To the Faculty Legislature, Santa Barbara Division:

The following summarizes the business of the College of Engineering Faculty Executive Committee (FEC) for 2013-14.

Summary of Actions:

**Recommended Coursework for Transfer Students**

The committee voted to approve the list with no further comment.

**APM 600-Final Systemwide Review**

The College of Engineering FEC will not be commenting on this issue.

**Comments on Materials Department Data Notebook for PRP**

The College of Engineering Executive Committee would like to present the following comments and questions for consideration.

1. The Committee praises the Department for its thorough and objective self-assessment in the categories of data compiled.

2. The Committee feels that the quality of the faculty is clearly a major strength of the department and shares the department's concern regarding the large number of separations expected in the next 5-10 years. Given the campus' policy for allocating faculty FTEs and the current on-going searches, the Committee supports the Department's goal to maintain the strength of its faculty in anticipation of retirements in the near and intermediate future. We also share the department’s concern over the imbalance of senior professors and the need for proactive replacement of senior faculty through a mixture of junior and mid-career appointments, as well as joint appointments with other departments. The Committee notes that many Materials faculty are joint with other departments, a policy that the Committee supports continuing to augment limitations on the number of FTEs that may be available.

3. A recurring question posed by previous PRP review committees is whether the Department should consider adding an undergraduate major in Materials, and the Committee was happy to see the Department address this question. In particular the 5-year BS/MS program and the service classes for other majors were noted and could be emphasized to greater extents.
4. The Committee is aware that space continues to be a constraining resource in the CoE and acknowledges the Department's needs and providing a plan for moving forward. The Committee suggests discussing the likely impact on the Department in the face of the ongoing space constraints, and possible scenarios in the near and intermediate future.

**Campus Procedures for Enforcement of the Faculty Code of Conduct – Proposed Revisions**

The College of Engineering FEC will not be commenting on this issue.

**The FEC carefully considered the proposal for a combined BS/MS degree program in mechanical engineering.**

- The committee concurred that the program would help attract outstanding students and meet a growing need in industry.
- The committee also noted that the proposed program is modeled on several existing and successful BS/MS degree programs in other departments in the College of Engineering.
- The committee noted that the admission criteria would be sufficiently stringent to prevent a lowering of the quality of the graduate student body.
- Since the enrollment is anticipated to be small, the committee concurred that no additional resources would be needed.

The committee was unanimous in supporting the proposal strongly.

**Senate bylaw 55, system wide review**

On December 5, 2013, the Engineering Faculty Executive Committee reviewed the proposed amendments to senate bylaw 55.

The FEC carefully considered the proposed changes and raised concerns similar to those already expressed in the Academic Council.

- It seems that a system wide solution is being proposed for what is primarily a local concern.
- If this amendment is passed it will set up an unnecessarily broad precedent with POSSIBLY unintended consequences to the make-up of the Senate.

The committee was not in favor of the proposed changes.
Self-Supporting Graduate Professional Degree Programs (SSGPDP) Policy

The College of Engineering faculty executive committee carefully reviewed the revised policy on Self-Supporting Graduate Professional Degree Programs (SSGPDP).

The committee was broadly in support of the revised policy.

The committee solicited input from the Computer Science department, since they had expressed interest in SSGPDP. Based on this input the committee would like to see some clarifications on the following issues:

* Can the SSGPDP, in consultation with its host department, allow non-SSGPDP students to take SSGPDP courses?
* Are there any limitations on how tuition and fees from SSGPDP students can be used?

Professional Degree Supplemental Tuition Draft Policy

The College of Engineering FEC will not be commenting on this issue.

APM-025, APM-670 Proposed Revisions and Proposed New APM-671

The FEC took a careful look at the proposed changes to APM-025 as this will affect a large number of faculty in the College of Engineering.

The new wording is indeed significantly clearer with regard to the purpose, scope and compliance requirements of the University conflict of commitment policy for general faculty. The FEC also noted that there seemed to be no substantial or inadvertent change to the spirit of the existing policy.

The FEC commends and thanks all the people involved in this effort.

The FEC decided not to review APM-671 as it does not apply to faculty in the College of Engineering.

Five-Year Campus Planning Perspective, Draft 2014-19

The FEC took a careful look at the "Draft 2014-19 5-Year Campus Planning Perspective". Particular attention was paid to items that touched upon the College of Engineering.

