UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Meeting of Faculty Council

April 26, 2023 | 12:10-2:30 pm
Michael E. Charles Council Chamber (GB202) & Zoom

AGENDA

1.	**Speaker's Welcome and Approval of Agenda** For approval as a regular motion	J Nogami
2.	**Introduction of New Faculty Members** Aryan Rezaei Rad (CivMin), Philipp Seiler (UTIAS)	B Sleep C Damaren
3.	**Adoption of Minutes of Previous Meeting** For approval as a regular motion	J Nogami
4.	**Memorial Tribute** Pas Pasupathy (ECE)	D Kundur
5.	**Report of the Dean**	C Yip
6.	**Bylaws Revision** (Report 3732R) For approval as a special motion	J Nogami
7.	**Closure of Dual Degree Program: Mechanical & Industrial Engineering and the South China University of Technology** (Report 3741) For approval as a regular motion	C Steeves
8.	**Computer-Based Exams and Non-Standard Exams** (Report 3742) For approval as a regular motion	D Posen
9.	**Major Curriculum Changes for the 2023-2024 Academic Year** (Report 3743) For approval as a regular motion	E Bentz
10.	**Information Reports** For receipt for information	
	a. Engineering Graduate Education Committee Update (Report 3744R)	M Hatzopoulou
	b. Undergraduate Assessment Committee Update for 2022-2023 (Report 3745)	D Posen
11.	**Revision of Undergraduate Assessment Committee Manual** (Report 3747)	D Posen
12.	**CEAB Accreditation Update** With PPT	T Coyle

13.	**Service Presentations**	Various
	a. Outgoing Academic Administrator Brent Sleep (CivMin)	C Yip
	b. Retiring Professors Yu-Ling Cheng (ChemE), Mark Kortschot (ChemE), Paul Chow (ECE), Keryn Lian (MSE), Anthony Sinclair (MIE)	Chairs and Directors
	c. Teaching Assistant Award Maryam Ebrahimiazar (MIE)	C Yip
14.	**Other Business**	C Yip
15.	**Date of Next Meeting**	J Nogami
16.	**Adjournment**	J Nogami

Rev. 4/25/2023 1:26 PM

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Council of the Faculty of Applied Science & Engineering
Minutes of the Meeting of February 27, 2023

MEMBERS: Jun Nogami (Speaker), Chris Yip (Dean), Ravi Adve, Rejuana Alam, Dionne Aleman, Danita Allick, Cristina Amon, Brohath Amrithraj, Evan Bentz, Shlomo Bibas, Chris Bouwmeester, Helen Bright, Sharon Brown (for Dionne Aleman), Eric Bryce, Markus Bussmann, Hay Shun Chan, Warren Chan, Heba Chehade, Alan Chong, Sinisa Colic, Tom Coyle, Chris Damaren, Francis Dawson, Michelle Deeton, Salma Emara, Natalie Enright Jerger, Greg Evans, Jennifer Farmer, Ramin Farnood, Seyedreza Fattahi Massoum, Diane Giang, Aidan Grenville, Piyush Gupta, Sarah Haines, Marianne Hatzopoulou, Angela Henshilwood, Ken Hilton, Muktar Homam, Ali Hooshyar, Reza Iravani, Greg Jamieson, Charles Jia, Parker Johnston, Dawn Kilkenny, Deepa Kundur, Seungjae Lee, Jiahao (Terry) Li, Hugh Liu, Heather MacLean, Sam Mantenuto, Elham Marzi, Paul Milgram, Kasra Modares, Emily Moore, Seyed Mohamad Moosavi, Wai Tung Ng, Joseph Paradi, Elodie Passeport, Prarthona Paul, Doug Perovic, Daniel Posen, Doug Reeve, Mark Rittinger, Jonathan Rose, Cindy Rottmann, Nicole Ryk, Shamim Sheikh, Patricia Sheridan, David Song, Micah Stickel, Kyla Tan, Hamid Timorabadi, Marianne Touchie, Chris Twigge-Molecey, Tony Vanvari, Chirag Variawa, Carmela Versace, Julia Wagner, Lesley Warren, Nicole Weckman, Jay Werber, Tobin Zheng

SECRETARIAT: Caroline Ziegler (Secretary), Alex Schroen (Moderator)

GUESTS: Chris Brown, Mikhail Burke, Sonia De Buglio, Khuong Doan, Matthew Du, Jennifer Fabro, Pierina Filippone, Adam Fox, Roger Francis, Shilpa Gantotti, Rodney Gensell, Leslie Grife, Christina Heidorn, Jonguk Justin Lee, Jess MacInnis, Don Newton, Dan Pettigrew, Prajj Rajawat, Zeeshan Rayees, Ingrid Schvarczkopf, Frank Scornaienchi, Peter Serles, Alex Tichine, Geoff Wichert, Nefeteria Wickham

1. Speaker's Welcome

Speaker Jun Nogami called the third Faculty Council meeting of 2022-2023 to order at 12:10 pm, welcoming members and guests and noting the presence of three former Council Speakers: Professors Emeriti Joseph Paradi and Doug Reeve, and Professor Jonathan Rose.

The Speaker reviewed protocols for the hybrid meeting, and before acknowledging the land on which the University of Toronto operates, referred to the TV series, "The Last of Us," which begins with a wonderful scene of an Indigenous couple living off the land after a zombie apocalypse. The actor who plays the husband, Graham Greene, is from Ohsweken, Ontario, the administrative seat of the Grand Nations reserve, which is located by a smaller reserve of land under the control of the Mississaugas of the Credit.

Ontario has 22 water advisories affecting 19 First Nations communities in the province, the highest number of long-term drinking water advisories in the country. Most affected communities are remote or northern but a number are in southern Ontario, such as those in Mohawk Territory just east of Belleville; Chippewas of Georgina Island in Lake Simcoe; and – just southwest of London – Chippewas of the Thames First Nation and Oneida Nation of the Thames.

2. Approval of Agenda

The agenda and reports were distributed on February 15. Agenda item 10, *Report 3733 Revised: Faculty of Applied Science & Engineering Best Practices for Assessing Teaching Effectiveness in PTR Decisions*, was distributed on February 22.

There was no discussion and on a regular motion duly moved, seconded and carried, the agenda was approved.

3. Introduction of New Faculty Members

New faculty members Seyed Mohamad Moosavi of the Department of Chemical Engineering & Applied Chemistry, Cindy Rottmann and Nicole Weckman of the Institute for Studies in Transdisciplinary Engineering Education & Practice, and Salma Emara of The Edward S. Rogers Sr. Department of Electrical & Computer Engineering were introduced by their respective chairs and directors.

4. Adoption of the Minutes of Previous Meetings

No errors or omissions were noted in the minutes of the December 6, 2022 Council meeting and on a regular motion duly moved, seconded and carried, the minutes were approved.

5. Memorial Tributes

(a) Peter Carlisle Hughes

Chris Damaren, Director of the University of Toronto Institute for Aerospace Studies, read the following memorial tribute in honour of Professor Emeritus Peter Carlisle Hughes.

Be it resolved –

> THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on January 5, 2023 of Peter Carlisle Hughes.

Professor Emeritus Peter Carlisle Hughes was a preeminent dynamicist, aerospace engineer and space robotics pioneer.

Peter was a graduate of Engineering Physics (now Engineering Science), class of 6T2. He went on to earn a Master's and doctoral degree from UTIAS and joined the faculty immediately thereafter in 1966. He retired from the University in 2004.

For over forty years, Peter played a central role in Canada becoming a space-faring nation. The history of Canada in space cannot be written without Peter Hughes's name. Indeed, Canada's sterling international reputation in space technology owes much to him.

He began his career by recognizing the cause of the unexpected tumbling behaviour of Alouette I, Canada's first satellite. In 1970, along with colleagues at UTIAS, he helped secure the safe return of Apollo XIII.

His work was seminal to the design of perhaps Canada's most recognizable technological achievement, Canadarm—the robotic arm for the Space Shuttle. On the occasion of bestowing on Peter in 2007 the Canadian Space Agency's (CSA) John H. Chapman Award of Excellence, given as "... tribute to a renowned person whose vision for the development of space reflects Canada's values as much as its present and future needs," the CSA President stated that, among other things, "... Canada could not have built Canadarm for the NASA Space Shuttle were it not for Dr Hughes's complete analysis of Canadarm's dynamics and control."

He was also honored with the CASI Alouette Award presented annually to a Canadian "... for outstanding achievement in the field of astronautics." The citation included the comments that "Professor Hughes has made contributions to Canadian space technology and to international space science, while nurturing his love of the subject in students for over four decades. Peter Hughes literally wrote the book on the dynamics of spacecraft ..."

The book referred to, one of six he authored (or coauthored), is his text/reference book, Spacecraft Attitude Dynamics, originally published in 1986 and republished in 2004 by Dover as a "classic in its field." It has been in continuous use in graduate course classrooms world-wide and on the bookshelves of most professionals in the field. In a 2006 interview Scott Ploen, the then-new IEEE Control Systems Magazine Associate Editor for Book Reviews, was asked which books were some of his personal favorites; Ploen replied, "I think everyone has his or her own personal list of desert island classics. Spacecraft Attitude Dynamics by Hughes is one of my favorites."

In 1980, Peter founded Dynacon Inc., filling a crucial niche in Canada's industrial landscape. Dynacon became one of the first space-related companies to spin off space technology to wider terrestrial application using robotics developed for space to help automate the medical laboratory business.

This experience motivated Peter to obtain an MBA from York University's Schulich School of Business. He then founded, with a bequest from Jeffery Skoll, a joint program—the Skoll program—in the Faculty of Applied Science and Engineering and the Rotman School of Management at the University of Toronto to facilitate students earning an MBA while completing their degree in engineering.

He shall be dearly missed.

Be it further resolved –

> THAT this tribute to Peter Carlisle Hughes be inscribed in the minutes of this Council meeting, and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

(b) James K. Mills

Greg Jamieson, Interim Chair of the Department of Mechanical & Industrial Engineering, read the following memorial tribute in honour of Professor James K. Mills.

Be it resolved –

> THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on November 18, 2022 of Professor James K. Mills.

Jim Mills was an accomplished and respected mechanical engineering professor who passed away on Friday, November 18, 2022.

Jim was a longstanding member of the University of Toronto community having received both his MASc degree in Electrical Engineering and then a PhD in Mechanical Engineering from the University in 1982 and 1987, respectively. He first joined the Department of Mechanical Engineering at the University of Toronto as a professor in 1988. Prior to joining MIE, Jim worked in designing inertial navigation components. In the Department, he took personal responsibility to lead the development of rigorous safety policies that we still use today. He helped in the hiring and mentoring of many colleagues over the years and was passionate in contributing to strengthening the Department. He also helped spearhead the undergraduate mechatronics stream in the Department, which is now the most popular stream among our students.

