COMMITTEE ON EDUCATIONAL POLICY
Report on Planned Reconfiguration of Classrooms in Kresge College

To: Academic Senate, Santa Cruz Division:

Over the next few years, UCSC plans to reconfigure the buildings in Kresge College to make the college more useful to students and faculty. Although the scope of the project is much larger, the part of the project that concerns the Committee on Educational Policy (CEP) is the reconfiguration of classrooms in the college. The final choice made by the Chancellor and the Campus Provost and Executive Vice Chancellor (CPEVC)--which will result in in replacement of six general assignment classrooms with 21, 29, 31, 37, 90 and 142 seats with four general assignment classrooms with 35, 50, 150 and 600 seats, is contrary to the advice given by CEP, the advice from the Committee on Planning and Budget (CPB)[1], and the advice from the Senate Executive Committee (SEC).[2] CEP recommended an additional 30 seat classroom and an increase in the size of the 150-seat classroom to 200 seats, with a corresponding reduction in size of the 600-seat classroom to 520 seats.

CEP disagrees with the choice of the Chancellor and the CPEVC for the following reasons:

- As shown in CEP's response to the recently approved Academic Literacy Curriculum (ALC), classrooms with 30-50 seats will be nearly saturated each fall term after the ALC is launched. Moreover, with the increased emphasis on supplemental instruction by teaching assistants in discussion sections, to improve undergraduate instruction and assist with graduate growth, the need for such small classrooms will increase. Despite these facts, the administrative decision will *reduce* the inventory of classrooms in this size range. The administration is relying on the ongoing campus space audit to identify rooms that can be converted into general assignment small classrooms. If this expectation is belied, with no additional classroom construction planned in the near future, the campus will be placed in an impossible situation.

- In the letter of October 10, 2017, CEP analyzed classroom usage to show that in the fall term, rooms with 200 or more seats are completely full. In fact, several classes with 200-220 students are scheduled in the 472-seat Classroom Unit 2, indicating that the worst congestion is in this size range, spilling over to the largest classrooms. The administration points out that a 600-seat classroom will allow more 200-student classes to be scheduled (in large rooms). While this is true, CEP believes that having *two* classrooms in the size range needed by the campus (200 seats and 520 seats) is clearly better than having one 600-seat room.

- The administrative decision not to reduce the 600-seat classroom to approximately 520 seats, as requested by CEP, relies heavily on the recommendation of the divisional deans, especially of the Physical and Biological Sciences Division and the Baskin School of Engineering. The list of courses that the deans identified as being suitable for a 600-seat classroom, by consolidating multiple course offerings, was created without consultation with the relevant department chairs. Both CEP and the chairs of departments in the Physical and Biological Sciences Division and the School of Engineering who teach large lecture courses – who were contacted by CEP – felt that consolidating course offerings as proposed by the deans would negatively affect students' progress to degree, and in some cases be impossible because of the limited capacity of associated lab courses. This was pointed out in CEP's January 31, 2018 letter to the Chancellor and CPEVC.

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[1] Last year, CPB supported a large classroom in Kresge College as an *addition* to the existing classroom seats, and stated that "current plans, while still preliminary, call for a 600-seat classroom". It did not support a 600-seat classroom at the *expense* of existing small classrooms. This year, it provided its response to the current plan.
[2] In addition, a 16-seat computer lab will be enlarged to 48 seats.

(The deans disagreed with this assessment.)

Regarding the process that was followed at arriving at the administrative decision, the Chancellor and CPEVC pointed out that the 600-seat classroom was approved in 2016-17 following the standard campus process that included CPB (but not CEP) consultation, and that to change the "original program" at this stage would require providing an opportunity for the "various groups and committees that approved the project last year to reconsider their positions", which would take time and increase project costs. Apart from the fact that a process to approve classrooms that does not involve Senate committees dealing with the curriculum (CEP, Graduate Council and Committee on Teaching) is clearly faulty, the "original program" that was endorsed by CPB (and others) included *two* 35 seat and *two* 50 seat classrooms. It is remarkable that one 35 seat and one 50 seat classroom were eliminated this year without Senate consultation, but reconsideration of the 600-seat classroom was claimed to be impossible without an extended process.[3]

This report is being submitted to the Senate in accordance with systemwide Senate bylaw 40.B. CEP's letters are appended to this report, as are CPB's and SEC's letters and the administration's response.

Respectfully submitted;
COMMITTEE ON EDUCATIONAL POLICY
Jeffrey Bury
Ben Carson
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Onuttom Narayan, Chair
Joy Hagen, NSTF (W, S)
Jessica Xu, Undergraduate Representative
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Ben Carson, Provost Representative

May 1, 2018

[3] To the best of our knowledge, there was never any analysis behind the choice of a 600-seat classroom instead of a slightly different size. The earliest reference to a 600-seat classroom that we can find is a consultants' report that advocated for three new classrooms of 200, 400 and 600 seats, where the numbers are clearly rough approximations. Nevertheless, the administration seems to have held on to the number 600 at the expense of everything else.