The FEC notes that the draft also consists of proposals for new programs that touch upon the College of Engineering, but which the FEC has not had a chance to review yet. Therefore the FEC decided to review the proposed draft but without reviewing
the new programs themselves, on which the FEC has substantial comments to make and will do so when these program's proposals come before the FEC for a formal review.

So just on the draft of the 5-year perspective, without regard to the proposed new programs themselves, the FEC agreed that the draft seemed to represent an accurate description of issues pertaining to the College of Engineering. Therefore the FEC approves the current draft of the 5-year perspective, withholding its comments on the proposed new programs themselves.

**Student-Initiated Democratic Education (SIDE) Pilot Proposal**

The College of Engineering Faculty Executive Committee took a careful look at the revised SIDE proposal. The FEC appreciates the effort that AS put into revising the SIDE proposal, and we were happy to note that many of our previous concerns were addressed at least to some extent.

We have no further comments at this stage, and look forward to seeing how the program fares.

**Senior Electives from Electrical and Engineering Program**

The FEC approved Electrical Engineering's request to add ECE 142 (Introduction to Power Electronics) and ECE 154B (Advanced Computer Architecture) as valid senior electives. The FEC also approved ECE 154A and 154B to be added to the EE senior elective options.

**Proposal to Establish a Minor in Applied Psychology**

The College of Engineering Faculty Executive Committee approves the proposal for the Applied Psychology minor in the CCSP department.

**Center of Multiscale Modeling, Analysis, Simulation and Software (MASS) Proposal**

The College of Engineering Faculty Executive Committee enthusiastically supports the proposal for the Center of MASS.

**ESCI Online Pilot Program**

The College of Engineering Faculty Executive Committee (FEC) took a very careful look at the report on the ESCI Online Pilot Program.

The FEC appreciates the extraordinary amount of work that has gone into modifying the ESCI questions, implementing the pilot program, conducting surveys and preparing this report.
The FEC would like to strongly advocate that two guiding principles be used in future decision making. First, the main objective of the ESCI Online program should be to elicit timely and useful information for pedagogic purposes that, in the long run, enables continuous improvement of the educational mission at UCSB.

Second, the ESCI Online program should strive to ensure that the data collected can continue to be used for teaching evaluations in merit and promotion cases. While the report does rightly point out that tools and metrics other than ESCI scores can-- and probably should-- be used for teaching evaluation, the FEC notes that there is no concurrent effort as part of the ESCI program to achieve this transition. So it is very important to ensure that the scores that are gathered in ESCI Online continue to prove useful for teaching evaluations by various rating agencies.

The FEC suggests that "efficiency" only be the third guiding principle for designing ESCI Online, as there seems to be no evidence that there will be any real cost savings at this stage.

The FEC appreciates the great deal of effort the ESCI Online program has put in to take care of the concerns that were expressed in the previous round of reviews. However, the FEC believes that the results to date do not justify switching to a "final mode", where the assumption is that at the end of three year opt-in period all departments will automatically be switched into the ESCI Online program.

The FEC would like to suggest a methodical and responsive approach in the next stage. Clearly one of the most worrisome possibilities is that as more courses transition to ESCI Online the response rates would go down even further as students will have multiple evaluations to fill-in and not much motivation to do so. This would defeat our first guiding principle as healthy response rates are an absolute must for improving course content and teaching techniques. While the program has clearly made a good effort to ameliorate this problem, it is not clear to the FEC that no more ideas remain to improve the situation. We note that ESCI Online is bound to stay with us for a long time and that it is worth getting it right before the final roll-out.

The FEC would like to make some concrete suggestions in this regard.

1. The FEC believes that the ESCI Online system will likely need to experiment and adapt for a while longer (maybe more than three years) before maturing into a good tool for collecting student feedback. To facilitate this it is essential that adequate resources be allocated to this program. In particular, resources seem necessary to enable an ongoing exploration and testing of strategies that incentivize student participation and raise the response rates. The FEC notes that many options may exist here (e.g., reminders, rewards, compulsory completion of a minimum number of all evaluations), and more may be uncovered through detailed examination of “best practices” at other universities. Resources should be devoted to systematic
deployment, testing, tracking, and quantitative testing of new strategies as the system continues to be refined.

2. The FEC suggests that ESCI Online maintain clear transparency with UCSB faculty and instructors throughout its deployment and refinement. This may include a central web page describing response rates and assessment of the system, and plans for new features, student incentives, or other strategies. Transparency would also benefit from an open system for tracking suggestions and ideas for improving the program. We envision something similar to a software bug-tracking system. Faculty should be able to suggest new ideas by opening a ticket on the system. Other people would be able to comment and make suggestions on these new ideas. The ESCI Online program would then assign someone to the ticket and regularly update the ticket to report its status. Finally any data, like improved student response rates, that can be directly tied to the ticket would also be added to the ticket. This system will enable systematic and rapid improvements to be made to the ESCI Online system.