He is remembered fondly by his colleagues, both within MIE and outside of the Department. Jim and his longtime collaborator and friend, Professor Wai Tung Ng (ECE), pursued multi-disciplinary projects and secured multiple NSERC Strategic, Alliance, and OCE grants together. Jim's experience and knowledge of control systems, image processing, thermodynamics and automated manufacturing were crucial for projects that ranged from the formation flying of unmanned drones to power semiconductor modules for electric vehicles.

Outside of his research, Jim had many hobbies, including astronomy, photography and adventure travel. Jim was always happy to chat with colleagues or to grab coffee during a break. He would talk about his summer work in Hong Kong and the trips he took while there. Jim would graciously host you when you visited him abroad. His insight was often helpful in making both career and personal decisions.

During their regular early morning coffee sessions at the Second Cup on College Street, Jim and Professor Ng would talk about U of T, their departments, and their respective travels. The photos Jim took on his trips to Vietnam, Tibet (and the non-pressurized "pressurized" train), and across the Silk Road by bus (and the heat on that trip) showed him to be a man who

wanted to understand the world. He had been to Antarctica onboard a small scientific research vessel. He had taken safaris, travelled to the Seychelles Island to photograph wildlife and transited the Panama Canal. Before the pandemic struck, he managed to travel to Namibia, a lifelong goal. Everyone who talked with him heard and saw photos from this trip and he convinced many that Namibia should be their first post-pandemic destination.

Jim was the director of the Nonlinear Systems Control Laboratory and his research focused on the areas of robotics, automation, and control. He published over 400 journal and conference papers and supervised over 50 MASc and PhD students as well as many Postdoctoral fellows and research engineers. He cared greatly about these students – and it was clear it was reciprocated. On any defense, a student knew that Jim was backing them to the end. He would also continue mentoring many of his former students well into their post-graduate careers.

Jim served as Co-Editor in Chief of the International Journal of Information Acquisition and was a member of the Editorial Board of the International Journal of Mechatronics and Automation. He served on the program committees of numerous international conferences. He was an Invited Visiting Professor at the Centre for Artificial Intelligence and Robotics in Bangalore, India, the University of Science and Technology in Hong Kong, the Chinese University of Hong Kong, as well as City University, Hong Kong.

Be it further resolved –

> THAT this tribute to James K. Mills be inscribed in the minutes of this Council meeting, and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

(c) Adam Semlyen

Deepa Kundur, Chair of The Edward S. Rogers Sr. Department of Electrical & Computer Engineering, read the following memorial tribute in honour of Professor Emeritus Adam Semlyen.

Be it resolved –

> THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on May 24, 2022 of Professor Adam Semlyen.

Professor Adam Semlyen was born to Aurel and Anna (née Gyorgy) Semlyen in Gheria, a village in northern Romania, on January 10, 1923.

Adam achieved his Diplom-Ingenieur (the traditional engineer's degree) from the Polytechnique Institute of Timisoara in Romania. In 1949, he graduated with his PhD degree from Polytechnique Institute Iaşi — now the Gheorghe Asachi Technical University of Iaşi — an institution that has a storied tradition in Romanian engineering education. Directly after his doctorate, he held academic positions at the same institution while working for an electric power utility, the Engineer Regional Power Authority in Timisoara. After two years, Adam left

the utility and became a full-time faculty member of Polytechnic Institute Timisoara, teaching and working there for close to twenty years. Adam was married to Mary Semlyen.

In 1969, Adam moved to Canada with and joined The Edward S. Rogers Sr. Department of Electrical & Computer Engineering (known at the time as the Electrical Engineering Department). As a member of what was then the Power Group, his main research interests were in steady-state and dynamic analysis as well as computation of electromagnetic transients in power systems. In 1988, he was named a Fellow of the IEEE for his contributions to this area. That same year he became a Professor Emeritus. He continued to advance the profession, publishing one of his most-cited papers during this time of his life and working with measurable effect well into his nineties. Remarkably, at the age of 98 he was first author on a paper, which proposed a mode identification of linear systems using a novel approach based on the theory of hyperplanes. One wonders what the age record is for lead author for an IEEE publication.

Adam was considered the “academic’s academic.” His curiosity moved him to suggest the possibility of intergroup research collaboration in an era when that was still uncommon. Gentle yet fiercely scholarly, he was known as an exceptional colleague who set high standards for education in the department with his dedication. His integrity and sense of justice never wavered, whether fighting for a colleague’s recognition or proudly representing his dearly loved profession.

Behind his quiet, introspective demeanor, Adam had a passion for education and was known for his care for students. As a thesis supervisor, he would not confine his teachings to the thesis at hand but would also extend it to engineering principles in general, ensuring his students understood and mastered the essence of being an engineer. These lessons would resonate throughout their professional careers.

Adam had an enviably long and productive life, the consummate engineer and teacher whose impact lives on in his contributions to the profession and to the community through those who were fortunate to study under him as students, learn from him as colleagues, or spend time with him as a friend. He will be missed.

Be it further resolved –

> THAT this tribute to Adam Semlyen be inscribed in the minutes of this Council meeting, and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

The Speaker assumed concurrence with these resolutions and Council observed one minute of silence in honour of Professor Mills and Professors Emeriti Hughes and Semlyen.

6. Report of the Dean

Dean Chris Yip welcomed all to the Council meeting and made the following remarks.

(a) Faculty of Applied Science & Engineering 150th Anniversary

The Faculty is celebrating its 150th Anniversary in 2023 with events taking place throughout the year at multiple locations. Highlights include the Skule™ 150th Founding Day Celebration on March 29 at various locations across campus, and the 150th Anniversary Reception and Gala on April 1st at the Fairmont Royal York.

(b) Engineers Canada Update

As a result of lobbying from deans of engineering schools across the country and support from provincial regulators such as PEO, Engineers Canada recently approved the "Temporary Exemption for Students Going on International Exchange" policy to be included in the 2023 CEAB Accreditation Criteria and Procedures. This exemption removes accreditation barriers to students going on international exchanges.

The Vice-Dean, Undergraduate confirmed that several international exchanges that were put on hold during Covid have been rolled out and if students are interested in pursuing exchange programs they should contact the Centre for International Experience. A new staff person hired jointly in the Office of the Vice-Dean, Undergraduate and the Centre for International Experience has been meeting with chairs and directors over the past weeks to promote international exchanges.

(c) Alumni Engagement

The Dean recently travelled to Hong Kong and will be visiting Singapore and Taiwan in the near future, reengaging in alumni activities that were put on hold in 2019 due to Covid.

(d) Status of Current Chairs and Directors Searches

Search advisory committees for the director of Biomedical Engineering and the chairs of Engineering Science and Mechanical & Industrial Engineering have been announced. Nominations have recently closed for the Civil & Mineral Engineering and Studies in Transdisciplinary Engineering Education & Practice search advisory committees, and the committee memberships will be announced in the near future. All are encouraged to provide input to committee members or to the Dean regarding these important roles.

(e) EMHSeed and XSeed Call for Proposals

The 2023-2025 Joint EMHSeed and XSeed funding program is accepting applications until March 6, 2023. Contact the Office of the Vice Dean, Research office with any questions.

The Dean acknowledged the chairs and directors as we head into budgeting season. There will be challenging times ahead for the University in general as we start to look into revenue streams.

The Speaker thanked the Dean for his report.

The following items were endorsed by the Executive Committee of Faculty Council at its February 7 meeting and are for Council's approval.

7. Certificate in Justice, Equity, Diversity and Inclusion

Dionne Aleman, Associate Dean, Cross-Disciplinary Programs, presented Report 3732 Revised, a proposal to create a Certificate in Justice, Equity, Diversity and Inclusion. She thanked Mikhail Burke, Associate Director, Access & Inclusive Pedagogy in FASE during the development of this proposal for his significant contributions and support. The Speaker also thanked Mr. Burke for helping our Faculty take the lead in this area at the University.

At the conclusion of the presentation, the following regular motion was moved and seconded –

> THAT a Certificate in Justice, Equity, Diversity and Inclusion in Engineering, as described in Report 3732 Revised, be approved effective September 2023.

Members discussed plans for rolling out the certificate more broadly, both within the University and to international alumni. The certificate is of interest to the Faculty of Arts & Science and could be a future possibility for an Engineering microcredential. It also ties in with international collaborations and exchange programs; students taking the certificate will be encouraged to go on exchange and we welcome incoming exchange students.

Members also discussed plans to expand the engineering course options, as there are currently only one or two in the certificate. The Cross-Disciplinary Programs Office considers these courses as a starting point and plans to grow the certificate and add courses, for example, from ISTEP.

The motion was carried.

8. Session Dates for the 2023-2024 Academic Year

Evan Bentz, Chair of the Undergraduate Curriculum Committee, presented Report 3735 Revised, session dates for 2023-2024. He noted an error in the report that lists the last day of the fall term as December 7, when it should be December 6. The report posted on the Faculty Council webpage will reflect this correction. Professor Bentz also noted that session dates may be set by the University in the future, so this may be the last time the FASE session dates are set solely by the Undergraduate Curriculum Committee.

At the conclusion of the presentation, the following regular motion was moved and seconded –

> THAT the session dates for the 2023-2024 academic year be approved as described in Report 3735 Revised.

There was no discussion and the motion was carried.

9. Curriculum Changes for the 2023-2024 Academic Year

Evan Bentz, Chair of the Undergraduate Curriculum Committee, presented Report 3736, proposed curriculum changes affecting the Chemical & Applied Chemistry department, the Mechanical & Industrial Engineering department, Cross-Disciplinary Programs and the Electrical & Computer Engineering department, which has included its graduate attributes.

At the conclusion of the presentation, the following regular motion was moved and seconded –

> THAT the proposed curriculum changes for the 2023-2024 academic year, as described in Report 3736, be approved.

There was no discussion and the motion was carried.

10. Faculty of Applied Science & Engineering Best Practices for Assessing Teaching Effectiveness in PTR Decisions

Because *Report 3733 Revised: FASE Best Practices for Assessing Teaching Effectiveness in PTR Decisions* was not distributed to Council within the required 14 days in advance of the February 27 meeting as required by Section B3.2 of our Bylaws, a motion to allow the report for discussion and vote at the meeting was duly moved, seconded and carried.

Elodie Passeport, Chair of the Teaching Methods & Resources Committee, presented Report 3733 Revised. The report promotes best practices and clarifies what constitutes teaching effectiveness for PTR. It is meant to guide both members of faculty undergoing PTR as well as PTR committees. Professor Passeport described the broad consultations that were undertaken and said that some minor feedback was incorporated into the report. She reminded Council that this report is based on two longer source documents: the *Faculty's Guidelines for the Assessment of Effectiveness of Teaching in Tenure, Continuing Status and Promotion Decisions* (GAET), that was approved by Council in April 2022, and the *U of T Academic Administrative Procedures Manual* (AAPM).

At the conclusion of the presentation, the following regular motion was moved and seconded –

> THAT the *FASE Best Practices for Assessing Teaching Effectiveness in PTR Decisions*, as described in Report 3733 Revised, be approved effective immediately.

During discussions, Professor Elodie confirmed that faculty are able to include comments, including student feedback, from course evaluations in their teaching evaluations. It was also confirmed that teaching evaluations are not and never have been mandatory.

