To the Faculty Legislature, Santa Barbara Division:

The following summarizes the business of the College of Engineering Faculty Executive Committee (FEC) for 2016-17.

Summary of Actions:

**Proposed Revisions to APM 015 and APM 016, and Conforming Amendments to Senate Bylaw 336**

The College of Engineering Faculty Executive Committee was asked to review and comment on the Proposed Revisions to APM 015 and APM 016, and Conforming Amendments to Senate Bylaw 336. The committee has read and endorsed the changes provided in the draft.

**Draft Presidential Policy on International Activities** – does not wish to opine.

**Proposed revisions to Bylaw 182. University Committee on International Education**

The College of Engineering Faculty Executive Committee has carefully reviewed the proposed revisions to Bylaw 182, and the Committee understands that there are potential benefits resulting from an expanded scope for the University Committee on International Education (UCIE).

However, there are significant concerns that such an expansion could lead to unintended consequences regarding governance of international activities. The expansion to cover international research relationships is particularly concerning, given the broad range of international collaborations that arise at individual campuses. While the committee recognizes that “authority to approve and supervise these engagements (usually) resides with the campuses” (as stated, this is a rather weak assurance), the proposed UCIE authority to “evaluate” international programs has the potential to create significant conflicts, since different campuses may have very different criteria as to what constitutes a successful international relationship/program.

The Committee would be significantly more supportive of the bylaw changes if they exclude research relationships and eliminate the role of UCIE’s evaluation. Further, the language concerning governance authority at the campus level should be strengthened.

**Comment on Data Notebook for the Department of Mechanical Engineering**

The College of Engineering Faculty Executive Committee was asked to review and comment on the Data Notebook in support of the Program Review of the Department of Mechanical
Engineering program. The Data Notebook contents were circulated among committee members. The Committee would like to present the following comments for consideration.

1. The Committee praises the Department for compiling a thorough Data Notebook and self-assessment in the categories listed in Section 10.

2. In Section 4, there appear to be several duplicate entries of research awards, with total award amounts being attributed (separately) to two investigators. The duplicate entries are then added in obtaining the grand totals found on page 4.1. It also appears that the total number of awards on page 4.1 include the duplicate entries. These inconsistencies should be addressed.

**Engineering 3 W**

The College of Engineering Faculty Executive Committee hereby provides renewed approval of Engineering 3W, and commends those involved for a detailed analysis of the initial offering. Further, the FEC recommends approval for three years.

6 yes, 0 no, 0 abstained (out of 10 eligible faculty members)

**College of Engineering General Education program’s depth requirement modification**

The College of Engineering FEC met on Monday, November 7, 2016 and reviewed and approved the proposed modification of the College of Engineering General Education program’s depth requirement.

6 yes, 0 no, 0 abstained (out of 10 eligible voting faculty)

**Computer Science – add Earth 130, Earth 20, Earth 20 W to science electives**

The College of Engineering FEC met on Monday, November 7, 2016 and reviewed and approved Computer Science’s proposal to add Earth 130, Earth 20 and Earth 20 W to their list of approved science elective courses.

6 yes, 0 no, 0 abstained (out of 10 eligible voting faculty)

**ADDENDUM - Comment on Data Notebook for the Department of Mechanical Engineering**

In its November 2 memo to PRP, the College of Engineering Faculty Executive Committee presented comments on the Mechanical Engineering Data Notebook. The Committee inquired specifically about duplicate entries of research awards. Following a request from PRP, the Committee highlighted such examples within the Notebook and communicated this to PRP via Tiffany Sabado (COE). During the process, the Committee has identified additional inconsistencies in the reported research awards that should be addressed.

The Department seemingly gives individual ME faculty full credit for research grants in cases where a faculty member is one of several investigators on a multi-investigator grant,
even when the ME faculty member is not the lead PI on the grant. For example, there are 2 NSF DMREFs, each with total funding of $1.2M/year, that fall in this category: one led by Tresa Pollock (Materials, record number 20121024) and another led by Anton Van der Ven (Materials, record number 20140964). Neither Professor Pollock nor Professor Van der Ven has an appointment in ME. Yet the full funding amounts ($1.2M/year) are ultimately attributed to Mechanical Engineering in the summary on page 4.1. There are other examples of this type as well as other apparent errors. Two additional ones are listed below, but we stress that the committee has not cross-checked every line item; our recommendation is for a thorough re-evaluation of the accounting of awards.