SANTA CRUZ: OFFICE OF THE ACADEMIC SENATE

October 10, 2017

IAVPAA Martin Berger
Chancellor's Office

VCBAS Sarah Latham
Business & Administrative Services

Re: Proposed Classroom Space in Kresge Project

Dear Martin and Sarah,

I am writing to you about the Kresge Project, notably the alterations proposed to classroom space in Kresge College as part of the project. Under standard campus procedure, capital plans and projects are proposed on behalf of the academic divisions by deans, and the Committee on Planning and Budget (CPB) provides advice to the administration on behalf of the Academic Senate. However, we believe that the consultation should be broader for classroom space. As they are central to the delivery of instruction, often constraining what is feasible, Senate consultation regarding classroom space should include the Committee on Educational Policy (CEP), the Graduate Council (GC) and the Committee on Teaching (COT). At the divisional level, the departments have the greatest expertise in pedagogy in their disciplines, and their opinions should be sought.

Our understanding is that Kresge College has classrooms with 21, 29, 30, 37 and 142 seats (one of each size), and a computer lab with 17 seats. The initial plan was to replace these with two 35 seat classrooms, two 50 seat classrooms, one 150 seat classroom and one 48 seat classroom to achieve approximately the same total capacity, with an additional 600 seat classroom. However, we gather that there is a proposal to eliminate one 35-seat and one 50-seat classroom from this configuration. Below, we enumerate our concerns about the current plan:

- The shortage of large classrooms on campus is acute. Appended to this letter, we show the number of unused time slots in each term in 2016-17 in the thirteen largest classrooms on campus. The situation is worst in the fall, when the campus is at the edge of what is possible. However, it is easy to see from the table that the crisis in classroom availability in the fall extends *all the way down* to rooms with approximately 200 seats. Indeed, as seen from the list below the table, several classes held in Classroom Unit 2 (with 472 seats) in Fall 2016 had approximately 200 students enrolled. Thus it is reasonable to infer that we are actually operating *beyond* the edge for classrooms with approximately 200 seats, and the spillover effects are impacting availability of still larger rooms. By contrast, there is some availability of rooms with approximately 170 seats.

  Our conclusion is that it is extremely important to ensure that the second-largest classroom in the Kresge Project should have approximately 200 seats instead of 150.

- At the other end, we would like to emphasize the importance of small rooms with 25-50 seats for certain courses, especially College Core and Writing courses. In addition, such rooms are essential for discussion sections; with the proliferation of large classes, the recent reduction in lecture time by 5-10 minutes per class, the role of discussion sections in instruction has increased, and this trend is likely to continue.

We have not analyzed the availability of these rooms in the same way as we have for the largest classrooms, partly because there are so many of these rooms and partly because, for courses offered by the college, courses cannot be freely moved from the college to another location. However, we urge that a proper analysis be conducted to ascertain that the 35 and 50 seat classrooms can be eliminated without causing significant problems. Slight adjustments in room size — with more modest cost savings — should be considered if elimination is problematic.

- After taking care of these priorities, the campus should consider the maximum number of seats it can afford for the largest classroom. However, if this is significantly greater than the capacity of Classroom Unit 2, a room of this capacity should only be approved after *departments* have been asked if they would be interested in teaching in such a large room, or if this would hurt teaching effectiveness. The answer to this will vary by discipline. For example, the courses at UC Santa Barbara in Fall, Winter and Spring 2016-17 with significantly more than 500 students enrolled were in some obvious 'candidate' departments but not others. Another point to remember is that only *three* UC campuses have their largest classroom with significantly more than 500 seats: UC Santa Barbara, Berkeley and Riverside.

  We should make it clear that we are not taking the position that the largest classroom should *not* have 600 seats. We support the idea that the campus should build the largest room it can afford, for which there are enough interested departments; such opportunities are very rare. However, if departmental interest is not ascertained before a 600 seat classroom is built, departments are liable to be pressured to teach classes in it.

- On a slightly different note, it is important that the large classroom — and, for that matter, the other classrooms — be designed properly. Instructors' complaints about some of the largest classrooms on campus, most notably Classroom Unit 2, should be well known to you; if not, it will be easy to collect them. Lighting, ventilation, the space between and quality of the seats, the visibility of the instructor to all students and the ability of students to effectively communicate with the instructor are all basic aspects of classroom design that seem to have been forgotten. We are told by some colleagues that Campbell Hall at UC Santa Barbara is a good example of a well-designed classroom that UCSC could emulate.

It is possible that there is a proper analysis behind the classroom configuration that is being considered and that we would support the plan if we were made aware of this analysis. But in the absence of such information, we must express our grave misgivings. With classroom space nearly saturated at UCSC, and a new Long Range Development Plan underway, input from all stakeholders must be obtained before a decision is made about what is in the best interests of the campus.

