

UNIT REVIEW MIDTERM REPORT - SCHULICH SCHOOL OF ENGINEERING

Prepared July 11, 2025

Unit Review Site Visit: June 23-24, 2022

Recommendation	Status Completed/ Under review/timeline for completion	Comments	
		Original response to recommendation	Additional Actions to Date
<p>Graduate Studies: To further enhance the student experience, especially for students in small departments and students in areas on the boundary of two or more disciplines, we recommend that the SSE examine the potential harmonization of graduate program administration to a central graduate student office for student advising and student life, rather than departmentalized offices. This may warrant an iterative and/or staged approach, in which the specific administrative aspects which are harmonized grow over time and/or harmonization is piloted with two or three departments, respectively.</p> <ul style="list-style-type: none"> This goal entails a review of graduate program requirements and regulations for alignment across the SSE, balancing goals of equity in student experience with the need to address unique program needs and program integrity. 	Review completed	<p>We will initiate a review to examine potential harmonization of graduate program administration. We will ask that the Faculty of Graduate Studies and the Graduate Student Association be engaged in the process to provide suggestions and assist with the conversation with SSE internal stakeholders. This process will include examining norms in other departmentalized Faculties at the University of Calgary.</p>	<p><i>In 2023, SSE participated with the Faculty of Graduate Studies (FGS) Process and Systems Optimization Project (PaSO) which involved reviewing the process, systems and outcomes within our Graduate Studies areas to improve and support the graduate student journey. This project was part of an institutional FGS review of graduate processes to create collaboration and streamline and automate administrative processes to create a more agile, responsive, and inclusive student experience. This resulted in numerous process changes to enable a more harmonized approach to the graduate student experience.</i></p>
	Completed	<p>We will examine opportunities to harmonize graduate program requirements and regulations across the Faculty. This process will include examining norms in other departmentalized Faculties at the University of Calgary.</p>	<p><i>After extensive consultation with the respective Department Graduate Program Directors (GPD) and Department Heads (DH) the decision was made not to consolidate the graduate supports given the academic complexities that exist in each individual department. However, the focus of this review highlighted areas where synchronized workflow, processes and application dates could be coordinated, which was completed in early 2024.</i></p> <p><i>The Master Engineering (MEng) program support and process has been reorganized in partnership with the Faculty of Graduate studies, all applications and admissions are being processed within</i></p>

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<ul style="list-style-type: none"> The review team recommends further examination of a core set of course offerings for graduate students, particularly M.Eng. students, to facilitate meaningful programs by expanding offerings and addressing redundancy. 	Completed	<p>We agree with the value of offering a core set of graduate course offerings. We currently have a limited set of core courses and will explore expanding this set.</p> <p>In addition to academic actions, we have now helped re-create a Schulich Graduate Student “Association” and opened a dedicated graduate student homeroom space for students to collaborate.</p>	<p><i>FGS and a new team was set up. This has allowed SSE to separate the support for current students (from our MEng student services team) and greatly improved the admissions process, provided accurate metrics and enhanced application decision. This was a unique initiative on campus that has yielded positive results for our students and staff.</i></p> <p><i>The Schulich School of Engineering Graduate Students’ Council (SSE GSC) has been supported, the student council has a dedicated meeting space (ENG 208) and have been active with advocating for opportunities for graduate students. ENE 211 has been dedicated as a “homeroom” space for students to have a collaboration space and furniture updated. The SSE GSC has representation on the Engineering Faculty Council (EFC) and meets regularly with the Associate Dean, Graduate Studies and the Dean.</i></p>
<p>We recommend an internal review of the structure and governance of the (Centre for Environmental Engineering Education & Research (CEERE) with respect to its mission, programming, administration, quality measures etc. In this review, we encourage a willingness to consider a transition or closure of the program.</p>	Timeline for completion Fall 2025	<p>We will initiate a formal review of CEERE.</p>	<p><i>The faculty’s focus since the original unit review report has been on establishing leadership and governance around the new Sustainable Systems Engineering (SUSE) undergraduate program and the related PhD program. The need to recruit externally led to a longer than expected timeline to get this leadership in place. Now that an Associate Dean with responsibility for the Sustainable Systems Engineering initiative, we will be able to turn our attention to CEERE.</i></p> <p><i>There has not been a Director for CEERE for the past three years. Administrative tasks related to the undergraduate minor in Energy and Environment Engineering and the graduate interdisciplinary specializations in Environmental Engineering and Energy and</i></p>

