

UNIVERSITY OF CALIFORNIA, ACADEMIC SENATE

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SANTA BARBARA • SANTA CRUZ

Mary Gilly  
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Chair of the Assembly of the Academic Senate  
Faculty Representative to the Regents  
University of California  
1111 Franklin Street, 12th Floor  
Oakland, California 94607-5200

July 30, 2015

**AIMÉE DORR**  
**PROVOST AND EXECUTIVE VICE PRESIDENT**  
**UNIVERSITY OF CALIFORNIA**

**Re: Approval of Master of Earthquake Engineering (MEE) degree program at UC Berkeley**

Dear Aimée:

In accordance with the *Universitywide Review Processes For Academic Programs, Units, and Research Units* (the "Compendium"), and on the recommendation of CCGA, the Academic Council has approved UC Berkeley's proposal to establish a new Master of Earthquake Engineering (MEE) degree program.

Because this is a new degree, and the Assembly of the Academic Senate is not meeting within 30 days of CCGA's approval, the Academic Council must approve the program per Senate Bylaw 125.B.7.

I am enclosing CCGA's report on its review of the new degree, and respectfully request that your office complete the process of obtaining the President's approval.

Sincerely,

A handwritten signature in cursive script that reads "Mary C. Gilly".

Mary Gilly, Chair  
Academic Council

Encl:

Cc: Academic Council  
Executive Director Baxter  
Senate Executive Directors



**COORDINATING COMMITTEE ON GRADUATE AFFAIRS (CCGA)**

Jutta Heckhausen, Chair  
[heckhaus@uci.edu](mailto:heckhaus@uci.edu)

**ACADEMIC SENATE**

University of California  
1111 Franklin Street, 12<sup>th</sup> Floor  
Oakland, California 94607-5200

July 17, 2015

**ACADEMIC COUNCIL CHAIR MARY GILLY**

Dear Mary:

At its July 1, 2015 meeting, the Coordinating Committee on Graduate Affairs (CCGA) voted to approve UC Berkeley's proposal to establish a new Master of Earthquake (MEE) degree program. Reviews were solicited from five department chairs (two UC-internal and three UC-external) in highly ranked earthquake engineering programs across the country. All reviewers noted the strong quality of the proposed degree program, as well as a few concerns, for which the program has provided responses.

All of the reviewers noted the academic quality and rigor of the proposed program, and the strength of its well-regarded faculty, particularly since several of the classes are based on existing and well-tested courses from the current state-supported graduate program. Favorable responses were received regarding the number of faculty members and their expertise, as well as the physical facilities, financial model, applicant pool, and placement prospects for graduates. In particular, reviewers commented that the on-line format and reputation of the department would likely attract a global pool of practicing structural and geotechnical engineers who would gain enhanced placement prospects from training in earthquake engineering.

Two reviewers expressed the concern that the program may not meet its projected enrollments and that the financial viability of the program or the quality of applicants may be impacted. Conversely, one reviewer expressed the opinion that the enrollment estimates were conservative. A concern also was raised about the protection of intellectual property rights of contributors of on-line instructional materials. All these concerns were adequately addressed by the proposers' response.

UCPB endorsed the proposed program, but asked that greater attention be paid to faculty workload and overload teaching, especially regarding capstone projects, and that special attention should be given to safeguarding student access.

Concerns of reviewers and UCPB along with the proposers responses were discussed. CCGA was satisfied with the proposers' response to the concerns regarding enrollment prospects, admission standards, online proctoring, lack of on-campus "hands-on" courses, and faculty workload and compensation. The committee appreciated the proposers' affirmation that a capstone experience is required for the Masters degree. Following discussion, members voted to approve the proposed Masters in Earthquake Engineering.

As you know, CCGA's approval is usually the last stop of the Academic Senate side of the systemwide review and approval process except when the new degree title must be approved by the President, under

delegated authority from the Board of Regents. According to the Academic Senate Bylaws, the Assembly of the Academic Senate (or the Academic Council if the Assembly is not meeting within 60 days of CCGA's approval) must approve new degree titles. Given its status as a new graduate program title on the Berkeley campus, CCGA submits its approval of UC Berkeley's proposal for a new Master of Earthquake Engineering (MEE) degree program for formal approval by the Assembly of the Academic Senate. For your information, I have included CCGA's final report as an enclosure. If you have any questions, please let me know.

Sincerely,



Jutta Heckhausen, Ph.D.  
Chair, CCGA

cc: Dan Hare, Academic Council Vice Chair  
CCGA Members  
Hilary Baxter Academic Senate Executive Director  
Kimberly Peterson, Academic Planning Analysis Manager  
Chris Procello, Academic Planning and Research Analyst  
Andrea Green Rush, Berkeley Division Senate Executive Director  
Linda Song, Berkeley Division Senate Associate Director

Enclosures (1)

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## COORDINATING COMMITTEE ON GRADUATE AFFAIRS (CCGA)

Valerie Leppert  
Associate Professor, University of California, Merced  
vleppert@ucmerced.edu

## ACADEMIC SENATE

University of California  
1111 Franklin Street, 12<sup>th</sup> Floor  
Oakland, California 94607-5200

July 16, 2015

Jutta Heckhausen  
Chair, Coordinating Committee of Graduate Affairs  
Academic Senate  
1111 Franklin Street, 12<sup>th</sup> Floor  
Oakland, California 94607-5200

Dear Jutta:

I have completed the review of the proposed Masters of Earthquake Engineering SSGPDP at UC Berkeley and enclose the results here. In a nutshell, reviews were solicited from department chairs in highly ranked Earthquake Engineering programs across the country, with a total of five reviewers (3 external and 2 internal) agreeing to review the program. Feedback was also solicited from UCPB, due to the proposal being for a SSPGDP. All reviewers noted the strong quality of the proposed degree program, as well as a few concerns, for which the program has provided responses. As you know, CCGA discussed the reviewers' and UCPB's comments, and the program's response, agreed that concerns had been addressed, and voted to approve the program at its July 1, 2015, meeting. A summary of reviewer and UCPB comments, the program response, and CCGA discussion appears below.

