Anticipated Campus Review and Implementation Dates

| | |
|---------|-----------------------------|
| 2009-10 | Divisional Review |
| 2010-11 | Formal campus review |
| 2011-12 | Formal off-campus review |
| 2012-13 | Advertise and admissions |
| 2013-14 | First student majors enroll |

Current Status

The department expects to submit the proposal in 2009-2010.

Campus Contact Person

Patricia Zavella, Professor and Chair; Latin American/Latino Studies; Merrill Faculty Services; 1156 High Street, Santa Cruz, CA 95064, zavella@ucsc.edu; 831-459-2855(voice); 831-459-3125(fax)

PLANETARY SCIENCES M.S./PH.D**Description of and Reasons for Anticipated Action**

This interdisciplinary program will provide graduate students with the quantitative and observational techniques to study planetary origins and evolutions, both in this Solar System and elsewhere. Such problems are inherently cross-disciplinary: for instance, the timescales over which planets accrete are constrained by infrared telescope observations, dynamical modeling and geochemical measurements. The program will consist of a common set of core courses, together with more focused courses tailored to specific techniques.

Despite the growing demand for planetary scientists with quantitative backgrounds, no UC institution currently offers a Ph.D. in planetary sciences. UCSC has existing strengths in planetary sciences in Astronomy, Earth Sciences and the Applied Math & Statistics (AM&S) department within the Baskin School of Engineering. The proposed Ph.D. program will draw on the strengths of these departments, and will also benefit from links with the nearby NASA Ames Research Center.

Relationship to Existing Campus Programs, Units and Mission

A graduate group in Planetary Sciences was identified as an instructional goal in the December 2001 long-range academic plan for the Physical and Biological Sciences Division. Though development of the program is just now beginning, it continues to have divisional support. The proposed program will consist of a mixture of new courses plus existing courses, mainly from Astronomy and Earth Sciences. The resulting graduate group will have its administrative home in Earth Sciences. Some new and existing courses will be cross-listed, for instance the proposed introductory graduate-level class on Planetary Physics. No existing campus programs or units will be discontinued due to this program.

Resources

There are already six core faculty in place: three from Earth Sciences, two from Astronomy and one from AM&S. Several other faculty also teach existing courses that are relevant to the proposed program. Physical resources – the classrooms and labs, and books and periodicals in the Science and Engineering Laboratory – are already generally in place. One exception is space for new staff and/or faculty hired through the program. To reach steady state by 2018, it is expected that 5-8 new courses will be developed. This expansion will require 3-5 new faculty FTE and 1-2 staff to support the faculty and coordinate the curriculum. Some of the teaching requirements may be met temporarily by the appointment of Ames personnel as adjunct faculty. Funds will also be required for teaching assistantships. Resources will be required for the first three years to sustain a growth of 1-2 new faculty and 2-3 new courses per year, plus one staff position.

Funding

On-campus support may potentially come from CalSpace and UARC. Support for research and training from federal agencies and private foundations is also currently being pursued. In particular, the NSF IGERT program is a potential source of graduate student support.

Students

In the year of commencement (projected 2013-14), 6 Ph.D. and 2 M.S. students are expected. Within five years it is expected that the steady state values of 20 Ph.D. and 10 M.S. students will be attained. The program is likely to have a slightly negative impact on Earth Sciences and Astronomy graduate enrollments, but the current growth in popularity of planetary sciences is expected to significantly outweigh this effect.

Employment Implications

The resurgence in NASA missions, and the growth in the number of NASA grants, means that there are plenty of job opportunities for planetary sciences graduates, in universities and other academic institutions, government labs such as the Jet Propulsion Laboratory and NASA Ames, and aerospace contractors such as Lockheed Martin.

UC Campuses and Other California Institutions With Similar Offerings

No other UC institution offers a Planetary Sciences Ph.D., although UCLA offers a broader Ph.D. program in Geophysics and Space Physics. The California Institute of Technology does offer a Planetary Sciences Ph.D., as do a handful of other institutions around the country (notably the University of Arizona and MIT).

Anticipated Campus Review and Implementation Dates

This program is at the conceptual stage. At the earliest, campus review may begin in fall 2010. According to the current guidelines and instructions for the Five Year List, we can anticipate the first enrollments in 2013-14.

