Introduction
This report represents the findings of the UCSC Graduate Council from a two-year exploration of interdisciplinary activity on our campus. While focused primarily on graduate curriculum and programs, discussions catalyzed by the study also touched naturally on interdisciplinary research and undergraduate curriculum. In what follows, we report salient findings and themes irrespective of their specific or sole applicability to graduate education.

Activity leading to the generation of this report was as follows. In 2010-2011, the Council led by Susan Carter (Physics), partly in response to the then-uncertain status of the Digital Arts and New Media (DANM) MFA program, undertook the generation of guidelines geared towards the administration of existing and development of new interdisciplinary and interdivisional graduate programs. The deliberations of the 2010-2011 Council are summarized in the May 11, 2011 report “Guidelines for Interdisciplinary Graduate Programs”; the main findings of this report are summarized below.

In 2011-2012, a group of four members of the Council (Jorge Hankamer, Linguistics; Bruce Schumm, Physics, Graduate Council Chair; Don Smith, METOX; and Megan Thomas, Politics) undertook a broader study of the nature of interdisciplinary study on the UCSC campus, and of how existing academic and administrative structures abet or impede interdisciplinary and interdivisional collaboration in the offering of graduate programs and curriculum. This subcommittee of the 2011-2012 Council:

- Apprised itself of the findings of the 2010-2011 Council study;
- Interviewed 16 faculty members (see Appendices A and B), selected for their interdisciplinary activity and willingness/ability to participate, in four ninety-minute focus groups that were scheduled during the winter quarter of 2012;
- Interviewed Vice Provost for Academic Affairs, Herbert Lee, during its meeting of May 3, 2012;
- Interviewed Campus Provost and Executive Vice Chancellor, Alison Galloway, in its meeting of May 17, 2012;
- Presented its preliminary findings at the Academic Senate meeting of May 18, 2012.

This report provides an enumeration and discussion of the findings presented in the May 18 Academic Senate meeting.

Summary of Guidelines from the 2010-2011 Discussion
The primary recommendations from the 2011 report “Guidelines for Interdisciplinary Graduate Programs,” which are discussed at greater length in that report, were as follows:
When forming new interdisciplinary graduate programs, administrators should consider the assignment of “temporary” FTE lines directly to the program rather than to the departments or divisions that are promoting the program. These lines should be filled with existing or new ladder-rank faculty, with standard tenure and privilege status, and only be “temporary” in the sense that, after a specified period, they would revert to one of the departments promoting the program.

The nature of the participation of program faculty – particularly those whose lines are held by contributing departments or divisions – should be clearly delineated in an enforceable charter, either including or augmented by Memoranda of Understanding that ensure the participation of the necessary number and distribution of faculty in the delivery of curriculum and advising.

The program should be administered by a clearly-designated lead dean from one of the five divisions.

Credit for teaching in the program for offerings not nominally sponsored by a given faculty member’s home department should be ensured by the cross-listing of the course in the Academic Catalog.

The chair of the program should play a central role in the development of personnel letters for all faculty that participate significantly in the program.

Questions Posed by the Graduate Council in 2011-12
While participants in the four faculty focus-group sessions were encouraged to introduce anything they felt relevant to the study, the Council specifically entreated participants to offer their opinions on the following three questions:

- Is UCSC notably interdisciplinary? If so, in what ways?
- What are the intrinsic challenges associated with offering interdisciplinary curriculum and programs?
- In what ways do our academic and administrative structures abet or impede interdisciplinary study?

Primary/Recurrent Responses and Observed Themes
Following are a list of responses that recurred through the focus-group sessions and/or were raised with particular emphasis by one or more faculty. Several of these will be expanded upon in further sections. Note that these represent the views of individual faculty or groups of faculty, and are not necessarily endorsed by the Graduate Council.

