

November 5, 2015

Memo to File

RE: Reconstitution Proposal: Department of Chemical Engineering and Materials Science

Last spring, the Davis Division of the Academic Senate (Academic Senate) reviewed the original proposal for reconstitution of the Department of Chemical Engineering and Material Science (CHMS). The Academic Senate response is enclosed (pages 2-3). CHMS responded to all of the Academic Senate comments (pages 4-39). Further, the recently hired College of Engineering Dean, Jennifer Sinclair Curtis, recently documented her support for the proposal (page 40).

The original reconstitution proposal is available on our public website at:

<http://academicsenate.ucdavis.edu/rfc/view.cfm?or&id=1279>

May 26, 2015

NIELS GRONBECH-JENSEN, CHAIR

College of Engineering Faculty Executive Committee
Mechanical and Aerospace Engineering

RE: Reconstitution Proposal: Department of Chemical Engineering and Materials Science

The Department of Chemical Engineering and Materials Science Reconstitution proposal was forwarded to all Davis Division of the Academic Senate standing committees and Faculty Executive Committees from the schools and colleges. Responses were received from the Committee on Planning & Budget (CPB), Committee on Academic Personnel-Oversight Subcommittee (CAP), Graduate Council (GC), and Undergraduate Council (UGC).

The Academic Senate appreciates the desire of the Chemical Engineering and Materials Science faculty to proceed with department bifurcation, as expressed by their near-unanimous supporting vote. Nevertheless, several points of concern arose from the committee responses, which should be carefully considered:

- Undergraduate Education:
 - As noted by the College of Engineering Faculty Executive Committee, the long-term viability of a department that lacks a vigorous undergraduate program is debatable.
 - The proposal did not provide a plan to insure a standalone Materials Science Department can reach sustainable levels of undergraduate teaching under the new budget model. Again, such a plan should be established before campus approval of the reconstitution proposal.
 - In the short-term, it may be beneficial for Materials Science to look for departments in which there is opportunity for shared teaching loads (e.g., the arrangement Plant Sciences has with the College of Biological Sciences). A two or three year plan for achieving a teaching load comparable to the rest of the college should be provided before the plan is approved.
 - Within the last several years, the inability to establish an undergraduate critical mass has been cited as a reason to disestablish a department in College of Engineering.
- Graduate Education: Clarification is needed before the reconstitution moves forward concerning separate bylaws, and if a formal graduate program vote was taken, specifically:
 - It is not clear if the graduate program membership list matches the list of department faculty, and if not, given that members outside of the existing department can hold membership in graduate program, did the graduate program accomplish a formal vote regarding reconstitution?
 - Graduate Council endorsed the last set of Chemical Engineering and Materials Science bylaws. The approved bylaws mention two programs, including the bylaw title, however, remaining bylaw language seems to describe a single combined program. The complexity here, in terms of faculty governance, is there are two separate degrees offered, but one combined graduate program. Although not difficult, should reconstitution occur, separate bylaws must be created for each reconstituted graduate program.
 - Additionally, the smaller undergraduate student numbers in the Materials Science Department will require a concerted effort to assure that TA support for graduate students continues to be available in the Chemical Engineering and other departments if reconstitution proceeds. The proposal lacks evidence that this important issue was considered.

- There are examples of viable campus programs being discontinued following implementation of departmental structure changes that lacked thorough academic planning.
- The new dean (not an interim dean) should have an opportunity to comment on the plan prior to campus approval.

Reluctantly, the Academic Senate does not approve the reconstitution proposal as presented based on the reasons articulated above.

Sincerely,



André Knoesen, Chair
Davis Division of the Academic Senate
Professor: Electrical and Computer Engineering

Enclosure

- c: Provost/Executive Vice Chancellor Hexter (w/enclosure)
- Dean Lavernia (w/enclosure)
- Vice Provost/Dean Thomas (w/enclosure)
- Co-Department Chairs Faller and Risbud (w/enclosure)

September 3, 2015

ANDRE KNOESEN, CHAIR

Davis Division of the Academic Senate

Re: Reconstitution Proposal: Department of Chemical Engineering and Materials Science (CHMS)

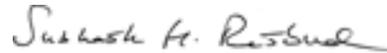
Dear Andre,

The CHMS Department thanks you for your letter of May 26 to Niels Jensen that was shared with us. We are especially appreciative of the comments from Senate Committee members that you summarized in your letter. We recognize that there are some aspects of our planning which were not completely described in the original Reconstitution Proposal. Below we address each of the points raised by your committee members, and add additional metrics/information about the Materials Science & Engineering major, the College of Engineering budget model, the Graduate Program By-Laws, as well as some comparison data with Materials Science undergraduate programs nationwide. We have copied your original text (in italics), and then we respond to each point. We have also added numbering/lettering for clarity.

Sincerely,



Roland Faller
Co-Chair & Professor
Chemical Engineering & Materials Science



Subhash Risbud
Co-Chair & Professor
Chemical Engineering & Materials Science

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Abbreviations used in text:

CoE- College of Engineering
CHE- Chemical Engineering Program
CHMS – Department of Chemical Engineering & Materials Science
DAS- Department of Applied Sciences
EAD- 3 letter Subject Code for Applied Science courses
ECM- 3 letter Subject Code for Chemical and Materials Science courses
EMS- 3 letter Subject Code for Materials Science & Engineering courses
EMSE- 4 letter Major Code for Undergraduate Materials Science & Engineering Major
ENG- 3 letter Subject Code for Engineering courses (taken by students across the College)
EOSE- 4 letter Major Code for Undergraduate Optical Sciences Major (housed by DAS)
MASC- Materials Advantage Student Chapter; MSE Undergraduate professional society
MSE- Materials Science and Engineering program
SCH- Student Credit Hours
TTD- Time to Degree

Executive Summary

As detailed in the proposal for the reconstitution of the Department of Chemical Engineering and Materials Science (CHMS) into two separate departments (CHE and MSE) and the following additional planning information document, the separation and reconstitution will be accomplished without perturbations to ongoing academic operations, student service delivery, or modification to the current budget.

In short, the reconstitution is designed to allow for more autonomous and focused operation of separate CHE and MSE departments, while clustering the two departments under a shared operating budget for staffing optimization, maintaining the tight integration of graduate programs, and enabling the separated departments to better adapt to changes and challenges in their respective fields and increase their productivity, stature and external visibility.

I. Undergraduate Education, part A: A vigorous undergraduate program.

As noted by the College of Engineering Faculty Executive Committee, the long-term viability of a department that lacks a vigorous undergraduate program is debatable.

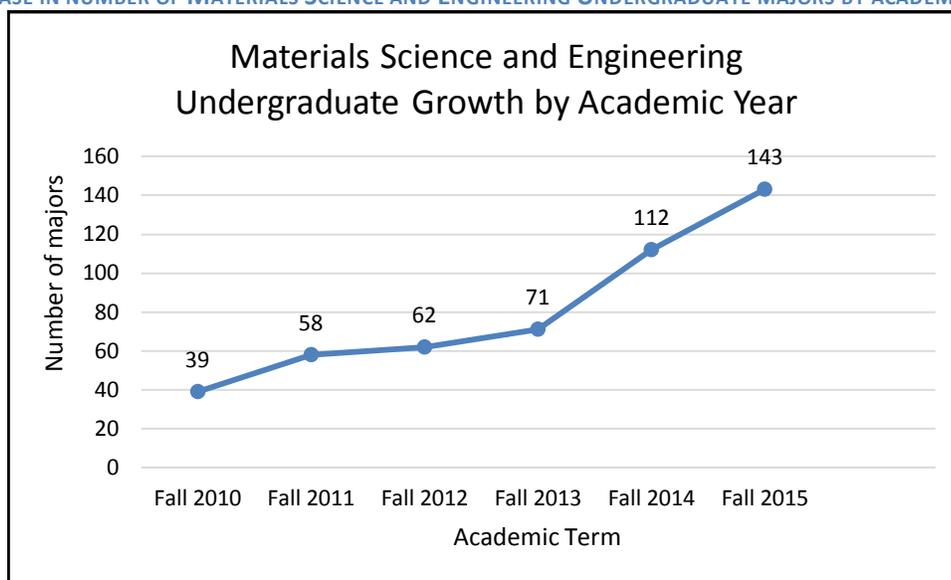
We believe that the Materials Science and Engineering program (MSE) is both viable and vigorous. We make four points to show this.

- 1) **Number of students in the EMSE major and their quality.**
- 2) **Student Credit Hours, including non-EMSE student enrollment and the Minor in Materials Science.**
- 3) **Development of new courses to attract non-majors.**
- 4) **Recently created student recruitment and retention activities.**

1) Number of students in the EMSE major and their quality.

The major has existed for over 45 years on the Davis campus, and enrollment has risen steeply since 2010; Figure 1.

FIGURE 1. INCREASE IN NUMBER OF MATERIALS SCIENCE AND ENGINEERING UNDERGRADUATE MAJORS BY ACADEMIC YEAR



NOTES:

1. Fall 2015 numbers estimated by adding the number of Transfer and High School SIRs, 60, (accessed via Banner 6/23/15) and subtracting the number of students that graduated or exited Spring Quarter 2015 (accessed via Banner 6/23/15).
2. All other data pulled from **SIS Decision Support Report Code 413**

Enrollment for Fall 2014 was 112 majors. Of the 61 institutions nation-wide that offer a MSE undergraduate degree the most recent data available (see Appendix I) show that the mean enrollment was 116 majors and the median 104. Thus in the 2014-15 academic year we already had an undergraduate major population comparable to other MSE programs across the country.

In addition, Figure 1 shows we are seeing a rapid increase in our major since 2010. The projected enrollment of 143 students in Fall 2015 will already make us larger than the average MSE program. If we continue the rate of increase in our major we would in one-two years be in the top-10 of undergraduate MSE program populations, which range from 172 students (Cal Poly SLO) to 409 students (Univ. of Illinois, Urbana-Champaign).