An NSF award led by Kimberly Turner with the same title, award amount, and award date is listed twice (record numbers 20160247 and 20160629) on page 4.30. A search on the NSF website shows that this is a collaborative proposal, with only $300k going to Turner and another $300k going to Florida Institute of Technology. UCSB should not be tallying both awards. Also, although record numbers should be unique to a proposal, the record number 20160974 is listed twice for two different awards: one for Levi and one for Valentine.

This accounting has led to reported funding amounts (listed on page 4.1) that greatly exceed the amounts reported by the Office of Research. For example, the Notebook reports that, for 2015/16, there were 81 awards and total funding of $11,171,146, while the Office of Research reports 27 awards and total funding of $2,512,521 (http://www.research.ucsb.edu/media/220638/awards-by-admin.pdf). In light of the fact that some grants are administered by other academic units on behalf of ME faculty, some differences in the reported funding amounts are inevitable. But four-fold differences in funding amounts are difficult to reconcile.

Proposal- Ph.D. Emphasis in Neuroengineering

The Faculty Executive Committee (FEC) of the College of Engineering supports the proposed Ph.D. emphasis in Neuroengineering. The FEC has two concerns it hopes will be more explicitly addressed in the future: first, the disproportionate challenge for MCDB students (noted in the proposal), and second, the potential burden on the chair of the neuroengineering program.

The ambiguity of the resources for the program when it reaches full enrollment is potentially problematic, considering the time commitment that will be required if a single faculty is in charge of all aspects of the program (as proposed).

Computer Science – CMPSC 160 and CMPSC 162

The College of Engineering FEC met on Monday, December 5, 2016 and reviewed and approved Computer Science's proposed changes to CMPSC 160 and CMPSC 162.

9 yes, 0 no, 0 abstained (out of 10 eligible faculty members).

Mechanical Engineering – add ECE 181B as an approved Department Elective
The College of Engineering FEC met on Monday, December 5, 2016 and reviewed and approved Mechanical Engineering’s proposal to add ECE 181B to the Mechanical Engineering list of Approved Engineering Electives.

9 yes, 0 no, 0 abstained (out of 10 eligible faculty members).

Proposed Revised Presidential Policy on Nondiscrimination and Affirmative Action regarding Academic and Staff Employment and APM - 015 – does not wish to opine.

Proposed Revised Regents Policy 3103 and 3104 Regarding Professional Degree Supplemental Tuition (PDST) – does not wish to opine.

Computer Engineering curriculum changes

The College of Engineering FEC met on Wednesday, January 25, 2017 and reviewed and approved the proposed curriculum changes.

5 yes, 0 no, 0 abstained (out of 9 eligible faculty members, 1 on sabbatical).

Mechanical Engineering curriculum changes

The College of Engineering FEC met on Monday, December 5, 2016 and Wednesday, February 1, 2017 and reviewed and approved the proposed curriculum changes.

Items #1-3 (December 5, 2016 meeting)

9 yes, 0 no, 0 abstained (out of 10 eligible faculty members)

Item #4 (February 1, 2017 meeting)

7 yes, 0 no, 0 abstained (out of 9 eligible faculty members, 1 on sabbatical).

Proposal to Establish a BS Degree in Bioengineering and an Associated Administrative Program

The College of Engineering Faculty Executive Committee (FEC) strongly supports the creation of a Bachelor of Science in bioengineering. The FEC voted to approve the proposed degree with 8 in favor, 0 against and 0 not voting (out of 9 eligible voting faculty members, 1 on sabbatical). The FEC unanimously agrees that bioengineering is an important undergraduate growth opportunity for the College of Engineering that capitalizes on deep existing strengths and well-established synergies that span a remarkably broad number of programs at UCSB.