Members also discussed the evaluation of teaching for female faculty. There is broad but contradictory evidence in the literature which states that there is an imposed, implicit bias against female faculty – especially junior – that is most evident when students and the

professoriate are predominantly male and when the subject being taught is mostly technical in nature. These elements are present in our Faculty.

The motion was carried.

11. Reports for Information

The following reports were approved by the Executive Committee of Council at its February 7 meeting and are for Council's information.

(a) Engineering Graduate Education Committee Update

Marianne Hatzopoulou, Chair of the Engineering Graduate Education Committee, presented Report 3734, which lists new courses approved in BME and a course name change to APS1035.

There was no discussion and the report was received for information.

(b) Default Selection of Courses Marked EXTRA

Daniel Posen, Chair of the Undergraduate Assessment Committee, presented Report 3738, a revision of current academic regulation Section VIII, subsection 9, "Designating Credit Courses as Extra" to create a policy to determine which course(s) can be maintained for credit when it is discovered retroactively that a student has too many courses for their degree.

A Council member pointed out that this proposal was approved a year or two ago by the Undergraduate Assessment Committee, but it did not go through governance at the time.

The report was received for information.

(c) Clarification of Policy Regarding Return of Graded Work Prior to Drop Deadline

Daniel Posen, Chair of the Undergraduate Assessment Committee, presented Report 3739, which proposes to revise current academic regulation Section XI, subsection 4a, "Grading Policies" to state that it is acceptable to meet the policy by returning multiple pieces of work cumulatively worth at least 10% of a student's performance prior to the last day for withdrawal from the course without academic penalty, and that the policy applies to the class overall rather than each individual student (e.g., if a student misses the midterm due to illness, there may be no graded work to return prior to the deadline).

There was no discussion and the report was received for information.

12. Revision of Teaching Methods & Resources Committee Manual

The Speaker explained that standing committee manuals now require approval of only the relevant committee and the Speaker of Council, and are reported to Council and posted on

the Council webpage for information. They are not voted on by Council to receive for information.

Elodie Passeport, Chair of the Teaching Methods & Resources Committee, presented the committee's updated manual. There were no questions.

13. Other Business

Greg Evans brought the upcoming Iron Ring Ceremony to Council's attention, mentioning that the wording of the ceremony has been revised to remove dated and offensive language but that further progress can be made. He asked that students undergoing the ceremony note what can be improved and provide their feedback.

There was no other business.

14. Date of Next Meeting

The next and final Faculty Council meeting of the academic year is on April 26, 2023.

15. Adjournment

The meeting was adjourned at 1:38 pm.

/cz

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Memorial Tribute to

SUBBARAYAN PASUPATHY

Professor Emeritus
The Edward S. Rogers Sr. Department of Electrical & Computer Engineering

April 26, 2023

Be it resolved –

> THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on February 12, 2023 of Professor Subbarayan Pasupathy

Professor Subbarayan Pasupathy, affectionately known as Pas, was born in Chennai, India, on September 21, 1940. His Indian heritage was always a source of pride to him, and later he would attribute his success as a researcher and teacher to the culture he inherited.

Pas was greatly loved by his wife Jaya Pasupathy and his daughter Vani Pasupathy. She and her husband, Suneil Sastri, have a son — Pas's grandson — Jayen Sastri.

In 1963, Pas earned his bachelor's degree in Telecommunications from the College of Engineering (now known as Anna University) in Guindy, Chennai, on the southwest coast of India. In 1966, he graduated with first rank in the first batch of M.Tech. students at the Indian Institute of Technology (IIT), Madras, continuing to work there as a research scholar and part-time lecturer.

In the late sixties, he moved to the United States to continue his studies at Yale University, receiving the M.Phil. and PhD degrees in engineering and applied science in the area of array processing of sonar signals. He worked as a Teaching Assistant in his time at Yale and in 1972 completed his doctoral dissertation under the supervision of Professor Peter Schultheiss.

Pas arrived in Canada as a postdoctoral fellow in 1972 to continue his work in sonar at the University of Toronto, and in 1973 joined the faculty as part of its Communications Group. From 1979 to 1982 he served as Associate Chair of what was then the Electrical Engineering Department and became a full professor in 1983. For many years, Pas was Chair of the Communications Group — or "gentle orchestrator," as Professor Alberto Leon-Garcia says, of the three-member group that today numbers nearly two dozen faculty members. Pas's academic career spanned more than 35 years in undergraduate teaching and research at U of T.

Pas's early research interests were in active and passive sonar systems. His curiosity and talent led him to work in many areas throughout his career, eventually becoming an international authority on the application of statistical communication theory and techniques to the design of digital communications systems. He contributed to more than 275 articles and three books, and was the first Canadian professor in communications to be listed in ISI Web of Knowledge's prestigious "highly cited researchers" list. His contributions have been cited in more than 100 patent applications.

His specific area of expertise was on the theory and applications of "correlative coding," more commonly known as "partial-response signaling," and he wrote a highly cited article on this in 1975. But his interests were vast: continuous-phase modulation, minimum-shift keying, error-rate monitoring in line codes, trellis coded modulation, Nyquist's criteria, delay estimation, fading channels, and many other topics. His research over the years had a wide variety of applications, including array processing, computer algorithms for signal processing, advanced transceiver structures, mobile cellular networks, and coding algorithms and architectures. In collaboration with colleague Professor Frank Kschischang, he discovered the densest known lattice packing of 36-dimensional spheres, known as KP36 or the "Kschischang-Pasupathy lattice": "I am proud to say that his name and mine will forever be intertwined," says Professor Frank Kschischang.

In addition to teaching and research, Pas served as an editor for a number of IEEE journals as well as the Canadian Electrical Engineering Journal, notably coordinating the special IEEE issue on "Canadian Telecommunications" in 1981. In 1991, Pas was elected Fellow of the IEEE and he received the 2003 Canadian Award in Telecommunications Research from the Canadian Society of Information Theory. He was elected Fellow of the Engineering Institute of Canada in 2004 and Fellow of the Canadian Academy of Engineering in 2007.

Pas's curiosity and creativity extended beyond technical subjects. He had numerous hobbies which excelled at: Tamil scholar, artist, poet, musicologist and storyteller. It was not a surprise to those who knew of his love of wordplay that he started a humour column for IEEE titled *Light Traffic*, which he continued to publish for over 14 years. He particularly enjoyed creating palindromes related to his technical interests, introducing a character, Dr. O. Lord, first name Otto, who only spoke in palindromes and was an expert in, you guessed it, "radar." In these articles, Pas mused about metrics, made jokes about codes, created quizzes and games. Pas said he saw his column as "declarations of the endless challenge and personal happiness I have discovered in the fascinating world of words." To find humour in the subject most dear to you is an expression of your love for it.

In May 2007, a workshop in honour of Professor Pasupathy was held at the University of Toronto. The many colleagues, former students and postdocs in attendance attest to his great impact on the ECE community, and he received a standing ovation after his closing speech on what it means to do research. The following year, the IEEE published a number of profiles of him

in various publications. In April 2010, he was honoured by his alma mater IIT Madras as a Distinguished Alumnus, and in 2019 he won a Lifetime Achievement Award from *Tamils' Information Magazine*.

Pas was universally beloved by his colleagues. Described as "a deep well of wisdom and friendliness," by Professor Jonathan Rose, he was always open to a chat or to dispense advice to junior faculty. He instructed Professor Ravi Adve, early in his academic career, on how to set up a research program in Canada, offering to pay for and co-supervise a student or two, saying, "Do not worry about the money. We will collaborate and make sure you can get started." There was the time that he called Professor Shahrokh Valaee into his office to say, "You are new here and will need a few good books" and gave him hard-to-find textbooks that Professor Valaee uses frequently to this day. And ECE staff could always count on him for a kind smile, a word of wisdom — and a Garfield joke.

In addition to his mentorship of so many faculty members, one of his lasting accomplishments is the great number of graduate students and postdoctoral students he trained, who were fortunate to benefit from his insights and passion and who have gone on to distinguished academic and industry careers of their own. How many PhD theses and papers began as sketch or equation that Pas scribbled!

Pas's warmth and smile was a beacon to all. A beloved husband, father, community leader and distinguished academic, his impact in our department is immeasurable. His wise, brilliant, gentle and humorous nature will be much missed by all who interacted with him and will be deeply felt by the many who cherished him as a friend.

Be it further resolved –

> THAT this tribute to Professor Subbarayan Pasupathy be inscribed in the minutes of this Council meeting, and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

Prepared by Professor and Chair Deepa Kundur; Professors Frank Kschischang, Wei Yu, Ravi Adve, Hoi-Kwong Lo, Jonathan Rose, Alberto Leon-Garcia, Elvino Sousa, Safwat Zaky, Khoman Phang, Shahrokh Valaee, George Eleftheriades, Konstantinos Plataniotis; and Ms. Diane Silva

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3731 Revised

MEMORANDUM

To: Executive Committee of Faculty Council (February 7, 2023)
Faculty Council (April 26, 2023)

From: Professor Jun Nogami, Council Speaker

Date: January 26, 2023; Revised March 20, 2023

Re: **Bylaws Update: Research Committee and Executive Committee Membership Compositions**

REPORT CLASSIFICATION

This is a major policy matter that will be considered by the Executive Committee for endorsement and forwarding to Faculty Council for vote as a special motion (requiring 2/3 majority of members present and voting to carry).

BACKGROUND

In December 2021, Council approved a recommendation from the Working Group to Update Standing Committees of Council that the terms of reference, domain and membership composition of each standing committee of Council be listed in the Faculty's Bylaws, and that any revisions to or updates of these elements be approved by Council.

PROPOSED

It is proposed that the membership composition of the Faculty's Standing Committee on Research, as described in section B4.3.3.2 of the Bylaws, be revised to:

1. Include a teaching staff[1] representative from the Institute for Studies in Transdisciplinary Engineering Education & Practice (ISTEP).
2. Replace "Administrative Staff" category with "Subject Matter Expert" to reflect this new constituent group.
3. Add a representative from the FASE Partnership Office and the Director, Research Operations as Subject Matter Experts.

[1] "Teaching staff" is how faculty are defined in the FASE Constitution and does not reflect appointment status. Teaching staff representatives on the Research Committee would typically be Associate Chairs, Research.

It is further proposed that the membership composition of the Executive Committee of Faculty Council, as described in section B4.2.2(d) of the Bylaws, be revised to:

1. Include the Executive Director, Partnerships as an ex officio, non-voting Dean's Office Staff member to reflect this new position on the Dean's administrative leadership team.

The revised Bylaws are appended with updates shown in track-changes.

CONSULTATION PROCESS

The Research Committee and the Director of ISTEP were consulted and support the update regarding the membership composition of the Research Committee. The Chair of the Executive Committee was consulted and supports the update regarding the composition of the Executive Committee.