Sincerely,

Onuttom Narayan

cc: Senate Chair Einarsdóttir
CPB Chair Walsh
COT Chair McCarthy
GC Chair Dent
CP/EVC Tromp

Utilization of Large Classrooms in 2016-17

Room	Seats	Unused time slots (Fall)	Unused time slots (Winter)	Unused time slots (Spring)
Classroom Unit 2	472	0	2	3
Media Theater	382	0	1	2
Humanities 206	301	1	2	3
EMS B206	268	1	3	2
Thimann 3	224	1	2	1
J Baskin Aud 101	207	0	5	0
Oakes 105	175	3	5	2
Classroom Unit 1	172	4	1	2
J Baskin 152	144	1	3	2
Kresge 321	142	1	4	2
Stevenson 150	133	0	2	1
Merrill 102	114	6	9	6
Thimann 1	103	3	3	3

Enrollment in classes held in Classroom Unit 2 in Fall 2016

BIOL 20A	484
CHEM 1A	473
CMPS 5J	469
CHEM 8A	462
CRSN 81A	447
BIOL 105	415
CMPE 12	396
MATH 11A	348
CMPE 3	319
MATH 23A	299
MATH 3	295
CHEM 1B	278
BIOE 20C	234
MATH 19B	222
MATH 3	208
MATH 11B	206

SANTA CRUZ: OFFICE OF THE ACADEMIC SENATE

January 31, 2018

CP/EVC Marlene Tromp
Chancellor's Office

Re: Review of Proposed Courses for Kresge Classroom Project

Dear Marlene,

In this document, we consider the courses that the deans of Physical & Biological Science and Baskin School of Engineering identified as being suitable for the proposed large Kresge classroom, and restrict our analysis to the courses that would need fewer offerings with a 600-seat classroom (the deans' preference) compared to a 520-seat classroom (our preference). These are the only courses for which there *may* be an advantage if we build a 600-seat classroom. The purpose of this document is to demonstrate that there are problems using the large classroom for most of these courses, i.e. **there is no significant advantage to a 600-seat classroom that would outweigh the impact that it would have (because of space and budgetary constraints) on the intermediate and small classrooms.** While the large classroom may or may not be suitable for the other courses in the deans' lists, they would work equally with either 520 or 600 seats in the room. We do not wish to delay the Kresge project, and so we have provided this analysis as swiftly as possible.

Below are the courses that would need one fewer offering in a 600 seat classroom than they would with a 520 seat classroom, based on 2016-17 enrollment:

Course	Enrollment	# of offerings with 600/class
PHYS 6A	1057	2
CHEM 1A	1756	3
CHEM 1B	1055	2
BIOL 100	543	1
BIOL 105	1112	2
MATH 11A	1199	2
MATH 23A	1065	2
AMS 5 (shown as 5-01 and 5-02)	1165	2
CMPS 5J	1079	2
CMPS 10	574	1
CMPE 3	1150	2
CMPE 12	1146	2
CMPE 16	1120	2

Comments about these courses:

Logistical Concerns

1. Physics 6 and 5 series courses cannot be offered in this room, because the demonstration experiments that are shown to the students are housed on Science Hill, and it is risky to cart them across campus. (Email dated 9/25/17 from divisional analysts acknowledging this fact can be provided.)

2. Chemistry courses constitute a sequence: Chem 1A, 1B and 1C. Students can take them in the order 1A,1B,1C or 1B,1A,1C or 1A,1C,1B. It is not possible to accommodate all the students in 1A in the fall, 1B in the winter and 1C in the spring because 1B and 1C have an associated lab that all students are recommended to take (most majors that require Chem 1B or 1C require the lab courses too), and it is not possible to accommodate all the students in the labs in the winter or spring.[1]

Pedagogical and Time-to-Degree Concerns

3. The MCD Biology Department chair feels that if BIOL 100 and 105 were bundled into large classrooms, and offered fewer times a year, there would be *"a major, perhaps devastating impact on time to degree for students in our majors and almost certainly on our major numbers. This is because the failure rates in many of these classes are high, limiting opportunities to retake these courses will seriously slow down students. In addition, our majors and classes are highly structured, with clearly defined chains of pre-reqs. I haven't tried to map this out, but I think limiting offerings of these classes may also make it difficult for us to offer elective courses at the appropriate times."* The Biology Departments at UCSC offer many different degree programs, each with a slightly different recommended sequence of courses, from which students often deviate.

4. The Math Department believes that the current class sizes for their courses is *already* too high. CEP shares this concern and is engaged in discussion with the Physical & Biological Science Division. We have not even contemplated the possibility of 600 students per class.

5. We have not consulted the AMS Department, but they may have similar pedagogical concerns as the Math Department. The fact that they have been teaching AMS 5 and 7 six times a year to 200 or fewer students at a time suggests that this is the case. Furthermore, these courses are used by nearly half our students to satisfy the Statistical Reasoning (SR) General Education requirement; if the courses are not offered every term, it may impede students' progress to degree. CEP will then have to consider whether students would be better served by **combining the SR and Mathematical and Formal (MF) general education categories** into a single category from which students would have to take two courses, which we are concerned may have a budgetary impact on the School of Engineering.

6. The CS Department feels that, apart from CMPS 10, offering their courses to 500-600 students per offering is only possible with substantially greater support in terms of TAs and staff than would be required if the *same* number of students were to be taught in smaller classes, not to mention much greater use of small rooms for discussion sections. Thus despite the reduced cost for instructors, the total cost of such large classes would be *more* instead of less. **We also note that the CS**

[1] There are similar constraints with associated lab courses for the Physics 5 and 6 series.

impaction proposal, put forward by BSOE, has all lower division courses except CMPS 5J and 10 at 250 students/class and CMPS 5J at 350 students/class.