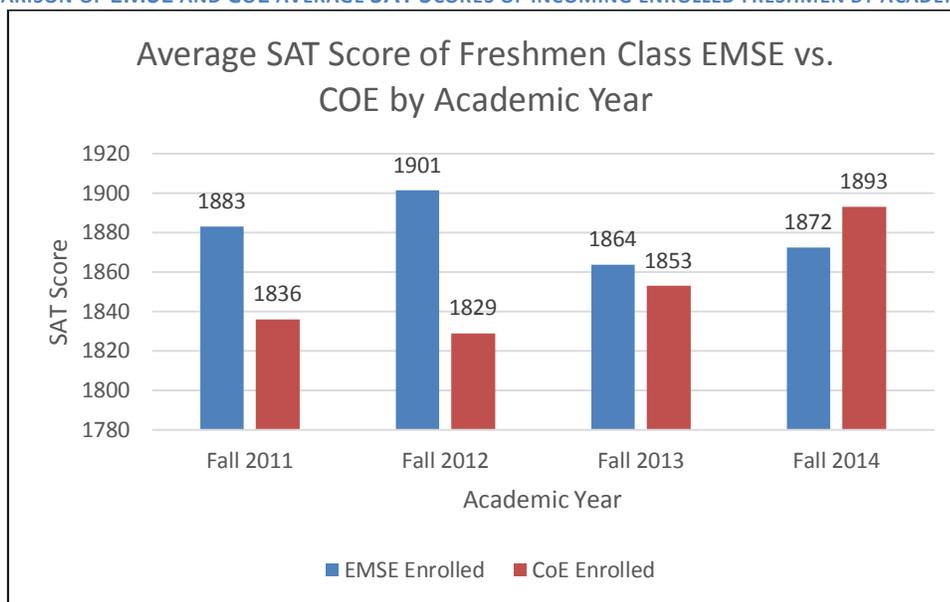
The data on other MSE undergraduate programs nationwide show two other key points:

a) Of the 61 programs a strong majority, 37, exist in stand-alone MSE departments. Only 24 are joined to other departments (or exist in college-wide units) and just eight are joined into Chemical Engineering & Materials Science departments. Our model of a hybrid CHE/MSE department is clearly not the model adopted widely elsewhere.

b) Further, eight of the 10 largest departments for undergraduate enrollments are stand-alone MSE departments, including all six of the largest programs with >200 students; see Appendix I. The only two large hybrid departments are Idaho and Winona State, neither of which are Research-1 institutions. In contrast the six largest stand-alone departments include MIT, Georgia Tech, Penn State, and UIUC, all of which are top-tier universities. **We believe that the move to a stand-alone MSE department is the better model to continue growth of the undergraduate major and to make our MSE unit join the ranks of the large, elite Materials Science departments in the country.**

In addition to rapidly increasing the number of students in the major, we believe we have a high caliber of students enrolled. Figure 2 shows a comparison of the average SAT scores of enrolled EMSE majors with that of COE enrolled freshmen as a whole; the SATs of EMSE students are higher in most years and comparable in all years. SAT scores have the advantage over high school GPAs for comparison of student populations in that they are standardized. It should also be noted that entrance requirements for EMSE students are the same as for any other major in the College of Engineering. Another measure of student caliber is time to degree (TTD). Over the last five years the TTD of ESME students is 12.9 quarters, which compares favorably with the overall COE average TTD of 13.1 quarters.

FIGURE 2. COMPARISON OF EMSE AND CoE AVERAGE SAT SCORES OF INCOMING ENROLLED FRESHMEN BY ACADEMIC YEAR.



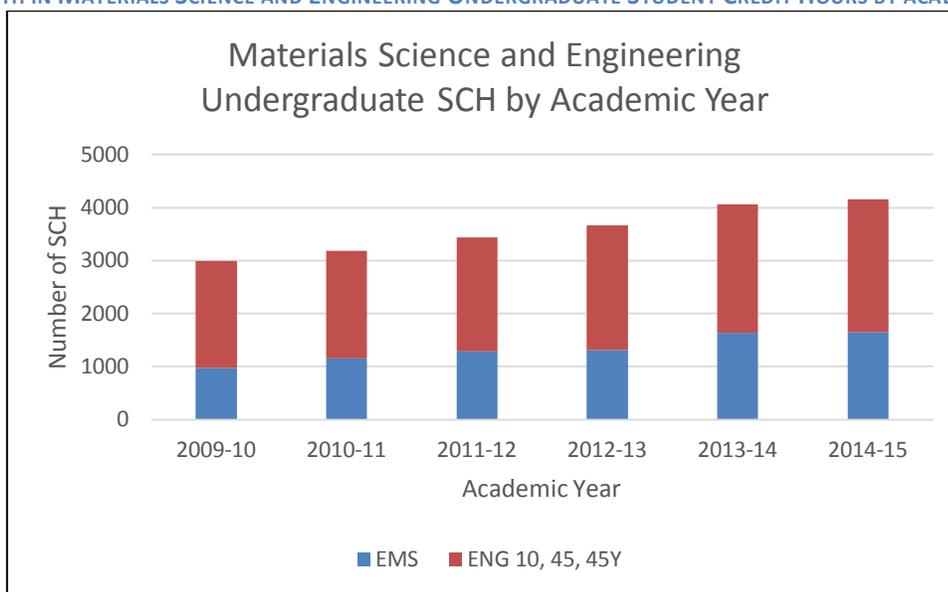
NOTES:

1. All data provided from Admissions Office via COE Assistant Dean of Undergraduate Programs & Advising Jim Schaff.

2) Student Credit Hours, including non-EMSE student enrollment and the Minor in Materials Science.

Moving beyond number and quality of majors, the next important metric to consider is the number of SCH taught in the MSE program, Figure 3. The program consists of courses both with the EMS code as well as Materials Science courses with the ENG code: ENG 10, ENG 45, and ENG 45Y. Over 4000 SCH were taught by the faculty in Materials Science and Engineering in the 2013-14 and 2014-15 school years, which we take as another indicator of a healthy program.

FIGURE 3. GROWTH IN MATERIALS SCIENCE AND ENGINEERING UNDERGRADUATE STUDENT CREDIT HOURS BY ACADEMIC YEAR.



	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
EMS	978	1159	1292	1308	1641	1647
ENG 10,45,45Y	2012	2020	2148	2352	2424	2508
Total	2990	3179	3440	3660	4065	4155

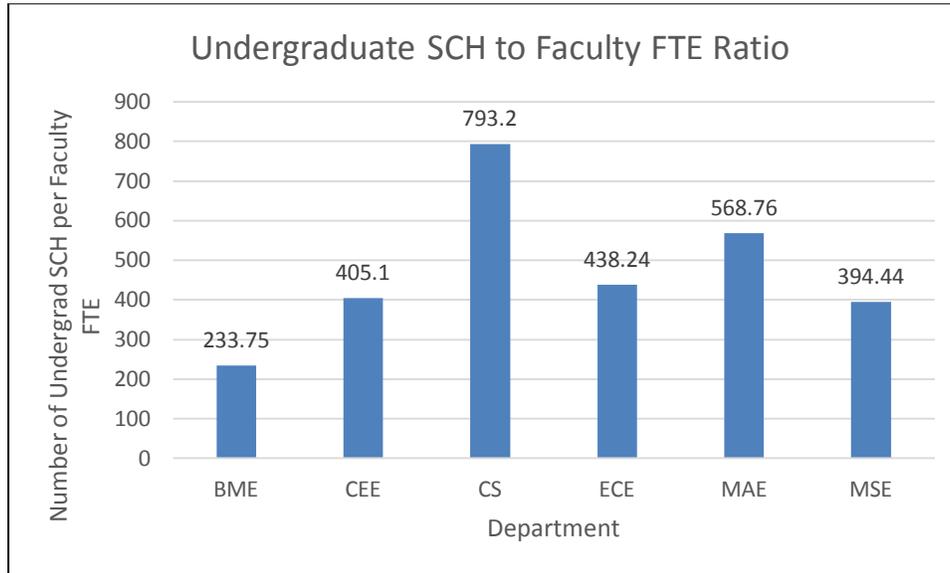
NOTES:

1. Excludes all variable unit courses (i.e. EMS 98, 99, 192, 198, 199).
2. All academic years include any applicable Summer Session courses (SS 2015 excluded as it is part of 2015-16 AY).
3. All data pulled from **SIS Decision Support Report Code 403**.

The SCH taught by MSE faculty have increased by over 30% since 2010. The sophomore level course, ENG 45, *Properties of Materials*, is taught every quarter (including summer) with fully subscribed enrollments of ~130 students per quarter (about 70 students in summer). This course is required of several majors across the College of Engineering (COE), but is exclusively taught by MSE faculty. The increasing demand for ENG 45 has led us to create a novel hybrid version (ENG 45Y), with on-line lectures and traditional labs which is now offered in summer to meet student demand.

Another concern raised was the whether a *standalone MSE Department could reach a sustainable level of undergraduate teaching under the new budget model* and whether *teaching loads were comparable to the rest of the college*. As shown in Figure 4, the number of SCH taught per faculty member in MSE is commensurate with other COE departments, and demonstrates that MSE faculty teaching loads are comparable to the rest of the college.

FIGURE 4. UNDERGRADUATE SCH TO FACULTY RATIO



	BME	CEE	CS	ECE	MAE	MSE
UG SCH Course List	5264.00	9255.00	23399.50	9370.50	9526.00	1300.00
UG SCH ENG Course List	0.00	3372.50	0.00	5091.50	7252.50	2,250
UG SCH Total	5264.00	12627.00	23399.50	14462.00	16778.50	3,550.00
Faculty FTE	22.52	31.17	29.50	33.00	29.50	9.00
Undergrad to Faculty FTE Ratio	233.8	405.1	793.2	438.2	568.8	394.4

NOTES:

1. MSE excludes all variable unit courses (i.e. EMS 98, 99, 192, 198, 199).
2. All data based on two-year average: academic years 2011-2012, 2012-2013.
3. MSE ENG Course list includes ENG 10, ENG 45 and ENG 45Y.
4. MSE data pulled from **SIS Decision Support Report Code 403**.
5. Other COE department data pulled from COE Budget Metrics.

Additionally, upper division EMS courses such as EMS 147, EMS 160, EMS 162, EMS 174, EMS 180, and EMS 182 have enrollments that are 45% to 90% non-EMSE majors, showing that the program serves many students across the College in addition to our own majors; Figure 5. For example, EMS 180, *Materials in Engineering Design*, had an enrollment of 62 non-EMSE majors Spring Quarter 2015 in addition to 18 EMSE students.

FIGURE 5. UPPER DIVISION EMSE COURSES 2014-2015.

**Upper division EMSE Courses with non-major Enrollment
2014-15**

	Number of non-EMSE Majors Enrolled	Total Enrollment	Percentage non-EMSE
EMS 147 (SQ 15)	13	17	76.47%

EMS 160 (FQ 14)	21	45	46.67%
EMS 162 (WQ 15)	24	43	58.14%
EMS 162L (WQ 15)	5	23	21.74%
EMS 164 (WQ 15)	9	27	33.33%
EMS 172 (FQ 14)	4	19	21.05%
EMS 172L (FQ 14)	1	15	6.67%
EMS 174 (SQ 15)	25	41	60.98%
EMS 174L (SQ 15)	3	20	15%
EMS 180 (SQ 15)	62	80	77.5%
EMS 181 (WQ 15)	5	20	25%
EMS 182 (WQ 15)	10	11	90.91%
EMS 188A (WQ 15)	0	19	0%
EMS 188B (SQ 15)	0	19	0%

NOTES:

1. Non- degree seeking University Extension students and graduate students are excluded from enrollment totals.
2. All data pulled from **SIS Operational Reports**→ **Student Reports**→ **Class Roster**

Overall not only is the EMSE major growing rapidly, but we also serve a large population of non-EMSE students in COE in both lower and upper division courses. We will continue to adapt our courses in a way that we are able to serve both constituencies: our core students and students in other programs.