Current Status

This program is currently at the conceptual stage; a formal written proposal has not yet been developed.

Campus Contact Person

Francis Nimmo, Associate Professor of Earth Sciences, is the contact person for specific information about the proposed program. His mail stop is Earth Sciences, email is fnimmo@es.ucsc.edu, and extension is 9-1783.

SOFTWARE ENGINEERING: M.S./Ph.D.**Description and Reason for Establishment:**

At this point, the Computer Science Department is actively considering whether to develop graduate programs in Software Engineering. No program specifics exist at this time.

Relationship to Existing Campus Programs, Units and Mission:

The MS and PhD in Software Engineering programs are part of the School's long-range academic plan. The fields of study represented in these degrees could meet an important need for engineers working in these fields. In addition, the Software Engineering program could be a key initiative in the Silicon Valley Center. It will also play a role in the School's planned ITI ORU. Finally, Software Engineering is poised to be one of the research themes of employees in the NASA Ames University Affiliated Research Center (UARC), and it is likely that this talent pool can be leveraged to enrich the proposed degree program, either as lecturers, or as project leaders.

Resources:

The Computer Science ten-year plan calls for additional hiring of faculty with a specialization in Software Engineering. Faculty additions to the program will result from normal growth in the Computer Science department. In addition, it is anticipated that there could be related faculty in Technology and Information Management (TIM) and in Computer Engineering (CE) who will work closely with the Software Engineering program. It is expected that SOE will also have research-supported adjunct faculty. Faculty office and research space has been planned as part of the CS department 10 year plan. New offices will be located in the E2 building, as well as in the Silicon Valley Center.

Funding:

As mentioned above, workload and divisional allocations will support the program's growth and development, along with research-supported visitors and adjunct faculty.

Students :

We anticipate that once the Software Engineering major is available, a subset of the existing graduate CS majors (perhaps 20%) will become majors. Since several of the courses required for the SE major will be CS courses, there should be a small impact on enrollments in CS. Additionally, we anticipate that the MS in Software Engineering will be especially attractive to workers in Silicon Valley, and will result in additional enrollments in Computer Science and Software Engineering courses.

Employment Implications:

Because of the campus' proximity to Silicon Valley, the job outlook is excellent. There is a strong current job market for graduates of the proposed programs, and a strong market projected for the foreseeable future.

UC Campuses and Other California Institutions Offering Similar Programs:

At present, students in the Department of Informatics in the School of Information and Computer Science at UC Irvine can receive a degree concentration in Software, which is similar to the proposed degree program. In a similar vein, the University of Southern California offers a specialization in Software Engineering for their Masters of Science program (MSCS-SE).

Located closer to UC Santa Cruz, Santa Clara University offers a Masters in Software Engineering degree program. Santa Clara University has limited research impact within the Software Engineering community, however. Carnegie Mellon University, though located in Pittsburgh, has a campus branch facility on the NASA Ames campus (Carnegie Mellon West), and offers a Masters degree program in Software Engineering, using a project-oriented curriculum in which there is minimal participation in classrooms-style learning, with students learning material on an as-needed basis during the project from videotaped lectures. While the CMU degree program is the most significant potential competitor for the UCSC Software Engineering degree programs, the high cost of the CMU program, as well as the non-traditional learning style provides a niche for a less expensive and course-oriented curriculum. There are also possibilities for cooperation between these two programs, and this possibility will be explored as well.

Anticipated Campus Review and Implementation Date:

2007-09 Division discussion/preparation of formal proposal
2009-10 Proposal undergoes campus review
2010-11 Seek system-wide approval of program
2011-12 Admit first formal cohort of majors

Current Status :

The CS Faculty is engaging in preliminary discussion of how formal graduate degree programs in Software Engineering might be built upon existing departmental strengths and initiatives.

Campus Contact Person:

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ATTACHMENT IV

**ANNOUNCEMENT OF ANY TRANSFER, CONSOLIDATION,
DISCONTINUANCE, OR DISESTABLISHMENT ACTIONS UNDER
CONSIDERATION**

DEGREE PROGRAMS

none