7. The Computer Engineering Department echoes similar concerns as the CS Department, and specifically mentions the difficulty of scheduling so many lab sections, managing so many TAs, and handling the special issues of so many students (DRC, illnesses, academic misconduct). They state that the only way they would consider 600-seat classes is if they were considered equivalent to two classes for instructional workload (thus making them more expensive than 400-seat classes), and that even then, there would be issues for students' academic progress if these courses are not taught every quarter.

In summary, our analysis indicates that **most of the courses presented in the spreadsheets would not better serve undergraduate students if enrollments increased to 600, with fewer yearly offerings.** We have concern that this change would create logistical problems, delay students' progress to degree, negatively affect students' learning, or lead to increased total costs.

General Comments:

1. Although the comments above address the specific courses that would be affected if the large Kresge classroom were to have 600 seats, as compared to 520, we are concerned about the reasoning behind the deans' proposal, which seems to be that any course can be taught in a room of any size, without any pedagogical constraints.[2] We understand that some large courses might benefit from being in a slightly larger room than Classroom Unit 2 – we are not sure why 520 would not suffice for these courses – and that a small number of intermediate-sized courses *can* have multiple offerings bundled together without compromising their effectiveness. But a wholesale push to bundle these courses into a large room will cause the Senate to ask if **pedagogical limits on class sizes,** which we have hitherto mostly relied on departments and divisions to apply by setting the number of seats in each course, have to be made explicit.

   We are also concerned that huge class sizes across the UCSC lower division science and engineering curriculum may motivate more students to take these courses at community colleges, potentially **worsening the budgetary situation for UCSC**[3] (without improving our frosh:transfer ratio). Last year, CEP adopted the policy that UCSC courses can be substituted by community college courses to which they are articulated, even for matriculated students.[4] Next year, we will ask any departments that have a "courses taken elsewhere" policy in their program statement to clarify that it does not apply to articulated community college courses.

2. We understand that the space inventory being conducted by the campus may free up some small rooms in departments that can be used as general assignment classrooms. However, we would

[2] For example, BIOL 101 is on the list, even though it is desirable for students to take the lab course BIOL 101L at the same time, and most students do; it is impossible to accommodate approximately 500 students in the lab course in one term.
[3] This assumes that, on the whole, lower division courses generate revenue for the campus and the academic divisions, which can be used to support upper division courses.
[4] Subject to the systemwide limit of 105 credits transferred.

caution against any assumption that this will happen. Departments need to hold some classrooms in hand, because many discussion sections can only be scheduled after TA assignments are made (because sections have to be scheduled when the TAs are free). In turn, TA assignments may only happen after undergraduates have enrolled in classes, because the number of TAs in each class depends on their enrollment. If departments were to hand over these rooms to the Registrar's Office, and then seek space for discussion sections at the last minute (e.g. one week before classes), it would be a scheduling nightmare. It may be necessary to accept some underutilization of space as the price for efficient scheduling. Since a decision has to be made soon, **it is imprudent to rely on the ongoing classroom inventory to provide the minimum number of small classrooms that we absolutely need.** Thus we reiterate our position in Appendix 2 of our letter about the Academic Literacy Curriculum that there should be at least three rooms of size 30 and above in Kresge College to replace the four existing rooms of size 21, 29, 30 and 37[5], with no reduction in size of the largest room. We would prefer the rooms to have size 35, 35 and 50 (as originally planned)**.**

3. For the intermediate size classroom, CEP presented data in its October letter to show that the campus faces a shortage of classroom space from 200 seats upward, and that several classes of 200-230 students are being scheduled in Classroom Unit 2. **(As we have argued earlier in this document, combining classes of size ~200 into larger offerings will be much less effective than suggested.)** By contrast, there is capacity in rooms of size 170 or smaller. We used this to argue that the intermediate size room should have 200 seats. To be clear, we believe that 220 seats would be even better, but keeping in mind the desire to maximize the size of the large classroom, 200 seats is the minimum that makes sense for the intermediate classroom. **Our preferred option will result in *two* new classrooms in the size range that the campus needs (200 and 520 seats respectively), instead of the one classroom (600 seats) that is in the current plan.**

4. It may be felt that reducing the size of the largest classroom from 600 is a missed opportunity that puts us behind other campuses. As we have mentioned, the largest classroom on each UC campus is as follows: UCSB 860 seats, UCB 732 seats, UCR 570 seats, UC Davis 511 seats, UCSD 500 seats, UCI 448 seats, UCLA 419 seats, and UC Merced 377 seats. Considering that we are the second-smallest campus in the system, if our largest classroom has approximately 520 seats and is thus fourth in this list, it seems more than reasonable.

   It is also worth noting that, if the LRDP proceeds, 8000 additional students will need 24,000 additional classroom seats each term. With 16 class time slots per week, this amounts to 1,500 additional classroom seats to be constructed at 100% efficiency; a more realistic number would be close to 2000. **There will be plenty of opportunity to include a 600 seat (or even slightly larger) classroom as part of this.** At present, however, we are facing critical needs for small and intermediate classrooms that have to be addressed now.

[5] There is one 90 seat and one 142 seat classroom at present, which were to be replaced by a single 150 seat classroom (whose size we are requesting be increased).