We have also recently developed a **Materials Science minor** (approved in Fall 2012) to make our course offerings even more attractive to non-EMSE majors; Figure 6. The minor consists of 5-6 courses (comprising 20 units) taken from the upper division EMSE curriculum. The minor was completed by 8 students graduating in 2013-14 and another 8 in 2014-15. We are committed to growing this minor as we believe that it enriches the undergraduate experience for many engineering students while increasing enrollment in our courses.

FIGURE 6. MATERIALS SCIENCE AND ENGINEERING MINOR REQUIREMENTS

The following courses are required (**12 units**)

Course	Title	Units
EMS 160	Thermodynamics of Materials	4
EMS 162	Structure and Characterization of Engineering Materials	4
EMS 164	Rate Processes in Materials Science	4

ONE of the following courses (**4 units**)

EMS 172	Electronic, Optical & Magnetic Properties of Materials	4
EMS 174	Mechanic Behavior of Materials	4

Additional units (**4 units minimum**) selected from the following:

EMS 147	Principles of Polymer Materials Science	3
EMS 162L	Structures & Characterization of Engineering Materials Lab	2
EMS 172L	Electronic, Optical & Magnetic Properties Lab	2
EMS 174L	Mechanical Behaviors Lab	2
EMS 180	Materials in Engineering Design	4
EMS 181	Materials Processing	4
EMS 182	Failure Analysis	4

3) Development of new courses to attract non-majors.

We have also begun robust efforts in recent years to attract non-engineering students to new courses in MSE. These efforts have produced two new courses, EMS 2 (*Diversity of Materials in Our Lives*) and ENG 10 (*The Science Behind the Technology in Our Lives*), which have large student enrollments each year; Figure 7.

FIGURE 7. TOTAL UNDERGRADUATE COURSE ENROLLMENTS FOR EMS 2 AND ENG 10 OVER LAST TWO ACADEMIC YEARS.

	EMS 2	ENG 10
2013-14	55	140
2014-15	62	158

NOTES:

1. All data pulled from SIS Decision Support Report Code 403

4) Recently created student recruitment and retention activities.

In order to improve retention in the MSE major, we recently (Spring 2012) re-activated our undergraduate professional society, called the UC Davis Material Advantage Student Chapter (MASC). This club is associated with the four primary MSE professional societies: the American Ceramic Society; the Minerals, Metals and Materials Society; the Materials Information Society (ASM International); and the Association for Iron & Steel Technology. This structure is standard for all MSE programs in the country. We found our lower division students were feeling lost, just like other first and second year students in engineering. MASC has completely changed this situation. The MASC officers have worked tirelessly in these few years to invigorate the club, and now have more than 50 registered members. MASC members are active in Picnic Day, Decision Day (as described below), and numerous ad hoc outreach and recruitment events. They also have monthly events that center around student success and community building. Consequently, the success of this group has promoted both student retention and recruitment.

Two years ago we initiated various new recruitment activities in order to increase enrollment yield. MSE recruitment and outreach efforts begin at the time students receive notice of their admission into our program. Each spring we request a list of admitted students from Admissions and we proceed to contact the students and their parents via snail mail and email to extend a personal note of congratulations from the program Chair/Vice Chair with a personal invitation to attend the MSE Freshman Outreach event held on Decision Day. At the 2015 event the MSE co-Chair of CHMS, the Dean of COE, the MSE Vice Chair and faculty advisor for MASC, and the undergraduate program advisor all briefly introduced the program and degree requirements to prospective freshmen. This was followed by a Q and A session with a panel of current EMSE students, which was a highlight of the event. These same students then provided materials demonstrations and a tour of the MSE facilities as a way to highlight student collegiality as well as provide a glimpse at the academic content of the major. Student and family participants have frequently conveyed their appreciation for the event, and new MSE students who then attend UC Davis often comment on the importance of the event in their decision making process. As an indicator of the success of this event, several of the current MASC officers are students who attended previous MSE Decision Day events.

We have very recently hired a tenure track Lecturer PSOE, Dr. Susan Gentry, who in addition to teaching duties will focus on continuing and expanding the recruitment and retention efforts described above, including serving as faculty advisor for MASC.

Summary of Section I-A.

Overall, the growth of EMSE majors, the increase in SCH taught by MSE faculty, our development of creative new courses, and the other factors listed above are all evidence of a vigorous and growing undergraduate program. The successful foundation we have built in all these areas will be further enhanced by the hiring of Lecturer PSOE Susan Gentry, who will join us Fall 2015. Dr. Gentry was specifically hired to further enhance the undergraduate curriculum, and to increase recruitment and retention of students in the EMSE major.

We anticipate that separation of CHMS into CHE and MSE departments should help further the growth of our EMSE major, as it will now have its own department and identity. At present the blended identity of the department is likely confusing to student applicants, and MSE is particularly disadvantaged in relation to CHE simply due to name ordering. As noted earlier the great majority of the larger undergraduate

MSE programs in the US are in stand-alone MSE departments (see Appendix I), and we expect that the independence of MSE will confer this benefit to our unit as well. Our current size (112 students Fall 2014) is consistent with the typical size of other MSE programs across the country. Our projected enrollment of 143 in Fall 2015 would make us larger than average MSE departments, and if we continue to grow by ~30 students per year (Figure 1) by Fall of 2016 or 2017 we could already enter the top-10 of Materials Science undergraduate enrollments. We expect this trend will only be accelerated by granting MSE identity as an independent department.

I. Undergraduate Education, part B: sustainable levels of undergraduate teaching in the budget model.

The proposal did not provide a plan to insure a standalone Materials Science Department can reach sustainable levels of undergraduate teaching under the new budget model. Again, such a plan should be established before campus approval of the reconstitution proposal.

In order to address the budgetary aspects of this criticism we need to consider the budget model for the College of Engineering; see Appendix II for the most recent data for all College of Engineering departments. The base budget for all COE departments as shown in Appendix II is determined by a simple formula that weighs the following five factors:

1. Research expenditures, 50% weighting
2. SCH, graduate and undergraduate, 20%
3. Number of undergraduate majors, 10%
4. Number of graduate students, 10%
5. Number of Senate faculty, 10%

The MSE program has high levels of extramural funding and concomitant research expenditures, which at 50% is by far the largest of the weighting metrics. The number of undergraduate majors is 10% weighting. Our calculations (Appendix III) show that in the COE budget formula MSE contributes 48% of the funding to the present department base budget while Chemical Engineering (CHE) contributes 52%. CHE has higher levels of majors and SCH, but the greater research funding and spending by MSE faculty makes the two halves of the department almost equal bread-winners in funding the present combined department.

MSE and CHE are thus equally well situated under the COE budget model. Both programs realize that substantial efforts are needed to keep and increase the level of extramural funding as several senior faculty are leaving soon, due to retirements or moves. But we believe that we are better positioned to attract successful new assistant professors into departments with a more clearly defined identity for each. Additionally, alumni can identify better with CHE or MSE separately, which will also lead to better opportunities in fundraising, which we are starting to aggressively pursue.

In the original Reconstitution Proposal and especially in its Appendices and MOUs we went into some detail to present a viable plan for the budget and staffing for the new departments. **The Reconstitution Proposal is budget neutral; it does not create or subtract money, and administrative costs are kept the same by using the same current CHMS staff as a cluster to provide all functions (financial, student advising, IT, lab support, etc.) for both new departments. Since the undergraduate programs (completely), space (completely), research programs (largely) and graduate programs (largely) are already separate we will run two departments for the cost of one.** As each department grows it will then generate additional funding under the COE metrics. The rapid growth of the EMSE major will certainly help the base budget value.

I. Undergraduate Education, part C: MSE teaching loads

In the short-term, it may be beneficial for Materials Science to look for departments in which there

is opportunity for shared teaching loads (e.g., the arrangement Plant Sciences has with the College of Biological Sciences). A two or three year plan for achieving a teaching load comparable to the rest of the college should be provided before the plan is approved.

We believe that MSE faculty already have “a teaching load comparable to the rest of the college”. It is true we have had a large number of faculty serve in full-time campus administrative roles (three were Deans in recent years, an extraordinary number from a single program), but we do not view a willingness to serve the campus should be taken as a sign that MSE faculty do not teach full loads. The MSE faculty standard teaching load is three courses per year, the same as the rest of the College of Engineering. See Appendix IV for a complete list of the last five years of teaching assignments for MSE faculty.

We do not see how we could meet our own existent MSE teaching needs (see Figures 5, 6, 7 for courses taught annually) if our faculty went outside the department to teach. In fact, one of the criticisms in our most recent Graduate Program review is that graduate level elective courses, while existing in the catalog, were not being offered due to the demands of teaching the required undergraduate curriculum. The hiring of Lecturer PSOE Susan Gentry should help address instructional needs.

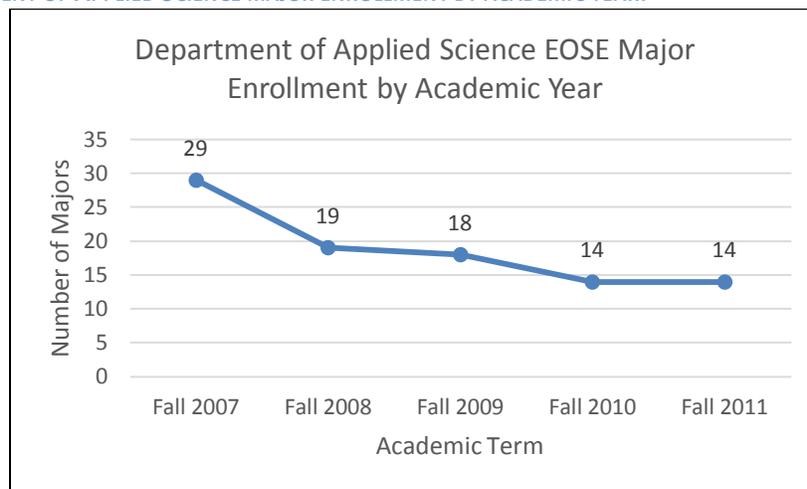
I. Undergraduate Education, part D: Comparison to the Department of Applied Science.