RECOMMENDATION FOR COUNCIL

> THAT the Bylaws of the Faculty of Applied Science & Engineering be revised to reflect changes to the Research Committee's membership composition (section B4.3.3.2), and to the Executive Committee of Council's membership composition (section B4.2.2(d)), as described in Report 3731 Revised, effective immediately.

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

FACULTY OF APPLIED SCIENCE & ENGINEERING
BYLAWS OF COUNCIL

Draft 4 2023-01-26; revised 2023-03-20 and 2023-03-24

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FACULTY OF APPLIED SCIENCE & ENGINEERING
BYLAWS OF COUNCIL

B1 Rules of Procedure for the Appointment of Members to Council

.1 Appointments for constituencies of Council will be completed and reported to the Secretary of Council by their respective appointing bodies before the first regular Council meeting of each academic year.

Teaching Staff

.2 Teaching Staff are appointed members of Faculty Council upon appointment to the University, on an ongoing basis. Normally, Teaching Staff members are appointed for a three-year term.

Undergraduate Students

.3 Undergraduate Students are appointed annually by the Engineering Society Executive to a maximum of 38. In addition, the President and Vice-President, Academic are ex officio members. Undergraduate Student members are appointed for a one-year term.

Graduate Students

.4 Graduate Students from each Department and Extra-Departmental Units A and B offering graduate programs are appointed annually by the Graduate Engineering Council of Students in consultation with the discipline Graduate Student Associations, to a maximum of two from each such unit, for a total of up to 14. In addition, the Chair of the Graduate Engineering Council of Students is an ex officio member. Graduate student members are appointed for a one-year term.

Alumni

.5 Alumni are appointed annually by the Engineering Alumni Network, to a maximum of 14. In addition, the President of the Engineering Alumni Network is an ex officio member. Alumni members are appointed for a one-year term.

Professors Emeriti

.6 Professors Emeriti who consent to be members of Council are appointed upon the time of their appointment as Professors Emeriti, for a five-year term.

Registrar

.7 The Registrar of the Faculty of Applied Science & Engineering is an ex officio member of Council on an ongoing basis.

Administrative Staff

.8 Administrative Staff representatives, one from each of the Faculty's Departments and Extra-Departmental Units A and B, and two from the Faculty's administrative offices, up to a total of 11, are appointed annually for a one-year term.

Appointments of Administrative Staff representatives are made by the Chair or Director of the respective Departments and Extra-Departmental Units A and B, or, in the case of the Faculty's administrative offices, by the Dean.

Secretary of Council

.9 The Secretary of Faculty Council is appointed by the Dean in consultation with the Speaker, and serves on Council as a non-voting, ex officio member on an ongoing basis.

University Officers

.10 University Officers and representatives from appropriate Divisions of the University are invited by the Speaker, to a maximum of 15, including, ex officio, the President of the University or designate; the Vice-President and Provost or designate; the Dean of the School of Graduate Studies or designate; and the University Librarian or designate.

B2 Officers of Council

.1 The Officers of Council are the Speaker and the Secretary.

Speaker

.2 The Speaker shall chair the meetings of Council.

.3 The Speaker shall conduct an orientation session for new Council members prior to the first Council meeting of each academic year and will meet with constituent groups as deemed necessary.

Secretary

.4 The Secretary shall take charge of the records and papers of the Council and keep the same properly arranged for convenient reference; attend all meetings of the Council and keep regular minutes of all the proceedings thereof; prepare all resolutions, reports, or other papers which the Council may direct; prepare and sign all official documents and discharge such other duties as may be assigned by Council.

B3 General Procedures of Council

.1 Notwithstanding the following, the Speaker shall conduct the proceedings in conformity with any special rules of order the Council may adopt. Ambiguities in these rules shall be resolved by referring to the most recent edition of *Bourinot's Rules of Order*.

Notice of Meetings

.2 For regular meetings, the agenda and all matters being reported shall be delivered to all Council members at least 14 days prior to the announced date of the meeting. No matter that arises after the date of mailing and before the announced date of the meeting can properly be before Council without the consent of two-thirds of the members present and voting at the meeting, which members must constitute a quorum to accept such modification to the agenda.

Order of Business

.3 The following order of business shall be observed by the Speaker in preparing the agenda of regular meetings of Council:

a. Adoption of the minutes of the previous regular meeting and those of any intervening special meetings

b. Business (to be listed) arising from the minutes

c. Motions with respect to reports from the Executive Committee and Standing Committees

d. Reports of any Special Committees

e. Matters brought by the Dean and Vice- and Associate Deans, including, when relevant, the annual report of the Dean

f. Matters brought by the Academic Appeals Board, including its annual report

g. Submissions from members

h. Announcements

i. Questions from members

Visitors

.4 Subject to the provisions below, meetings of Council shall be open to visitors at the discretion of the Speaker.

Closed Meetings

.5 An open meeting may at any time be declared closed by Council upon passage of the appropriate motion by majority vote, and visitors shall be required to withdraw. By a similar procedure, a closed meeting may at any time be declared to be open.

Minutes

.6 The Secretary shall prepare the minutes of all meetings of the Council, including the date of the meeting and names of members present, and circulate them to all members of Council.

.7 In the case of matters considered in open session, a summary of the substance of every matter considered, the text and disposition of every motion considered, and the recorded votes as directed by Council shall be included in the minutes.

.8 In the case of matters considered in closed session, only the motion indicating the final disposition of each matter considered in closed session shall be included in the minutes.

Regular Motions

.9 Unless designated special motions, all motions to be considered by Council shall be brought before Council as regular motions.

.10 A regular motion shall be passed only if it:

a. Has been circulated to all members of Council not less than 14 days prior to the meeting of Council

b. Is heard, and any amendments to the original motion are accepted by not less than a simple majority of members present and voting

c. Is accepted, as amended, by not less than a simple majority of members present and voting

Special Motions

.11 Motions which, if passed by Council, will have a major academic impact on the Faculty's Departments or Extra-Departmental Units A and B shall be brought before Council by way of a special motion.

.12 Without limiting the generality of the foregoing, such motions include:

a. Amendments of the Bylaws and Constitution

b. Major academic decisions affecting curricula or programs which will have a substantial impact on more than one Department or Extra-Departmental Unit A or B

c. Changes in organizational structure including the creation, elimination or merger of Departments and Extra-Departmental Units A and B

.13 A special motion shall be passed only if it:

a. Has been circulated to all members of Council not less than 14 days prior to the meeting of Council, or in the case of amendments to the Bylaws and Constitution, has been circulated to members of Council not less than 30 days prior to the meeting of Council

b. Is heard, and any amendments to the original motion are accepted, by not less than two-thirds of the members present and voting

c. Is accepted, as amended, by not less than two-thirds of the members present and voting

B4 Boards and Committees of Council

.1 The boards and committees of Council shall be the Academic Appeals Board (Undergraduate), the Executive Committee of Council, the Standing Committees, and any Special Committees.

Appointments

.2 A list of candidates for service on the Academic Appeals Board (Undergraduate) and Standing Committees shall be provided annually to the Secretary of Council by their respective appointing bodies by July 1 of each academic year. Student members shall be provided before the first regular Council meeting of each academic year.

Procedures

.3 The Academic Appeals Board (Undergraduate) and Standing Committees are operated within the guidelines provided by the *Procedures for Committees of Council*.

.4 The Executive Committee shall meet in closed session.

B4.1 Academic Appeals Board (Undergraduate)

.1 The composition and function of the Academic Appeals Board (Undergraduate) shall be established by Council and reflected in the Board's manual of operation, separate from the Bylaws. The manual must be reviewed at least once in a five-year cycle, with re-affirmations submitted to Council for information, and revisions submitted to Council for approval.

B4.2 Executive Committee of Council

.1 The function of the Executive Committee of Council is:

a. To endorse the agenda for each Council meeting.

b. To ensure that adequate documentation is provided for consideration of each agenda item and to refer back to the originating administrator/governance body for further preparation any item deemed not ready for submission to Council.

c. To direct items of business to Council or the appropriate Standing Committee(s), or to recommend to Council the creation of special committees.

d. To endorse motions to be made at Council and/or raise risks/opportunities.

e. To review and advise Council on all proposed Constitution and By-Law changes, whether these be brought to Council or initiated by Council.

f. To review and advise Council on the effectiveness of the Constitution and By-Laws.

g. At periodic intervals of not more than five years, to establish a review of the Constitution and By-Laws and recommend to Council any changes deemed appropriate.

h. To monitor the functioning of Council and its Committees.

Membership
(30 voting members)

2 The membership of the Executive Committee of Council consists of:

a. Dean's Office (ex officio) [7]
   - Dean (Chair of the Executive Committee)
   - Vice-Dean, First Year
   - Vice-Dean, Graduate Studies
   - Vice-Dean, Research
   - Vice-Dean, Undergraduate
   - Vice-Dean, Strategic
   - Associate Dean, Cross-Disciplinary Programs

b. Chairs and Directors representing all academic units (ex officio) [9]
   - Chemical Engineering & Applied Chemistry
   - Civil & Mineral Engineering
   - Electrical & Computer Engineering
   - Engineering Science
   - Materials Science & Engineering
   - Mechanical & Industrial Engineering
   - Institute of Biomedical Engineering
   - Institute for Studies in Transdisciplinary Engineering Education & Practice
   - University of Toronto Institute for Aerospace Studies

c. Faculty Council (ex officio) [14]
   - Faculty Council Speaker (non-voting)
   - The Chair of each of the Standing Committees of Council as named in Section B4.3.1 [8]
   - Engineering Alumni Network President Chair
   - Engineering Society President
   - Engineering Society Vice-President, Academic
   - Graduate Education Council of Students (GECoS) President
   - Administrative Staff Member Unit Representative

d. Dean's Office Staff (ex officio; non-voting)
   - Assistant Dean, Diversity, Inclusion and Professionalism
   - Chief Administrative Officer
   - Chief Financial Officer
   - Director, Awards & Hours

- Director, Facilities & Infrastructure Planning
- Director, Office of the Dean
- Executive Director, Advancement
- Executive Director, Communications & Public Affairs
- Executive Director, Partnerships
- Faculty Registrar

e. Recording Secretary (non-voting)
- Secretary of Faculty Council

B4.3 Standing Committees of Council

.1 The Standing Committees of Council include the:
a. Engineering Graduate Education Committee (EGEC)
b. Inclusivity, Diversity and Equity Advisory Committee (IDEA)
c. Research Committee (RC)
d. Teaching Methods & Resources Committee (TMRC)
e. Undergraduate Admissions Committee (ADM)
f. Undergraduate Assessment Committee (UAC)
g. Undergraduate Curriculum Committee (UCC)
h. Undergraduate Scholarships & Awards Committee (SAC)

Cyclical Review

.2 The composition, terms of reference and domain of Standing Committees shall be established by Council and reflected in the Bylaws. They must be reviewed at least once in a five-year cycle, with re-affirmations submitted to Council for information, and revisions submitted to Council for approval.

