

CSUF Civil Engineering Master's Program Performance Review Visit and Summary

On April 6, 2022, the PPR review committee consisting of Ishwar Dhungana, Leigh Hargreaves, and Ali Sharbat visited the Civil and Environmental Engineering Department at the California State University, Fullerton. The purpose of this visit was to study and evaluate the Self-Study Report developed by the Civil and Environmental Engineering Department for the MS in Civil Engineering Program at California State University Fullerton. The committee had the opportunity to meet with number of faculty members, and graduate students within the Civil and Environmental Engineering Department. The committee also met with the Associated Vice President for Research and Sponsored Programs, Dean and the Associate Dean of the College of Engineering and Computer Science. The committee was delighted to see the level of dedication and hard work from the faculty and students.

During the visit, the committee observed number of strengths in the MS in Civil Engineering Program at California State University Fullerton.

- The graduate program has experienced significant growth in the period since the last PPR, with a maximum enrollment of 107 students in 2017
 - Current enrollment is somewhat down, COVID potentially playing a role, but remains about 70% of the department's self-assessed optimal value.
- The program is sensitive to the needs of its community and students, as demonstrated through the expansion of relevant course offerings in different areas
 - The department is currently working to add focus areas in areas of demand (Transportation Engineering), with the support of the Dean's office
 - The department is diversifying course modalities (adding online and after-hours courses) to increase flexibility for students, many of whom are working while studying
- Department faculty appear to be broadly satisfied with the curriculum structures
 - most faculty seemed to enjoy engagement in the program
 - many faculty had ideas specialty courses that they would want to run in it, resources permitting.
- From conversation with students, it was clear that a large number had employment opportunities to move into directly from their degree programs. This is an excellent reflection on the quality of the program
- The existing structural tutoring program is very popular and has been very effective.
- The department has maintained the lab space and it comprises of several focused areas.
- The flexibility and culture of helpfulness within the department were noted.
- Class sizes are well managed and the curriculum is well rounded.

- The department has well-established focus areas that are appropriate to service the needs of its community: structural, water resources, environmental, geotechnical, and construction management.
- Pathways for non-engineering student to enroll to the civil grad program are well thought out and successful.
- Part time faculty are experienced, qualified and most of them are renowned in the industry.

Review Committee Recommendations

The committee observed the followings as areas where actions by the department, with support from the college and or university, could enhance its existing program. The committee acknowledges and appreciates that there are some significant limitations in state resources. This list is solely based on observations and listening to the feedback during the meetings with department students, faculty members and college administration. Here is the list of suggestions (recommendations for specific actions are noted in italics):

1. A 30% increase in enrollment would support the department's desired flexibility in course offerings.
 - *Support for outreach and recruitment efforts from administration would be helpful here.*
2. Develop graduate level courses in the area of Transportation Engineering:
 - *An immediate faculty hire is currently required to support the development of a transportation engineering focus area.*
3. Faculty very strongly noted that their ability to engage graduate students as research mentors is limited by demands on their time
 - This was echoed by the students, who specifically noted that finding research opportunities was difficult.
 - *Support from the administration that explicitly recognizes graduate research mentorship as a factor in faculty's total workload (e.g. assigning workload credits for 597/598 supervision) would significantly enhance the program's ability to offer graduate research*
4. It was further noted that the ability to engage graduate students in research is limited by lack of a dedicated space for graduate students to work in
 - *The department and administration should collaborate with the university to find ways to develop a dedicated graduate student workspace.*
5. Several department faculty noted that more formalized graduate advising structures, in particular to aid support for URM students, would be valuable. In addition:
 - *Allocation of resources specifically for underrepresented student advising is encouraged*
 - *Possibilities for developing additional Graduate Assistant (i.e. Teaching Assistant or Research Assistant) positions should be explored*

- *The existing graduate student tuition waiver program supports a very small number of students. Investigate resources to expand this program to more students, which will further develop enrollment numbers to the desired level.*
- 6. The department has recently seen significant turnover in support personnel, in particular lab technicians.
 - The lack of suitably qualified technical support is currently limiting the department's ability to offer graduate level laboratory/technical courses, and to maintain/upgrade existing lab technology
 - *Minimally, a replacement lab tech is urgently required.*
 - *Allocation of additional resources to support retention of department's technical staff should be considered*
 - *Department lab improvement should be included into the department's strategic plan. This may require resources from the administration in support.*
- 7. Enhance of existing flexibility in course offerings for Friday / Saturday course modules and hybrid courses.
 - This appears to already be under consideration by the department.
- 8. Establish graduate student scholarship funds by exploring various department supporters and donors
 - *Develop a platform to connect current students with department alumni to expand graduate students' professional network*

Review Team Summary

The MS in Civil Engineering Program at California State University Fullerton seems to be in a sound, long-term position. The above recommendations will help further enhance this excellent program.

Review Team Members

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