Within the last several years, the inability to establish an undergraduate critical mass has been cited as a reason to disestablish a department in College of Engineering.

The comparison with the disestablished Department of Applied Sciences (DAS) in our view has little validity. We make three points below to show this.

1) DAS in the latter years of its existence had total undergraduate student enrollment numbers in the 10s and 20s; Figure 8. In the last two years it had 14 students enrolled. In contrast by Fall 2015 EMSE will have *more than ten-fold* that number, with a steep rate of growth in the major as shown in Figure 1.

FIGURE 8. DEPARTMENT OF APPLIED SCIENCE MAJOR ENROLLMENT BY ACADEMIC YEAR.



NOTES:

1. Data pulled from the last five active years of DAS EOSE major.
2. All data pulled from **SIS Decision Support Report Code 410**

2) DAS in the last two years of its existence had 980 and 1312 undergrad SCH respectively, with approx. 2/3 of that in a single course (EAD 115, required of the large cohort of Civil Engineering students). Correcting for EAD 115 the total undergraduate SCH for DAS in its last two years were 180 and 332, according to SIS Decision Support Report Code 403; Figure 9. The EMSE major had more than *10-fold* the latter number of undergraduate SCH in the 2014-15 academic year; as shown in Figure 3.

FIGURE 9. DAS SCH OVER LAST TWO ACTIVE YEARS WITH AND WITHOUT EAD 115.

DAS SCH Last Two Active Years		
	DAS Undergrad SCH	DAS Undergrad SCH (Less EAD 115)
2009-10	980	180
2010-11	1312	332

NOTES:

1. For these purposes all variable unit courses were excluded.
2. Data pulled from **SIS Decision Support Report Code 403.**

3) DAS courses (other than EAD 115) frequently had single digit enrollments; Figure 10. All EMS upper division courses have enrollments several fold larger (between 11 and 80 with an average of 29) and our lower division courses (EMS 2, ENG 10, ENG 45) have enrollments ca. 60-130; Figures 5, 7.

FIGURE 10. EAD COURSE ENROLLMENT DURING LAST ACTIVE ACADEMIC YEAR (LESS EAD 115).

DAS Course Enrollment 2010-11	
EAD Course	Enrollment
EAD 1	6
EAD 108A	13
EAD 108B	6
EAD 108L	3
EAD 116	17
EAD 161A	2
EAD 161B	2
EAD 165	2
EAD 166	3
EAD 167	4
EAD 172	1
EAD 188	24

NOTES:

1. For these purposes all variable unit courses were excluded.
2. Data pulled from **SIS Decision Support Report Code 403.**

II. Graduate Education, Part A: Graduate Programs memberships

Clarification is needed before the reconstitution moves forward concerning separate bylaws, and if a formal graduate program vote was taken, specifically.

It is not clear if the graduate program membership list matches the list of department faculty, and if not, given that members outside of the existing department can hold membership in graduate program, did the graduate program accomplish a formal vote regarding reconstitution?

We have attached as Appendix V a list of all departmental and non-departmental faculty in the two present combined Graduate Programs. As can be seen there are ten non-departmental faculty with

membership in our Graduate Programs. All departmental faculty, both Senate and adjunct, have already voted on and overwhelmingly approved the Reconstitution Proposal this past Fall 2014, and the non-department faculty were informed of and invited to comment on the Proposal (none did).

Additionally, we have recently (July 2015) conducted a vote of all graduate program faculty (CHMS and non-CHMS) on approval of the by-laws of the two separate programs. These votes were also overwhelming in favor. The new CHE By-Laws were supported with 19 voting yes, zero voting no, and 2 abstentions (28 did not vote). The new MSE By-Laws were supported with 22 voting yes, zero voting no, and 3 abstentions; 24 not voting

II. Graduate Education, Part B: Graduate Programs By-Laws

Graduate Council endorsed the last set of Chemical Engineering and Materials Science bylaws. The approved bylaws mention two programs, including the bylaw title, however, remaining bylaw language seems to describe a single combined program. The complexity here, in terms of faculty governance, is there are two separate degrees offered, but one combined graduate program. Although not difficult, should reconstitution occur, separate bylaws must be created for each reconstituted graduate program.

We have written two separate sets of Graduate Program By-Laws, one for Chemical Engineering and one for Materials Science and Engineering; Appendix VI. The present graduate programs faculty have approved both new sets of by-laws as described above. These new bylaws do not change the expectations for the faculty members. We are simply changing the administrative structure behind the program, implementing some minor changes which were in progress, and changing the format to the new template as required by Graduate Council.

II. Graduate Education, Part C: TA positions for MSE graduate students

Additionally, the smaller undergraduate student numbers in the Materials Science Department will require a concerted effort to assure that TA support for graduate students continues to be available in the Chemical Engineering and other departments if reconstitution proceeds. The proposal lacks evidence that this important issue was considered.

We agree that TA issues were not presented in the original Reconstitution Plan; that does not mean we haven't considered the matter. In practice during most academic quarters, Chemical Engineering, with its higher enrollments, has had a surplus of open TA positions that have been filled by students from other programs on campus, including MSE grad students. Similarly, MSE, with its high proportion of students supported as GSRs, normally has open TA slots in lower division MSE courses, primarily ENG 45, and draws upon students from other programs, including CHE. We foresee the continuing need for TAs from outside each of the individual graduate programs. Thus, CHE and MSE will continue to draw on graduate students from each other as well as from other departments and graduate groups. Both graduate programs are, and will continue to be, administered by SAO Alisha Bartolomucci, who will work to best optimize the TA appointments for the two reconstituted departments to meet instructional, graduate student, and faculty needs.

III. Academic Planning

There are examples of viable campus programs being discontinued following implementation of departmental structure changes that lacked thorough academic planning.

We believe this supplementary document, together with the original Reconstitution Plan, constitutes thorough academic planning. However, if there are any remaining concerns, please direct them to us at your earliest convenience so we can respond.

IV. New Dean for College of Engineering

The new dean (not an interim dean) should have an opportunity to comment on the plan prior to campus approval.

New COE Dean, Dr. Jennifer Sinclair Curtis, has been provided the original Reconstitution Proposal and this document for consideration on September 3, 2015.

APPENDIX I

MATERIALS SCIENCE PROGRAM ENROLLMENTS TABLE; MEAN ENROLLMENT = 116 AND MEDIAN = 104

University	Mat Sci Only	Mat Sci/ChE	Mat Sci/Other	Reported Enrollment	Source for enrollment as of Fall 2014 (or Fall 2013 if later year not available)
Alfred University	x			149	As reported by program chair, Dr. Scott Mixture
Arizona State University	x			104	As reported by program chair, Dr. James Adams
Auburn University	x			45	As reported by undergraduate advisor, Dr. Z. Y. Cheng
Boise State University	x			114	As reported by department manager, Dena Ross
California Polytechnic State University - SLO	x			172	http://content-calpoly-edu.s3.amazonaws.com/ir/1/publications_reports/factbook/fbfall14.pdf
Carnegie Mellon University	x			125	http://www.cmu.edu/ira/factbook/pdf/facts2015/enrollment-section-2014-2015.pdf
Case Western Reserve	x			48	http://case.edu/ir/media/caseedu/institutional-research/documents/students/Enr_UG_Major_Fa2014.pdf
Clemson University	x			114	As reported by research associate of OIR, Joseph McLaughlin
Colorado School of Mines			x	148	http://inside.mines.edu/UserFiles/File/president/IR/EnrollmentReports/Fall2014EnrollmentReport.pdf
Columbia University			x	12	As reported by student services coordinator, Montserrat Fernandez-Pinkley
Cornell University	x			69	https://www.engineering.cornell.edu/resources/registrar/upload/EN-FA14-Major-Gender-Ethnic.pdf
Drexel University	x			140	http://drexel.edu/engineering/about/facts/
Georgia Institute of Technology	x			315	http://apps.irp.gatech.edu/apps/Enrollment/Major.cfm
Illinois Institute of Technology			x	72	As reported by department chairman, Dr. Dietmar Rempfer
Iowa State University	x			259	http://www.registrar.iastate.edu/sites/default/files/uploads/stats/major/maif2014.pdf
Johns Hopkins University	x			76	http://web.jhu.edu/registrar/reports/Reports_2014_2015/Fall%202014-2015/1.11C_Homewood_Undergraduate_Enrollment_Combined_Majors.pdf
Lehigh University	x			66	University Materials Council
Massachusetts Institute of Technology	x			315	http://web.mit.edu/registrar/stats/yrpts/index.html
Michigan State University		x		106	http://reports.esp.msu.edu/ReportServer/Pages/ReportViewer.aspx?/ROReports2005/CE-StuMjrUN
Michigan Tech. University	x			137	http://www.admin.mtu.edu/em/services/erlstat/index.php?qtr=fall2014&report=a&map=false&submit=1&print=1

Montana Tech			x	51	http://www.mtech.edu/career/employers/SPRING%202014%20ENROLLMENT%20BY%20DEGREE.pdf
New Mexico Tech (Institute of Mining and Technology)			x	52	http://www.nmt.edu/images/stories/registrar/InstResearch/ProfileFall2014.pdf
North Carolina State University (Raleigh)	x			123	http://www2.acs.ncsu.edu/UPA/archives/enrollmentdata/f14enrol/index.htm
Northwestern University	x			92	http://www.mccormick.northwestern.edu/academics/undergraduate/abet/enrollment-and-graduation-data.html
Ohio State University	x			203	https://engineering.osu.edu/sites/engineering.osu.edu/files/uploads/uess2014.pdf
Pennsylvania State University	x			260	As reported by student advisor & records specialist, Cindy Lake
Purdue University	x			150	As reported by academic program administrator, Vicki Cline
Rensselaer Polytechnic Institute	x			118	As reported by assistant to the department head, Meeli Leith
Rice University			x	29	As reported by graduate/undergraduate administrator, Kim Hardy
Rutgers University	x			140	http://soe.rutgers.edu/facts-and-figures
San Jose State University		x		57	http://www.iea.sjsu.edu/cognos/cgi-bin/cognos.cgi
Stanford University	x			34	As reported by student services specialist, Kevin Gribble
University of Alabama - Birmingham	x			95	http://eng.ua.edu/about/demographics/
University of Arizona	x			90	As reported by department head, Dr. Pierre Deymier
University of California, Berkeley	x			104	http://engineering.berkeley.edu/about/facts-and-figures
University of California, Davis		x		112	From SIS Decision Support Report Code 413
University of California, Irvine		x		68	http://www.oir.uci.edu/files/enr/IIA02F-fall-enr-by-major.pdf?R=977138
University of California, Los Angeles	x			127	http://www.seasoasa.ucla.edu/azadeh/ucee-reports/UCEE%20Report%202015_2_27.pdf
University of California, Merced				32	http://irds.ucmerced.edu/docs/Undergraduates/Undergraduate%20Major%20-%20Program.pdf
University of Connecticut	x			140	http://www.oir.uconn.edu/Storrs14major.pdf
University of Florida	x			175	http://www.ir.ufl.edu/factbook/enroll.htm
University of Idaho		x		42	As reported by department chair, Dr. Eric Aston
University of Ill., U-C	x			409	http://www.dmi.illinois.edu/stuenr/class/enfa14rev.htm