Terms of Reference

.3 All Standing Committees, being comprised of representative of stakeholders within the domain of the committee and supported by subject matter experts and administrative staff, are responsible, with respect to their domain to:

a. Provide a forum for the full range of stakeholder voices to discuss present practice and new proposals

b. Pursue best practice: investigate, study, report on and promote

c. Review, periodically, policies and procedures

d. Recommend, as appropriate, changes to policy and procedures

e. Carry out specific, defined duties

f. Report, regularly, to Council on its activities and intentions

B4.3.1 Engineering Graduate Education Committee

.1 With respect to graduate studies, the Engineering Graduate Education Committee (EGEC) is responsible for the domain including:

a. New graduate courses, minor and major course changes and minor and major program changes

b. Graduate Degree Level Expectations (GDLEs)

c. Faculty-originated, graduate-supervisor awards and University-level nominations
- Scholarships and awards
- Faculty-originated scholarships/awards
- Post-doc University-level nominations

d. Faculty-level implementation of SGS policies and best practice, e.g., admissions, student supervisory committees, supervision, stipends, assessment and grading in courses

e. Professional development

f. Petitions and appeals of graduate students taking 500-level courses - limited to personal matters, e. g. extensions, missed exams (academic matters being adjudicated by the Examinations Committee)

.2 Exclusions (managed by):

a. Academic offences by graduate students (SGS)

b. Academic appeals for graduate students taking graduate courses (Departments/SGS)

c. Non-standard admissions in graduate program (Departments/SGS)

d. Modification of University-wide policies regarding, admissions, assessment, and grading for graduate students (SGS)

e. Individual student exemptions from SGS policies (SGS)

f. Teaching awards in graduate courses (TMRC)

Membership
(14 voting members)

.3 The membership of the Engineering Graduate Education Committee consists of:

a. Teaching Staff [8]

- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Institute for Aerospace Studies
- Institute of Biomedical Engineering
- Institute for Studies in Transdisciplinary Engineering Education & Practice
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large

- Graduate Students [2]
- Alumni/ae [1]
- Non-academic Staff – Graduate Counsellor [1]

c. Ex officio [2]

- Vice-Dean, Graduate Studies
- Vice-Dean, Research

d. Recording Secretary (non-voting)

B4.3.2 Inclusivity, Diversity and Equity Advisory Committee

.1 With respect to undergraduate and graduate students, teaching staff, and non-academic staff, the Inclusivity, Diversity and Equity Advisory (IDEA) Committee is responsible for the domain including equity, diversity and inclusion, including aspects of:

a. Member experience

b. Safety and belonging

c. Professional conduct

d. Diversity in all its dimensions, including but not limited to race, ethnicity, gender identity, sexual orientation, religion, age, ability, legal status, Indigenous identity and socioeconomic background

Membership
(28 voting members)

.2 The membership of the Inclusivity, Diversity and Equity Advisory Committee consists of:

a. Teaching Staff [9]

- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Engineering Science
- Institute for Aerospace Studies
- Institute for Studies in Transdisciplinary Engineering Education & Practice
- Institute of Biomedical Engineering
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large

- Undergraduate Students [6]
- Graduate Students [2]
- Alumni/ae [1]
- Non-academic Staff [2]

c. Ex Officio [8]

- Vice-Dean, Graduate
- Vice-Dean, Undergraduate
- Vice-Dean, First Year
- Vice-Dean, Research
- Registrar
- Associate Director, Engineering Student Recruitment & Retention Office (ESRRO)
- Assistant Dean and Director of Diversity, Inclusion and Professionalism
- Associate Director, Outreach

d. Subject Matter Experts (non-voting)
- Dean's Advisor on Black Inclusivity Initiatives
- Dean's Advisor on Indigenous Initiatives
- Engineering Equity, Diversity, and Inclusion Action Group Representative
- Engineering Positive Space Committee Representative

e. Recording Secretary (non-voting)

B4.3.3 Research Committee

.1 The function of the Research Committee (RC) is:

a. To serve as an advisory and coordinating body to advance engineering research excellence and innovation, and strengthen the Faculty's research community.

b. To provide advice on research matters pertaining to strategic planning, and support implementation of the strategic research plan.

Membership
(~~9~~10 voting members)

.2 The membership of the Research Committee consists of:

a. Teaching Staff ~~Associate Chairs, Research~~ (typically Associate Chairs, Research) [~~7~~8]
- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Institute for Aerospace Studies
- Institute for Studies in Transdisciplinary Engineering Education & Practice
- Institute of Biomedical Engineering
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Ex Officio [2]
- Dean
- Vice-Dean, Research

c. Subject Matter Experts ~~Administrative Staff~~ (non-voting) [2]
- FASE Partnership Office~~Director, Foundation & Corporate Partnerships~~ representative
- Director, FASE Research Operations

d. Recording Secretary (non-voting)

B4.3.4 Teaching Methods & Resources Committee

.1 With respect to undergraduate and graduate classroom / course instruction, the Teaching Methods & Resources Committee (TMRC) is responsible for the domain including:

a. Teaching methods, resources, and aids

b. Evaluating and rewarding teaching effectiveness

Membership
(16 voting members)

.2 The membership of the Teaching Methods & Resources Committee consists of:

a. Teaching Staff [9]
- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Engineering Science
- Institute for Aerospace Studies
- Institute for Studies in Transdisciplinary Engineering Education & Practice
- Institute of Biomedical Engineering
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large
- Undergraduate Students [2]
- Graduate Students [1]
- Alumni/ae [1]

c. Ex Officio [3]
- Vice-Dean, Undergraduate
- Vice-Dean, First Year
- Registrar

d. Subject Matter Experts (non-voting)
- Faculty Educational Technology Specialist
- Faculty Learning Strategist
- Engineering & Computer Science Librarian

e. Recording Secretary (non-voting)

B4.3.5 Undergraduate Admissions Committee

.1 With respect to undergraduate programs, the Undergraduate Admissions Committee (ADM) is responsible for the domain including:

a. Admissions

b. Advanced standing

c. Enrolment planning policy

d. Awards for incoming first year students

Membership (10 voting members)

.2 The membership of the Undergraduate Admissions Committee consists of:

a. Teaching Staff [6]
- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Engineering Science
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large
- Undergraduate Students [1]

c. Ex officio [3]
- Vice-Dean, Undergraduate
- Vice-Dean, First Year or delegate to represent Track One
- Registrar

d. Subject Matter Experts (non-voting)
- Assistant Dean and Director, Diversity, Inclusion and Professionalism
- Associate Director, Engineering Student Recruitment and Retention Office
- Associate Registrar and Director, Admissions
- Departmental Undergraduate Admissions Staff (one from each Academic Unit and Track 1)

e. Recording Secretary (non-voting)

B4.3.6 Undergraduate Assessment Committee

.1 With respect to undergraduate programs or courses, the Undergraduate Assessment Committee (UAC) is responsible for the domain including:

a. Course-level grading practices and standards (including 500-level courses) (Note that instructors "recommend" course grades but the committee determines final grades.)

b. Academic standing including honours, promotion, and Dean's List

c. Policy concerning final exams, e.g., schedule, duration, calculators, requests for regrading and exam viewing, and invigilation

d. Use of non-grade statements and symbols (e.g., EXT, INC, SDF)

e. Petitions in final exams and for special consideration: e.g., grades, promotion regulations, academic standing, late withdrawals, re-enrolment, awarding of degrees, and non-grade symbols and statements

f. Policies concerning term work petitions

.2 Exclusions (managed by):

a. Academic offences (Departments or the Dean's office)

b. Tuition and other financial matters (Registrar)

c. Transfers between programs (Admissions Committee)

d. Student awards and recognitions other than Honours Standing, Dean's List, and Honours upon graduation (SAC)

e. Program load and full-time status (UCC)

f. Program-specific degree requirements (UCC)

g. Policy concerning curricular degree requirements such as the Practical Experience or English Proficiency Requirements (UCC)

h. Student workload associated with student assessment (Departments & UCC)

i. Petitions relating to personal circumstances from graduate students or students from other divisions enrolled in undergraduate FASE courses (Student's originating division)

j. Petitions relating to course-policy issues from FASE undergraduate students in graduate or non-FASE courses (Graduate Division Academic Appeals Committee (GDAAC), or course division)

Membership
(13 voting members)

3 The membership of the Undergraduate Assessment Committee consists of:

a. Teaching Staff [7]

- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Engineering Science
- Institute for Studies in Transdisciplinary Engineering Education & Practice
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large
- Undergraduate Students [2][1]
- Non-academic Staff – Departmental Undergraduate Academic Advisor [1]

c. Ex Officio [3]
- Registrar
- Vice-Dean, First Year
- Vice-Dean, Undergraduate

d. Subject Matter Experts (non-voting)
- Associate Registrar, Student Services and Records
- Departmental Undergrad Academic Advisors (from the first-year office and from each undergraduate program)

e. Recording Secretary (non-voting)

B4.3.7 Undergraduate Curriculum Committee

.1 With respect to undergraduate programs, the Undergraduate Curriculum Committee (UCC) is responsible for the domain including:

a. Curriculum change

b. Curriculum quality control including:
- Canadian Engineering Accreditation Board (CEAB) Graduate Attributes (GA)
- CEAB Accreditation units (AU)
- U of T Quality Assurance and Degree Level Expectations

c. Selection of sessional dates

Membership (18 voting members)

.2 The membership of the Undergraduate Curriculum Committee consists of:

a. Teaching Staff (9)
- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering

[1] Four undergraduate students will be voting members in order to share the considerable burden of the work of this committee among four rather than two students. At any given time, only two students will count towards quorum and only two students will be permitted to vote.

- Engineering Science
- Institute for Aerospace Studies
- Institute for Studies in Transdisciplinary Engineering Education & Practice
- Institute of Biomedical Engineering
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large
- Undergraduate Students [2]

c. Ex Officio [7]
- Vice-Dean, Undergraduate
- Vice-Dean, First Year
- Associate Dean, Cross-Disciplinary Programs
- Registrar
- Director, First Year Curriculum
- Assistant Dean and Director of Diversity, Inclusion and Professionalism
- Engineering Society Vice President, Academic

d. Subject Matter Experts (non-voting)
- Scheduling Officer (Registrar's office)
- Faculty Teaching and Learning Specialist
- Engineering & Computer Science Librarian
- Assistant Director, Cross-Disciplinary Programs

e. Recording Secretary (non-voting)

B4.3.8 Undergraduate Scholarships & Awards Committee

.1 With respect to undergraduate programs or courses, the Undergraduate Scholarships & Awards Committee (USAC) is responsible for the domain including:

a. Academic awards, grants and prizes controlled by the Faculty

b. Promoting student awareness of external awards and aid

.2 Exclusions: (managed by)

a. Awards for incoming first-year students (Undergraduate Admissions Committee)

Membership
(13 voting members)

.3 The membership of the Undergraduate Scholarships & Awards Committee is comprised as follows:

a. Teaching Staff [6]
- Chemical Engineering & Applied Chemistry
- Civil & Mineral Engineering
- Electrical & Computer Engineering
- Engineering Science
- Materials Science & Engineering
- Mechanical & Industrial Engineering

b. Members-at-Large
- Alumni/ae [1]
- Undergraduate Students [2]

c. Ex Officio [4]
- Awards Administrator, Registrar's Office
- Registrar
- Vice-Dean, First Year
- Vice-Dean, Undergraduate

d. Subject Matter Experts (non-voting)
- Assistant Director, Student Experience & Teaching Development
- Undergrad Academic Advisors (one from the first-year office and one from each Academic Unit)

e. Recording Secretary (non-voting)

B4.4 Special Committees

.1 From time to time, Council may establish Special Committees to consider particular issues. Special Committees are normally formed on the recommendation of the Executive Committee, when one or more of the following conditions exist:

a. An issue cannot be accommodated easily within a Standing Committee's schedule – either intense scrutiny is required in a relatively short time or thorough examination of complex issues is necessary over a relatively long period of time

b. An issue does not fall readily under an existing Standing Committee, or

c. There is need for the participation of experts not represented on the relevant committee

.2 A recommendation from the Executive Committee to establish a Special Committee shall include terms of reference, an outline of membership, the anticipated reporting date, and the proposed date of disestablishment.

