

PROGRAM PERFORMANCE REVIEW

Visit Date: March 9, 2022

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

**The Department Response to
the External Review Report**

Submitted by:

**Dr. Jidong Huang, Chair
Electrical Engineering Department**

April 14, 2022

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The information supplied in this Self-Study Report is for the confidential use of the program reviewers, and should not be disclosed without authorization of the Electrical Engineering Department.

Introduction

After the site visit on March 9, 2022, the MSEE Program Performance Review (PPR) team emailed their review report to the Electrical Engineering department on April 1, 2022. This report was shared with the Electrical Engineering faculty on April 4, 2022; and the department held a faculty meeting on April 8, 2022 to discuss the department's response to the external review report.

The department would like to thank the Program Performance Review team for reviewing the MSEE self-study report, visiting the department on March 9, 2022 and subsequently submitting a thoughtful and constructive review report. The review report appropriately identifies the strengths of the department as well as some challenges the department faces and suggests ways to overcome those challenges.

The department is happy to see that the review team believes that the department's fundamentals are strong. Regarding faculty qualifications and their teaching, the review team states *"All faculty in the department are well qualified in terms of their academic and professional backgrounds."* and *"The students gave the faculty overall high marks on teaching"*. Regarding the facilities, the review team states, *"The lab facilities have been upgraded recently."*, and *"The college of engineering has hired an Academic Resource Manager as part of a multi-year plan for each department within engineering to forecast the equipment that it needs...."*

Furthermore, the review team praises the current leadership of the department by stating, *"The review team thought that the acting Department Chair, Jidong Huang, is doing a very good job leading the department"*. The team also identified the department efforts to continually review and improve the graduate program by combining five areas of specializations to two and by updating the graduate Student Learning Outcomes with needed assessment process. The team states, *"The program recently developed Student Learning Outcomes (SLO) for the graduate program. This is a step in the right direction for evaluating student performance over their educational progression."*

Nevertheless, the review team has identified several challenges and issues facing the department and has suggested ways to overcome those challenges. It is these issues and how the department will address them the following response to the review report will concentrate on.

Issue 1: Lack of Hiring of New Faculty

The review report states that, *"...only one faculty member has been hired and retained in approximately the last 20 years"*, *"The absence of recent faculty hires has contributed to the recent decline in enrollment"* and that the *"The present situation at CSUF does not ensure the viability of the EE program."*

The faculty recognizes the need to hire new faculty in emerging and in-demand areas. The department is committed to working with the university's administration through the Dean's office to get allocations and resources for hiring needed new faculty.

Issue 2: Lack of Strategic Plan

The review team has identified "*The absence of a strategic plan to ensure the quality and viability of the EE degree,*" as an important issue.

The university has Mission and Goals, and a Strategic Plan within which the department has been operating.

Although, because of uncertainty of the state budget, it is hard to come up with the department strategic plan, the faculty recognizes that the department needs a 5-year strategic plan. The department has started the conversation and has set a goal to finalize the strategic plan during the next academic year.

The strategic plan will set enrollment targets and recruitment plan, identify emerging and in-demand areas the department wants to steer towards, outline the need and plan for new faculty hires and regularly review and update of curriculum and facilities.

The department will collect inputs from the program constituents and work with the Dean's office in this endeavor.

Issue 3: Enrollment Decline

The review report correctly identifies that many causes of enrollment decline in the MSEE program are not in the control of the department such as past US administration's immigration policies, decline in the tech sector in Southern California and several EE programs in Southern California competing for students. The review team also appropriately links the decline in enrollment with the lack of hiring of new faculty.

The department is committed to tackling the downward of both graduate and undergraduate enrollment and has taken several steps such as consolidating five MSEE specializations into two, reviewing the graduate program math requirement to streamline the curriculum and graduation requirement, and consulting the industrial advisory board for recruitment ideas, which shall help in recruiting and retaining students.

The department believes that this issue also ties into Issue 1 and hiring faculty in emerging and in-demand areas will attract more graduate students.

Issue 4: Lack of Continuity in the Department Leadership

Although the review team has praised the current leadership of the department, the team also states that, *“The position of department chair appeared to be unstable within the department. In the past 7 years the department chair has changed 5 times and two of those times a department chair was appointed from outside the college of engineering. This is cause for concern...”*

The department recognizes the importance of having continuity in the department leadership. The department will continue to work with the Dean on this issue and hope the development of a strategic plan will ensure the continuity in fulfilling the department goals.

Issue 5: Course Cancellations

The department recognizes that course cancellation due to low enrollment frustrates existing students and discourages new applicants.

The department will continue to work with the Dean’s office to ensure that department’s input is considered for deciding which courses to cancel and take graduation requirements of existing students into consideration before making possible cancellation decisions.

The department also recognizes that ‘enrollment’ and ‘course cancellations’ feed into each other and both issues are also linked to the lack of faculty hiring and hopes strengthening the enrollment will prevent possible course cancellations.

Issue 6: Lack of Thesis/Research Opportunities

The review report states that *“.....and the lack of research and/or thesis opportunities were the main issues that the students have...”*

A quick glance of the number of students enrolled in Thesis (EE-598), Independent Research (EE-599) or Project (EE-597) during the last five years reveals that the decline started from fall 2020, the first complete semester when the instructions were fully virtual due to COVID-19. The decline can be attributed to challenges in remote teaching as many faculties were adjusting to the new teaching format and might not want to accept new graduate students for research.

As the campus transitioning back to in-person operations, the department will continue to encourage faculty to involve graduate students in guided research, project and/or thesis. The faculty believes that from Fall 2022, the first semester when the university would be fully in-person, faculty would undertake more student-involved research projects. Additionally, possible merge with the current Computer Engineering program and new faculty hired in emerging and in-demand areas will also greatly help to resolve this issue.

Issue 7: Graduate Student Advising

The review report notes that, “*Many students complained that they attended a graduate advising session with a faculty and no documentation was provided to them and nothing was recorded.*”

Most of these complaints arose because of the remote advising due to the COVID pandemic. Prior to the pandemic, the department maintains a file for each student which thoroughly collects advising notes and relevant documentations for facilitating student graduation. Both the faculty and the student could request copy of advising notes from the file through the department office.

Nevertheless, the department is committed to addressing this issue and has already started the process of digitizing the student records and creating online Dropbox for storing student files. With this, a graduate student and the faculty advisor will have quick access to the student’s respective academic records and advising notes.

In addition, the university also plans to make an online degree requirement tracking service called Titan Degree Audit (TDA) available to graduate students from Fall 2022, which will help students monitor their progress towards graduation.

Issue 8: Graduate Catalog

The department recognizes the need to maintain current information in graduate catalog; and is committed to preparing an updated graduate brochure containing detailed graduate program information, which shall be available online to both current and prospective students.

Concluding Remarks

The following statement from the review report very eloquently sums up the report.

“The CSUF MSEE program was once strong and is well positioned to regain its strong position, with its central location in the Southern California region that has a high need for well-trained electrical engineers.”

The biggest challenge facing the electrical engineering department is decline in enrollment. The review team has identified lack of faculty hiring as one major contributor to the decline. Other contributing factors are class cancellations and US immigration policies.

Other challenges facing the department are devising a strategic plan, reviewing curriculum, improving advising and providing more research opportunities to the graduate students.

The faculty of the department is ready to work diligently, within the department and with the university administration to overcome these challenges. The electrical engineering faculty is committed to provide state-of-the-art education and opportunities for professional growth to its students who will graduate with advanced knowledge in their chosen field and are ready to embark on careers in industry and government, or proceed to acquire advanced degrees in their own or related fields.