3. The FEC suggests that the program re-consider the option of allowing faculty to decide when and where ESCI Online must be filled by students. The FEC is aware that this will create an extra burden on CAP and other rating agencies that must be careful when interpreting ESCI scores to also look at how and when each ESCI score was collected. We suggest that this be tried through the tracking system and student response rates and other metrics be gathered so that a more systematic judgment can be made on its costs and benefits.

4. The FEC also suggests that for faculty who would like ESCI Online to be filled in during specific lecture hours, the program consider the option of making available a sufficient number of input devices (wireless tablets, etc.) to those few students (typically less than 25%) who do not have their own. It seems that the problem of sufficient simultaneous connections is solvable in the near future, and that this would be a good idea to try through the tracking system.

5. The FEC also suggests that the program re-consider allowing individual faculty to decide whether filling-in of ESCI online is mandatory or not. Again, the FEC is aware that this will create additional burden on rating agencies, but we believe that the rating agencies might be able to cope with these different modalities for ESCI Online. Again the tracking system would be a good place to keep track of actual student response rates and fluctuations in scalar responses, so that a more objective determination can be made.

6. It would also be useful to explicitly track feedback from CAP and other rating agencies in each ticket so that their concerns can cause corrective action if needed.
7. Finally we would also like to recommend that pilot testing be restricted to courses taught by tenured faculty.

In summary the FEC is advocating continued experimentation with the system while being open and methodical about the process. In particular we do not believe that the system is necessarily ready for everybody to transition into in three years time.

The FEC is aware of the potential of the ESCI Online program to evolve into something more general than a once-per-quarter feedback mechanism, especially if it is well-integrated into GauchoSpace which also provides a mechanism for obtaining student feedback. Faculty experimenting with new teaching techniques would greatly benefit from a system that is capable of providing quick feedback on an almost continuous basis.

The FEC also suggests that new ideas and greater effort and outreach are needed to educate students on the importance of filling in ESCI surveys (online or otherwise). One of the key ingredients of this must be a concerted effort by all faculty/instructors to show students by their actions that they are indeed responding to student concerns expressed in ESCI responses.

The FEC is appreciative of the effort of the committee to examine the pool of ESCI questions. Again this effort would greatly benefit from the suggestions of instructors all across campus and the tracking system would be a great help in this regard.

**Report of the Task Force on Utilizing Technology to Enhance Student Learning**

The College of Engineering Faculty Executive Committee (FEC) took a careful look at the report of the Task Force on Utilizing Technology to Enhance Student Learning.

The FEC is very appreciative of the work undertaken by the task force and is in general agreement with the sentiments expressed in the report.

The FEC concurs with the task force report that there is very little evidence, and much to the contrary, that online courses will lead to cost savings. The FEC concurs that effective teaching and learning requires considerable amount of face time and this limits the opportunities for scalability and cost savings.

However, the FEC is cognizant of the fact that faculty must constantly strive to see how technology can be utilized to enhance student learning, and if that leads to scalability improvements that would be a win-win situation. The FEC notes that the task force report does indeed include many examples where technology was used effectively in the campus and we expect that this list will continue to grow. However, we concur with the report, and reiterate, that pure scalability alone should not be the end-goal for embracing online technology.
The FEC would like to point out that utilizing technology to enhance student learning in engineering classes has many unique features that are not necessarily addressed by the current report. The FEC recommends that the College of Engineering consider setting up its own task force to consider this important issue and to address the unique needs of engineering classes.

**Senate By Law 55 Amendment – Revised proposal for systemwide review**

The College of Engineering Faculty Executive Committee (FEC) took a careful look at both of the proposed amendments to Bylaw 55.

The FEC notes that it is not familiar with the problems faced by the health sciences departments in the San Diego campus. Therefore the FEC has no comments on the merits or de-merits of the proposed amendments in solving the problems faced by these departments.

However, the FEC is of the firm opinion that version 2 of the proposed amendments that would allow the extension of voting rights to non-Senate faculty in all departments is ill-advised. We can see no existing problem that this amendment would solve, but anticipate that it would open up new ones.