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			<p><i>Environment Engineering have been managed by the department heads of the departments delivering the courses (largely Chemical & Petroleum Engineering and Civil Engineering). Oversight of the MEng in Environmental Engineering has been provided by the Associate Dean (Graduate Studies).</i></p> <p><i>An initial CEERE review task force in 2023 identified significant synergies between the undergraduate minor in Energy & Environment Engineering and the Sustainable Systems Engineering minor. Continued review of CEERE in fall 2025 will explore the relationship between the graduate credentials related to CEERE, departmental graduate programs, and the new Sustainable Systems Engineering PhD program.</i></p>
<p>We recommend that the Sustainability Systems Engineering program is structured as a Faculty-level initiative rather than a department-level or departmentalized initiative, as the latter is counterintuitive to the subject matter. We recommend structuring Sustainability Systems Engineering as a unit that has the ability develop academic programming for sustainability education, research, and outreach. Toward this end, we encourage a broad-based discussion within the SSE and with University leadership.</p>	Completed	<p>We are in the HR process of appointing an Interim Associate Dean – Sustainability Engineering, so that academic programming and collaborative research in this field do not sit within a department/centre but are cross-cutting across SSE. We will create an equivalent of a Department Council for SSE academic members who are working in this area to build an interdisciplinary community.</p>	<p><i>The SUSE program has been led by an Interim Associate Dean (2022-2025) and more recently, Dr. Alberto Bezama, who started May 1, 2025, for a five-year term as Associate Dean, Sustainable Systems Engineering (SUSE).</i></p> <p><i>The program has grown to 8 core faculty members and an additional 4 affiliated faculty members. SUSE students who are in 3rd year, had a 75% acceptance rate into Internship and worked in areas of environmental, energy, water and risk management engineering. With the permanent Associate Dean in place, we will continue to develop robust governance around this important initiative. The administration team for SUSE has added a fulltime staff member and centralized with one department administrative team.</i></p>

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<p>The review team recognizes the imperative to increase international student enrolment and recognizes that current enrolment (% international students) is consistent with other Canadian engineering schools. With a budget that derives approximately half of its revenue from tuition, we highlight the risks associated with relying on significant enrolment by international students.</p>	On-going	<p>As part of our ongoing budget process, we will ensure we have reasonable mechanisms (for example, mechanisms that do not involve changes to our staff complement) to manage potential short- and medium-term variation in enrolment funding.</p>	<p><i>Federal government changes to immigration policy, including caps on international student permits, have led to significant reductions in the number of international students in both undergraduate and graduate programs. The faculty is closely monitoring the situation and continuing marketing efforts to attract new international students to the extent possible in the current market.</i></p> <p><i>In parallel with efforts to stabilize international enrolment, the faculty is advocating for government funding to support expansion of the domestic enrolment capacity in its undergraduate program. The demand is currently very strong, as indicated by the increasing high school admission average (now at or above 90%).</i></p>
<p>Currently, administrative staff appear to be working at capacity with no contingency for unexpected or prolonged absences. We encourage further cross-training and team-based structures, as well as adding capacity where needed and when possible.</p>	On-going	<p>We will continue to develop cross-training opportunities. As part of our 2023-2024 budget submission, we will seek to increase capacity, especially in departmental units that have grown in recent years. We are committed to continuing to assess administrative workload and strategically add positions to support teams, focusing specifically on the academic departments and what support is required post-COVID.</p>	<p><i>The staff leadership team has taken significant efforts to cross train and improve the recruitment time to fill positions, including moving several positions early in 2025 from temporary to permanent. The SSE leadership team (Dean, Vice-Dean, Director) review the academic faculty to staff ratios, faculty to student ratios and staff to student ratios on a regular basis and adjust where warranted.</i></p> <p><i>In April 2025, we transitioned six positions from contract to permanent roles for incumbent staff; an additional seven contract staff were extended to continue to support initiatives and five positions were created to support the faculty operations and student supports.</i></p>