.3 At the final meeting of Council of the academic year, each Special Committee shall recommend either that it be discharged or that it be continued. If no such recommendation be made for a particular Committee, then that Committee shall be deemed to have been discharged as of the adjournment of the final meeting of Council.

B5 Amendments

.1 First approved November 26, 1997. Most recent amendment approved by Faculty Council on April 26, 2023. ~~April 27, 2022.~~

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3741

MEMORANDUM

To: Executive Committee of Faculty Council (April 4, 2023)
Faculty Council (April 26, 2023)

From: Professor Craig Steeves
Vice-Dean, Graduate Studies

Professor Tobin Filleter
Department of Mechanical & Industrial Engineering

Date: March 6, 2023

Re: **Closure of Dual Degree Program between the Department of Mechanical & Industrial Engineering and the South China University of Technology**

REPORT CLASSIFICATION

This is a major policy matter that will be considered by the Executive Committee for endorsement and forwarding to Faculty Council for vote as a regular motion (requiring a simple majority of members present and voting to carry).

BACKGROUND

In 2013, a "3+2" program was created to allow students from the South China University of Technology (SCUT) to complete, consecutively, the Bachelor of Engineering at their home institution with their fourth year of undergraduate studies and the Master of Engineering in the Department of Mechanical & Industrial Engineering. The program was formalized in 2017 as a Dual Degree Program (DDP) with an accompanying MOA.

PROPOSED

It is proposed that the Dual Degree Program be closed. It has seen very low enrolment in recent years and it is not anticipated that there will be an increase in successful applicants or enrolment from SCUT.

CONSULTATION PROCESS

In September 2022, admissions were administratively closed to the Dual Degree Program and SCUT was informed that the program would not be renewed. The Vice-Provost, Academic Programs, the Department of Mechanical & Industrial Engineering, and the Faculty's Engineering Graduate Education Committee have been consulted and support this proposal.

RECOMMENDATION FOR COUNCIL

THAT the Dual Degree Program between the Department of Mechanical & Industrial Engineering and the South China University of Technology, as described in Report 3741, be closed effective August 31, 2023.

University of Toronto Proposal

Closure of an Existing International Dual Degree Program (Graduate or Undergraduate)

This template has been developed by the Office of the Vice-Provost, Academic Programs in line with the University of Toronto's Quality Assurance Process (UTQAP). The process followed for the closure of any program is the same as that required for the approval of any new such program.

Closure proposed:	Dual Degree Program involving the University of Toronto's Department of Mechanical & Industrial Engineering and the South China University of Technology's School of Mechanical & Automotive Engineering
Department:	Mechanical & Industrial Engineering
Department contact:	Prof. Tobin Filleter
Faculty/academic division:	Applied Science & Engineering
Faculty/academic division contact:	Prof. Craig Steeves, Acting Vice-Dean, Graduate Studies Caroline Ziegler, Faculty Governance & Programs Officer
Effective date program was administratively suspended to new admissions:	September 2022
Effective date of full closure of program:	August 31, 2023
Version date:	March 6, 2023

1 Brief Summary

- Clarify precisely what is being closed.
- Describe the relationship between what is being closed and any remaining offerings.
- If only part of a program is being closed, clarify the relationship between this and those portions of the program that will remain open.

This proposal is to close the Dual Degree Program between U of T and the South China University of Technology (SCUT) that allows SCUT students to complete, consecutively, the Bachelor of Engineering at their home institution, with their fourth year of undergraduate studies at U of T, and the Master of Engineering at U of T.

2 Rationale

- You may wish to speak to when the program was first created; how long has it been offered; past success of the program.
- What has led to the decision to close the program?
- Provide a full academic rationale, referring for example to changing enrolment; changing disciplinary landscape; shifting expertise of the professoriate; poor quality of the academic offering; overlap with other existing programs.
- Where appropriate, quote from recent unit or program reviews.
- Explain alignment with the unit's academic plan.

The program was first created in 2013 as a "3+2" program under an original Memorandum of Agreement (MOA) between FASE and SCUT. In 2017 a FASE/SCUT proposal and MOA was established to formalize a dual degree program. This MOA expired in December 2022. In September 2022, a letter was sent by the FASE Dean to SCUT indicating the intention to close the program. This was the result of an internal U of T leadership review of the program resulting in a recommendation to not extend or renew the agreement beyond December 2022.

In the 2017 proposal the primary goal of the program was the following:

"… the DDP will support the MIE and FASE goals of increasing the number of international undergraduate students and growing the professional MEng program, and more broadly, contribute to the University goal of strengthening and deepening key international partnerships."

Due to the very low enrolment of this program in recent years (see section 4 below) the program has not appreciably contributed to growing the number of international undergraduate students or the MEng program. Furthermore, given that the offer rate for the MIE MEng program has reduced significantly in the last few years due to increasing general demand in the MEng program, we do not anticipate any increase in the successful applicants or enrolment from SCUT. In fact our records indicate only two successful enrolled students in the dual degree program in the last five years.

3 Impact on Other Programs/Units of the Proposed Closure

- Provide evidence of consultation with any programs/units/faculties that will be affected.
- Describe the positive and negative implications that need to be considered in the closure.
- Describe the impact on the nature and quality of the division's program of study.
- Describe the impact of closure on other units including inter-divisional and inter-institutional agreements/contracts.
- Mention if the courses that supported this degree, program or program option will continue to be offered.

There is no anticipated impact on other programs/units at U of T. As indicated in the proposal's rationale section, the MOA with SCUT expired in December 2022 and the FASE Dean informed SCUT that the Faculty did not wish to renew the agreement. All courses that were available to support this program will continue to be offered as part

of the regular MIE undergraduate and MIE MEng programs. There were never any dedicated courses designed or introduced specifically for this program.

4 Student Accommodation

- Include the current enrolment showing breakdown, by year, in the program or option being closed.

Table 1: Graduate Breakdown

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Enrollment: Undergraduate Non-degree	NA	NA	2	1	1	0	0	0
Enrollment: Special student (Year 1 of dual degree)						0	0	0
Enrollment: Master of Engineering (Year 2 of dual degree)	2	4	3	4	2	1	1	1
Total	2	4	5	5	3	1	1	1

- Provide details concerning how students in progress will be accommodated.
- Will students be allowed to complete their program or be transferred to another program? In the latter instance, comment on the ease with which they can complete the requirements of the new program and show evidence of consultation, if relevant.
- Deadline by which accommodated students must complete the program – if there are grounds for concern, what are their options if they have not completed the program by that deadline?
- Describe the capacity/course availability to accommodate affected students.
- Can inactive students reactivate to the closed program?
- What will the impact of the proposed closure be on the range of academic options available to students in the future (i.e., are there other programs or options that will fill the void that may or may not be created by the closure)?
- Provide details concerning consultation with students around the proposed change, including meetings, town halls, emails, questionnaires as well as any response or feedback received
- Describe how students will be notified of the change following approval.

There is currently only one student enrolled in the program. They will complete the program requirements in Winter 2023 prior to the planned program closure in August 31, 2023. The student has been consulted by the graduate office staff who had indicated that a proposal to close the pathway has been developed, however, this will not occur prior to the planned completion of the student's program in August 2023.

5 Faculty/Staff Accommodation

- Describe the impact, if any, on faculty and staff of the closure.

We do not anticipate any impact on faculty or staff.

6 Approvals Process

The approvals pathway, including UTQAP requirements, is summarized below.

Steps	Dates
VPAP sign-off	March 6, 2023
Departmental (MIE) sign-off	March 8, 2023
Decanal (Vice-Dean, Graduate Studies) sign-off	March 8, 2023
Engineering Graduate Education Committee (EGEC) sign-off	March 10, 2023
Faculty Council approval	April 26, 2023
Submission to Provost's office for information and inclusion in annual report to Quality Council	April 2023

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3742

MEMORANDUM

To: Executive Committee of Faculty Council (April 4, 2023)
Faculty Council (April 26, 2023)

From: Professor Daniel Posen
Chair, Undergraduate Assessment Committee

Date: March 5, 2023

Re: **Computer-Based Exams and Non-Standard Exams**

REPORT CLASSIFICATION

This is a major policy matter that will be considered by the Executive Committee for endorsement and forwarding to Faculty Council for vote as a regular motion (requiring a simple majority of members present and voting to carry).

BACKGROUND

Current regulations (section XI) provide for five different types of exam as outlined below. There is ambiguity regarding computer-based exams, and non-standard exam formats such oral exams and take-home assessments that occur during the final exam period.

- **Type A:** Papers for which no data are permitted other than the information printed on the examination paper.
- **Type B:** Papers for which separate special aids or data, as specified at the top of the examination paper, are provided by the examiner for distribution to the candidates by the Office of the Registrar.
- **Type C:** Papers for which the candidate may prepare, bring to the examination and use, a single aid sheet, downloaded from the Faculty's website, printed on an 8.5"x11" piece of paper. Students may enter on both sides of the aid sheet any information they desire, without restriction, except that nothing may be affixed or appended to it. Such entries will be handwritten and not mechanically reproduced.
- **Type D:** Papers for which the candidate may bring to the examination and use such aids (in the form of printed or written material) as the examiner may specify. The nature of the permitted aids must be clearly specified at the top of the examination paper, and must be announced to the class by the examiner in advance of the examination.
- **Type X:** Papers for which the candidate may bring to the examination and use, any books, notes or other printed or written material, without restriction.

PROPOSAL

That the following two new types of exam be created and added to the end of the list above:

- **Type O** (Other): A different exam format, not covered by one of the existing types. Requires special approval by the Undergraduate Assessment Committee as part of the approval for Composition of Final Marks. Details of the assessment must be communicated to the students prior to the course drop deadline.
- **Type CPU_[ ]:** Examinations which will take place in a computer lab, using software and pre-loaded aids or data specified ahead of time by the instructor. The brackets "[ ]" should be replaced by one of the letters (A, B, C, D, X, O) from an existing exam type, specifying the type of aid material a candidate may bring into the exam room. Open internet access is not permitted except with special permission (Type O). Access to specific websites is permitted only if (a) the websites do not allow communication amongst students, or between students and an outside party, and (b) The Engineering Computing Facility (ECF) team confirms that access can be restricted to only these websites. Instructors using Type CPU are responsible for coordinating with the Registrar's Office and ECF to ensure they are aware of all required procedures and are prepared to administer the exam according to staff guidelines.