University of Kentucky		x		87	http://www.uky.edu/iraa/studentdata/enrollment
University of Maryland	x			114	University Materials Council
University of Michigan	x			171	http://ro.umich.edu/enrollment/enrollment.php
University of Minnesota (Twin Cities)		x		164	http://cse.umn.edu/aboutcse/CSE_CONTENT_481403.php
University of Nevada, Reno		x		18	http://www.unr.edu/ia/census-date
University of North Texas	x			86	https://institutionalresearch.unt.edu/sites/default/files/Fact_Book-2012-2013.pdf
University of Pennsylvania	x			103	As reported by assistant to the chair, Pat Overend
University of Pittsburgh			x	48	As reported by undergraduate administrator, Heather Manns
University of Tennessee (Knoxville)	x			19	University Materials Council
University of Texas, El Paso			x	41	http://cierpdata.utep.edu/OnlineFactBook/FAC_Majors_Enroll_Major_UG.aspx
University of Utah	x			84	http://www.obia.utah.edu/dm/majors/
University of Washington	x			143	http://data.engr.washington.edu/pls/sdb/SDB.RPT_ENROLLMENT_COL_SEX_ETH.SHOW?p_arg_names=year&p_arg_values=2014&p_arg_names=quarter&p_arg_values=4&p_arg_names=coll&p_arg_values=260&p_arg_names=de&p_arg_values=2600011
University of Wisconsin-Madison	x			95	https://registrar.wisc.edu/documents/Stats_all_2014-2015Fall.pdf
University of Wisconsin-Milwaukee	x			59	As reported by Dr. Benjamin Church
Virginia Polytechnic institute and State University	x			205	As reported by undergraduate academic adviser, Michelle Czamaske
Washington State University			x	58	As reported by academic coordinator, Priscilla Hastay
Winona State University	x			193	http://www.winona.edu/engineering/programs.asp
Wright State University			x	108	http://www.wright.edu/administration/institutionalresearch/student-fact-book/f14_factbook.pdf

APPENDIX II
COLLEGE OF ENGINEERING BUDGET METRICS

College of Engineering Base Budget Formula	3,731,868	2013-14 Working Base budget
FY 2014-15	155,786	2013-14 Ranges & merits
	37,635	SAOs 2 FTE BB augmentation CS, MAE, CEE
	<u>3,925,289</u>	2014-15 Working Base budget

Working Base Budget: \$ 3,925,289

	Faculty	Extramural	Total	Total	UG	Graduate	Department	
<i>drivers:</i>	FTE	Expenditures	SCHs (course origin)	SCHs (Pay Department)	Majors	Enrollments	Allocation	
%/driver:	10%	50%	15%	5%	10%	10%	100%	% of total
Department								
BAE	\$12,359	\$55,567	\$13,124	\$4,967	\$13,838	\$14,645	\$114,500	3%
BME	\$49,645	\$404,617	\$48,390	\$25,242	\$51,966	\$46,339	\$626,198	16%
CHMS	\$58,939	\$224,963	\$72,130	\$26,261	\$58,491	\$40,976	\$481,760	12%
CEE	\$68,729	\$399,811	\$92,644	\$30,795	\$60,407	\$74,334	\$726,719	19%
CS	\$65,047	\$262,847	\$150,527	\$44,290	\$75,384	\$80,704	\$678,800	17%
ECE	\$72,764	\$333,214	\$100,733	\$30,337	\$54,992	\$71,634	\$663,675	17%
MAE	\$65,047	\$281,624	\$111,246	\$34,372	\$77,452	\$63,896	\$633,637	16%
Allocation:	\$392,529	\$1,962,645	\$588,793	\$196,264	\$392,529	\$392,529	\$3,925,289	100%

<i>Two-year average: academic years 2012-13, 2013-14 with DAS Distributed to BME, CHMS, CS, ECE and MAE</i>									
Source/Metrics	BAE*	BME	CEE	CHMS	CS	ECE	MAE	Total	
Ladder faculty/Lecturer-SOE FTE	5.61	22.52	31.17	26.73	29.50	33.00	29.50	178.02	
% of total	3.15%	12.65%	17.51%	15.02%	16.57%	18.54%	16.57%	100.00%	
Undergraduate Student Credit Hours									
Course List - Academic Yr - Course origin	931.00	5,344.33	9,255.00	9,086.17	23,419.58	9,450.83	9,666.58	67,153.50	
ENG course list -- course origin	540.00	96.67	3,372.50	1,851.83	24.17	5,188.17	7,421.67	18,495.00	
Total Undergraduate SCHs:	1,471.00	5,441.00	12,627.50	10,938.00	23,443.75	14,639.00	17,088.25	85,648.50	
% of total	1.72%	6.35%	14.74%	12.77%	27.37%	17.09%	19.95%	100.00%	
Graduate Student Credit Hours (origin)	1,129.50	4,147.67	5,730.25	3,354.83	6,383.92	5,321.67	4,955.67	31,023.50	
% of total	3.64%	13.37%	18.47%	10.81%	20.58%	17.15%	15.97%	100.00%	
Undergraduate & Graduate SCHs TOTAL,	2,601	9,589	18,358	14,293	29,828	19,961	22,044	116,672	
% of TOTAL	2.23%	8.22%	15.73%	12.25%	25.57%	17.11%	18.89%	100%	
UndergraduateSCHs									
Faculty	1,637.67	10,050.02	10,719.12	11,176.52	17,882.49	11,600.00	14,061.00	77,126.81	
Pay Dept, TOTAL (3 qtr avg) Non-Faculty	9.99	350.72	2,121.51	1,621.20	5,610.99	2,146.92	2,446.01	14,307.33	
Graduate SCHs									
Faculty	1,019.33	3,452.42	5,754.00	2,871.45	5,809.58	4,628.00	4,325.46	27,860.22	
Pay Dept, TOTAL (3 qtr avg) Non-Faculty	139.50	223.76	789.15	519.57	866.67	573.00	884.54	3,996.18	
Undergraduate & Graduate SCHs TOTAL,	2,806	14,077	19,384	16,189	30,170	18,948	21,717	123,291	
% of TOTAL	2.53%	12.86%	15.69%	13.38%	22.57%	15.46%	17.51%	100%	
Undergraduate Student Enrollments, SISDS 410									
Majors by discipline (3-qtr avg., first major)	131.83	495.08	575.50	557.25	718.19	523.92	737.90	3,739.67	
% of TOTAL	3.53%	13.24%	15.39%	14.90%	19.20%	14.01%	19.73%	100.00%	
Graduate Student Enrollments 3-qtr avg.	33.00	104.42	167.50	92.33	181.85	161.42	143.98	884.5	
% of TOTAL	3.73%	11.81%	18.94%	10.44%	20.56%	18.25%	16.28%	100.00%	
Extramural expenditures incl. indirects									
FIS 1 DIRECTS + INDIRECTS	\$1,835,988	\$13,368,832	\$13,210,026	\$7,432,938	\$8,684,664	\$11,009,639	\$9,305,063	\$64,847,149	
% of TOTAL	2.83%	20.62%	20.37%	11.46%	13.39%	16.98%	14.35%	100.00%	

Note: CoE BAE extramural expenditures based on (BAE extramural expenditures 2-yr average) / (BAE I&R faculty FTE 2-yr average) * CoE I&R FTE 2-yr average

NOTES:

1. Table provided by Manju Kaul, College of Engineering financial analyst.

APPENDIX III
COMPARISON BASE BUDGET METRICS CHE AND MSE

This table parallels the spreadsheet in Appendix II, except now the funding metrics are used to compare CHE and MSE. The factors of research expenditure, SCH, number of majors, and faculty FTE are the same as in Appendix II with but a single change: since CHE and MSE faculty share a single home department and payroll code (024015) we cannot calculate the 5% factor that is SCH by pay department; instead SCH by course origin is used for all 20% of the SCH weighting. The overall weighting factors are thus:

1. Faculty FTE, 10% weighting
2. Total SCH, 20%
3. Undergraduate majors, 10%
4. Graduate majors, 10%
5. Research expenditures, 50%

All data is a two year average of 2012-13 and 2013-14.

	CHE	MSE
Faculty FTE	15.44	11.82
<i>% of total</i>	56.5%	43.5%
Undergraduate and Graduate SCHs Total¹	8796	4781.5
<i>% of total</i>	64.8%	35.2%
Undergraduate Student Enrollment²	462.8	86.7
<i>% of total</i>	84.2%	15.8%
Graduate Student Enrollment³	46	39.5
<i>% of total</i>	53.8%	46.2%
Research Expenditures⁴	\$2,416,379	\$3,753,515
<i>% of total</i>	39.2%	60.8%

NOTES:

1. SCH from SIS Decision Support Report Code 403. All EMS courses plus ENG 10, 45 credited to MSE. All ECH and ECM courses credited to CHE.
2. Enrollment data from SIS Decision Support Report Code 410. EMSE major credited to MSE, along with EEME (Electronic Materials) majors and ½ of ECHM (Chemical Engineering/Materials Science dual major). ECML (Chemical Engineering) and EBCL (Biochemical Engineering) credited to CHE along with ½ of ECHM majors. Note both the EEME and ECHM majors are closed, numbers are small and decreasing, and we have not included either in discussion of future plans.
3. Enrollment data from BIA, http://budget.ucdavis.edu/data-reports/documents/enrollment-reports/emjg1st_3curr.pdf.
4. Research expenditures data from DaFIS Decision Support Report 1 for all faculty research accounts.