If indeed the preferred way for the San Diego health sciences departments to solve their local problems is to have this amendment, then we recommend that this amendment be specific to the San Diego health science departments. We view the San Diego health sciences departments as probably being unique in their needs and do not believe that generalizing their problem and solution to the whole system is either warranted or needed.

In summary the FEC is firmly against version 2 of the proposed amendment.

**Proposed Revision to APM-190, Appendix A-2**

The College of Engineering Faculty Executive Committee voted unanimously not to comment on the proposed revision to APM - 190, Appendix A-2.

**Copyright and Fair Use-Presidental Policy**

The College of Engineering Faculty Executive Committee voted unanimously not to comment on the proposed Copyright and Fair-use Presidential Policy.

**Nominations for Program Review Panel**

The College of Engineering Faculty Executive Committee decided unanimously not to make a nomination for the Program Review Panel.
Elimination of ECE 2C from the Computer Engineering Curriculum

The College of Engineering Faculty Executive Committee reviewed the proposal from the Computer Engineering (CE) faculty to eliminate ECE 2C from the set of required courses for CE majors to be replaced by a 4-unit Math, Science or Engineering elective. The change would lower the total required number of units for the major from 190 to 189. The Computer Engineering faculty strongly support the change, with a vote of 15-1 (and 3 not voting). The Committee notes the supporting memo from the Chair of the Electrical & Computer Engineering Department, the unit that offers the course. In addition, faculty representatives on the FEC representing both the Department of Computer Science and the Department of Electrical & Computer Engineering, the departments that jointly operate the Computer Engineering major, expressed their support. The committee voted unanimously (8-0) to approve the change.

Center for Multi-Modal Big Data Science and Healthcare

The College of Engineering Faculty Executive Committee (FEC) is in full support of the proposed Center for Multi-Modal Big Data science and Healthcare.

A minor remark. The proposed name suggests that the center has two different fields of interest. The proposers should consider changing the name with "healthcare" appearing as an adjective rather than a noun.

Comments on Materials Department External Review Committee Report and Department Response to the report

The College of Engineering Faculty Executive Committee (FEC) took a close look at the report of the External Review Committee (ERC) for the Department of Materials and the Department’s response to the report. The FEC is appreciative of the detailed and constructive report provided by the ERC. The FEC agrees with the response by the Chair of Materials and is in full support of it.

UCSB Extension Initiatives and International Agreements

The College of Engineering Faculty Executive Committee has the following comments on the memo from Dean Brown on UCSB Extension Initiatives and International Agreements.

1. Registering for CoE classes:

Currently UCSB Extension students petition course instructors in the first week of class to permit enrollment. It has been the experience of CoE faculty that the qualifications and subsequent performance of
these students has been uneven over the years and that they need to truly evaluate each student before granting permission. This has placed undue burden on instructors in the beginning of the quarter.

We strongly recommend that UCSB Extension institute a mechanism whereby students wishing to enroll in CoE classes go through the associated department’s admissions office well before start of class, so that the students qualifications can be fully evaluated by staff who have been properly trained to do so. This will also give the UCSB Extension students time to properly plan their course load in case some of their first choices are rejected.

2. Monitoring student/institution performance:
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FEC faculty have noted great variation in performance of students from the same institution over the years. UCSB Extension should monitor students’ grades on a quarterly basis and actively intervene in those cases where the performance is below average and not let those students petition for further classes until they are academically ready. This would also greatly reduce the burden on instructors who would otherwise have to scrutinize each petition unduly carefully.

Furthermore, Extension must analyze annually the collective performance of students from a particular institution and decide whether the MOU for that institution should be continued or revoked for the following year. It is possible that the quality of students from a particular institution decays after the initial MOU has been signed and Extension must bear the burden of tracking and analyzing student performance and actively managing these MOUs.

FEC faculty have begun to notice that some of the Extension students seem cavalier about the grades they obtain. FEC suspects that the grades they obtain at UCSB have no material impact on these students home academic record. Information about how UCSB grades get translated into the students home academic record must be conveyed by Extension to the instructor of the course. For example, if the Extension student is taking the course Pass/Fail at the home institution that information would be very useful to instructors come grading time.

3. Transparency:
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Finally, FEC recommends that Extension make available to faculty the
aggregate, anonymous performance data of students and institutions. This is an essential step to restore and maintain faculty’s trust in the quality of Extension students who show up in their class at the beginning of every quarter.

**Update Student Outcomes for the Mechanical Engineering Department**

The College of Engineering Faculty Executive Committee is in full support of the Update Student Outcomes proposed by the department of Mechanical Engineering.