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<p>While the shared services model has asked for adaptability from faculty and staff, we believe the shared service model will benefit the SSE. We recommend a continuation of ongoing transparency and dialogue to address faculty and staff perceptions and to manage expectations around technical support in undergraduate teaching labs and in research support.</p>	Ongoing	<p>The shared service model for Technical services has created a successful technical team, where we focus on supporting student experiential learning holistically. The change from departmental technical support, to a central faculty support, with increased technical team members has enabled cross functional training, new experiences for employees and a broader support for students. There is an opportunity for increased dialogue between technical services and faculty members, to ensure that the technical support is understood. This dialogue will be driven by the new Technical Services Manager engaging deliberately with departments to increase transparency. We have also expanded research support through a new research machinist position, and two approved research scientist positions.</p>	<p><i>Since 2022, the Technical Management Team (Senior Manager, Technical Manager & Schulich Studio Education Manager) have created a robust process for input into technical requirements for each course taught. This includes a detailed “job aid” that outlines what is required for both skills, aptitude and technical abilities. The result is that a more consistent approach to courses in a timelier manner by engaging earlier, the technical management team is able to assign staff with the core competencies required for the courses.</i></p> <p><i>The technical services leadership has initiated a comprehensive review process for post-teaching surveys, both in-person and online to solicit feedback and support increased engagement with the Academic Faculty. This began in 2023 and has continued for the past two years, with the Technical Manager presenting these findings at the Engineering Faculty Council. The engagement and relationship with technical leaders and faculty has improved significantly.</i></p>
<p>Understanding that space tacitly shapes culture and student experience and as plans for student and faculty growth are operationalized, we encourage a balanced approach to program commitments relative to having both enough and appropriate space. For the Biomedical Engineering</p>	Ongoing	<p>We have approved a space plan for Biomedical Engineering. Because of financial constraints, renovations will proceed gradually. Priority will be given to creating required co-located faculty offices, undergraduate laboratory space, and graduate student / computer simulation labs. This will be followed by shared “wet” research laboratory space and dry research laboratory space as financial resources for renovations allow.</p>	<p><i>Biomedical Engineering (BME) renovations were done in CCIT to establish an administrative department ‘home’, adjacent faculty offices and a completely renovated teaching space including both teaching labs and shared research facilities. The renovations to CCIT started early 2023, Phase 1 (2nd floor teaching space, academic offices, meeting rooms, department administrative office) completed in 2024. Phase 2 (first floor academic offices,</i></p>

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<p>Program, space is an immediate priority to help establish a sense of cohesion and definition for the program.</p>		<p>We will continue to seek opportunities to renovate space, to expand the utilization of existing resources.</p> <p>Because of the significant enrolment increases, space availability is a significant challenge for the Schulich School of Engineering. Student enrolment expansion alone in the Schulich School of Engineering over the last 5 to 7 years is greater than enrolment numbers of some entire Faculties at the University of Calgary.</p>	<p><i>student graduate spaces, shared research facility) started 2024 and will end by July 2025. The faculty is grateful for significant philanthropic support for these renovations from the Taylor Family Foundation.</i></p>
<p>To address space constraints in an equitable way, we recommend consideration of different models of allocating graduate student study space, including but not limited to centralized (vs. departmentalized) study space assignments, hotdesking, and FIFO lists with time limits on entitlement to space based on nominal program length.</p>	<p>Completed & reviewing</p>	<p>We are committed to developing different models of allocating graduate student space. We are open to using different models, including centralized vs. departmentalized workspace assignments, hotdesking, and FIFO lists with time limits on entitlement to space based on nominal program length. We are assessing space utilization, with a clear understanding that space is critical for students. This responsibility will be assigned to our Director of Operations and Department Managers.</p>	<p><i>Throughout 2023, comprehensive consultation occurred with the Academic Faculty, staff and graduate students to create a graduate space policy that promotes shared space for those who do not require dedicated space. This was launched in 2023 and will be reviewed annually. Renovations to END 302, 304, 306, 308 and ENA 221, MEB 401 were completed in 2024 allowing for additional “hot desk” graduate space to accommodate growth.</i></p> <p><i>Currently, the space requirements have held steady for SSE based on graduate student recruitment; however, additional review will be done annually to determine if allocation (based on graduate recruitment in departments) needs to be adjusted.</i></p>