Using the information above and the 2013-14 base budget value of \$470,999 we can calculate the contribution of each program:

		Total BB	Weighting Factor	BB/unit
Faculty FTE, 10%	<i>CHE</i>	\$47,100	0.565	\$26,611
	<i>MSE</i>	\$47,100	0.435	\$20,488
Undergrad & Grad SCHs, 20%	<i>CHE</i>	\$94,200	0.648	\$61,041
	<i>MSE</i>	\$94,200	0.352	\$33,158
Undergraduate Majors, 10%	<i>CHE</i>	\$47,100	0.842	\$39,658
	<i>MSE</i>	\$47,100	0.158	\$7,442
Graduate Majors, 10%	<i>CHE</i>	\$47,100	0.538	\$25,340
	<i>MSE</i>	\$47,100	0.462	\$21,760
Research Expenditures, 50%	<i>CHE</i>	\$235,500	0.392	\$92,316
	<i>MSE</i>	\$235,500	0.608	\$143,184

Total BB	<i>CHE</i>	\$244,967	(52.0%)
	<i>MSE</i>	\$226,032	(48.0%)
	<i>GRAND TOTAL</i>	\$470,999	100%

APPENDIX IV
MATERIALS SCIENCE FACULTY TEACHING LOAD 2010-2015

Faculty	2010-11	2011-12	2012-13	2013-14	2014-15
Ricardo Castro	EMS 172L EMS 289D (½) EMS 264	EMS 289C (½) EMS 172L EMS 264	EMS 172L EMS 264 ENG 45	EMS 172 EMS 172L EMS 264	EMS 2 EMS 188A (½) EMS 188B (½) Sabbatical (1Q)
Jeff Gibeling	Dean, Graduate Studies				
Sangtae Kim	EMS 160 ECH 152B EMS 260	EMS 160 EMS 260 EMS 162L	ENG 45 (½) (SS) EMS 160 EMS 260 EMS 289C (½)	EMS 160 EMS 260 EMS 289C (½)	EMS 160 EMS 260 EMS 162L
Denise Krol			EMS 2 (½) ENG 45 (½) EAD 166 EAD 165	ENG 10 (½) EMS 272 EMS 282	ENG 10 (½) EMS 272 Sabbatical (1Q)
Enrique Lavernia	Dean, College of Engineering				
Subhash Mahajan (50% Faculty Asst to Chancellor)		EMS 181	EMS 174 EMS 289C (½)	EMS 289C (½) EMS 174	EMS 274 (½) EMS 174
Alex Navrotsky	EMS 289C	EMS 289C	Interim Dean, Math & Physical Sciences		
Atul Parikh (50 % appt)		ENG 10	ENG 10 EAD 161A EAD 161B	ENG 10 (½) ECH 155B	ENG 10 (½)
Subhash Risbud	EMS 2 ENG 45 (50% Director ICC)	EMS 2 ENG 45 (50% Director ICC)	EMS 2 (½) ENG 45 (½) EMS 182 EMS 298 (½) ENG 10	ENG 45 ENG 45 (½) (50% Director ICC)	ENG 45 (50% co-Chair of Dept)
Julie Schoenung	ECH 158A EMS 298	ECH 158A EMS 298 EMS 180	ECH 158A ECM 281 EMS 180	ECH 158A EMS 2 (½) EMS 180	ECH 158A ECM 281 Sabbatical (1Q)
Sabyasachi Sen	EMS 174 EMS 188A (½) EMS 188B (½) EMS 282	EMS 174 EMS 188A (½) EMS 188B (½) EMS 251	EMS 188A (½) EMS 181 EMS 188B (½)	EMS 181 EMS 188A (½) EMS 188B (½) EMS 289	ENG 45 (SS) EMS 264 EMS 164 EMS 181
Yayoi Takamura	EMS 172 (½) EMS 272 (½) EMS 162	EMS 172 EMS 272 (½) EMS 162	ENG 45 (½) (SS) EMS 262 EMS 162 EMS 272	ENG 45 (SS) EMS 2 (½) EMS 262 ENG 45	EMS 262 ENG 45 EMS 289
Klaus van Benthem	ENG 45 EMS 289D (½) EMS 230 EMS 230L EMS 164 (½)	EMS 289D (½) ENG 45	EMS 230 EMS 230L EMS 298 (½) ENG 45 EMS 289	EMS 289 EMS 162 ENG 45 (½)	EMS 289 EMS 162 EMS 230 EMS 230L ENG 45

APPENDIX V.
CHMS GRADUATE PROGRAM MEMBERSHIP LIST JULY 2015

NAME	POSITION	DEPARTMENT
Asta, Mark	Adj. Professor	CHMS
Block, David	Professor	CHMS/Vit & Enology
Boulton, Roger	Professor	CHMS/Vit & Enology
Browning, Nigel	Adj. Professor	CHMS/MCB
Canning, Andrew	Adj. Professor	CHMS
Castro, Ricardo	Assoc. Professor	CHMS
Chen, Cong-Yan	Adj. Professor	CHMS
Dungan, Stepanie	Professor	CHMS/Food Science
El-Farra, Nael	Professor	CHMS
Faller, Roland	Professor	CHMS
Gates, Bruce	Professor	CHMS
Gibeling, Jeffery	Professor	CHMS
Heinrich, Volkmar	Assoc. Professor	BME
Hihath, Joshua	Asst. Professor	ECE
Hsieh, You-lo	Professor	Textiles
Jensen, Niels	Professor	Mech Eng
Jeoh, Tina	Asst. Professor	Bio & Ag Eng
Kim, Sangtae	Professor	CHMS
Krol, Denise	Professor	CHMS
Kuhl, Tonya	Professor	CHMS
Lavernia, Enrique	Adj. Professor	CHMS
Longo, Marjorie	Professor	CHMS
Mahajan, Subhash	Professor	CHMS
Majewski, Jarek	Adj. Professor	CHMS
McDonald, Karen	Professor	CHMS
Miller, Greg	Professor	CHMS
Moulé, Adam	Assoc. Professor	CHMS
Navrotsky, Alex	Professor	CHMS/LAWR/CHEM/GEO
Orel, Ann	Professor	CHMS
Palazoglu, Ahmet	Professor	CHMS
Pan, Ning	Professor	Textiles & Clothing
Parikh, Atul	Professor	CHMS/BME
Phillips, Ronald	Professor	CHMS
Powell, Robert	Professor	CHMS
Risbud, Subhash	Professor	CHMS
Ristenpart, Bill	Assoc. Professor	CHMS
Schoenung, Julie	Adj. Professor	CHMS
Seker, Erkin	Asst. Professor	ECE
Sen, Sabyasachi	Professor	CHMS
Silva, Eduardo	Asst. Professor	BME
Stroeve, Pieter	Professor	CHMS
Sun, Gang	Professor	Textiles & Clothing
Takamura, Yayoi	Assoc. Professor	CHMS
Takamura, Koichi	Adj. Professor	CHMS
Tan, Cheemeng	Asst. Professor	BME

Thoma, Dan	Adj. Professor	CHMS
Topping, Troy	Asst. Adj. Professor	CHMS
van Benthem, Klaus	Assoc. Professor	CHMS
Vidu, Ruxandra	Assoc Adj Professor	CHMS

APPENDIX VI
(PROPOSED) GRADUATE PROGRAM BYLAWS
Please see following pages.

Chemical Engineering Bylaws

Administrative Home: Department of Chemical Engineering

Revised: June 15, 2015

Graduate Council Approval: pending

ARTICLE I. OBJECTIVE

- A. Degree(s) offered by the program: The Graduate Program in Chemical Engineering administers the following program in conformance with the regulations of the Graduate Council and the Office of Graduate Studies of the University of California, Davis: Chemical Engineering (M.S. Plan I, M.S. Plan II, and Ph.D.).
- B. Discipline: Chemical Engineering is the profession in which knowledge of mathematics, chemistry, and other natural sciences gained by study, experience, and practice is applied with judgement to develop economic ways of producing materials and energy for the benefit of mankind.
- C. Mission of the Program: The mission of the Graduate Program in Chemical Engineering at the University of California Davis is to advance through teaching and research programs the frontiers of chemical engineering and to educate graduate students with a sense of professionalism and community.

ARTICLE II. MEMBERSHIP

A. Criteria for Membership in the Graduate Program

1. Appropriate academic and teaching title

Members must hold an appropriate academic title as (a) a member of the Academic Senate of the University of California (including Professors, Lecturers with Security of Employment, Professors in Residence, Professors of Clinical “__”, Professors Emeritus/a, and Research Professors), (b) Adjunct Professor, (c) Lecturer (without Security of Employment), or (d) Lecturer without Salary. Academic staff with primary appointments as Cooperative Extension Specialists or in the Professional Research series are not eligible to be members of graduate programs unless they also hold an appropriate instructional title (normally Lecturer Without Salary). Members must have active research appropriate to the discipline(s) encompassed by the program.

Membership is based upon disciplinary expertise and active research, so members throughout campus are eligible for consideration for membership in the program. However, faculty with appointment in the department have automatic membership rights in the program.

2. Voting rights

All resident members are eligible to vote on graduate program matters. *See GC2011-04, Policy on Quorum, Voting Rights and Responsibility.*

B. Application for Membership

1. How faculty may apply

Any member of the Graduate Program in Chemical Engineering may nominate a faculty member to become a member of the Program. Nominees must meet criteria described in Article II.A. A nomination will consist of a letter to the Graduate Program Chair expressing the reasons why the

membership is being proposed and a copy of the applicant's curriculum vitae. Voting on membership will be done using a secure web-based voting system. The application will be sent to all the Program members, and a majority vote will determine the approval of membership. Upon the election of a new member, said person shall be sent a letter of invitation by the Graduate Program Chair and be considered a member only in the event of an affirmative reply.

2. Anticipated Contributions by Members

The anticipated contributions by members are listed below in ranked order of importance. Item (a) is a required contribution.

- a. Service on dissertation/thesis committees, preliminary committees, qualifying exam committees, and master's comprehensive exam committees. Faculty may not serve as a member of the qualifying examination committee for his/her own student.
- b. Providing instruction in the Program, in an appropriate subject area equivalent to one course every three years (duties may be split between courses). This course instruction is in addition to normal research instruction.
- c. Active role in the administration of the graduate program by serving on graduate program administrative committees; as graduate advisor; or as an administrative officer of the program.

Members serving as major professors are additionally required to:

- d. Honor the financial offer made to new graduate students working under the direction of the faculty member. The Department will provide the details of the financial offer to the faculty adviser, and the faculty member should not accept students on unfunded projects. During a hiatus in extramural support, the faculty adviser should consult with the Department Chair for a possible bridge loan or TA/AI funding. It is the responsibility of the faculty adviser to inform the graduate student if extramural funding for the student's research project is in jeopardy. At least six months of advance notice should be given to the Department Chair and the student so that other funding alternatives can be explored.
- e. Provide graduate student advisees with specific requirements for achieving their desired degree objective in a timely manner. The departmental goal for time to degree for the Ph.D. is twelve academic quarters (not including the summer) for students entering the program with a B.S. in Chemical Engineering and nine academic quarters (not including the summer) for students entering with a M.S. degree. To achieve this goal the member must assist the student in progressing through the program and periodically evaluate the student's progress in research and in meeting program milestones. The student and the faculty adviser should collaboratively "define success" for the project chosen.
- f. Maintain a mutually agreeable schedule of advising conferences with each advisee, including an annual review on the progress, direction, and duration of the project. The result of this annual review should take the form of a written report to the student (placed in the student's file) summarizing the review.
- g. Ensure that the objectives regarding time-to-degree are attainable. This shall include, but not be limited to, meeting with the student and the dissertation committee after the student's Qualifying Exam to discuss points raised by the Qualifying Exam committee regarding the direction of the research, and meeting with the student and the dissertation committee after the student has been in residence for three years to discuss the progress of research and what must be accomplished to complete the degree.