Given the potentially significant benefits of the proposed degree to UCSB, the FEC notes that it is absolutely critical that full and unambiguous resources be given to the stakeholders by the highest levels of the administration. This is particularly important to those in supporting departments outside and within COE, as they will play a critical role in developing excellence in the undergraduate bioengineering program; it is important to note that this likely will require resources allocated above the college level. The FEC approves the
program with the assumption that these requisite (and notably complex) university-wide resource allocations will be clearly defined prior to the public launch of the degree program.

The FEC also notes that the proposal as written has (i) several inconsistencies with regards to transfer of resources inside the COE -- e.g. the percentage of appointments for individual faculty members that will be assigned to the program, and (ii) significant omissions, such as blank sections or costs that were not estimated – e.g. the infrastructure of undergraduate laboratories. Again, the FEC approves the proposed degree with the understanding that these issues will be addressed prior to the public launch of the degree program.

**College of Creative Studies Proposal to Establish a BA Degree in Marine Science**

The Faculty Executive Committee of the College of Engineering approves the proposed BA degree in Marine Science, with the contingency that CS8 be removed as a qualifying elective, and the understanding that resources are available to expand enrollment of ENGR3. The rationale for this decision is that CS8 is currently over enrolled and would be too heavily impacted by proposed requirement, while ENGR3 provides an avenue to move forward with the degree and additional resources would provide additional benefit to COE.

**Proposed Revised Presidential Policy Business and Finance Bulletin (BFB) – G-28, Travel Regulations**

The College of Engineering Faculty Executive Committee approves the proposed changes to the travel reimbursement policy, though it suggests clarifying the language with regards to when reimbursements are taxable. For example, consider the statement: “Reimbursable expenses listed above that do not have a clear University business purpose...are not allowable as a tax-free reimbursement.” This seems to leave open the possibility that expenses that do not have a business purpose are reimbursable (but taxable).

**Chemical Engineering – add ChE 173 to Technical Electives List**

The College of Engineering FEC met on Wednesday, February 22, 2017 and reviewed and approved Chemical Engineering’s request to add ChE 173 to the Technical Electives List.

5 yes, 0 no, 0 abstained (out of 10 eligible voting faculty, 1 is on sabbatical)

**Revised - College of Engineering General Education program's depth requirement modification**

The College of Engineering FEC met on Wednesday, February 22, 2017 and reviewed and approved the revised proposed modification of the College of Engineering General Education program's depth requirement.

5 yes, 0 no, 0 abstained (out of 10 eligible voting faculty, 1 is on sabbatical)

**College of Engineering - Nomination for Program Review Panel**
The College of Engineering FEC met on Wednesday, March 8, 2017 and approved to nominate Professor Tresa Pollock for the Program Review Panel.

7 yes, 0 no, 0 abstained (out of 10 eligible faculty members, 1 on sabbatical)

**Computer Science curriculum change – Adding a new Upper Division elective (CMPSC 184)**

The College of Engineering FEC reviewed and approved the proposed curriculum change.

8 yes, 0 no, 0 abstained (out of 10 eligible faculty members).

**Proposal to Modify Santa Barbara Regulation 125(H)3**

There is general confusion in the FEC regarding how “major GPA” is computed and used in decision making processes at the university level and within individual colleges. (I.e. how is the “major GPA” calculated, and is it used by various entities to approve graduation?) In our interpretation, there is no university-wide “major GPA” requirement at UCSB, but rather this requirement is set by individual colleges. Can you differentiate the department/college/university requirements associated with GPAs (both “major” and “overall”)? The proposal must specify in each instance either “major GPA” or “overall GPA” to avoid ambiguity and confusion as to what is being referenced.

**Recommendation of Departments to be considered for Review in 2018-19**

The College of Engineering FEC met on Wednesday, May 3, 2017 and reviewed the list of departments and schedule of reviews.

The FEC suggests the departments of Chemical Engineering and Mathematics to be added to the 2018-19 review schedule.

9 yes, 0 no, 0 abstained (out of 10 eligible faculty members).