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Support new faculty integration in a period of rapid faculty growth weighted toward a high proportion of early career, pre-tenure faculty, and within an environment of potential losses to community due to Covid, we recommend an intentional emphasis on research mentoring to enable early-career research momentum through departmental as well as school-level cohort mentoring. We recommend that mentoring inherently navigate people’s identities, allowing them to express who they are and want to become as a person and as a faculty member within the SSE.	Ongoing	We will review and expand our current mentoring program to address this recommendation. This will be part of the responsibilities of our Associate Dean – Equity, Diversity, Inclusion and Accessibility.	<i>All new faculty members are invited to an annual orientation in both their first and second year of hire. This session provides an overview of resources and direct connections to all Associate Dean portfolios, including research and teaching. The Associate Dean – Equity, Diversity, Inclusion, and Accessibility has “office hours” for new faculty questions, and the Associate Dean – Teaching and Learning / Mental Wellness meets individually with new faculty for coffee chats. Additional mentorship is provided at the departmental level through various means including virtual Teams spaces. Several Lunch and Learn sessions have also been held on the topics of self-advocacy and recognition opportunities. Further formal mentorship programs are being explored to expand professional development opportunities.</i>
Friendraising precedes fundraising, and both require personal relationships. We encourage the SSE to continue with plans to augment the staff in the development portfolio.	Ongoing	The SSE development portfolio has recently increased from 1 person to a small team of 3. This is still below levels from 8 to 10 years ago. As part of the 2023/2024 budget process, we will explore the potential to expand our development portfolio. We will also explore ways that other SSE staff could support development activities.	<i>The Development team has remained with 3 individuals; however, the administrative team in the Dean’s office now includes general administrator and by July 2025, will include an Events Specialist who will be primarily responsible for the administrative work with any development events.</i>
We recommend that EDIA initiatives engage male allies in meaningful ways with both voice and accountabilities to develop, champion, implement, and lead initiatives. It is critical to allow equity-deserving groups a	Ongoing	We completely agree. A review of our EDIA committee structure and membership will be completed in addition to creating other opportunities for allies to be engaged in EDIA initiatives. This will be led by our Dean, Vice-Dean, Associate Dean EDIA, and Director of Business Operations.	<i>The faculty Diversity and Inclusion Action Committee has been restructured as a smaller group of champions responsible for working on specific initiatives while engaging more voices across the faculty. Ally representation has been intentionally included in promotion and outreach activities, as well as working groups for</i>

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voice and safe space to express their experiences and their vision for the future. At the same time, it is important to recognize that equity-deserving groups cannot shoulder the responsibility of equity-seeking initiatives alone, since equity is fundamentally a power issue, and the traditional powerholders must be engaged champions.			<i>large scale events such as Women in Engineering Day and the annual Making Change Summit. A session on male allyship was run during EDI Week in conjunction with WISE Planet and was co-led by an SSE staff member. Faculty members continue to be engaged as advisors for diversity-related clubs such as our new EngiQueers chapter and the recent UCalgary chapter of the National Society of Black Engineers.</i>
We noted sincere and multi-faceted approaches to Indigenous Knowledge integration and decolonization in the SSE within meaningful goals and meaningful institutional efforts. Many of the activities are still pending or have only recently begun. We affirm the vision, and we encourage ongoing commitment to these initiatives.	Ongoing	We are committed to increase our efforts and resources to support Indigenous Knowledge integration and decolonization within the Schulich School of Engineering. Our first step will be implementing clear academic leadership for our Indigenous initiatives, and an organizational structure to ensure SSE faculty, staff, and leaders are engaged, connected, and supporting these initiatives. Responsibility for these steps will lie with the Dean, who will work in partnership with our Indigenous faculty members and allies, the Vice Provost and Associate Vice President-Research (Indigenous Engagement) and the leadership of the Writing Symbols Lodge.	<p><i>Throughout 2023-2024, numerous initiatives were implemented to support the Indigenous students, staff and faculty.</i></p> <ul style="list-style-type: none"> <i>• Associate Dean, Indigenous Inclusivity and Reconciliation started July 1, 2024, to support the commitment to reconciliation within the Faculty.</i> <i>• Indigenous Cultural Specialist hired for 1 year from 2024-2025 to support the activities for staff and faculty.</i> <i>• Indigenous Pathways Manager position was created in 2023 and despite turnover from the incumbent, this has recently been refilled.</i> <i>• The Engineering Student Centre is committed to supporting Indigenous students with dedicated advising supports and, ensuring that the responsibility does not rest with one person.</i> <i>• Indigenous Homeroom (ENG 01); Indigenous teaching & meeting space (ENG 401) and new in 2025, Smudging Drop-In Space (ENG 108) facilitate a welcoming space and environment for these initiatives.</i>