### Reviewer Comments

All reviews (100% response rate) noted the strong academic quality and rigor of the proposed program, and the strength of its well-regarded faculty to deliver it, particularly given that several of the classes are based on existing and well-tested courses from the current state-supported graduate program. Favorable responses were received regarding the number of faculty members and their expertise, as were physical facilities and the financial model, and the applicant pool and placement prospects for graduates. In particular, reviewers commented that the on-line format and reputation of the department should attract a global pool of applicants who are current practicing structural and geotechnical engineers who will enjoy enhanced placement prospects from training in earthquake engineering.

Some concerns were also raised by reviewers. First, two reviewers expressed the concern that the program may not meet its projected enrollments and that this may impact the financial viability of the program or the quality of applicants. Conversely, one reviewer expressed the opinion that enrollment estimates are conservative. Second, a concern was raised about the protection of intellectual property rights of contributors of on-line instructional materials. Third, a reviewer expressed concern about proctoring of exams, given the on-line format and the importance of maintaining the integrity of the degree program given the safety implications of Earthquake Engineering. Additional concerns were also raised that proposed projects for the capstone course may not match the aspirations of the program, that the lack of lab classes means students will not gain practical experience to enhance their conceptual understanding of fundamentals, that the fixed set of course offerings might be too limiting given that students may enter the program with different backgrounds or goals, that the

program has a stronger emphasis on structural engineering compared to geotechnical engineering, and that the number of hired lecturers to deliver the program should be minimal given the attractiveness of the program is based on the reputation of the regular faculty.

Concerns were also raised around the desire to see a clearer demonstration of the capacity and experience of the campus (infrastructure) and involved faculty (content development) in delivering an on-line program, and it was suggested that trial deployment of a limited number of on-line courses before full rollout may be helpful in this regard. One reviewer noted that admission requirements should include a course on Dynamics and Dynamics of Structures (or Vibrations). The same reviewer also noted that students should receive training on strong-motion instrumentation of structures, inspection and documentation of damage to structures following earthquakes, seismic base isolation, use of additional dampening and other passive control devices, and retrofitting techniques and materials. Finally, a reviewer concluded from the proposal that the capstone course is optional.

### **UCPB Comments**

UCPB endorsed the proposed program, but asked that greater attention be paid to faculty workload and overload teaching, especially regarding capstone projects, and that access be given greater attention. Otherwise, they agreed that there was an academic need and that the program would not duplicate any existing state-supported programs.

### **Program Responses**

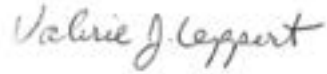
With regard to demand for and financial viability of the program, proposers responded that they had fielded the program in Earthquake Engineering because of the strong subject area reputation of the department, the worldwide appeal and applicability of the principles of earthquake engineering, and the strong indicators from an independent BRCOE market study. They believe it will break even by the third year, and they will not tie admissions standards to enrollment targets. Proposers stated that IP rights for on-line content development are a subject of ongoing discussion on the Berkeley campus, but that the Department will manage IP agreements according to a current understanding of them being shared by the University and faculty member. Proctoring of exams has been discussed with BRCOE and the proposers are satisfied that academic integrity can be maintained, and that capstone projects will be monitored to address any mismatch between this course and program goals. The proposers also do not believe a lack of hands-on courses will compromise the program, as they think they are unnecessary for this type of degree, and they have further experienced success with other MS degree programs that also have no or limited hands-on instruction. They wish to maintain the fixed set of course offerings because they feel they are sufficient for the envisioned program and will also constrain faculty workload. Although they recognize that the cachet of the program rests with the reputation of their regular faculty, who will develop content, a mix of regular faculty and lecturers will be used in course delivery as determined by faculty interests. Additionally, compensation for faculty will be according to APM 662, which imposes restrictions on assignment and compensation for instruction of courses. Based on previous department experience with BRCOE, they also believe their on-line experience is adequate for the proposed timeframe for rollout of the program. Finally, proposers responded that topic coverage is appropriate for the type of degree proposed, and confirmed that the capstone course is required.

### **CCGA Discussion**

Concerns of reviewers and UCPB, and the program response, were discussed. In general, CCGA was satisfied with the program response. In particular, with regard to the concern that demand for the program may be less than the proposers anticipate, a CCGA member noted that the reputational position of UCB may minimize this concern. The program's contingency plans, and stated intention to not lower academic standards should this happen, in their response to CCGA, was also reassuring. It was also noted during CCGA discussion that complete resolution of the IP issue for on-line course content is dependent on the outcome of ongoing conversations at the institutional level on the Berkeley campus, and that the program has addressed it in the proposal to the extent possible under current understanding of policy. CCGA appreciated the program's affirmation that the capstone experience is required, and acknowledgement of CCGA's requirement for a capstone element (thesis, comprehensive examination or capstone project) for the Masters degree. Following discussion, members voted to approve the proposed Masters in Earthquake Engineering.

In conclusion, reviewer and committee consensus is that the proposed program is strong with respect to Academic Senate review criteria, and should move forward in the approval process.

Sincerely,

A handwritten signature in cursive script that reads "Valerie J. Leppert".

Valerie Leppert  
CCGA Lead Reviewer