- At the level of the research and creative output of individual faculty, and through some individually-funded efforts (e.g. the Program in Science and Justice), the campus can indeed claim to be somewhat notably interdisciplinary;
• Several departments (e.g. History of Consciousness, Feminist Studies), while hewing to the standard departmental administrative structure, are in and of themselves notably interdisciplinary;

• The campus is not notable for interdepartmental or interdivisional programs;

• A recurrent concern of participating faculty is that interdisciplinary effort (courses, advising, hosting workshops and conferences) is not fully recognized by departments or during the personnel review process – a notion commonly referred to as “lost effort”;

• Undue focus on national rankings, which are largely sectioned into traditionally-defined disciplinary categories, may act as an impediment to the maintenance and development of interdisciplinary activity;

• Cross-listed and co-taught courses are not easily accommodated, and the effort invested in co-taught courses is underestimated by the nominal accounting procedures;

• The support and development of interdisciplinary activity does not seem to lie at the core of divisional or campus planning;

• Neither the Administration nor the Senate projects a marked interest in or culture of supporting interdisciplinarity;

• The “silo-ing” of resources into departmental, and particularly divisional (with deans exercising dominant control of academic resources) compartments establishes barriers to the execution of interdisciplinary initiatives. A number of faculty felt it to be difficult to interest a dean in inter-divisional programs that involve significant effort outside of the dean’s division. In addition, faculty were concerned about the extra burden of coordinating administrative support across divisions.

Status of UCSC’s Established Interdivisional Programs
During the 2011-2012 study, the Council subcommittee inquired about the status of three extant and one prospective non-departmental interdisciplinary graduate program whose activities cross divisional boundaries: DANM, Bioinformatics, the Program in Biological Science and Engineering (PBSE), and Materials Science.

DANM: Established as a collaboration between the Division of the Arts and the School of Engineering under the structure of an interdivisional charter, DANM has been struggling as of late to meet its curriculum. Several FTE lines mandated by the charter were filled with TAS funding, and had no resource-controlling champion to protect them when the severe budget cuts of the past few years were visited upon the campus. In addition, several faculty with an interest in contributing to the delivery of DANM curriculum found that their course offerings were not accepted by the program. The program is currently restructuring under the sole auspice of the Arts division, possibly through the establishment as an additional department with the division.
Bioinformatics: At roughly the same time as DANM, and again under the structure of an interdivisional charter, Bioinformatics was established as a collaboration between the School of Engineering and the Division of Physical and Biological Sciences. While by all accounts a successful program, Bioinformatics has, for all intents and purposes, withdrawn into the sole auspice of the School of Engineering.

PBSE: Again a collaboration between the School of Engineering and the Division of Physical and Biological Sciences, the PBSE extends an umbrella over existing departmental programs in both divisions. However, the impression of the Council subcommittee is that, while successfully drawing students into an umbrella program with superior curricular and research opportunities in both divisions, there has been little curricular or research collaboration between the departmentally-based programs that participate in the PBSE. Once students enter and choose an area of focus for their courses and research, they appear to be absorbed into the pre-existing departmental structure. The PBSE seems to have fostered little interdivisional effort in terms of common curriculum and collaborative research efforts.

Materials Science: Although not an established or even yet proposed program, the Council Subcommittee inquired about the effort to establish a cross-divisional (again between the School of Engineering and the Division of Physical and Biological Sciences) program in Materials Science. It seems to be the opinion of the Administration (particularly the Dean of the School of Engineering) that the number and expertise of faculty already on our campus is sufficient to establish a strong program of Materials Science. For reasons not fully explored by the Council subcommittee, the divisions are unable to chart a path towards the establishment of such a program as a collaboration between different departments and divisions. Further exploration of the Materials Science question may prove fruitful in understanding and unraveling impediments to interdisciplinary study at UCSC.

Taking these three programs and one initiative as representative of our campus’s success at hosting non-departmental interdisciplinary program, the Council subcommittee concluded that the campus’s success in initiating and nurturing interdisciplinary and interdivisional graduate programs has fallen short of expectations. As a result, important opportunities to capitalize on faculty interest and expertise may have been missed.