**Proposed Revisions to Bylaw 336 – second round review – does not wish to opine.**

**Comment on External Review Report for the Department of Mechanical Engineering**

The Faculty Executive Committee (FEC) of the College of Engineering was asked to comment on the recent program review for the Department of Mechanical Engineering (ME) program. The committee met on May 3, 2017, and reviewed and discussed the external review committee’s report and the departmental response. The external review committee’s report and department response both provide a forward-looking vision and strategy for continued excellence in the ME department on scholarly and educational fronts. The committee found that the department’s response to the review committee’s recommendations demonstrates a commitment to building a vibrant and diverse community of faculty, undergraduate, and graduate students. Recommendations for innovations in the undergraduate curriculum in the areas of design and continuity
throughout the curriculum, as well as the proposed Design and Innovation Center, are supported by the FEC.

The strategic growth trajectory recommended and supported by the department in terms of faculty FTEs and a proportional number of undergraduate and graduate students on the basis of increased visibility and increases was discussed, and the FEC agrees that the “severe constraints” on research and educational space would need to be addressed to accommodate the proposed growth. The FEC opines that such an ambitious growth plan warrants further justification beyond increased visibility and rankings, given the noted distinctive identity and strength in basic research with a small faculty size relative to UC counterparts.

Given the ME department's desired level of growth, there will undoubtedly be a sizable increase in ME undergraduate students who must be accommodated by the already overextended, lower-division STEM infrastructure (e.g., math, physics, chemistry) on campus that at present, cannot handle any increase in enrollment. As such, the FEC requests comments from the PRP on what plans at the department, college, and university level are in place, or anticipated, to solve this increased undergraduate enrollment burden on STEM-service departments that go hand in hand with increasing ME FTEs from 23 currently to 30-35 over the next 5-10 years.

**ROTC Priority Registration Proposal**

The College of Engineering FEC met on Wednesday, May 10, 2017 and reviewed and approved the ROTC priority registration proposal.

7 yes, 0 no, 0 abstained (out of 10 eligible faculty members).

**Proposed Revised APM Sections – 285, 210-3, 133-0-B, 740**

The Faculty Executive Committee (FEC) of the College of Engineering does not approve of the proposed changes to APM285. The committee feels strongly that Lecturers with Security of Employment (LSOEs and PSOEs) should be evaluated on teaching and service (which span many activities relating to teaching innovations, such as 'the development of original materials to improve learning outcomes'). The FEC feels that it is critical to establish clear language that indicates that these are primarily teaching positions, without ambiguity or potential confusion with other faculty who have obligations for both teaching and research.

The FEC strongly disagrees with the proposed additional criteria for evaluation, most notably 'scholarly work' (either in pedagogy or in a candidate's discipline) and the expectation that a candidate's work have 'influence beyond campus'. Although the FEC agrees that scholarly work of LSOEs, when and if it occurs, should be recognized in the evaluation process, it does not agree such work be included among the primary considerations for evaluating performance of LSOEs.

Finally, the FEC wishes to express its strong support for changes that provide additional clarity and benefits to LSOEs, notably including a change in title that more clearly reflects
their important and highly valuable contributions. However, the FEC can neither endorse nor reject such a title change without the context provided by an acceptable revision to APM285.

**Regulation 205(C)(2) change proposal**

The College of Engineering FEC met on Wednesday, May 24, 2017 and reviewed and approved the Regulation 205(C)(2) change proposal.

6 yes, 0 no, 0 abstained (out of 10 eligible faculty members).

**Revised Presidential Policy on Electronic Information Security (IS-3)**

The College of Engineering FEC met on Wednesday, May 24, 2017 and reviewed the revised Presidential Policy on Electronic Information Security (IS-3). There is general confusion in the FEC regarding the differences between the current policy and the proposed revised policy. The committee would like to request a one-page executive summary identifying these differences.

**2016-2017 Committee Members**

Divyakant Agrawal, Computer Science
Jianwen Su, Computer Science
Susannah Scott, Chemical Engineering
Mike Gordon, Chemical Engineering
Clint Schow, Electrical and Computer Engineering
Dmitri Strukov, Electrical and Computer Engineering
Daniel Gianola, Materials (Vice-Chair)
Frank Zok, Materials
Kimberly Foster, Mechanical Engineering
Matthew Begley, Mechanical Engineering (Chair)
Dean Rod Alferness
Associate Dean Glenn Beltz
Saurabh Gupta, Undergraduate Student representative
Kira Wyckoff, Graduate Student representative
Tiffany Sabado, Staff Coordinator