- h. Complete a written progress report for any student when assigning an S/U grade for ECH 299 credits. Reasons for any unsatisfactory performance on dissertation research or recommended course work should be stated clearly to the student in this written evaluation. Marginal or unsatisfactory progress reports must be submitted to the Dean of Graduate Studies.

C. Emeritus Status

Emeritus faculty with active research programs may remain members of the program and are afforded the following rights: they may attend and participate in program activities (including meetings and administrative committees), may teach graduate courses, and may serve on student committees. Emeritus faculty are not afforded the right to vote on policy and bylaw issues related to the program.

D. Review of Membership

The criteria for reviewing members of the program are the same for all members. Each faculty member's contributions to the program shall be reviewed once every three years for the purpose of identifying faculty members who are not providing a minimal level of service to the program. This review will be conducted by the Graduate Program Committee. Members may not vote for themselves. The review will focus on the areas defined in Section B.2 above, "Anticipated Contributions by Members". A majority vote of the eligible voters of the entire Graduate Program is required for maintenance of membership. Faculty whose record reflects poor performance in any of these areas will be subject to non-renewal or to a probationary period in which greater involvement must be demonstrated as a condition of continuing membership.

E. Membership Appeal Process

Terminated members or those denied membership will be notified in writing of the decision and given an opportunity to counter argue and to provide additional supporting information. This appeal will be sent to the entire membership of the program, and the majority will determine whether to uphold or overturn the termination/denial. Applicants denied membership or renewal of membership may make a final appeal to the Dean of Graduate Studies.

ARTICLE III. ADMINISTRATION

The administration of the program and its activities will be vested in the Department Chair and the Graduate Program Committee.

ARTICLE IV. GRADUATE PROGRAM CHAIR

A. Graduate Program Chair Appointment Process.

The Department Chair administers a departmentally-based graduate program. The Chair may delegate the day-to-day responsibilities of the graduate program to one or more faculty members of the program (Graduate Program Chair-Designate). However, even with the delegation of the responsibilities, the Department Chair is the official, Graduate Program Chair. The Department Chair should notify the Office of Graduate Studies of the name(s) of the faculty to whom they have delegated duties. Chairs of departmentally-based graduate programs also coordinate the program's graduate course teaching assignments with relevant department chairs.

B. Duties of the Graduate Program Chair

The Graduate Program Chair-Designate:

- a) provides overall academic leadership for the program;
- b) develops and implements policies for the program;
- c) represents the interests of the program to the campus and University administrators;
- d) calls and presides at meetings of the Graduate Program Committee;
- e) calls and presides at meetings of the program;
- f) is responsible for coordinating all administrative matters with the Office of Graduate Studies;
- g) manages the budget of the program;
- h) submits course change or approval forms;
- i) is responsible for the accuracy of all publications related to the program, including web pages and catalogue copy;
- j) nominates graduate advisors for appointment;
- k) ensures the assignment of all students to research advisors.

ARTICLE V. COMMITTEES

A. Graduate Program Committee

The committee is comprised of the Graduate Program Chair, who will serve as the chair of the committee, plus at least two other faculty members who are appointed by the Department Chair to represent the research areas of the department as they are currently listed under "research" on the Chemical Engineering website. The committee shall also have one student member; see Article VI. The appointments will be for one year and can be renewed up to five years based on mutual agreement with the member, the Graduate Program Chair-Designate, and the Department Chair that the member is satisfying the duties of membership to the committee in a satisfactory manner. The Graduate Program Coordinator (SAO) is an ex-officio member of the committee.

The duties of the committee include:

- a) Assisting the Graduate Program Chair in administering the graduate program.
- b) Making fellowship decisions.
- c) Deciding on Graduate Program admission policy.
- d) Appointing standing and ad hoc committees as it deems necessary to properly administer the activities of the Graduate Program.
- e) Reviewing petitions from students that do not fall in the jurisdiction of the Graduate Program Advisors (see Article VII).
- f) Actively participating in the recruitment of graduate students.
- g) Making recommendations to the Graduate Program Chair on admissions.
- h) Maintaining a quorum to conduct business. All members will have equal voting rights. In the Graduate Program Committee, a quorum will be a simple majority of the committee.
- i) Administering the applications for membership and membership renewals (see Article II).
- j) Considering course offerings and recommendations regarding the graduate program and supervision of teaching assignments and teaching experience of graduate students.
- k) Analyzing the results of the placement examinations for new entering students and determination of what remedial actions may be needed.

ARTICLE VI. STUDENT REPRESENTATIVES

Graduate students in the Department have organized a Graduate Student Organization (GSO) that serves as a liaison between graduate students and faculty/staff. The president of GSO is the graduate student liaison between the Graduate Program Committee and the GSO. The student representative serves an annual term concurrent with the presidency of the GSO and may attend meetings of the Graduate Program Committee. The student representative provides consultation and feedback to the faculty on issues such as admission criteria and standards, teaching assistant allocation and process, and preliminary and qualifying exam process and scheduling.

The Chair of the Graduate Program Committee must excuse the student representative from meetings during discussion about other students, personnel actions or disciplinary issues relating to faculty, during rankings of existing students for funding, for disciplinary issues related to students, and when viewing personal admissions data. The student member does not have voting rights.

ARTICLE VII. GRADUATE ADVISERS

Graduate advisers are appointed in compliance with the policies and procedures of the Graduate Council and the Office of Graduate Studies. The Graduate Program Chair-Designate will recommend graduate advisers to the Office of Graduate Studies for review and appointment for a two-year term. There shall be at least a minimum number of advisers to meet the 15:1 advising ratio recommended by the Graduate Council. Each Graduate adviser is responsible for the following:

- a) Reviewing the program of study for every graduate student.
- b) Reviewing and acting on each petition submitted by a graduate student to drop or add courses or to take courses on an S/U basis. S/he makes recommendations on petitions of graduate students to drop or add courses beyond the fifth week of classes.
- c) Reviewing and approving student petitions for Planned Educational Leave (PELP).
- d) Reviewing and approving petitions for advancement to candidacy for the Master's degree and recommendations for the composition of committees for Master's theses or comprehensive examinations.
- e) Recommending, after consultation with the student and the student's major professor, the composition of the Qualifying Examination Committee.
- f) Recommending, after consultation with the student and the student's major professor, the composition of the dissertation committee.
- g) Reviewing and approving petitions for advancement to candidacy for the doctoral degree.
- h) Carrying out periodic review of student progress towards degree objectives, and, in particular, file an annual report with Office of Graduate Studies concerning each student's progress toward completion of degree requirements.
- i) Determining if a program requirement has been met by the completion of an equivalent course taken at another institution, in consultation with the instructor of the equivalent UC Davis course.

ARTICLE VIII. MEETINGS

The Graduate Program Chair-Designate shall call an annual meeting during Spring quarter for the purpose of discussing issues related to the program. The Graduate Program Chair-Designate shall be privileged to call other meetings at the interest of the program and shall be required to do so at the written request of three or more members. Notification will be emailed at least two weeks before the

meeting. Faculty not on campus may participate by teleconference or other available technology.

ARTICLE IX. QUORUM

All issues that require a vote must be voted on by at least 50% of the membership. On graduate program matters other than amendment/revision of bylaws, passage requires a simple majority of supporting votes of the members voting. On amendments and revisions of bylaws, passage requires a 2/3rd supporting vote of the members voting. For balloting conducted via secure web-based technology, 10 days must be provided for expression of opinions about the proposal prior to the acceptance of votes; the program must allow 14 days for votes to be returned or before the “polls” are closed.

ARTICLE X. AMENDMENTS

Amendments to these bylaws may be made in accordance with the program’s quorum policy in Article VIII. Program members may propose amendments by petition to the Graduate Program Chair. The Graduate Program Chair, or relevant program committee may ask for revisions from the faculty who submitted the proposed amendments before forwarding the revisions to the membership for review and voting. Quorum, voting, and passage is prescribed in Article IX. All amendments and revisions must be submitted to Graduate Council for review and approval; changes in the bylaws will become effective upon approval by Graduate Council.

Materials Science and Engineering Bylaws

Administrative Home: Department of Materials Science and Engineering

Revised: June 2, 2015

Graduate Council Approval: pending

ARTICLE I. OBJECTIVE

- A. Degree(s) offered by the program: The Graduate Program in Materials Science and Engineering administers the following program in conformance with the regulations of the Graduate Council and the Office of Graduate Studies of the University of California, Davis: Materials Science and Engineering (M.S. Plan I, Master of Engineering, and Ph.D.).
- B. Discipline: Materials Science and Engineering is concerned with the application of materials in devices, machinery, and other structures and studies how the material structure, and the resulting properties and performance, are controlled by its processing.
- C. Mission of the Program: The mission of the Materials Science and Engineering Graduate Program at the University of California, Davis is to advance through teaching and research programs the frontiers of materials science and engineering and to educate graduate students with a sense of professionalism and community.

ARTICLE II. MEMBERSHIP

A. Criteria for Membership in the Graduate Program

1. Appropriate academic and teaching title

Members must hold an appropriate academic title as (a) a member of the Academic Senate of the University of California (including Professors, Lecturers with Security of Employment, Professors in Residence, Professors of Clinical “__”, Professors Emeritus/a, and Research Professors), (b) Adjunct Professor, (c) Lecturer (without Security of Employment), or (d) Lecturer without Salary. Academic staff with primary appointments as Cooperative Extension Specialists or in the Professional Research series are not eligible to be members of graduate programs unless they also hold an appropriate instructional title (normally Lecturer Without Salary).

2. Active research-appropriate to the discipline(s) encompassed by the program

Membership is based upon disciplinary expertise and active research, so members throughout campus are eligible for consideration to membership in the program. However, faculty with appointment in the department have automatic membership rights in the program.

3. Voting rights

All resident members are eligible to vote on graduate program matters. *See GC2011-04, Policy on Quorum, Voting Rights and Responsibility.*

B. Application for Membership

1. How faculty may apply

Any member of the Materials Science and Engineering Graduate Program may nominate a faculty member to become a member of the Program. Nominees must meet criteria described in Article II.A. A nomination will consist of a letter to the Graduate Program Chair expressing the reasons why the membership is being proposed and a copy of the applicant’s curriculum vitae. Voting

on a membership will be done using a secure web-based voting system. The application will be sent to all the Graduate Program members, and a majority vote will determine the approval of membership. Upon the election of a new member, said person shall be sent a letter of invitation by the Graduate Program Chair and be considered a member only in the event of an affirmative reply.

