

DRAFT

INTERDISCIPLINARY ACTIVITIES AT UC

BACKGROUND

Interdisciplinary work, research or scholarly activity that includes knowledge, approaches, concepts, perspectives, and methodologies of two or more traditional academic subjects or fields of study, is becoming increasingly common. Campuses across the UC system are embarking on more cross-disciplinary and interdisciplinary teaching, research, and service, but many are finding that campus mechanisms for evaluation of faculty performance and allocation of key resources are either inadequate or non-existent. Junior faculty hired into an interdisciplinary program face an uncertain path through the tenure process that has traditionally been based upon the vote of the faculty in a single department. The demand for high-tech research and teaching "laboratory" space over the next 5 to 10 years is increasing more rapidly than anticipated, placing an ever greater burden on a space allocation process that has also been traditionally linked to individual departments. It is therefore prudent to conduct a more fundamental investigation of the topic of interdisciplinary activities on our campuses. In this context, the following questions are posed, to be shared with campus administrators in developing processes for shared governance of interdisciplinary activities.

QUESTIONS FOR DIVISIONS

1. How are appropriate themes for "interdisciplinary" or "cross-disciplinary" activities determined on campus, from inception of proposals to evaluation of competing proposals, including appropriate time lines and notification procedures?
2. How are faculty FTE allocated to interdisciplinary or cross-disciplinary activities on campus?
3. How might the academic personnel process account for interdisciplinary activities on campus, from initial hiring (into specific unit, or into interdisciplinary "unit", who chooses?) through the promotion process (who votes? one department? several departments? selective faculty? who selects?)
4. How will responsibilities for allocation of space, access to equipment, and funding of start-up packages be met when interdisciplinary searches are conducted?
5. Should "interdisciplinary" activities on campus conform to the structures of traditional academic departments, or be designed as a new entities, to operate outside of existing traditions?



*Assembly of the Academic Senate, Academic Council
University of California
1111 Franklin Street, 12th Floor
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January 26, 2005

Academic Council

Re: Questions on Interdisciplinary Activities

On October 15, 2004 a revised set of questions relating to campus interdisciplinary practices and activities was sent out to divisions for comment. The intention was that the questions themselves would be finalized at the January 26 Council meeting, and that plans for their implementation in developing a policy for administrative structures would also be determined at that time. The document defined interdisciplinary activities as “work, research or scholarly activity that includes knowledge, approaches, concepts, perspectives, and methodologies of two or more traditional subjects or fields of study...”

There was, however, some confusion as to the objective of the review. Responses were received from the Berkeley, Davis, Irvine, Riverside and Santa Cruz divisions, most of which offered answers to the questions rather than suggestions on how to refine and apply the questions. The information received is useful, although not uniform in terms of answer sources and format. Council is asked to decide how to proceed in: 1) further refining the survey questions; 2) gathering information from the campuses that have not yet responded; 3) using/evaluating the information already received.

Attached is the October 15 revision of the questions on Interdisciplinary Activities at UC, and (in order) the responses from:

- Berkeley - Offers answers to the questions as written, compiled from responses from deans and Senate committees.
- Davis - Offers information on campus practices, and includes response of the COR, which suggests amending the questions.
- Irvine – Responses from the Irvine Councils on Planning and Budget, Academic Personnel, Research, Computing and Library Resources, and Educational Policy, plus a report from the Irvine CPB, “Promoting and Facilitating Interdisciplinary Research”
- Santa Cruz - Uncertain about the directive, but sent in responses to the questions based on ongoing campus discussions.
- Riverside - Recommendations on how to revise the questions themselves



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January 6, 2005

GEORGE BLUMENTHAL
CHAIR, ACADEMIC SENATE

Subject: Interdisciplinary Activities at UC

In its meeting on December 13, 2004, the Divisional Council of the Berkeley Division discussed the responses to the questions posed about interdisciplinary activities on the Berkeley campus. The following is a compilation of responses from campus deans and Senate committees.

1. How are appropriate themes for "interdisciplinary" or "cross-disciplinary" activities determined on campus, from inception of proposals to evaluation of competing proposals, including appropriate time lines and notification procedures?
 - They are not determined by any systematic method; they arise like dung beetles, e nihilo. This is the 'organic' way they arise, without central encouragement or guidance. Such proposals are evaluated by units, deans and provost on an ad hoc basis, with no specific time lines or notification procedures. Whether such efforts gain financial and/or FTE support is often serendipitous, depending on the constellation of deans, chairs, and professors at a given moment.
 - They arise as the result of calls for interdisciplinary programs; round 1 has taken place; round 2 lies in the future. In the past, a general framework for new activities was formulated, but suggestions from all were encouraged. There was no guiding principle, except that the research model of 'big science', that is, group research, was privileged. However, this process was viewed in many circles as not transparent, but rather 'fixed' in favor of certain proposals. This perception must be avoided if a process of 'top down' encouragement is to be fair.
2. How are faculty FTE allocated to interdisciplinary or cross-disciplinary activities on campus?
 - FTE are allocated by the Vice Provost for Academic Affairs (for the EVCP and Chancellor) at the request of a dean and with the advice and consent of the Budget Committee. They may be allocated to the extra-departmental unit (rare), or as shared positions with traditional departments.
 - In the recent formalized process to create new, interdisciplinary units, the FTE were allocated upon recommendation of the Budget Committee.
3. How might the academic personnel process account for interdisciplinary activities on campus, from initial hiring (into specific unit, or into interdisciplinary "unit", who chooses?) through the

promotion process (who votes? one department? several departments? selective faculty? who selects?)