**Student Representatives – COE FEC By Law**

The following is offered in response to the memo from Divisional Chair Bhavnani dated January 9, 2014, requesting that the FECs consider the idea of having students formally participate in the meetings of the Faculty Executive Committee. The College of Engineering agrees with this principle. In fact, the FEC adopted a resolution approximately 10 years ago to include one graduate student and one undergraduate student as non-voting members of our FEC. A system was put into place whereby the student leadership of the Engineering Student Council, an officially recognized student organization, provided one FEC member (usually the Chair of the ESC), and the graduate student was chosen from nominations from the 5 academic departments.

Regrettably, the by-laws were never updated to reflect the change in non-voting members. We have made the appropriate modifications and attached a proposed draft of our by-laws.

**Proposed Job Description – Associate Vice Chancellor for the Office of Undergraduate Education and Dean of Undergraduate Education in the College of Letters and Science**

The College of Engineering (CoE) Faculty Executive Committee (FEC) took a careful look at the proposed new administrative position of Associate Vice Chancellor of Undergraduate Education (AVC).

The FEC is in full support of an AVC position that would be responsible for campus-wide undergraduate education, including strategic planning across all Colleges, especially at this moment in time as the campus grapples with new issues like the use of technology to enhance education, while continuing to deal with old issues like class-room space.

It is the FEC’s understanding that Instructional Development, EAP and Summer Sessions, currently report directly to the EVC, and the AVC position seems like a great idea to reduce the number of direct reports to the EVC.

However the FEC is completely against merging the AVC with the Dean of Undergraduate Education of the College of Letters and Science (Dean) for at least
two reasons.

First, this would create an obvious unresolvable conflict of interest for the AVC when dealing with matters that afflict both L&S and CoE. Since it is the FEC’s charge to consider all matters that affect the academics of the CoE, the FEC cannot in good conscience ever agree to such a proposal since it would forever place the CoE at a disadvantage.

Second, it forever bars CoE faculty from the AVC position, since the proposal explicitly requires that the AVC be from L&S. We believe this would be the first instance of such a restriction (barring a College from a high-level position) on this campus, and we strongly urge that this path not be taken unless there are excruciating reasons to do so. We believe that CoE faculty have as much, if not more leadership to offer in undergraduate education as our colleagues from L&S. Explicitly barring us from this position sets a bad precedent, serves no good purpose and significantly shrinks the pool from which future leadership could be drawn.

We can see two possible reasons why this merging of roles might have been proposed:

1. There is not enough work to justify a separate AVC position.
2. L&S has a significant percentage of the undergraduate population of UCSB.

However, the FEC believes that if the AVC is going to be in-charge of strategic initiatives for such an important area as undergraduate education, then there is going to be more than enough work for one person to handle. Furthermore, if the campus truly believes that this is an important issue that requires the attention of an AVC, then the campus can commit to a full position.

Moreover, since L&S has the bulk of the undergraduate population it seems that merging the AVC with the Dean would in fact be too much work for a single person to handle. At least, the FEC does not believe that the size of the undergraduate population of L&S can necessarily be used as a justification for merging the two roles.

In summary, the FEC can see the benefits of a dedicated AVC position for undergraduate education. However, it can see no good reasons for merging this position with the Dean of Undergraduate Education of the College of Letters and Science, and several good reasons for not doing so. We strongly urge that the two roles be kept apart and not be merged.
Revised Proposal: Self-Supporting Graduate Professional Degree Programs (SSGPDP) Policy

The College of Engineering faculty executive committee carefully reviewed the revised policy on Self-Supporting Graduate Professional Degree Programs (SSGPDP) and has no further comment.

2013-2014 Committee Members

Shivkumar Chandrasekaran (Chair), Electrical and Computer Engineering  
Michael Chabinyc, Materials  
Brad Chmelka, Chemical Engineering  
Dick Kemmerer, Computer Science  
Chandra Krintz (Vice-Chair), Computer Science  
Jeff Moehlis, Mechanical Engineering  
Yasamin Mostofi, Electrical and Computer Engineering  
Scott Shell, Chemical Engineering  
Megan Valentine, Mechanical Engineering  
Anton Van Der Ven, Materials  
Rod Alferness, Dean of College of Engineering  
Glenn Beltz, Associate Dean for Undergraduate Studies, College of Engineering  
Sensika Niyathapala, Undergraduate Representative  
Kamala Qalandar, Graduate Representative  
Tiffany Sabado, Staff Coordinator