Weight Given to National Rankings
A number of faculty raised this as a concern and saw it as an impediment to developing their graduate programs and focus in the direction they judge most beneficial to the students and department. These faculty felt that, to the extent that Deans focus on national rankings and make use of them in prioritizing some departments or programs over others, the Dean is placing a negative incentive on interdisciplinary research and teaching. In his visit to the Council on May 3 2012, VPAA Lee was asked about the degree to which the campus focuses on maintaining and improving departmental national rankings. He replied that there is no explicit push from the central administration to place national rankings as a lead valuation of campus success, and the emphasis perceived by the faculty that raised the issue was a result of departmental, and especially decanal, prerogative.
Cross-Listed and Co-Taught Courses
Many faculty reported difficulty in getting multidisciplinary courses cross-listed, citing impediments within the Office of the Registrar, departments’ protection of their accountable instructional load, and lack of an overriding entity with the authority and interest to help individual faculty or groups of faculty promote the cross-listing. A number of faculty also noted that the standard procedure used to account for effort in co-taught courses (dividing the accounted effort of a single course among the participating faculty) significantly underestimates both the effort contributed and the value provided by the participating faculty. The Council’s discussions were not lengthy or deep enough to develop proposals to address these concerns; these issues would likely benefit from a more focused discussion with participants from both the Senate and Administration.

“Lost” Effort
There was a predominant sentiment among the interviewed faculty that participating in interdisciplinary programs and the delivery of interdisciplinary curricula and graduate training require more effort, and garner less recognition, than teaching and mentoring within traditional disciplinary bounds. A recurrent point made by faculty that participated in the focus groups is the sense that much interdisciplinary activity is not accounted for in either the satisfaction of instructional-effort requirements or in the personnel review process, particularly time spent advising students from other disciplines or in promoting interdisciplinary discourse through joint activities and the organization of interdisciplinary seminars, colloquia, campus visits and workshops. The Council subcommittee noted that some of this may arise from the lack of transparency of the personnel review process that arises from the confidential nature of the evaluation of personnel files once they leave the hands of the department. Guidance from the Senate (most likely from CAP, the Academic Senate Committee on Academic Personnel) may be helpful in addressing this problem, both in terms of raising awareness of how CAP evaluates these sorts of activities as well as in providing guidance to faculty members and departments in the drafting of personnel letters. Additionally, it may help to promote a discussion between the Senate, departmental chairs, and deans to raise and address faculty concerns with respect to potentially un-accounted effort.

“Siloed” Academic Structure
Doubts about the efficacy of the current academic administrative structures, based on deans with direct control of substantial resources that are largely parceled out to departments, are voiced frequently by faculty in discussions of the campus’s ability to stay abreast of the most compelling research, creative, and pedagogical trends; the discussion of interdisciplinarity being summarized here was no exception. If in fact an impediment to interdisciplinary activity, the problem would be intrinsically difficult to address. The closer the resource-controlling (division) and productivity-evaluation (department) office is to the disciplines within them, the more expert the guidance and evaluation, but the greater the impediment to interdisciplinarity. It was far beyond the scope of the Council Subcommittee to propose an alternative academic administrative structure, but the Council would support an exploration and careful consideration of such alternatives. In addition, the Council would encourage a discussion of the current split of program-supporting resources between the five disciplinary academic divisions and the Graduate Division, the latter of which stands outside the five disciplinary divisions, and is in principle in a more natural position to support interdisciplinary graduate study. In addition, VPAA Lee offered
his office as a point of potential redress should faculty feel that their interdisciplinary programmatic interests are not being engaged by the existing departmental and divisional structure. Groups of faculty, or even individual faculty members, are encouraged to contact his office should they feel the need to engage an independent office that, once again, stands outside the five academic divisions.

List of Possible Actions to Promote Interdisciplinary Effort
Following is a list of possible actions to be considered by the Senate and administration in the promotion of interdisciplinary activity:

- Convene a group of faculty, Senate leaders, and administrators to explore and address impediments to the cross-listing and co-teaching of courses;

- Have CAP, or perhaps a collaboration between CAP, department chairs and deans, develop guidelines with respect to inclusion of interdisciplinary effort in personnel letters, and the impact of interdisciplinary effort on the outcome of the confidential review of the personnel file performed by the Senate and administration;

- Consider the use of temporarily-assigned FTE (temporary in the sense described in the May 2011 Graduate Council report on Guidelines for Interdisciplinary Graduate Programs) for the incubation of interdisciplinary graduate programs;

- Continue to develop the structures of interdepartmental and interdivisional charters and Memoranda of Understanding that establish enforceable commitments to the operation of interdisciplinary graduate programs under a clearly delineated lead dean;

- Develop a culture whereby the chair of interdisciplinary programs, whether housing the faculty’s FTE or not, makes an instrumental contribution to the faculty member’s personnel letter;

- Have a discussion of the current split of program-supporting resources between the five disciplinary academic divisions and the Graduate Division;

- Consider the organization of a Convocation on Interdisciplinarity, including explicit consideration of the “culture” of interdisciplinarity within each of the division, and examination of departmental and divisional structures.