- These questions have not yet been answered on the Berkeley campus, and need to be addressed. As of now, ad hoc procedures settled upon by each unit/dean are in place. The campus is very much in need of a clear statement as to how the promotion process will be handled for faculty in non-traditional units.
- The ideal solution would seem to include a large enough body of faculty at the unit level to allow for complete and fair evaluation of colleagues by colleagues.
- The concept of 'floating' FTE which is currently in use for some non-traditional units needs to be carefully defined. Questions of when 'floating' FTE are appropriate and how long FTE should 'float' above departmental FTE quotas, need to be addressed.

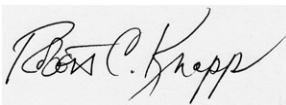
4. How will responsibilities for allocation of space, access to equipment, and funding of start-up packages be met when interdisciplinary searches are conducted?

- Currently, ad hoc arrangements are made among dean, department, and extra-department entity. Some systematic procedure needs to be developed.

5. Should "interdisciplinary" activities on campus conform to the structures of traditional academic departments, or be designed as new entities, to operate outside of existing traditions?

- This has not been decided. Probably the answer is 'both'—that is, some interdisciplinary growth will take place within existing units, some 'outside existing traditions'.
- Any interdisciplinary units must be linked to an instructional program either of its own or through an affiliated/friendly department.
- The challenge is to retain the best of the old ('traditional') academic activities/specializations while encouraging the new ('interdisciplinary') activities. There will inevitably be competition for resources and academic emphases. The Deans, Budget Committee and the Vice Provost are perhaps in the best position to adjudicate these competing 'goods' as they play out in departments and other units.

Sincerely,



Robert C. Knapp
Chair, Berkeley Division of the Academic Senate

Cc: Maria Bertero-Barcelo, Executive Director



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January 19, 2005

RE: Interdisciplinary Activities at UC

Dear George:

I forwarded your request for comments on interdisciplinary activities to our Committee on Research. Their response is attached. I think that their response to question 5 also answers the other questions, “there is not necessarily one way to facilitate all interdisciplinary activities and that three approaches are currently used on campus – 1. ORU’s, 2. centers such as the Center for Computational Science and Engineering, and 3. joint appointments of faculty to multiple departments.”

With respect to questions one, two, and four, appropriate interdisciplinary themes and budgetary allocation issues vary with the nature of the proposal. Formation of a unit to undertake interdisciplinary work generally will require a strong academic leader capable of attracting academic researchers to a common issue, and have a focus on research that cannot be conducted under the umbrella of a single existing academic unit. I believe that identification of themes for interdisciplinary work is dependent on the identification of important problems or questions that require interdisciplinary approaches. Trying to specifically define which activity is interdisciplinary runs the risk of creating more “stovepipes” in the nature of traditional disciplinary boundaries.

With respect to the academic personnel process, the department is the core academic unit for many Senate activities, including the initial review of academic personnel who are to be hired as members of the Academic Senate. The Senate requires a mechanism to insure the high quality of faculty who become empowered on appointment to exercise the authorities delegated to the Senate by the Board of Regents. It should not make a difference that this approval process is exercised within a traditional disciplinary department or an interdisciplinary group as long as the stature accorded to the unit is similar. That requires review of the establishment of an interdisciplinary group, continuing review of its performance, and in the case of interdisciplinary activity, a willingness to disestablish the unit when its purpose no longer exists. In that regard, I recommend to you the draft academic plan for UC Merced written by a committee that I chaired which called for a fluid structure of interdisciplinary academic units based on interdisciplinary problem solving and that had permeable boundaries. That

Professor George Blumenthal

\January 19, 2005

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plan called for separating research associations focused around interdisciplinary problem solving when appropriate to faculty members' academic work, and teaching units formed around undergraduate programs. Once you recognize interdisciplinary groups that are equivalent to academic departments, the other questions become easy. Appointment and merit and promotion are judged by the group or groups of which an individual is a member. If a faculty member belongs to more than one unit that is recognized as a department equivalent, then review is appropriate in each unit. Interdisciplinary groups that have not been reviewed for departmental status, such as ORU's, are not appropriately given the functions of a department in the personnel process, although a faculty member's work in such a unit is subject to evaluation in the same manner as work solely within a discipline.

Sincerely,

Daniel L. Simmons
Professor of Law
Chair of the Division

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December 10, 2004

Daniel L. Simmons, Chair
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CAMPUS

RE: Interdisciplinary Activities at UC

Dear Dan,

The Committee on Research has carefully reviewed the questions concerning **Interdisciplinary Activities at UC** and discussed many aspects of these at our meeting on December 9. First and foremost, the committee feels that the questions are too poorly defined for us to respond. Secondly, we feel that questions 1, 2, and 4 are better suited for response by campus administration, and that question 3 could better be responded by the Committee on Academic Personnel. Still we discussed aspects of question 5 in detail.

Generally, we feel that there is not necessarily one way to facilitate all interdisciplinary activities and that three approaches are currently used on campus – 1. ORU's, 2. centers such as the Center for Computational Science and Engineering, and 3. joint appointments of faculty to multiple departments. Each of the aforementioned has its strengths and weaknesses. Interestingly, the lack of definition of the questions extends to definition of the activities themselves. For example, is teaching one of the activities of concern?

The Committee on Research will be happy to discuss this issue in depth once better definition is provided.

Respectfully submitted,

Steven A. Velinsky
Professor
Chair, Committee on Research



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January 4, 2005

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RE: Interdisciplinary Activities Questions

Attached are responses from the Irvine Councils on Planning and Budget; Academic Personnel; Research, Computing and Library Resources; and Educational Policy to the request for review of the draft on Interdisciplinary Activities at UC and answers to “Questions for Divisions.” As you will see, each of these responses reflects the perspective of the councils; some are quite detailed. I note the main elements below and refer to the original documents for greater important detail. Irvine has considered these issues often and seriously.