In conclusion we strongly advise that

a. There should be at least three small classrooms in the Kresge classroom project, ideally of 35, 35 and 50 seats.
b. The intermediate classroom should have a minimum of 200 seats, or slightly more (in the 200-220 range) if possible.
c. The large classroom can be as large as allowed by a. and b. and the budgetary and space constraints, i.e. approximately 520 seats. Careful thought should be given to what classes should be scheduled in this room.

Sincerely,

Onuttom Narayan
Chair, Committee on Educational Policy

cc: CPB Chair Walsh
Senate Chair Einarsdóttir

February 23, 2018

Ólöf Einarsdóttir, Chair
Academic Senate

RE: Kresge Classroom Project

Dear Ólöf,

At its meeting of February 15, 2018, the Committee on Planning and Budget (CPB) discussed the January 31, 2018 letter from the Committee on Educational Policy (CEP) to CP/EVC Tromp regarding the size of the large lecture room planned for the Kresge Project academic building. During 2016-17, CPB supported the inclusion of a 600-seat classroom at Kresge. At the time, committee members wanted to ensure the opportunity presented by the Kresge project was used to expand the campus's capacity to accommodate large classes and provide sufficient capacity to accommodate existing classes when the Classroom Unit 2 building undergoes renovation.

As of August 10, 2017, the Kresge project plans included, in addition to a 600 seal lecture hall, 1-150seat lecture room, 2-50 seat and 2-35 seat classrooms, and a 48-seat computer lab. The latest plans have eliminated 1 50-seat and 1 35-seat classroom or have added 50- and 35-seat rooms but reduced the 150-seat lecture room to seat only 100 students. CPB therefore does not believe the current plan provides a configuration of classroom space that best meets the need for a large lecture hall *and* a lecture room that can seat 200 students *and* the addition of small classrooms.

Members of CPB believe CEP's letter raises serious concerns with the plans for a 600-seat classroom. We applaud CEP for its work in polling departments in BSOE and PBSci as a means of assessing the need for a 600-seat classroom. It seems clear from CEP's analysis that departments in these two divisions are neither convinced that they need a 600-seat classroom for their current and future teaching nor that it would be educationally beneficial.

Until CEP took it upon itself to do this analysis, CPB had not seen any detailed assessment of the actual need for a lecture room as large as 600 seats, the pedagogical implications of such a large classroom, the implications for time-to-degree, and, in general, the consequences for the quality of the undergraduate experience at UCSC. CPB, like CEP, is convinced that current needs may be better met by reducing the size of the largest classroom at Kresge to something around 520, thereby enabling a classroom of 200-220 seats to be added to the campus classroom inventory, and by ensuring an adequate number of smaller classrooms are included in the project.

We understand the Deans are supportive of the plan to incorporate a 600-seat classroom at Kresge. They may have compelling counterarguments to the case for a 520/200 configuration that CEP has made. If so, CPB would like to see the administration address the issues raised in CEP's letter and to have a formal response provided to the Academic Senate. Otherwise, we feel a well-articulated argument against proceeding with a 600-seat classroom at Kresge has been made. It is up to the proponents of the current plan to make their case.

CPB well understands that there may be significant costs associated with altering the plans for Kresge at this stage. However, these costs pale in comparison to the cost of building a classroom that will be underutilized, especially if it crowds out a 200-seat room that would be heavily utilized.

Sincerely,

Carl Walsh, Chair
Committee on Planning and Budget

cc: CP/EVC Tromp
CEP Chair Narayan

March 2, 2018

Marlene Tromp
Campus Provost and Executive Vice Chancellor
Chancellor's Office

RE: Kresge Classroom Project

CPEVC Tromp,

I write on behalf of Senate Executive Committee (SEC) to follow-up on the concerns raised by both the Committees on Planning and Budget (CPB) and Educational Policy (CEP) regarding the planning process for the Kresge Classroom project (their most recent memos on the subject are enclosed for reference).

At this time, both CPB and CEP have raised convincing arguments that the current plan does not provide a configuration of classroom space that best meets the need for a large lecture hall, a lecture room that can seat 200 students, and the addition of small classrooms. We understand that capital planning involves long planning processes, and incurs large resource investments for the campus. We believe that these investments must be made with the best information possible. CPB acknowledges that during 2016-17, it recommended a 600-seat classroom at Kresge in order to both expand the capacity for large classes and accommodate existing classes during renovation of the Classroom Unit 2 building. As pointed out by CPB, "until CEP took it upon itself to do this analysis, CPB had not seen any detailed assessment of the actual need for a lecture room as large as 600 seats, the pedagogical implications of such a large classroom, the implications for time-to-degree, and, in general, the consequences for the quality of the undergraduate experience at UCSC."

We are also sensitive to the oft-encountered situation that Senate input is "too early," then "too late" to be incorporated. We believe this may be the case in this situation, where CEP's input in October and November was not incorporated into the planning process, and now we very much feel that we are being told that "the project is too far along to be changed," this despite the fact that all along we have been informed that the square footage is the only factor that matters, and that room size within the planning envelope can be reconfigured.