In addition, the definition of Type B shall be modified as follows:

- **Type B:** Papers for which separate special aids or data, as specified at the top of the examination paper, are provided by the examiner for distribution to the candidates by the Office of the Registrar or are made available to the students electronically in a computer-based exam.

Finally, the following text will be added immediately following the list of exam types:

Details regarding permitted aids or software (i.e., for Type B, D and/or CPU) must be communicated to the students prior to the course drop deadline.

CONSULTATION

Several consultations have taken place with the Educational Technology Office, Engineering Computing Facility (ECF) team, and a subset of instructors currently using computer-based exams. The proposal was approved by unanimous vote of the Undergraduate Assessment Committee on March 9, 2023.

RECOMMENDATION FOR COUNCIL

THAT new exam types as described in Report 3742 be approved effective September 2023.

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3743

MEMORANDUM

To: Executive Committee of Faculty Council (April 4, 2023)
Faculty Council (April 26, 2023)

From: Professor Evan Bentz
Chair, Undergraduate Curriculum Committee

Date: March 28, 2023

Re: Major Curriculum Changes for the 2023-2024 Academic Year

REPORT CLASSIFICATION

This is a major policy matter that will be considered by the Executive Committee for endorsing and forwarding to Faculty Council for vote as a regular motion (requiring a simple majority of members present and voting to carry).

SUMMARY

The Undergraduate Curriculum Committee is tasked with managing the curriculum change process for the Faculty. This report summarizes course changes proposed for the 2023-2024 academic year.

PROCESS AND CONSULTATION

These changes have been reviewed and approved by the Undergraduate Curriculum Committee, which is comprised of teaching staff representatives from the Faculty's departments and institutes; undergraduate student representatives; the Vice-Dean, Undergraduate; the Vice-Dean, First Year; the Director, First Year Curriculum; the Associate Dean, Cross-Disciplinary Programs; the Assistant Dean and Director, Diversity, Inclusion and Professionalism; and the Faculty Registrar. The Committee meets regularly to review and approve proposed changes to the undergraduate curriculum. The impact of these changes on students in the relevant programs has been considered.

RECOMMENDATION FOR FACULTY COUNCIL

THAT the proposed curriculum changes for the 2023-2024 academic year, as described in Report 3743, be approved.

PROPOSED CURRICULUM CHANGES

1. CROSS DISCIPLINARY PROGRAMS

1.1. Update calendar description for **APS330H1 S: Interdisciplinary Studies for Sustainability & Innovation: How to Change the World**

CURRENT calendar description: This is an interdisciplinary and multi-university project-based course focused on positively impacting the complex sustainability challenges faced by real-world communities around the world. Throughout this course, students work in small (three to five person) interdisciplinary and multi-university teams in order to (1) identify and understand a well-defined sustainability (social and/or environmental) problem faced by a real-world community, and then (2) devise, design and propose an implementable idea for positively impacting that problem. During the course, students are provided with multiple facilitated and structured opportunities to: engage directly with local stakeholders from the community their team is focused on; receive mentorship from a global network of experienced sustainability and innovation experts; and collaborate with a diverse array of students from other disciplines and institutions working on similar sustainability problems with other communities around the world.

PROPOSED calendar description: This is an interdisciplinary and multi-university project-based course focused on positively impacting the complex sustainability challenges faced by real-world communities around the world. Throughout this course, students work in small (three to five person) interdisciplinary and multi-university teams in order to (1) identify and understand a well-defined sustainability (social and/or environmental) problem faced by a real-world community, and then (2) devise, design and propose an implementable idea for positively impacting that problem. During the course, students are provided with multiple facilitated and structured opportunities to: engage directly with local stakeholders from the community their team is focused on; receive mentorship from a global network of experienced sustainability and innovation experts; and collaborate with a diverse array of students from other disciplines and institutions working on similar sustainability problems with other communities around the world. <u>Admission to this course will be by application conducted in the Fall. The schedule for this course will be determined in the Fall in consultation with the participating universities. Students will be able to select the section that best fits their schedule after they have been accepted to the course.</u>

- *This addition is to provide better information for students while they are planning their course enrolment. This is a fully online, multi-university course, coordinated by the How to Change the World organization in the UK. There will be 25 spaces available for U of T engineering students. Schedules will be dependent on the participating universities but will provide multiple options for students to select from.*

1.2. Create new course **GLB401Y1 Y: Global Leadership Capstone Project**

PROPOSED calendar description: is culminating capstone course draws students together in a studio course to work on a group project with an external partner organization. Students will work in multidisciplinary teams, mentored by a faculty expert, to draw on content and experiences from their previous coursework and experience. The goal is for students to demonstrate leadership in addressing an issue that is active, real, and seen as having global reach, relevance, or implications. This course will challenge students to draw on their own learning to date, analogize to other fields where relevant, and to collaborate with peers to address complex questions. In addition to submitting a final capstone report, students will present their projects at an annual capstone event. This course will be delivered primarily online through synchronous/asynchronous delivery with specific in-person activities scheduled throughout the course.

- *This course is the 3rd core course in the Tri-Campus Global Leadership Minor. At the time of approval of the Engineering version of the minor, this course was planned to be offered by the Faculty of Arts & Science. Development of the course has now moved to FASE. This course will be first offered in the 2025-26 academic year, but needs to be created now to allow for student program planning in Degree Explorer, etc.*

2. ENGINEERING SCIENCE

2.1. Update course calendar to reflect the following course scheduling changes made in 2021:

Move **ESC470: Energy Systems Capstone Design** to the Fall semester

Move **CIV401: Design and Optimization of Hydro and Wind Electric Plants** to the Winter semester

- *Make calendar consistent with modified course alignment.*

2.2. Remove **ECE352: Computer Organization** from Robotics Major elective list for 2024-2025 calendar onwards

- ***ECE352: Computer Organization** is an exclusion to core course **MIE438: Microprocessors and Embedded Microcontrollers***

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3744R

MEMORANDUM

To: Executive Committee of Faculty Council (April 4, 2023)
Faculty Council (April 26, 2023)

From: Professor Marianne Hatzopoulou
Chair, Engineering Graduate Education Committee (EGEC)

Date: March 13, 2023; revised March 29, 2023

Re: **Engineering Graduate Education Committee Information Update**

REPORT CLASSIFICATION

This is a routine or minor policy matter that has been approved by the Engineering Graduate Education Committee (EGEC). It will be considered by the Executive Committee for approval and forwarding to Faculty Council for information.

NEW COURSES APPROVED

ECE 1660	Risk-Aware and Stochastic Control Theory with Learning.

NAME OR CODE CHANGE

MIE 1626	Modifying the course name from "Data Science Methods and Quantitative Analysis" to "Data Science Methods and Statistical Learning".
TEP5500	APS5500 (Research Methods and Project Execution) renumbered to TEP5500 (ISTEP course code).

PROGRAM MODIFICATIONS

Closure of MIE-SCUT DDP	Proposal to close MIE-SCUT DDP approved. Dual Degree Program involving the University of Toronto's Department of Mechanical & Industrial Engineering and the South China University of Technology's School of Mechanical & Automotive Engineering.
New MEng Emphasis	New MEng emphasis in ChemEng in "Environmental Engineering Consulting". See appended proposal.

RECOMMENDATION FOR FACULTY COUNCIL

For information.

Proposal for a New Emphasis in Environmental Engineering Consulting

Change to an Existing Graduate Program or Collaborative Specialization

Program being modified:	MEng in Chemical Engineering & Applied Chemistry
Graduate unit:	Chemical Engineering & Applied Chemistry
Faculty/academic division:	Applied Science & Engineering
Dean's office contact:	Julie Audet, Vice-Dean, Graduate Studies Caroline Ziegler, Governance & Programs Officer
Version date:	March 29, 2023

1 Summary

	Changing admission requirements		Renaming field, concentration or emphasis*
	Changing program requirements		Renaming of program or collaborative specialization (please notify VPAP before governance)
	Changing timing of program requirements	X	Creating a new emphasis
			Changes to programs affecting an MOA

The Department of Chemical Engineering & Applied Chemistry proposed to offer a new emphasis called "Environmental Engineering Consulting." The Emphasis will be open to MEng students in the Chemical Engineering & Applied Chemistry. Students will be required to complete 4 half courses, totalling 2.0 FCEs, to earn the Emphasis. The course requirements are as follows:

At least **0.5 FCEs** in core courses selected from:

- CHE1151H - Engineering Systems Sustainability
- CHE1431H - Environmental Auditing
- CHE1432H - Technical Aspects of Environmental Regulations
- CME549H - Groundwater Flow and Contamination
- CIV1319H - Chemistry and Analysis of Water and Waste

The remaining courses are electives selected from the following list:

- CHE 561H - Risk Based Safety Management
- CHE1150H - Industrial Water Treatment
- CHE1433H - Air Dispersion Modelling

- CIV536H - Urban Activity, Air Pollution, and Health
- CIV541H - Environmental Biotechnology
- CIV1308H - Physical and Chemical Treatment Processes
- CIV1321H - Large Scale Infrastructure and Sustainability
- CME500 “Fundamentals of Acid Rock Drainage
- JCC1313H - Environmental Microbiology
- JNC2503H - Environmental Pathways

2 Effective Date of Change

May 1, 2023.

3 Academic Rationale

- *What are the academic reasons for the change?*

Human activities, including industrial, commercial, and agricultural, are the main factor contributing to environmental contamination, threatening the human well-being and health of the entire planet. The most imminent consequence of these activities is climate change, which has triggered the current climate crisis: extreme weather events have caused floods, landslides, drought, wildfires, and damage to man-made structures and animal habitats. Human activity also poses significant risks to all countries' financial systems and economies.

Governments have designed, adopted, and regularly updated environmental policies and regulations to minimize the harmful effects of human activities on ecosystems. However, several challenges arise from their implementation, including technical challenges such as the design, operation, and optimization of cost-effective technologies for monitoring, mitigating, and remediating the impact of contaminants. Multi-disciplinary teams and stand-alone consultants join efforts during project life cycles to create solutions aligned to these regulations, addressing opportunities to tackle these challenges. Environmental engineering consultants are key participants in planning and executing these projects. Environmental engineering services ensure that systems, plans, and monitoring strategies are developed, implemented, and maintained to meet project objectives. Moreover, the GTA area is the home to many environmental engineering consulting companies, including Stantec, Golder and Hatch, to name a few.