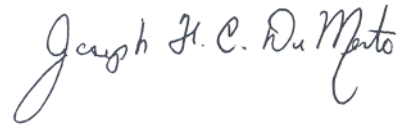
A CPB subcommittee prepared a considered report “Promoting and Facilitating Interdisciplinary Research” in December 2003 after more than a year of discussion and evaluation. The report recommended actions “to improve and expand the portfolio of interdisciplinary research at UCI.” We believe it remains a relevant document regarding the interdisciplinary questions posed in your memo.

The CAP sent a copy of a letter dated May 28, 2004, which was sent to then Senate Chair Abel Klein to assist in a Cabinet discussion on faculty in interdisciplinary fields. The letter describes how CAP addresses personnel issues related to the appointment and promotion of faculty in interdisciplinary fields and offers guidelines to departments and programs for dossier preparation for faculty in five groups: split appointees, IDP appointees, research unit appointees, collaborative researchers, and solitary workers in a novel or interdisciplinary field.

CORCLR responded to questions 1, 2, and 5, because these most closely match its areas of concern, faculty research grants and review of interdisciplinary centers and institutes.

Similarly, CEP found questions 1 and 5 within their purview. CEP described how new proposals are solicited and reviewed. They noted “practical problems” with programs spanning more than one school and reported on successful interdisciplinary programs housed in a single school.

I hope that you find this information useful for the Academic Council's upcoming discussions.

A handwritten signature in black ink that reads "Joseph F.C. DiMento". The signature is written in a cursive style with a large initial 'J' and a long, sweeping underline.

Joseph F.C. DiMento, Chair
Irvine Division, Academic Senate

Attachments – 4

Promoting and Facilitating Interdisciplinary Research
Council on Planning and Budget

Report from the Subcommittee on Interdisciplinarity
October 2003

Interdisciplinary research in the present report refers to inquiry-based activities and programs that utilize and build upon knowledge in two or more academic disciplines. This work can also be termed multidisciplinary, cross-disciplinary, or transdisciplinary. Differences in the definitions of these terms need not be considered for the purposes of this report and are considered to fall into the same category defined here as interdisciplinary.

The scope of this report is limited to research activities as opposed to a definition of interdisciplinarity that includes teaching programs as well as research. This is not to imply that interdisciplinary teaching programs are of lesser importance. Interdisciplinary teaching programs provide a wealth of educational opportunities to undergraduate students that would not exist otherwise. However, many areas of concern identified in other recent CPB reports could be addressed by the support and enhancement of interdisciplinary research on the UCI campus. The subcommittee also envisages the development of new teaching programs resulting in the establishment of new interdisciplinary research programs and centers. Highly successful interdisciplinary research centers often have a substantive teaching component and curricula.

The present report is based on three principles:

- (1) Interdisciplinary research is highly valued and broadly supported, and can provide for research infrastructure that is generally not attainable through individual grants;
- (2) Faculty must feel confident that interdisciplinary research activities are worth pursuing despite the substantial time and effort typically required for effective collaboration;
- (3) UCI is committed to improving and supporting the procedures and infrastructure used to foster interdisciplinary research projects, programs and centers.

The primary purpose of the present report is to recommend actions to improve and expand the portfolio of interdisciplinary research at UCI. These recommendations are based on discussions with several administrative leaders, Senate faculty, center directors, and relevant documentation including the "CPB Statement on Interdisciplinarity" submitted by the Council last year, and a Report from the Task Force to Find Barriers to Multidisciplinary Research chaired by AEVC Hamkalo [1]. This report also includes input from the Council on Academic Personnel (CAP), the Council on Research, Computing and Library Resources (CORCLR), the Council on Faculty Welfare (CFW) and the Council on Graduate Affairs (CGA). It is not our intention to address every issue and barrier that previous reports on this topic have identified. Rather, this report is limited to issues and recommendations that have the best chance of significantly raising the current level of interdisciplinary research at UCI during its current period of rapid growth.

Research collaborations offer the best hope for answering the vast majority of the most difficult research questions facing university faculty. Consequently, federal agencies have been increasing their support for interdisciplinary research centers far more than they have increased support for individual PI grants [2]. Many funding agencies in the federal and state governments adhere to the belief that interdisciplinary research is worth supporting. According to the National Science Foundation [3]:

“Increasingly, many important research problems in science can be addressed best by groups of investigators. A group approach not only may result in a more comprehensive treatment of many scientific problems, but also may provide innovative opportunities for the training of students.”

This belief has resulted in a number of research centers funded by NSF and other agencies that serve as a vehicle for interdisciplinary research. However, securing federal funding for research centers has become very competitive. Furthermore, funding per faculty member involved is often relatively modest while extensive time and effort is normally expended by many participants to win approval for a center grant. However, interdisciplinary center grants generally provide funds for infrastructure including large equipment and staff allocations that are not normally provided by individual research grants. The centers also provide critical resources needed to initiate new research collaborations that might not otherwise take place. Hence, the establishment of new research centers through existing federal programs is advantageous as long as the inherent difficulties and challenges are adequately recognized and addressed.

Establishment of Interdisciplinary Research Centers

Research centers offer many other advantages for overcoming the many barriers to interdisciplinary research. First, they offer some permanence within a legitimized academic framework. Research centers can provide a magnet for recruiting first-class faculty and students. They typically provide for a center director and at least one administrative staff person. They can encourage the participation of new faculty through the funding of seed grants for preliminary research activities. Finally, interdisciplinary research centers provide visible homes that business and industry can easily identify and approach.

CORCLR points out that there are currently 23 informal centers, 15 ORUs, 3 IRUs and 6 other centers and institutes. While CPB appreciates the importance of these Centers for facilitating interdisciplinary research, they do not largely impact the research infrastructure at UCI. This finding is evidenced by the fact that every other UC campus has one ORU that receives a higher level of funding than that for all of UCI's ORUs added together. UCI's total funding for federally sponsored centers is also alarmingly low compared to that for other UC campuses. Thus, the formation of centers of excellence must be strongly encouraged, particularly in the sciences and engineering where they would provide the much needed infrastructure for interdisciplinary research that is not possible from individual contracts and grants.