We believe CEP has convincingly argued the need for a) at least three small classrooms in the Kresge classroom project, ideally of 35, 35 and 50 seats; b) an intermediate classroom with a minimum of 200 seats, or slightly more (in the 200-220 range) if possible; and c) a large classroom that can be as large as allowed by a), b), and the budgetary and space constraints, i.e. approximately 520 seats. Our sense, right or wrong, is that this issue has now devolved into a situation that the Senate now advocates for more desperately needed space in the intermediate and small ranges, which can be accommodated by downsizing the large room to 500-525 while one or more Deans adamantly demand the 600-seat classroom. CEP has provided several reasons why a 600-seat classroom may not be the boon to the curriculum that it seems to be, and has stressed that reallocating offerings into this space would require considerable curricular changes as well as commitment from the sponsoring departments.

SEC seconds CPB's request that the administration address the issues raised in CEP's letter (dated 1/31/18) and that a formal response be provided to the Academic Senate. We are fearful that needed analysis has not been conducted to justify going forward with the space allocation as planned. These spaces, once built, will dictate class offerings for potentially decades to come.

Sincerely,
On behalf of the Senate Executive Committee

Ólőf Einarsdóttir
Chair, Academic Senate

cc: AVPAA Berger

enclosed: CPB_re_CEPKresgeClassroom
CEP to CPEVC re Review of Proposed Courses for Kresge Classroom Project 1-31-18
CEP to IAVPAA & VCBAS re Proposed Classroom Space in Kresge Project

March 19, 2018

ÓLÖF EINARSDÓTTIR
Academic Senate Chair

RE: Kresge College Academic Program

Dear Ólöf,

We are grateful to CPB, SEC and, particularly, CEP for the care and attention devoted to consideration of the optimal configuration of classroom space in the Kresge College renovation. The recent Senate memos (from CEP on January 31, CPB on February 23, and SEC on March 2, 2018) raise a host of important issues related to the cost of instruction, teaching logistics, student recruitment, and student success that we have carefully considered. Ultimately, we have decided to move forward with the academic building program as previously approved, though the decision was not an easy one.

It is the Senate's student success arguments that we find most compelling. CEP makes a strong case for the pedagogical advantages of instructing our students in smaller classroom settings and the need for additional rooms in the 200- and 35-seat range. We concur with the committee's assessment that it is preferable for our students to have greater access to smaller classes and that additional mid- and small-size and classrooms are needed. We note as well its conclusion that only a subset of the courses that the Deans of BSOE and PBSci list as candidates for the 600-seat lecture hall could make appropriate use of the space.

Reducing the size of the 600-seat classroom in Kresge would effectively cap the maximum size of our classes at 472. While there are doubtlessly pedagogical benefits to such a cap, we are concerned that the decision would do unintended harm to undergraduate education overall. As the Senate is aware, in the absence of a large lecture hall, there is fierce competition for the 200- to 300-seat classrooms, which must accommodate several offerings of many key courses in BSOE and PBSci each year. The Deans of Arts, Humanities, and SocSci have all indicated their eagerness to have pressure relieved from these mid-size lecture rooms and so increase the classrooms' availability. (And several of them have joined with University Relations in supporting the construction of a venue that can be used for large campus events in the evenings and on the weekends.) Even if not all of the courses listed by the Deans are ideal candidates for making use of a 600-seat lecture hall, there is no doubt that construction of such a room would significantly reduce competition for mid-size classrooms, ensuring that more courses are offered at the desired intervals, and in appropriately sized rooms, and so increasing the odds of students making timely progress toward their degrees. This problem will only increase over time, as the state population and attendant enrollment pressures rise. We are acutely aware that at a time of growing enrollment there are no near-term funding options for constructing other large lecture halls.

We take seriously the concerns raised on the need for additional 35-seat classrooms in order to effectively implement the Academic Literacy Curriculum, but deem the lack of smaller classrooms a more manageable problem, both because constructing smaller classrooms is more feasible and because of excess capacity that we believe exists in some divisions' departmentally controlled spaces. It is our expectation that the upcoming audit of campus space will allow us to develop more efficient protocols for utilizing existing classrooms.

While we acknowledge the concerns expressed to CEP by a range of chairs—and echoed by CPB and SEC—we are cognizant that each division's curricular and resource issues are ultimately the responsibility of its Dean. The chairs' input should be taken into account, but at the divisional level. As you will see from the attached letters produced by the Deans of PBSci and BSOE in response to CEP's analysis of the approved classroom configurations for the Kresge project, many of the assumptions and conclusions presented by chairs to CEP remain in dispute.

While it is the pedagogical arguments for the 600-seat lecture hall that have convinced us to move forward with the previously approved configuration, we wish to note that there are also financial reasons for sticking to the original program. The additional consultation required to modify the program would necessarily lead to a construction delay. Any delay would entail significant project escalation costs, and a corresponding need to cut the overall number of classroom seats. Recall that the academic program for Kresge was developed through the Capital Project Prioritization Process last year. It saw the creation of the GFF Working Group, which was charged with determining

the most effective plan for spending the $50 million in GFF funds available to the campus for academic construction projects. The group's recommendations were the basis for the current academic program, which was refined by the Kresge College Building Committee, and subsequently approved by the Advisory Committee on Campus Planning and Stewardship (CPS) after receiving input from ALT, academic Deans, and CPB. CPS ultimately forwarded its recommendation to the Chancellor for final approval. Even if we supported the Senate's new recommendations, we would need to provide an opportunity for the various groups and committees that approved the project last year to reconsider their positions. This would take time. Our campus architect estimates that a decision past May 1 would force us to cut classroom seats due to inflationary pressures and increased soft costs. Because the entire Kresge project (which includes academic, residential, and student support spaces) has to obtain Design / California Environmental Quality Act (CEQA) approval as one project, any delay in finalizing the academic building program would have negative, collateral impacts on every other component of the project.