2. Anticipated Contributions by Members

The anticipated contributions by members are listed below in ranked order of importance. Item (a) is a required contribution.

- a) Service on dissertation/thesis committees, preliminary exam committees, qualifying exam committees, and master's comprehensive exam committees. (Faculty may not serve as a member of the qualifying examination committee for his/her own student).
- b) Providing graduate level instruction, as appropriate, in addition to research instruction.
- c) Active role in the administration of the graduate program by serving on graduate program administrative committees, as graduate advisor, and as an administrative officer of the program.

Members serving as major professors are required to:

- d) Honor the financial offer made to new graduate students working under the direction of the faculty member. The Department will provide the details of the financial offer to the faculty adviser, and the faculty member should not accept students on unfunded projects. During a hiatus in extramural support, the faculty adviser should consult with the Department Chair for a possible bridge loan or TA/AI funding. It is the responsibility of the faculty adviser to inform the graduate student if extramural funding for the student's research project is in jeopardy. At least six months of advance notice should be given to the Department Chair and the student so that other funding alternatives can be explored.
- e) Provide graduate student advisees with specific requirements for achieving their desired degree objective in a timely manner. The departmental goal for time to degree for the Ph.D. is twelve academic quarters (not including the summer) for students entering the program with a B.S. in Materials Science and Engineering, and nine academic quarters (not including the summer) for students entering with a M.S. degree. To achieve this goal the member must assist the student in progressing through the program and periodically evaluate the student's progress in research and in meeting program milestones. The student and the faculty adviser should collaboratively "define success" for the project chosen.
- f) Maintain a mutually agreeable schedule of advising conferences with each advisee, including assigning S/U grades for EMS 299 units each quarter, and an annual review with the advisee and the entire dissertation committee. When assigning U grades for EMS 299, a written progress report must be completed, which describes reasons for the unsatisfactory performance on dissertation research. After the qualifying exam, points raised by the qualifying exam committee should be discussed with the advisee and the entire dissertation committee. The annual review should discuss the progress, direction, and duration of the project, and should ensure that the objectives regarding time-to-degree are attainable. The result of this annual review should take the form of a written report to the student (placed in the student's file) summarizing the review. Marginal or unsatisfactory reports (annual or quarterly) must be submitted to the Dean of Graduate Studies.

C. Emeritus Status

Emeritus faculty with active research programs may remain members of the Graduate Program and are afforded the following rights: they may attend and participate in Graduate Program activities (including meetings and administrative committees), may teach graduate courses, and may serve on graduate student dissertation committees. Emeritus faculty are not afforded the right to vote on policy and bylaw issues related to the Graduate Program.

D. Review of Membership

The criteria for reviewing members of the Graduate Program is the same for all members. Each faculty member's contributions to the program shall be reviewed once every three years for the purpose of identifying faculty members who are not providing a minimal level of service to the Graduate Program. This review will be conducted by the Graduate Program Committee. Members may not vote for themselves. The review will focus on the areas defined in Section II-B-2 above, "Anticipated Contributions by Members". A majority vote of the eligible voters of the Graduate Program Committee is required for maintenance of membership. The review of members with appointments in the Department will be based on the outcome of the most recent merit/promotion package of the department member using the same criteria as for members from outside of the Department. Faculty whose record reflects poor performance in any of these areas will be subject to non-renewal or to a probationary period in which greater involvement must be demonstrated as a condition of continuing membership.

E. Membership Appeal Process

Terminated members or those denied membership will be notified in writing of the decision and given an opportunity to counter-argue and to provide additional supporting information. This appeal will be sent to the entire membership of the Graduate Program, and the majority will determine whether to uphold or overturn the termination/denial. Applicants denied membership or renewal of membership may make a final appeal to the Dean of Graduate Studies.

ARTICLE III. ADMINISTRATION

The administration of the program and its activities will be vested in the Department Chair and the Graduate Program Committee.

ARTICLE IV. GRADUATE PROGRAM CHAIR

A. Graduate Program Chair Appointment Process

The Department Chair administers a departmentally-based Graduate Program. The Department Chair may delegate the day-to-day responsibilities of the Graduate Program to one or more faculty members of the Graduate Program. However, even with the delegation of the responsibilities, the Department Chair is the official, graduate program Chair. The Department Chair should notify the Office of Graduate Studies of the name of the faculty to whom they have delegated duties. Chairs of departmentally-based Graduate Programs also coordinate the program's graduate course teaching assignments with relevant Department chairs.

B. Duties of the Program Chair

The program chair:

- a) provides overall academic leadership for the program;

- b) develops and implements policies for the program;
- c) represents the interests of the program to the campus and University administrators;
- d) calls and presides at meetings of the Graduate Program Committee;
- e) calls and presides at meetings of the Graduate Program;
- f) is responsible for coordinating all administrative matters with the Office of Graduate Studies;
- g) manages the budget of the program;
- h) submits course change or approval forms;
- i) is responsible for the accuracy of all publications related to the program, including web pages and catalogue copy;
- j) nominates graduate advisors for appointment;
- k) coordinates the assignment of all graduate students to major professors with the Department Chair.

ARTICLE V. COMMITTEES

A. Graduate Program Committee

The committee is comprised of the Graduate Program Chair, who will serve as the chair of the committee, plus at least three faculty who are appointed by the Department Chair to represent the research areas of the department as they are currently listed under "Research" on the Materials Science and Engineering website. The appointments will be for one year and can be renewed up to five years based on mutual agreement with the member, the Graduate Program Chair, and the Department Chair that the member is satisfying the duties of membership to the committee in a satisfactory manner.

The duties of the committee include:

- a) assisting the Graduate Program Chair in administering the graduate program;
- b) making fellowship decisions;
- c) deciding on Graduate Program admission policy;
- d) appointing standing and ad hoc committees as it deems necessary to properly administer the activities of the Graduate Program;
- e) reviewing petitions from graduate students that do not fall in the jurisdiction of the Graduate Program advisers (see Article VI);
- f) actively participating in the recruitment of graduate students;
- g) making recommendations to the Graduate Program Chair on admissions;
- h) maintaining a quorum to conduct business. All members will have equal voting rights. In the Graduate Program Committee, a quorum will be a simple majority of the committee;
- i) administering the applications for membership and membership renewals (see Article II);
- j) considering course offerings and recommendations regarding the graduate program and supervision of teaching assignments and teaching experience of graduate students;
- k) analyzing the results of the placement examinations for new entering students and determination of what remedial actions may be needed.

ARTICLE VI. GRADUATE ADVISERS

Graduate advisers are appointed in compliance with the policies and procedures of the Graduate Council and the Office of Graduate Studies. The Chair of the Graduate Program will recommend graduate advisers to the Office of Graduate Studies for review and appointment for a two year term. There shall be at least a

minimum number of advisers to meet the 15:1 advising ratio recommended by the Graduate Council.

Each Graduate adviser is responsible for the following:

- a) reviewing the program of study for the graduate students who have been assigned to him/her;
- b) reviewing and acting on petitions submitted by graduate students to drop or add courses or to take courses on an S/U basis; making recommendations on petitions of graduate students to drop or add courses beyond the fifth week of classes;
- c) reviewing and approving graduate student petitions for Planned Educational Leave (PELP);
- d) reviewing and approving petitions for advancement to candidacy for the Master's degree and recommendations for the composition of committees for Master's theses or comprehensive examinations;
- e) recommending, after consultation with the graduate student and the student's major professor, the composition of the qualifying examination committee;
- f) recommending, after consultation with the graduate student and the student's major professor, the composition of the dissertation committee;
- g) reviewing and approving petitions for advancement to candidacy for the doctoral degree;
- h) carrying out periodic review of assigned graduate students' progress towards degree objectives, and, in particular, filing an annual report with Office of Graduate Studies concerning each student's progress toward completion of degree requirements;
- i) determining if a program requirement has been met by the completion of an equivalent course taken at another institution, in consultation with the instructor of the equivalent UC Davis course.

ARTICLE VII. MEETINGS

The Chair of the Graduate Program shall call an annual meeting during Spring quarter for the purpose of discussing issues related to the program. The Chair shall be privileged to call other meetings at the interest of the program and shall be required to do so at the written request of three or more members. Notification will be emailed at least two weeks before the meeting. Faculty not on campus may participate by teleconference or other available technology.

ARTICLE VIII. QUORUM

All issues that require a vote must be voted on by 50+% of the membership. On graduate program matters other than amendment/revision of bylaws, passage requires 50+% supporting vote of the members voting. On amendments and revisions of bylaws, passage requires a 2/3rd supporting vote of the members voting. For balloting conducted via secure web-based technology, 10 days must be provided for expression of opinions about the proposal prior to the acceptance of votes; the program must allow 14 days for votes to be returned or before the "polls" are closed.

ARTICLE VIII. AMENDMENTS

Amendments to these bylaws may be made in accordance with the program's quorum policy in Article VIII. Program members may propose amendments by petition to the program Chair. The program Chair, or relevant program committee may ask for revisions from the faculty who submitted the proposed amendments before forwarding the revisions to the membership for review and voting. Quorum, voting, and passage is prescribed in Article VIII. All amendments and revisions must be submitted to Graduate Council for review and approval; changes in the bylaws will become effective upon approval by Graduate Council.

- There are examples of viable campus programs being discontinued following implementation of departmental structure changes that lacked thorough academic planning.
- The new dean (not an interim dean) should have an opportunity to comment on the plan prior to campus approval.

Reluctantly, the Academic Senate does not approve the reconstitution proposal as presented based on the reasons articulated above.

Sincerely,



André Knoesen, Chair
Davis Division of the Academic Senate
Professor: Electrical and Computer Engineering

Enclosure

- c: Provost/Executive Vice Chancellor Hexter (w/enclosure)
Dean Lavernia (w/enclosure)
Vice Provost/Dean Thomas (w/enclosure)
Co-Department Chairs Faller and Risbud (w/enclosure)



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November 4, 2015

ANDRE KNOESEN
Divisional Academic Senate, Chair
Professor, Electrical and Computer Engineering

Re: Chemical Engineering and Material Science bifurcation request

Dear Andre,

I have met with relevant parties, including Professors Roland Faller and Subhash Risbud, and I am supportive of the requested bifurcation of Chemical Engineering and Material Science as set out in the proposal.

Please let me know if you require additional information/documentation from me.

Sincerely,

A handwritten signature in black ink that reads "Jennifer Sinclair Curtis".

Jennifer Sinclair Curtis
Dean, College of Engineering