Recommendations regarding the establishment of more research centers at UCI:

1. UCI should become more proactive in making agencies and foundations aware of the merits of potential and proposed formal interdisciplinary research centers at UCI.

Such proactive consultations were instrumental at the Governor's California Institutes of Science and Engineering program, through which UCI has received substantial state and matching funds for CAL-IT². This strategy should be implemented to seek funds for interdisciplinary research centers that have the potential for excellence at UCI based on the current and planned makeup of the campus.

2. Interdisciplinary research center development at UCI should not be limited to science and engineering fields. Great achievements can be realized through interdisciplinary collaborations between faculty in the humanities, arts, and other academic areas. Research centers that have a focus on quality of life concerns should be seriously considered and promoted to potential funding sources. Enhancement of life experience is a key characteristic of academe that should be made more available to the general public through interdisciplinary research centers.
3. Directors of interdisciplinary research centers are typically senior faculty with experience in leading large research groups. They often provide the "glue" that brings and holds participants together for optimum interactive synergy. They also serve to mentor other faculty who have an interest in becoming future center directors. Strong campuswide effort should be expended to recruit the best person for the directorship of an existing or proposed center. Often, the natural course of action is to recruit a director from another institution. Although this may be the best procedure for some situations, the campus should also have mechanisms in place for encouraging and preparing faculty already on campus for the role of center director.
4. The Hamkalo Task Force Report [1] recommends "a staff person be assigned to identify, facilitate and guide the development and preparation of multidisciplinary proposals." We support this recommendation with the addition that a team of staff people, as opposed to one person in this role, will probably be needed to achieve optimum results. Clearly, faculty cannot be expected to develop a major interdisciplinary center without formidable staff support. Identification of potential proposals could consist of inviting faculty to meet informally who would not otherwise have the opportunity to discuss their common research interests.
5. UCI has a relatively small number of organized research units (ORUs) compared with other UC campuses and universities. ORUs generally have some aspect of interdisciplinarity and many could be developed into federally funded research centers. ORUs in this category should be allocated development funds and staff support for generating center proposals.
6. Center directors, administrators, and Senate leaders should explore the possibility of further networking existing centers to pool resources, share facilities, organize meetings of common interest, and provide a forum for attacking complex multidisciplinary problems through coordinated research activities.

Encouraging Interdisciplinary Research Activities

The factors that promote the creative process in academia remain elusive. Empirically, it has been found that novel ideas and results emerge when researchers with different approaches to a problem interact. Although one individual may verbalize an idea first, it is usually not possible to determine what the other participants did to catalyze the emergence of the idea. Group synergy often leads to outcomes that are more than the sum of the individual contributions of the participants. Unfortunately, this synergy is often difficult to measure or even recognize by departments with expertise in only one of the disciplines involved. The fear of marginal recognition acts as a barrier to faculty participation in interdisciplinary activities [4]. This fear can be particularly inhibitory in the case of junior faculty who are instructed by their mentors to focus on building their own research group. While this is generally sound advice, it should not completely preclude participation in collaborative activities.

Effective faculty teaming is often a critical characteristic of interdisciplinary research and demands participants' supplementary time and effort to communicate and coordinate their activities on a regular basis [4]. This additional effort must be recognized and rewarded by the university. Dividing the number of papers or grant dollars by the number of investigators does not generally give an accurate assessment of productivity or effort.

The Subcommittee feels the administration should become more pro-active in planning, forming and assisting groups of faculty that are interested in establishing interdisciplinary research activities and centers. The Office of Research and Graduate Studies has been exploring different activities for assisting faculty in these matters. The nature and availability of this assistance should be clearly announced to the senate faculty. Despite these activities, there is still little opportunity or incentive for faculty from different parts of campus to come together to share research ideas.

Recommendations for encouraging interdisciplinary activity on campus:

1. Campus leadership should assure faculty that interdisciplinary research activities will be satisfactorily recognized and rewarded. Furthermore, proposal planners and administrative leaders should see that all faculty participants receive support to cover at least one graduate student as well as the other costs that are normally incurred in a major research program. If this is not possible, priority should be given to junior faculty for receiving student support. This policy will strengthen the contribution by each faculty member, and will also bolster the much-needed increase in graduate enrollments on the campus and, therefore, better serve the education mission of the University.
2. Interdisciplinary articles or grants should be evaluated on the basis of a faculty member's distinct contributions, wherever possible. For the benefit of faculty involved in multi-authored works, they must be assured that disinterested evaluators will seek evidence of intellectual creativity, uniqueness, technical indispensability, and the like, rather than assuming contributions proportionate to the number of people involved. Their administrative service in the interests of the collective effort should also be recognized. These evaluations, more subtle than for individual investigators, will also protect the project or the unit from unduly rewarding

marginal contributors under the umbrella of program funding, yet recognizes that in such projects there will likely be more than a single “leader”. CPB strongly believes that not only leaders but also members should be rewarded through the personnel process, and that the recognition of joint leadership will encourage the collaboration of the most active faculty at UCI. There is otherwise little reward incentive for highly successful faculty to choose collaborative research over spending all available time on individual research activities. Based on UCI’s track record, it is unlikely that significant numbers of faculty will engage in interdisciplinary research activities if more recognition is not offered for the additional time and effort required to successfully develop and maintain faculty teaming.

In sum, CPB believes that a policy of only rewarding leaders, and not members of interdisciplinary research centers, will be deleterious to the campus and not accommodate the change in research culture that is obviously needed at UCI. This change in culture was recommended in a CGA response to an earlier version of this report, and CPB fully concurs.