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<p>Pathways to potential futures: The SSE can envision many possible futures, each of which engage transdisciplinary and can engage opportunities in its environment. These include, but are not limited to</p> <ul style="list-style-type: none"> Quantum information science, and its engineering applications; Precision health, partnering with the Cumming School of Medicine and others to establish this as an institutional priority, and leverage the Province’s support for software engineering. Infusing digital space into all engineering disciplines, engaging with the growth of tech in the city and province, addressing needs for talent, and enhancing graduate readiness for engineering practice. 		<p>We agree that these are important areas for future focus. Our updated strategic plan, which will be finalized in early Fall 2022, includes a number of cross-cutting areas that cut across Research, Academic Programs, and Community Engagement. Quantum Science and Digital Technologies, both fit in our “Hyperconnected World & Our Digital Future” area, and Precision Health fits into our “Health & Wellness” area.</p> <p>Further:</p> <p>i) We will continue to explore ways to infuse digital “space” into all engineering disciplines by appointing an academic director for Digital Engineering (responsible for supporting interdisciplinary Research, Scholarship and Academic Programming in Digital Engineering)</p> <p>ii) We are current in the final stages of recruiting 2 new faculty members in Quantum Science and Technology, and are finalizing/seeking further resources to recruit 3 to 5 additional faculty member in this area over the next 2 years. Instead of forming additional academic leadership roles in SSE related to Quantum, we will seek an opportunity to have an</p>	<p><i>Our current strategic plan, Schulich Momentum, is in effect 2023-2026. The Associate Dean (Research) and team are currently working on benchmarking our research activity to other institutions, To the extent feasible, this benchmarking will be aligned with the six areas of strength identified in Schulich Momentum (“Momentum Areas”). This will serve as important input to consultations for the next strategic plan. We anticipate that the faculty will strike a task force to begin this work during the fall of 2025.</i></p> <p><i>Specific updates:</i></p> <p><i>i) The faculty has appointed a Director for each Momentum Area, including “Hyperconnected World & Our Digital Future”, to support interdisciplinary Research, Scholarship and Academic Programming in each area. The undergraduate Digital Engineering minor is a popular choice of minor across our undergraduate programs.</i></p> <p><i>ii) One faculty member and Canada Research Chair in Quantum Hardware Engineering started their position in September 2023. A second faculty member in Quantum Sensors has been recruited and is expected to start in early 2026.</i></p> <p><i>iii) The Biomedical Engineering Department is continuing to grow its research impact with many connections to other faculties,</i></p>

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		<p>engineering leadership role within the University of Calgary Quantum City initiative.</p> <p>iii) Our Department Head for Biomedical Engineering / Director of BME Calgary will be tasked to consider if our current strategic plan area of “Health & Wellness” should be updated to more clearly indicate a strong link to Precision Health.</p>	<p><i>including the Cumming School of Medicine. The Momentum Director for “Solutions for Health” is also one of the Academic co-leads for the Health and Life ITS area at the university level, creating a natural connection to health-related research activities across campus.</i></p>