

Faculty of Engineering and Applied Science
5-year Update to the Council Committee on Academic Mission

April 25, 2024

The following summarizes the broad categories of the issues depicted in the Review Committee Report of May 6-7, 2019.

1. Workload Management
2. Graduate Students Teaching and Learning
3. Space Challenges
4. Research Programs and Institutes
5. Service & Staff
6. Financial Resources
7. Fit to University Strategic Plan

A report briefing the status of implementing the suggested actions described in the Review Committee Report was submitted to CCAM on March 19, 2020 followed by a detailed report of April 21, 2020. In between the two aforementioned reports and now, we had been in a global pandemic over a period of approximately three years (from early 2020 to late 2022). As a result, the international student enrolment dropped considerably. Domestic enrolment also suffered. It is worth noting that international students constitute about 90% and 30% of our graduate student and undergraduate student populations, respectively.

Given the low enrolment and stagnant provincial government grant, our University and Faculty went through a significant budget cut over the past few years. Indeed, our Faculty's carry forward has decreased significantly. Without saying, the pandemic period had slowed down many activities. The following summarizes the activities that have taken place in our Faculty since the time of the Review Committee Report.

1. In 2021, we hired three new faculty members, two in the industrial systems engineering and one in environmental systems engineering. The hiring in the environmental systems engineering was Dr. Yili Tang, a female professor. The hirings helped solve the workload issue partially and increase the number of female faculty members in our Faculty. Unfortunately, Dr. Tang, a transportation engineering specialist, left our Faculty for Western University in July 2023. On the other hand, a senior software systems engineering faculty member retired in March 2023. As a result, we lost that position in the 2023-2024 budget year (5% cut).

To raise our morale, shortly after I joined the Faculty in July 2022, I started numerous discussions with the faculty members and I have developed a "2+1" scheme to allow research active faculty members to teach only two undergraduate and one graduate courses per academic year. In the scheme, a faculty member who supervises at least five

thesis-based students each with at least a stipend of \$20,000 per year and brings in a yearly industrial fund of \$50,000 per year, will be awarded a course release in the next academic year. The requirements are determined based upon the averages calculated over a period of three years prior to the course release year.

The non-research active faculty members continue to teach the standard three undergraduate and one graduate courses (“3+1”) per academic year. The new scheme was endorsed by the Provost. The scheme will start in Fall 2024.

2. We have worked hard with the FGSR over the past year to develop a scheme to implement a minimum stipend for PhD students. The scheme is endorsed by the senior leadership team and the target starting time is Fall 2025. Hopefully, our Faculty could start it in Fall 2024.

We plan to use the Western Canada Dean’s Agreement in the near future as well as to formalize our collaborations with the Colorado School of Mines and Ontario Tech University to increase our student accessibility to a variety of UG and G courses, nuclear energy related courses in particular.

As recommended, a new undergraduate energy systems engineering program was created and was approved by the Senate in June 2022. It started in Fall 2023. The enrolment in the program is much higher than that of the petroleum systems engineering program. The enrolment in the program shows an increasing trend according to 2023 and 2024 data. Now, petroleum systems engineering program is an option in the new energy systems engineering program.

3. We have managed to gradually accommodate more graduate students in the GHG building. Originally, graduate student spaces in the GHG building were controlled by CETRI, a university level research centre. Now, it is no longer under the VPR’s management. Instead, it is under our Faculty’s management. We are in the process of developing plans to raise funds to build a new engineering building.
4. I have encouraged our faculty members to establish more industrial connections. The amount of direct industrial and industrial oriented government funding has increased over the past two years. In 2023, we have established an industrial research chair and a research fellow that are sponsored by our industrial partner Entropy Inc. in Alberta for two years with the possibility of an extension for two additional years. Under the leadership of our ADR Dr. Raman Paranjape, he has organized a series of seminars focusing on topics about the decarbonization of southern Saskatchewan that have drawn many practicing engineers to attend. Also, our Tier 2 CRC Dr. Arthur Situm has gradually established strong ties with both the provincial and federal governments and the supply chain of the nuclear energy industry.

5. Our Faculty has become more cohesive over the past two years. I constantly meet with faculty members individually to listen to their thoughts and suggestions about the operation of our Faculty. There are biweekly Engineering Executive Committee (EEC) involving Associate Deans and Faculty Administrator and Engineering Coordinating Committee (ECC) meetings involving EEC and Program Chairs. The attendance at the Assembly and Engineering Council Meetings has been very high. The Assembly meetings are used to discuss issues of interest to faculty members. Overall speaking, faculty members more comfortable to voice out their thoughts in various meetings.
6. There is an advisory board for our Faculty and the board meets twice a year. The advisory board strengthens our relation with the industry and our alumni. I also encouraged all Programs to establish their own advisory boards. And they did. Hopefully, this will help improve our UG and G programs and our fundraising activities.

I have also encouraged our faculty members to accept more MEng students over the past two years. The MEng enrolment has gone up and has generated a significant income to our Faculty. For example, the MEng Program has generated about half a million income to our Faculty in the 2023-2024 financial year.

7. Our Faculty's strategic goal is to become an international leader in the education and research in clean energy and environment sustainability. It falls squarely in the five focus areas of the University Strategic Plan – Discovery, Truth and Reconciliation, Well-being and Belonging, Environment and Climate Action, Impact and Identity.

We have been and will continue to do target hirings to increase the number of female faculty members in our Faculty. Our faculty members have involved Indigenous people in their design projects presented in Project Day. And our outreach team (EYES) has visited many Indigenous reserves to raise Indigenous youth's interest in considering a STEM career.

Finally, I am happy to report that our UG Environmental, Industrial and Software Programs are accredited for six years to June 30, 2029, meaning that the Programs meet criteria set by the Canadian Engineering Accreditation Board (CEAB) and no deficiencies were identified. In the 2023 accreditation cycle, CEAB made accreditation decisions on 78 programs nationally and only 46% of them are accredited for six years. Our Petroleum Program's accreditation is extended to June 30, 2026 and our Electronic Program is accredited for six years to June 30, 2025.

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