3. New initiatives, such as professional schools, should be designed to include structures and mechanisms for developing interdisciplinary research activities. For example, links to faculty and centers in other units should be a significant characteristic of the new initiative.
4. The campus should establish a central initiative for connecting faculty who have similar research interests but are in different units.
5. Consideration should be given to adding a section on interdisciplinary research to the Addendum of the Biography for merits and promotions. The purpose of this section would be to provide additional recognition and encouragement of this important activity.
6. Split FTE appointments should continue to be valued and supported as a means of promoting interdisciplinary research activities. CFW recommends that “attention be paid to potential problems that arise in the recruitment of faculty in interdisciplinary programs which cut across units or are competitive in nature.” CPB agrees that destructive attitudes and actions have been and could be problematic for interdisciplinary activities. CGA also mentioned this issue and attributed an excessive focus on departments at UCI as the source for potential problems. CPB appreciates this concern and has some oversight of the recruiting process through its activities as part of the Academic Planning Group (APG) chaired by EVC Gottfredson. It should be noted that proposals for full time equivalent (FTE) faculty allocations are solicited from center directors by APG and FTE have been and will likely be allocated directly to certain research centers. This process represents a prominent departure from previous allocations where only deans and chairs received FTE allocations.
7. CORCLR observes that the vast majority of current directors were resident at UCI before taking on their leadership roles within centers. This observation points to the need for actively mentoring future center directors. CPB believes that this

mentoring will occur naturally if successful young faculty participate in existing centers. Thus, CPB believes that encouraging center membership among younger faculty is also critical for the continuation of existing as well as the formation of future centers of interdisciplinary research excellence.

References

1. "Overcoming Barriers to Multidisciplinary Research," Task Force to Identify Barriers to Multidisciplinary Research, August 31, 2000.
2. J. Brainard, "U.S. Agencies Look to Interdisciplinary Science," The Chronicle of Higher Education, June 14, 2002.
3. <http://www.nsf.gov/bio/about.htm>
4. "Barriers to Transdisciplinary Research in Youth Tobacco Use Prevention," Working Group to the You Tobacco Use Prevention Initiative, October 1998.

University of California

Academic Senate • Irvine Division
Council on Academic Personnel

May 28, 2004

ABEL KLEIN, CHAIR
ACADEMIC SENATE, IRVINE DIVISION

RE: FACULTY IN INTERDISCIPLINARY FIELDS

In an effort to help facilitate the upcoming Cabinet discussion on faculty in interdisciplinary fields, CAP offers the following comments:

Interdisciplinary faculty can be subdivided into five sets. The first three involve appointments in two units, where the dangers of double jeopardy, double service, uncertain teaching obligations and ambiguities in personnel reviews may surface. We feel that these should be dealt with *in writing* at the time of appointment and referred to specifically, if necessary, in personnel reviews. Moreover, if the administration of the units in which an appointee holds appointments changes, older understandings should be confirmed or new understandings reached by the faculty member and the units involved. Such understandings should recognize the legal importance of the original terms of employment at the time of appointment.

1. Split appointees.

Split appointees have research and teaching appointments in different departments. They number 36 on campus. Most have 50-50 split appointments, with proportional responsibilities to both units. CAP has no difficulty judging their dossiers; one department initiates a file; the other writes a letter, both deans sign off, and CAP deals with it. While there is a potential for divergent judgments at a lower level, they seem not to have cropped up recently. A recent effort to produce integrated bi-departmental reviews is now under way.

2. IDP appointees.

Faculty affiliated with formal, interdisciplinary programs without departmental status such as African-American, Women's Studies, etc. may encounter special problems, particularly if their major allegiance is to, and half or more of their FTE is in, an IDP. IDPs generally have fewer core members than departments; their sub disciplines are diverse, and the "departmental" (i.e., program) letters in merit files may be parochial. If the faculty member holds a department appointment as well, the department must also comment on or even initiate such files, sometimes with less assured knowledge of the faculty member's research and significance thereof. The interdepartmental discipline may not yet have achieved coherent national status and may lack journals that invite work from allied fields. If this is the case, the faculty member publishing in

the journals that do serve the area may be disadvantaged. A second problem is that, even with WOS appointments in stable departments, the faculty member's access to graduate students, disciplinary colleagues, and academic mentoring may be limited or non-existent. This is a severe disadvantage for assistant professors through no fault of his or her own.

Finally, appointees in smaller IDPs may come to carry a disproportionate responsibility for undergraduate training, curriculum development, and the groundwork needed to achieve departmental status. Again, assistant professors are especially vulnerable to this situation. As IDPs proceed toward department status, these problems diminish. CAP may have only imperfect ways to judge cases of this sort wisely, but has often called attention to these dangers, particularly as it comments on in Mid-Career Appraisals.

3. Research unit appointees.

Some faculty members have appointments in a regular department but perform their research in a Center or other research unit such as the Transportation Research Center or Beckman Laser Institute. CAP has no difficulty judging files of such appointees if the center and their departments appreciate the field of research. However, the departments (especially clinical departments) may well have lost touch with their "Center" appointees if they are geographically and even intellectually separated from them. In that case, the citizenship and teaching opportunities of the appointees may be few, and this may disadvantage them. This may be particularly serious if the responsibilities to the research unit or department have not been settled upon at the time of their appointments. The Center then becomes a more important judge of the appointee than the department. The danger is that the need of the Center for the faculty member's expertise in the research enterprise may color its judgment of the faculty member's intellectual contribution and potential. CAP has little difficulty in judging the dossiers of such faculty if the department and center agree on their expectations. However, where expectations diverge, CAP must decide whether deficiencies are due to the structure of the appointment, changing expectations of the units, or shortcomings of the faculty member, always seeking fairness in its judgment without losing sight of the University's goal of excellence.

