



June 28, 2016

Department's Response to the PPR External Review Report

On behalf of the Department of Mechanical Engineering, I would like to thank the Program Performance Review (PPR) Team, in making a full day visit to CSUF on May 20, 2016, followed by providing a valuable feedback through the written review report. This report will be used as a guideline in accentuating our existing strengths while improving the areas of concern in the mechanical engineering graduate program.

The Review Team recognized and underscored a variety of strengths of the graduate program. The Team indicated that "the faculty share a strong sense of community, collaboration, and ownership of the Program." They also stated that the "faculty are active and current in their respective areas, as well as committed to maintaining a level of rigor that results in highly qualified and educated members of the profession." The Department of Mechanical Engineering will cohesively work as a team in improving the curriculum, promoting student-faculty research, and continuously fulfill one of the important missions of the University – "aspire to combine the best qualities of teaching and research" for our students.

The Review Team suggested three main areas to consider for reflection and future deliberation of the Department: strategic plan, enrollment, and research. The department's response will focus mainly on critical issues raised by the Review Team in each of the three areas.

Department Strategic Plan: The Review Team indicated rather than making **reactive** decisions about the efforts and resources in support of the Program in response to changes (e.g. hiring of faculty in response to the enrollment rise), the department should seek department strategic goals in a more **active, directed manner** to ensure success of the program. The Team mentioned that this can be done through department retreats, hiring of an external advisor, or use of exit surveys to track post graduate career path. In recent years, the Department has undergone very rapid changes in enrollment. The total number of mechanical

Engineering student enrollment headcount tripled in five years, and graduate student headcount alone increased by two and a half times during this same period. This growth rate has been unprecedented in the history of the College. In addition, the department has undergone three department chairs in the last six years, which displayed some transients between leadership changes. Currently, the Department has two full professors, one associate professor, and seven assistant professors. Two more tenure track assistant professors are hired for fall 2016, which brings the total number of assistant professors to nine by fall 2016. Although the department faculty composition is skewed towards the junior faculty at current time, senior leadership will drastically improve as time progresses. The Department could not develop strategic goals in a more directed manner due to its rapid changes in enrollment and faculty composition in recent years. However, these goals can be created as a collective decision by the whole faculty through various means recommended by the Review Team. As it was alluded by the Review Team, the Mechanical Engineering Department will proceed with its current strength – young vibrant faculty who are enthusiastic in building the future department that promote close mentoring and faculty directed research with students. Lack of the number in senior professor presence within the department has not been an issue. The junior faculty members with 3-4 years of service have been learning fast in steering the department in the direction that is in complete alignment with the University's mission.

Enrollment: The Review Team suggested the current strategy of increasing the faculty size without concurrently implementing enrollment control will worsen other areas of concerns such as limitation in classroom/lab/research space. The ECS College has no plans to call for impaction. Instead, at the University level, active discussions have been spurring for faster graduation rate. This will be a key component of enrollment management for years to come. Furthermore, more classes will be scheduled on Fridays and Saturdays to facilitate graduation. At the College level, department chairs and the dean are have been actively discussing identification of bottleneck courses that are hindering the graduation rate. More strategies will be implemented continuously in the next few years to manage enrollment through faster graduation rate. In recent years, the criteria for graduate admissions has increased, which helped the College to receive better academically prepared students who are contributing to the success of faculty research. In addition, there have been constant activities to increasing the number of high quality online courses that can replace traditional in-classroom instruction. The College of ECS has two very successful online graduate programs in software engineering and environmental engineering. The Department as well as the College of ECS, is foreseeing that more high quality online course offerings should significantly help better manage the enrollment. Next academic year, one or two mechanical engineering faculty member is planning to develop an online course which has been identified as bottlenecks in student graduation.

Research: The Review Team identified that the current University infrastructure is inadequate to promote active faculty-student scholarship. This finding has been supported by the Self Study Report as well as through interviews with the faculty. This academic year, Space Assessment Committee has been formed to explore ways to alleviate the pressure caused by lack of faculty research space. The Committee consisted of department chairs and selected staff, walking through every possible space in the ECS College buildings, identifying ways to better utilize the existing space. The Committee had met for approximately 25 hours total in the fall semester, making extensive recommendations in a formal written report, to the dean and the associate dean in reorganizing the space usage. For the next few years, there will be active implementations of space restructuring and possibly remodeling. This will promote efficient sharing of space by faculty members with similar research agenda. The Review Team also encouraged departments within the ECS College to develop mechanisms to provide incentives (e.g. course release to provide more research time). The new College Interim Dean starting next month, Dr. Susan Barua has already been actively seeking ways to allocate funds to increase research activities through incentive grants from the ECS College. This in turn, will encourage more future external grant proposal submissions. Start-up funds have been provided to the new ECS College faculty to jump start their research. In the near future, more space sharing by faculty with similar research will be inevitable to increase synergistic activities. However, just like any other CSU engineering college programs, efficient use of space will be one of the main challenges for years to come.

Again, I would like to use this opportunity to thank the Review Team for their time and effort in providing the first ever evaluation of the mechanical engineering graduate program at Cal State Fullerton. The External Review Report will be used as a concrete guideline in overcoming challenges with department strategic plans, enrollment management, and research. This report will also be used as a baseline information for future Program Performance Reviews.

Sincerely,



Sang June Oh, Ph.D.
Chair and Associate Professor
Department of Mechanical Engineering
California State University, Fullerton