Summary
Over the past two academic years (2010-2011 and 2011-2012) the Graduate Council has engaged the issue of interdisciplinary graduate study. In 2011-2012 this exploration included a solicitation of experience and perspective from sixteen faculty known to the campus to have a strong interest in interdisciplinary research and pedagogy, as well as discussions with the Campus Provost, and the Vice-Provost for Academic Affairs. In this second year of the study, the discussion was allowed to take its natural course out of the somewhat restricted arena of graduate education; some of the discussion that took place outside that boundary is reflected in this report. Several potential impediments to the promotion and maintenance of interdisciplinary effort were
identified, and seven potential areas of action were presented for further discussion. It is hoped that this report catalyzes a healthy and productive dialog among the expert and interested members of the faculty, administration, and Senate committees.

Respectfully submitted,

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Bettina Aptheker
Scott Brandt
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Kimberly Jannarone
Raphael Kudela
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Tyrus Miller, ex officio
Christy Caldwell, LAUC Representative
Erik Green, GSA Representative
Alice Ye, GSA Representative

June 20, 2012
APPENDIX A
Participating Faculty

Sharon Daniel, DANM
Gina Dent, Feminist Studies
Jean Fox Tree, Psychology
Carla Freccero, Literature
Julie Guthman, Community Studies
Doug Kellogg, MCD Biology
Ronnie Lipschutz, Politics
Michael Mateas, Computer Science
Dean Mathiowetz, Politics
Glenn Millhauser, Chemistry
Andrew Moore, Ocean Sciences
Karen Ottemann, METOX
Eric Porter, American Studies
Mary Beth Pudup, Community Studies
Warren Sack, Film & Digital Media
Noah Wardrip-Fruin, Computer Science
APPENDIX B
Solicitation Letter to Identified Faculty

Dear Colleague,

We are contacting you on behalf of the Graduate Council to discuss your perspective on and/or experiences with interdisciplinary (ID) graduate programs and curriculum. Our primary interest is in the exploration of the academic and administrative structures that impede or abet ID graduate study, with the goal of collecting evidence that might inform the Senate and administration’s approach to promoting ID study. This exploration is being carried out by four members of the current Council; in alphabetical order, they are: Jorge Hankamer (Linguistics, former Dean of Humanities), Bruce Schumm (Physics, Graduate Council Chair), Donald Smith (METOX; former chair of same), and Megan Thomas (Politics).

In our own discussions, we have identified three reasons that would motivate a department’s interest in graduate-level ID curriculum and programs:

i. The department has no graduate program of its own;

ii. Through either attrition or lack of growth the department has too few faculty to support a vibrant graduate program; or,

iii. To mount a program that requires expertise from several departments.

In interviewing “grass-roots” faculty who have an interest or background in ID graduate study, we hope to gain perspectives on departments’ experiences with all three of these areas. We will be particularly interested in those faculty members’ sense of the difficulties associated with ID study, as well as their perspective on the nature of academic or administrative structures, and how they may have impeded or failed to bolster ID graduate study. We will be open to, and make note of, any ideas relating to the improvement of the structural environment for promoting ID study.

We are approaching you because we believe that your professional activities and interests have likely given you opportunity to reflect on the questions that we raise. We hope that you will consent to joining a focus group of faculty colleagues of appropriate length (perhaps ninety minutes) with two of the members of the Graduate Council subcommittee that are following through on the study. Please respond with an expression of your interest to:

Bruce Schumm
Grad Council Chair
schumm@scipp.ucsc.edu
831-459-3034

We will poll for meeting times once we have assembled a list of interested faculty. Thank you!