4. Collaborative researchers.

Many members of regular departments collaborate with faculty outside their own departments. The hard cases for CAP are those collaborating in a field in which the department cannot adequately judge the nature or significance of the work. Some examples are (a) applied mathematicians or statisticians collaborating with biologists or clinical departments; (b) collaborators in performance arts whose work cannot easily be identified or appreciated by audiences (e.g., voice coaches, dramaturges); (c) collaborations between environmental planners and computer scientists on virtual urban designs. Collaborative research is becoming more prominent as expertise from different disciplines is required to pursue some of the most important research programs in the sciences. Therefore the collaborative work, under-appreciated or possibly suspect in the eyes of the home department, may get short shrift in the review process below the CAP level. This is particularly serious for non-tenured faculty. Second, if the interdisciplinary collaborations are not inviting to graduate students of the home department, the faculty member may be further disadvantaged unless s/he can arrange WOS appointments elsewhere. CAP has grappled with a related issue in such cases: contributions to collaborative projects by individuals must be sorted out. CAP tries to judge, often with the help of departmental or external letters, the uniqueness, indispensability, and professional visibility of

such faculty members. CAP's judgment of collaborative researchers is likely to become more problematic with time.

5. Solitary workers in a novel or interdisciplinary field.

New research areas (interdisciplinary or not) may come into being through the efforts of a lone researcher. Such workers may be judged poorly (i.e., over- or under-valued) at the outset. Time alone tells whether research in novel directions will self-propagate and have an impact in the larger field. CAP has no formula for such cases, which are understandably few. Judgments about the work of such faculty members require both open-mindedness and access to the opinions of experts, often external to the campus, in allied areas.

Conclusion.

Given how CAP approaches interdisciplinary research, as described above, easily managed guidelines for the process should be in the hands of departments and programs as they prepare dossiers for merit reviews and promotions. These dossiers might include the following:

- The candidate who claims interdisciplinary research as part of his/her research profile would write a *short* statement describing his or her interdisciplinary work, making a case in support of his or her claim. S/he can follow CAP's guidelines in preparing their statement.
- The department writes a separate report commenting on the candidate's interdisciplinary work, providing an in-depth analysis.
- The Department Chair and the Dean also should be asked to provide a short report on this aspect of candidate's research.
- Where necessary, carefully chosen letters in from people in allied research areas should be sought

Sincerely,

Rowland Davis
Chair

cc: CAP Members
Senate Executive Director Gumbrecht

Attachment 3
CORCLR Report

November 19, 2004

JOSEPH DIMENTO
CHAIR, ACADEMIC SENATE, IRVINE DIVISION

RE: Interdisciplinary Activities Questions

On November 18, 2004, the Council on Research, Computing and Library Resources (CORCLR) reviewed the draft from the Academic Council about Interdisciplinary Activities at UC. Interdisciplinary activities at UCI take many forms and include interdisciplinary studies at the undergraduate level, interdisciplinary graduate programs, individual faculty with joint (or split) appointments in different departments or schools, departments that are interdisciplinary (e.g., Department of Criminology, Law, and Society), and organized research centers and institutes. We focused our discussion on the portions of the five “Questions for Divisions” that pertain to CORCLR’s areas of concern— faculty research grants and review of interdisciplinary centers and institutes—and defer to the other Councils to answer the questions under their purview. Members of CORCLR were also uncertain about the purpose and significance of the inquiries and how the responses would be used. CORCLR is able to provide partial responses to Questions 1, 2, and 5.

1. How are appropriate themes for “interdisciplinary” or “cross-disciplinary” activities determined on campus, from inception of proposals to evaluation of competing proposals, including appropriate time lines and notification procedures?

Organized Research Units consist of an interdepartmental group of faculty and students engaged in research that is interdisciplinary in focus. The themes of the ORUs are determined by faculty. Comments on the proposals are solicited from the Deans of the participating faculty. External review is obtained to establish, and at 5-year intervals after establishment. Proposals and the comments received from Deans and external reviewers are then evaluated by the Academic Senate (Council on Research, Computing and Library Resources; Graduate Council; Council on Planning and Budget; Council on Educational Policy; and Cabinet) and approved by the Vice Chancellor for Research, as the designate of the Chancellor. Proposals are judged on their own merits and are not competing with other ORU proposals. The approximate timeline from receipt of proposal to approval can range from 1 – 3 years, with more time needed if, at any stage, a revised proposal is requested.

Campus Centers (non-ORUs) provide an infrastructure for research development that promotes synergistic interactions between a group of researchers within a school or across schools. Themes are determined by the faculty. Comments on the proposals are solicited from the Deans of the participating faculty. Proposals are reviewed by the Senate Council on Research, Computing and Library Resources and approved by the Vice Chancellor for Research. Proposals are evaluated on their own merits and are non-competing. The timeline is approximately two months.

Multi-Investigator Faculty Research Grants are awarded by the Senate Council on Research, Computing and Library Resources to two or more Senate members who engage in collaborative interdisciplinary research projects. Proposals are competitively reviewed. The call is issued in January, proposals are due May 1, and grants are awarded in July. Over the past five years, on average 8 grants have been awarded annually, ranging from \$7,500 to \$25,000. The total amount awarded each year has averaged \$136,535.

2. *How are faculty FTE allocated to interdisciplinary and cross-disciplinary activities?*

Until recently, ORUs were not allocated their own faculty FTE. In 2002-03, UCI's Executive Vice Chancellor requested proposals from ORUs to allocate faculty FTE directly to the ORU. Of the seven requests, two were approved, after which the two ORUs negotiated with departments. All faculty appointments continue to be made in the academic departments.

5. *Should "interdisciplinary" activities conform to the structures of traditional academic departments, or be designed as new entities, to operate outside of existing traditions?*

Research centers and institutes, by UC policy, are outside the departmental structures. Research centers are not responsible for curricular matters, although the participating faculty may design new courses and curricula that will be implemented through their home department or school. The reporting relationship of the Directors varies by its designation. Directors of Campus Centers report to the Dean of the Director's home school. Directors of ORUs report to the Vice Chancellor for Research.