Again, you have our sincere thanks for your thoughtful analysis of the most practical academic program for Kresge College. We look forward to continued engagement with the Senate on a host of topics of shared interest and responsibility this year.

Sincerely,

George Blumenthal
Chancellor

Marlene Tromp
Campus Provost/Executive Vice Chancellor

cc: CEP Chair Narayan
CPB Chair Walsh
Vice Chancellor Delaney
Kresge College Building Committee Co-Chairs Berger and Latham

SANTA CRUZ: OFFICE OF THE DEAN
DIVISION OF PHYSICAL AND BIOLOGICAL SCIENCES

THE DIVISION OF PHYSICAL AND BIOLOGICAL SCIENCES
UC SANTA CRUZ

February 5, 2018

Martin Berger
Associate Vice Provost for Academic Affairs

Re: Kresge 600 seat classroom

Dear Martin,

We are concerned that CEP is in a consultative mode this late in the process for the design of the 600 seat classroom located at Kresge. Extensive consultation by many groups, including the appropriate Academic Senate committees, has taken place over many months. The deans have been united in their advocacy for the construction of the 600 seat classroom as a minimum size, and it was our understanding that the planning for this would go forward. As you know, the Division of Physical and Biological Sciences would not have supported using <u>any</u> of the state capital funds on the Kresge project if it did not include this classroom.

CEP has put forward in their letter of January 31, 2018, several arguments for a 520 seat classroom rather than one accommodating 600 students, all of which focus on the present and near future state of enrollments and classroom availability failing to adequately address complex issues of long-term growth. Some issues they raise about very large class sizes are applicable to both the 520 seat and the 600 seat classroom size. It was even suggested that sizes near 200 seats were more important. However, sizes smaller than 600 seats would certainly restrict future curricular planning options of the divisions. We will comment on some of the items in the CEP letter below, but the important overall argument seems to be that we need to create some smaller classrooms and that the resources to do this should be carved out of the 600 seat classroom. This is where looking to the longer-term future is crucial. As our student population inevitably increases, the need for classrooms of every size will also increase. Smaller classrooms will need to be built. However, we anticipate that opportunities to build large theater style classrooms will be much harder to come by; we need to take advantage of this opportunity now and continue to develop opportunities for smaller classrooms as we obtain resources to grow into the future.

The use of demonstration apparatus in the large Physics 5 and 6 introductory courses, and the difficulty of transporting them, is stated in the CEP letter as an example of a logistical problem presented by the large Kresge classroom. However, we believe that such issues can be addressed with minimal planning. As campus enrollment grows, locating all the demonstration resources on Science Hill rather than near large classrooms will become more and more intractable, so PBSci will need to deal with this. One time expenditures for demonstration materials are certainly more tractable than perpetual personnel expenses and the curricular issues raised by offering the same class many times per year (sometimes multiple times per quarter) because we have failed to build classrooms to accommodate student demand. We will need to address these issues once the large Kresge classroom is built at either 520 or 600 seat capacity, and for all our introductory series, not just those in Physics.

The division is acutely aware of the difficulty of providing laboratory class space. As campus enrollments increase, we will need to provide more lab space and consider the best way to provide the chemistry, physics, and biology courses to best utilize those lab space resources. This is an increasing enrollment accommodation issue that we will face regardless of the large classroom size at Kresge. Lab course numbers are driven by overall enrollments and planning must take into account all courses that need labs, not each individual course. We must build labs to accommodate enrollment growth.

MCD Biology courses are already highly impacted and enrollments will continue to grow. The division cannot envision a plan for the MCD Biology program that accommodates future enrollments with the present state of stressed courses and faculty resources without divisional options of consolidating courses into a large classroom at Kresge, whether those are biology or other courses throughout the division or campus. While the woefully high fail rates in MCD Biology courses are a deep concern for the division, the Kresge classroom isn't large enough to generate the dire situation the chair envisions. Many courses will still be offered twice a year and in the summer, just not three, four or five times a year because we lack adequate large classroom capacity.

The division agrees that under the current mode of teaching large course offerings by Mathematics and other departments is not ideal. With the student-to-faculty ratios dictated by the inadequate level of state support the campus receives, we don't envision an instruction model that drops class sizes to the 100 to 200 student range. We believe that the solution is to deliver more effective sections and supplemental instruction; we are working with the department to realize these. Great progress has already been made at the pre-calculus level and we hope that this success can be applied to the calculus-level courses. If sections are effectively taught, the difference in course quality between Classroom Unit 2 courses of 472 students and a Kresge classroom of 600 will not be important. TA and staff resources are independent of the classroom size; the resources track the overall enrollments regardless of number of times the course is offered. Multiple course offerings use more lecturer resources, however. The workload resources to the department for faculty teaching large courses scale somewhat with the lecture size, but simply teaching a course twice is more expensive. The savings by the department with large lectures can be used to better support the supplemental teaching and can provide opportunities to offer other courses that enhance the effectiveness of the department's instruction for majors. Of course, TA resources will ultimately hit a wall based on faculty numbers, as is already occurring in some departments, including Math and MCD Biology.

