Program Performance Review: Culmination Meeting Memo
Electrical Engineering MS

The 2021-22 Program Performance Review (PPR) for the MS, Electrical Engineering program in the College of Engineering and Computer Science (ECS) concluded with a culmination meeting on November 2, 2022.

The following people attended the meeting: Carolyn Thomas (Provost), Elaine Frey (AVP for Graduate Studies, AVPGS), Susan Barua (Dean, ECS), Sang June Oh (Associate Dean, ECS), Jidong Huang (Department Chair), Kiran George (Department Vice Chair), and Su Swarat (Senior AVP for Institutional Effectiveness and Planning, SAVPIEP).

The Provost congratulated the programs for successfully completing the PPR process. She commended the leadership at the department and the college level, especially for their efforts to bring Electrical Engineering and Computer Engineering into one department, a significant step to shift the discipline into a forward-thinking mode. The following specific accomplishments were highlighted during the reaccreditation process:

- Many graduates are desired and employed by the local and national industry.
- Despite the instability of the department chair in the past five years, the current acting department chair has successfully led the program.
- All faculty in the program are well qualified, both academically and professionally. Many faculty members are actively involved in research and/or publications.
- The recent development of Student Learning Outcomes (SLO) for the graduate program is a positive step towards evaluating student performance in their educational progression.
- The program accommodates working students by offering classes in the evening.
- Upgrades to equipment, hardware and facilities have allowed a greater number of students to take lab classes and to use the most current resources in line with the ever-changing field. Recently hired Academic Resource Manager will ensure equipment is upgraded in a timely manner.

Major recommendations and issues raised through the accreditation process were discussed as follows:

1. Enrollment and outreach:
    a. The external reviewers recommended the program to develop a strategic plan that would guide student recruitment and enrollment efforts.
    b. The external reviewers also pointed out that students' experiences in the program could be enhanced through greater transparency with respect to the admission process and program expectations (e.g., handbook with a timeline for completion of thesis option, process of selecting advisors, active research areas), course cancellations and expectations (e.g., syllabi to help plan out the course and timely announcement of exams to provide adequate time for preparation), access to work space (e.g. lab rooms, study rooms), and greater social opportunities to engage with faculty and peers.
    c. The AVPGS pointed out that the program's admission yield is relatively low – for example, there were 101 applications for fall 2022, 69 were admitted, and out of

them, 16 eventually enrolled. This is lower than the yield at the ECS college level. It appears that the program should streamline admission process to improve yield.

d. The Dean acknowledged the need and reported that the Dean's Office is leading outreach effort for the entire college. The strategies include reaching out to ECS's own graduating undergraduate students to enroll in graduate programs, and asking current international students to reach out to their home institutions to recruit new students.
e. The Chair concurred and reported that the department's graduate committee is currently looking into outreach and enrollment strategies. After the department merge, the committee has been working on updating guideline documents to provide clarity to students, and to improve student services to make the program more attractive to prospective students.
f. The AVPGS pointed out that the program currently has both fall and spring semesters open for admission. It may help to only have one cohort per year in order to sequence course offering and establish a stronger sense of belonging within the cohort.

2. Curriculum:
    a. The external reviewers recommended that modern pedagogy, materials, and technologies, as well as more applications experiences (e.g., hardware and software) need to be incorporated into the curriculum to effectively engage students in their learning.
    b. The AVPGS stated that the program currently has 38 courses offered, which is a lot. The program should consider focusing the required courses, paring down course offering, and ensuring all the required courses are always offered.
    c. The Dean reported that the large number of courses were partly resulted from organizational and personnel issues prior to the department merge. She acknowledged the negative impact this may have had on student experiences.
    d. The Chair agreed that the department merge affords opportunities to address this problem. The faculty are in the process of updating the curriculum to reflect industry needs, and the Vice Chair is reviewing course offerings between Computer Engineering and Electrical Engineering to reduce redundancy. The department is also looking into the possibility of upgrading labs, which will require more resources from the university.
    e. The Dean and Chair both stated that it is important for the program to work with industry partners to bring in new technology, and to guide the reduction of the curriculum into 2-3 focus concentrations/tracks. The Provost supported this direction, and recommended the program to ensure curricular offerings are in the best interest of the students, not the faculty – The curriculum needs to align with student interest and industrial needs.
    f. The Chair stated that the program is working on this issue. Positive trends have been observed after the department merge. For example, enrollment in 597/499 has increased because the merge allows for EE students to interact with CE faculty, and vice versa. Students now have more options in their research and mentoring choices.

3. Advising:
    a. The external reviewers recommended that faculty involvement in graduate project and thesis advising should be included in teaching workload calculation. Additionally, the department should modernize the graduate advising system to help students document and access their advising sessions and study plans.
    b. The AVPGS recommended the program to strengthen the quality of advising, including orientation and at least three touch points (first semester, third semester, before culmination experience) for advising. The Office of Graduate Studies can provide help in establishing these touch points.

4. Culmination experience:
    a. The AVPGS asked the program whether it would be possible to eliminate the thesis option, since some students who are on the thesis option take a long time to graduate. It appears that the program has challenges supporting student thesis from a staffing/faculty perspective as well.
    b. The Chair stated that the department is not ready to eliminate the thesis option at this point. The faculty would like to see how things may change after the department merge – maybe more students will choose the thesis option since they now have more faculty/research opportunities to select from.

The Provost concluded the meeting by thanking the college and department leadership for successfully merge the EE and CE departments, which provides the opportunity to transform the discipline. The Dean stated that the merge allows faculty with new energy to join, and the college is directing a lot of resources to the new department to fuel its transformation. The Associate Dean expressed his appreciation for the colleagues, and remains hopeful for the department's future. The Chair and Vice Chair thanked the Provost and the Dean for their support, and similarly, are both confident that the new department now has the opportunities to address the lingering issues and move forward.