As mentioned above, some departments at UCI are interdisciplinary, others are more traditional. CORCLR would recommend that in order to accommodate all forms of interdisciplinary activity, flexibility is needed now and in the future. A loose structure, without rigid boundaries, fosters and enhances research and scholarship.

We hope the descriptions above of the current policies governing UCI's interdisciplinary research centers, institutes and multi-disciplinary research grants are useful to the Academic Council as it seeks to develop policies about interdisciplinary activities on the UC campuses.



Cornelia Pechmann
Professor of Marketing
Graduate School of Management
Chair, Council on Research,
Computing, and Library Resources

cc: CORCLR Coordinator M. Larson

December 8, 2004

**JOSEPH F. DIMENTO, CHAIR
ACADEMIC SENATE, IRVINE DIVISION**

Re: Interdisciplinary Activities Questions

The Council on Educational Policy reviewed the Interdisciplinary Activities Questions at its December 2, 2004, meeting and found that only two of the questions fell into its area of expertise.

1. How are appropriate themes for “interdisciplinary” or “cross-disciplinary” activities determined on campus, from inception of proposals to evaluation of competing proposals, including appropriate time lines and notification procedures?
 - It is difficult sometimes to stimulate good “interdisciplinary” and “cross-disciplinary” activities. At UCI, special calls go out to the faculty from the Associate Executive Vice Chancellor (AEVC). Proposals are then vetted by the Academic Planning Group before being forwarded to the Senate for review. Once a proposal reaches the Senate, it is handled as all proposals are. Proposals for undergraduate programs are reviewed first by the CEP and are either endorsed or returned to the proposing unit for additional information or revision. Once endorsed by the CEP, the proposal is reviewed by the Council on Planning and Budget and the Graduate Council, when appropriate. It then goes to the Senate Cabinet, which forwards it for final approval to the Divisional Senate Assembly (DSA).

5. Should “interdisciplinary” activities on campus conform to the structure of traditional academic departments, or be designed as new entities, to operate outside of existing traditions?
 - We have found that there can be practical problems with programs that span more than one of the Schools at UCI (e.g. Arts and Humanities, or Humanities and Social Sciences); neither School feels that it owns the program, and, for example, majors in the ID program may have difficulty getting priority in classes. On the other hand, some interdisciplinary programs housed in a single School have thrived. Some, for example, Film and Media Studies and Asian American Studies, have developed into traditional departments; others, for example, Women’s Studies and African American Studies remain as interdisciplinary programs which now offer majors and minors.

Paul C. Eklof, Chair
Council on Educational Policy



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10 January 2005

George R. Blumenthal
Professor of Astronomy & Astrophysics
Chair, UC Systemwide Academic Senate
1111 Franklin St., 12th Floor
Oakland, CA 94607

Dear George:

I am writing on behalf of the UCR Division to comment on the document you sent to us concerning development of a policy on “Administrative Structures for Interdisciplinary Activities”. I consulted with the members of the Advisory Committee for the Division and with other pertinent committees. We agree that the questions in the document are well posed but we feel that they would benefit by separation into categories such as: (1) Identification/Selection of Themes; (2) Administrative Structure, (3) Resource Allocation, (4) Faculty Evaluation. Below we organize the questions suggested in your memo (in one case slightly modified) and add additional ones that have occurred to us. New or modified questions are in blue.

(1) Identification/Selection of Themes;

- How **and by whom** are appropriate themes for “interdisciplinary” or “cross-disciplinary” activities determined on campus, from inception of proposals to evaluation of competing proposals, including appropriate time lines and notification procedures?

(2) Administrative Structure,

- How is faculty FTE allocated to interdisciplinary or cross-disciplinary activities on campus?
- How should “interdisciplinary” activities on campus be structured? Should they conform to the structures of traditional academic departments or be designed as new entities, to operate outside of existing traditions?
- What does the establishment of interdisciplinary units mean for the future of academic planning and the way that departments are viewed by deans and other administrators?

(3) Resource Allocation,

- How will responsibilities for allocation of space, access to equipment, and funding of start-up packages be met when interdisciplinary searches are conducted?
- How is credit assigned to units for indirect cost generation – departments? Interdisciplinary units? How and where are interdisciplinary grants administered?

(4) Faculty Evaluation.

- How might the academic personnel process account for interdisciplinary activities on campus, from initial hiring (into specific unit, or into interdisciplinary “unit”, who chooses?) through the promotion process (who votes? One department? Several departments? Selective faculty? Who selects?)
- What criteria are appropriate for faculty evaluation? If journals of publication are to be evaluated, how is this done (new journals that are created for these interdisciplinary fields will not carry the same “impact factor” as established, disciplinary, journals)?
- How does one choose external letter writers (interdisciplinary evaluators are often likely to be found in a range of departments and universities and sometimes are rejected as suitable because of this diversity)?
- How will collaborative efforts be evaluated? By nature interdisciplinary fields require collaboration and, in principle the sum is greater than its parts. But the tendency is to divide contributions by the number of collaborators, putting collaborative teams at a competitive disadvantage. How should publications be weighted to compensate for this?

I hope that these suggestions are useful to you.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Manuela



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January 10, 2005

Chair George Blumenthal
Academic Council

Re: Interdisciplinary Activities Policy

Dear George,

We have been asked to comment on the draft copy of “Interdisciplinary Activities at UC” and its application to such activities at UCSC. The document covers material with respect to the procedures by which themes are chosen, faculty FTE allocation, academic personnel review in interdisciplinary programs, responsibilities for space and administration, and review.

Unfortunately, there was some uncertainty about the directive so the responses given here are based on the various on-going discussions within the Senate over the last five years or so. UCSC does have interdisciplinary programs, some formed as separate departments such as History of Consciousness and Latino and Latin American Studies while others are more loosely organized such as Contemporary US Studies (under development). Although we have guidelines for the criteria upon which the approval for a program is based, there is little guidance available for those interested in developing such a program.