We can examine the state of large enrollment courses in PBSci by examining the total enrollments, the quarters taught, and the rooms used during the 2016-17 academic year:

Course	Room	Fall	Winter	Spring	Total Enrollment
BIOL 20A	Classroom unit 2	485			
	TA Media		303	355	
	Stevenson Acad		64		**1207**
BIOE 20B	Classroom unit 2		327	292	
	Humanities Aud	207			
	Stevenson Acad		73		**899**
BIOE 20C	Classroom unit 2	233		377	
	TA Media		235		
	Stevenson Acad	72			**917**
BIOL 100	Humantities Aud	297	244		**541**
BIOL 101	Humanities Aud		300	211	**511**
BIOL 105	Classroom unit 2	414		450	
	Stevenson Acad		80		
	Thimann 1		167		**1111**
BIOL 110	Humanities Aud	191		310	**501**
CHEM 1A	Classroom unit 2	474	478	438	
	Humanities Aud		295		
	Stevenson Acad		71		**1756**
CHEM 1B	Classroom unit 2	278	413	302	
	Stevenson Acad	64			**1057**
CHEM 1C	Classroom unit 2			469	
	TA Media	288	205		**962**
CHEM 8A	Classroom unit 2	463			
	TA Media		281		**744**
CHEM 8B	Classroom unit 2		423		
	TA Media			290	**713**
MATH 3 Classroom unit 2		504	341	107	**952**
MATH 11A	Classroom unit 2	348	422		

	Earth and Marine			218	
	Thimann 3	210			**1198**
MATH 11B	Classroom unit 2	206	367	275	**848**
MATH 19A	TA Media		278		
	online	884			
	JBE Aud			140	**1302**
MATH 19B	Classroom unit 2	224			
	Earth and Marine	266			
	TA Media			286	
	online		775		**1551**
Math 21	Humanities Aud	299	265	279	**843**
MATH 23A	Classroom unit 2	301			
	online		336	423	**1060**
PHYS 5A	Earth and Marine	266	234		**500**
PHYS 6A	Earth and Marine	525	255		
	online			275	**1055**
PHYS 6B	Earth and Marine		253	269	
	online		251		**773**

Note, as well, that classroom use by Math would be much higher if we didn't have large online offerings of Math 19A and B and Math 23A. Paradoxically, CEP is also urging the division and department to limit online Math offerings (despite evidence that they as or more effective than face-to-face classes), which would only make the case for the 600 seat classroom stronger. Clearly, there are many possible uses for a classroom with 600 seats in PBSci and such a classroom will become essential as enrollments grow. The division, working with the departments within PBSci and others across campus, will best be able to determine when it is advantageous to reduce the number of large course offerings while minimizing the time to degrees for undergraduate students by offering other needed courses more frequently.

We must be careful interpreting current classroom usage. For example, the medium size classrooms Earth and Marine Sciences B206 and Humanities Lecture Hall are usually near maximum enrollment. That does not necessarily imply that we need more classrooms of their sizes. Rather, it probably means that we need larger classrooms to accommodate more students in the courses. A deep analysis of classroom size requirements must consider comprehensive curriculum planning for the future, and this is best done primarily at the divisional level.

The PBSci division hopes that we can continue to move forward with the design of the 600 seat classroom at Kresge.

Sincerely,

David Belanger
Acting Dean, Physical and Biological Sciences
Professor, Physics

Paul Koch
Dean, Physical & Biological Sciences
Professor, Earth & Planetary Sciences

SANTA CRUZ: JACK BASKIN SCHOOL OF ENGINEERING

To: Martin Berger-Associate Vice Provost, Academic Affairs
From: Alexander Wolf-Dean, BSOE

RE: Size of classrooms (reformatted from email)

February 2, 2018

Martin,

We went back and reviewed our numbers and analysis, and we are confident that they are correct. Yes, there would be some changes in how we would organize and deliver our courses if we were to make use of a 600-seat classroom, but I do not see that as a bad thing at all. In fact, I would like to have seen a larger classroom built so that we could make even better use of our woefully understaffed teaching resources in BSOE. Recall that the 600-seat classroom was already a compromise.

The fact of the matter is that this is our only opportunity to build a large, theater-style classroom on this campus, and we have to maximize that opportunity. Furthermore, it is substantially easier to reconfigure our current spaces on campus to accommodate additional 35-seat (or larger) classrooms, but impossible to do so to obtain something even approaching the scale of a 600-seat classroom. Finally, I believe the trickle-down effect of being able to consolidate duplicative sections of courses, where appropriate, into a large classroom will reap substantial benefits in freeing up the smaller classrooms we also need on this campus. From my point of view, a win-win.

Alex

CC: David Belanger, Interim Dean, PBSci
Sarah Latham-Vice Chancellor, Business and Administrative Services