1. **Choice of themes:** The procedures by which interdisciplinary programs are chosen for development appears to be somewhat mixed. A number have been dean’s initiatives, often based on existing strengths within a single division. In some cases, these programs have also been linked to sources of external funding (i.e. a donor has been available who is willing and eager to sponsor a program). Other programs began more distinctly as faculty initiatives. The success of the latter group, however, depends on the willingness of the host dean to “buy in” to the project. One committee commented that it appeared that there was little obvious planning in the choice of themes on a campus-wide basis. For an administratively initiated effort to succeed, it usually needs strong faculty support and usually needs an infusion of new hires. Programs can go forward

with just one, but appear doomed to failure if both faculty support and new hires are missing. The most successful initiatives originate with the faculty, for example by a group of faculty working around a given area pushing forward proposals to form a program in that area, or by faculty who change fields to begin a new discipline, such as Bioinformatics.

At present, there have not been a lot of campus-level decisions on broad themes for interdisciplinary work. Though in some sense divisional themes such as 'biomedical research' or 'bio/info/nano tech' are an administrative setting of direction, they are so general (and universal) that they may not in themselves get interdisciplinary programs running.

One thing that has been noted is that programs can run the danger of being severely impacted at the central level if there is too much politics between Deans and/or between the deans and the central administration. They also are very risky if they attempt to impose a worldview onto the faculty or are being used to leverage another idea.

2. **Faculty FTE:** Faculty are usually affiliated with a home department at the inception of the interdisciplinary program. Their personnel reviews should include credit for all the courses taught within both the home and interdisciplinary programs as well as associated research. However, as the program matures, there are often FTE allocated directly to the program. Administration of this structure then depends on the willingness of the faculty in traditional departments to continue to monitor the program as well as the willingness of the home departments to allow some release from departmental responsibilities. Often these “outside” faculty will eventually shift into the new program (requiring Senate consultation) or abandon it and return fulltime to their home department. In interdivisional programs, the hires are made in each affiliated department and often allegiances remain with these departments rather than the program. This tends to occur even when the dean has fully supported the initiative.

One committee noted that there are discrepancies in how Senate and non-Senate teaching faculty are regarded with respect to allocation of teaching credit in the interdisciplinary programs. Decisions regarding credit for teaching often require careful consideration and agreement by all participating constituencies. The distribution of credit for teaching may affect the allocation of future resources to the program.

For bottom-up initiatives, FTE movement is possible but difficult across divisions (although it has occurred). Some faculty have suggested we use zero percent appointments to allow rapid growth of faculty in an interdisciplinary program but these are not currently used on this campus. Non-zero appointments are problematic across divisions, both from the money issue (dean's support would far more difficult than for a LWOS), and due to interesting issues of salary scale (for example mixing engineering scales to non-engineering scales). Lack of new faculty appointments to a promising area preclude achievement of academic potential, even if the research and academic strengths of that area are superb.

3. **Academic Review Process:** In large part the review of faculty associated with interdisciplinary processes has not been adversely affected and proceeds along the

same lines as department affiliated faculty. One possible consequence however is that a) the work within the program will simply not be included in the file as organized by the department or b) the department dismisses as irrelevant the work done in the interdisciplinary program. The central problem is that there is little set policy so that reviews may be idiosyncratic.

4. **Allocation of Space, Equipment access and Start-up Packages:** The greatest success in the administration of interdisciplinary programs, including the aspects presented here, comes when the program exists between departments within one division. Presently, resource allocation nearly entirely depends on the academic deans and their assistant deans. Within a division, this model can work, however, between divisions it is more difficult. As a standard practice at least until recently is that the EVC has expected the involved deans to work out the resource allocations. If there is friction between the deans or divisions, this can make the problem extremely difficult even if the faculty are strongly supportive. Possibly as a consequence, virtually all of our hires for such programs are intradivisional.

5. **Structure of Interdisciplinary programs:** UCSC began with a core of interdisciplinarity in its college structure. As originally envisioned, each college would provide a mix of faculty in a residential setting. Faculty from each discipline would be situated throughout the campus. Faculty review would be handled both by a department and a college to which that faculty was affiliated. However, this proved to be difficult to perpetuate as the campus size increased and faculty increasing felt the need to work with colleagues in their own discipline. Now, faculty have a single administrative home in the department although college affiliation is expected. Given this background, interdisciplinary programs have tended to progress toward some resemblance of a departmental structure as they mature. There was some discussion several years ago about forming graduate groups in which the structure would be very different, somewhat of a fission-fusion model. However, this did not progress far on the campus. The Graduate Group structure probably could be very effective, if made more painless and provided additional resources to make it work. The advantage of such designs is the ability to create and disestablish programs without the lengthy startup of creating departments as well. This would be true at the undergraduate level as well and UCSC does have some multi-departmental programs. When observed system wide, there are notable variation in the structure of a “traditional department.” UCSC tends towards small departments, which tend to focus only on aspects of a discipline. Interdisciplinary programs that require teaching and advising in other areas would greatly tax the integrity of the home department.

One issue that did arise in the committee discussions is the lack of questioning about teaching responsibilities. Interdisciplinary programs often form a battleground over the credit for instruction, access to the course for students, and rights and responsibilities for

graduate advising. Graduate students working with a program faculty may be also draining the resources for their home department.

UCSC has a history of interdisciplinary studies and they continue to thrive in certain circumstances on this campus. However, the creation of new programs often appears arbitrary and those crossing divisional lines are extremely difficult to manage.

Sincerely,

A handwritten signature in black ink, reading "Alison Galloway". The signature is written in a cursive, flowing style.

Alison Galloway, Chair
Academic Senate, Santa Cruz Division

cc: CEP Chair Hughey
COR Chair Aissen
Director Bertero-Barcelo