Given the demand for formally trained environmental engineering consultants, a new emphasis is proposed by the Department of Chemical Engineering & Applied Chemistry, with the support of the Department of Civil & Mineral Engineering. The new emphasis in Environmental Engineering Consulting builds on the Faculty's strength. The core of the new emphasis is a set of courses offered by environmental engineering consulting practitioners (e.g. CHE1151H - Engineering Systems Sustainability; CHE1431H - Environmental Auditing and CHE1432H - Technical Aspects of Environmental Regulations)

and foundational courses that build students' competency in conducting environmental engineering consulting (e.g. CIV549H - Groundwater Flow and Contamination and CIV1319H - Chemistry and Analysis of Water and Waste). Moreover, the two engineering departments offer ten highly relevant courses, which students can take to meet the emphasis requirement. Other Faculties also have courses that students can take to broaden their knowledge.

Through this emphasis, students will have opportunities to gain essential knowledge in monitoring, sustainable treatment technologies, modelling, environmental regulations, project management, and risk assessment. The new emphasis will guide students in the MEng program, help them build knowledge, and develop expertise relevant to society. In addition, it is expected that the new emphasis will help emphasize the Faculty's strength in environmental engineering consulting and create new opportunities to establish industrial partnerships through education. Finally, the Department of Chemical Engineering & Applied Chemistry will continue to work with the Department of Civil & Mineral Engineering to enhance the new emphasis, over time, by developing new courses and creating projects and co-op opportunities for MEng students.

4 Impact on Students

- *Outline the expected impact on continuing and incoming students, if any, and how they will be accommodated.*

Environmental consulting engineers are in high demand. Environmental-related projects to monitor contaminants, and mitigate their effects on the ecosystems, mean that engineers with this training are highly sought after. Hence, this specialized field requires formal training, as this career path cannot quickly pivot.

After completing the requirement (4 half courses), students will earn the emphasis by requesting the notation on their transcripts to the FASE graduate office.

5 Consultation

- *Describe any consultation undertaken with the students, faculty, Dean and chair/director. Address any major issues discussed.*

The proposal was developed by the Department of Chemical Engineering & Applied Chemistry in consultation with the Department of Civil & Mineral Engineering and the Vice-Dean of Graduate Studies. The proposal was prepared after surveying MEng students in the Chemical Engineering & Applied Chemistry Department. The draft proposal was presented at the Chemical Engineering Departmental meeting. For feedback, the proposal was circulated within the environmental group in the Department of Civil & Mineral Engineering and the Graduate Studies Committee in the Department of Chemical Engineering & Applied Chemistry. Revisions were made to

address the feedback. The Graduate Studies Committee in the Department of Chemical Engineering & Applied Chemistry approved the revised proposal. Subsequently, the proposal was reviewed by the Faculty's Engineering Graduate Education Committee (EGEC).

Note: A survey conducted in October 2022 by the Graduate Office on MEng students shows that, out of 37 respondents, 70% of the students support the proposed new emphasis.

6 Resources

- *Describe any resource implications of the change(s) including, but not limited to, faculty complement, space, libraries and enrolment/admissions).*

None that are not already allocated.

7 Governance Approval

Unit sign-off	CHE Graduate Studies Committee, November 28, 2022
Dean's Office sign-off	Julie Audet, Vice-Dean, Graduate Studies, November 30, 2022
Vice-Provost, Academic sign-off	March 2023
Faculty/division council approval (or delegated body) if applicable	Approved on March 10, 2023 by the Engineering Graduate Education Committee (EGEC) on behalf of the Council of the Faculty of Applied Science & Engineering. Received for information by the Council of the Faculty of Applied Science & Engineering on April 26, 2023.

Appendix A: Calendar Entry

MEng students must successfully complete **four half courses (2.0 FCE),** including **at least one core (0.5 FCE)** course in the following list.

Core courses

CHE1151H - Engineering Systems Sustainability
CHE1431H - Environmental Auditing
CHE1432H - Technical Aspects of Environmental Regulations
CME549H - Groundwater Flow and Contamination
CIV1319H - Chemistry and Analysis of Water and Waste

The remaining coursework may be taken from the Elective courses list

Elective courses

CHE 561H - Risk Based Safety Management
CHE1150H - Industrial Water Treatment
CHE1433H - Air Dispersion Modelling
CIV536H - Urban Activity, Air Pollution, and Health
CIV541H - Environmental Biotechnology
CIV1308H - Physical and Chemical Treatment Processes
CIV1321H - Large Scale Infrastructure and Sustainability
CME500 - Fundamentals of Acid Rock Drainage
JCC1313H - Environmental Microbiology
JNC2503H - Environmental Pathways

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3745

MEMORANDUM

To: Executive Committee of Faculty Council (April 4, 2023)
Faculty Council (April 26, 2023)

From: Professor Daniel Posen
Chair, Undergraduate Assessment Committee

Date: March 3, 2023

Re: **Undergraduate Assessment Committee Update for the 2022-2023 Academic Year**

REPORT CLASSIFICATION

This is a routine or minor policy matter that will be considered by the Executive Committee for approving and forwarding to Faculty Council for information.

BACKGROUND

In accordance with Procedures for Committees of Council of the Faculty of Applied Science and Engineering, this report is a brief summary of the activities undertaken by the Undergraduate Assessment Committee (UAC) during the current academic year.

ACTIVITIES

From August 2022 to March 2023, UAC has met approximately 25 times, for a total of approximately 40-45 hours of meeting time. In addition, UAC maintains an active Teams site, which includes regular discussion and e-voting for certain time-sensitive matters. Many UAC members also spend time outside of meetings to develop new policy proposal and communications to the Faculty. Undergraduate advisors have also met numerous times outside of UAC to review petitions prior to UAC meetings. A more detailed accounting of key UAC activities is described in the sections below.

RECOMMENDATION FOR COUNCIL

For information.

Faculty Grading Practices

At the end of each term, UAC reviews undergraduate course grades for consistency and fairness across the faculty and communicates with instructors about any concerns (see Report 3868 for more information about Faculty Norms).

The committee also reviews proposed Composition of Final Marks (COFM) for all undergraduate courses, and adjudicates requests for deviations from the Faculty Grading Policies (Academic Regulations, Section XI). For the 2022-2023 academic year, approximately 40-50 such requests were received. A majority were approved. Of note: approximately 160 courses (~1/3 of courses in the Faculty) have either automatic or pre-existing exemptions from Faculty COFM rules – primarily design courses and laboratory courses. As a snapshot: in Winter 2023, approximately 50 out of 250 course codes deviated from the standard COFM, generally by exceeding 50% weight on not closely supervised work and/or by having no final exam.

Policy Discussions

Throughout the current academic year, UAC has discussed a number of policy items related to:

- Procedures surrounding petition adjudication
- Assessment Mark and Deferred Exam policies
- Computer-based exams
- Restricted exam policies
- Composition of Final Marks (e.g., for Design Courses)
- Extra Credit Policy
- Exam Viewing and Exam Copies (especially with regard to electronically graded exams)
- Clarification of various existing Academic Regulations
- UAC Manual Updates

As relevant, policy proposals related to these topics have been / will be presented to Faculty Council.

Petitions

Adjudicating petitions for special consideration and for final exams constitutes a majority of the Committee meeting time. Straightforward petitions are reviewed and accommodated in separate meetings of the Undergraduate Academic Advisors; however UAC still reviews several hundred petitions per year, either in Full Committee or on occasion with Sub-Committees. Note that Term Work Petitions are generally evaluated at the departmental level and are seen by UAC only in the event of a dispute.

Since returning to in-person learning, there has been a large increase in the number of petitions compared to the historical average as shown in Figures 1-3 below. The trends are generally consistent across programs and years of study, with the exception of 4th year, where the increase is present but less pronounced. A number of factors may have contributed to this increase. Potential reasons discussed in UAC are listed below, but these are mostly speculative:

- Canceled Exam Period in 2021: 9 (Special Consideration petitions for deferred exam)
- University policy allowing self-declaration of absence for illnesses
- Shift in cultural norms or student preparation resulting from remote learning
    - Including explicit communication by the Faculty not to attend final exam if ill, and accelerated deferred exam schedule in Winter 2022
- More flexible promotion rules adopted during remote learning
- Increased rates of illness following the end of lockdowns

The Committee will continue to monitor these data for trends over the coming semesters.

So far, in the 2022-2023 academic year, approximately 75% of requests for Special Consideration were deemed valid and received some type of accommodation. Approximately 90% of final exam petitions received were deemed valid and received some type of accommodation, most often either an assessed mark or deferred exam. We speculate that petitions with a low likelihood of success are generally not submitted in the first place.

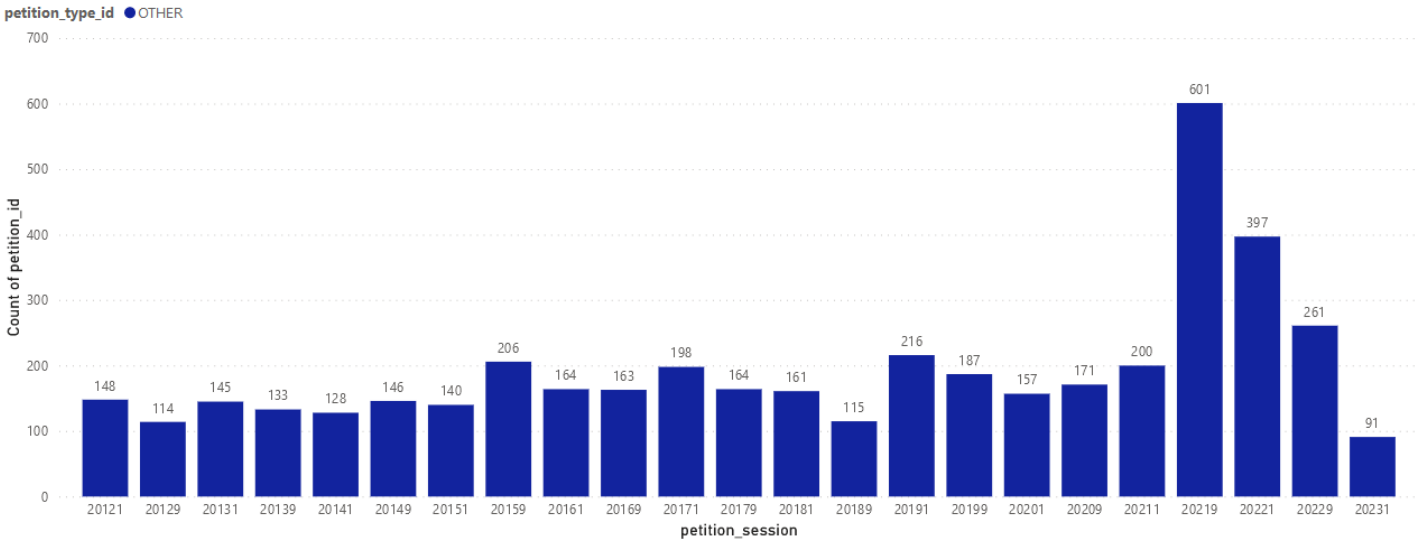


Figure 1. Petitions for Special Consideration (e.g., retroactive withdrawals, probation relief, relaxation of 9-year rule for graduation). As of March 3, 2023.

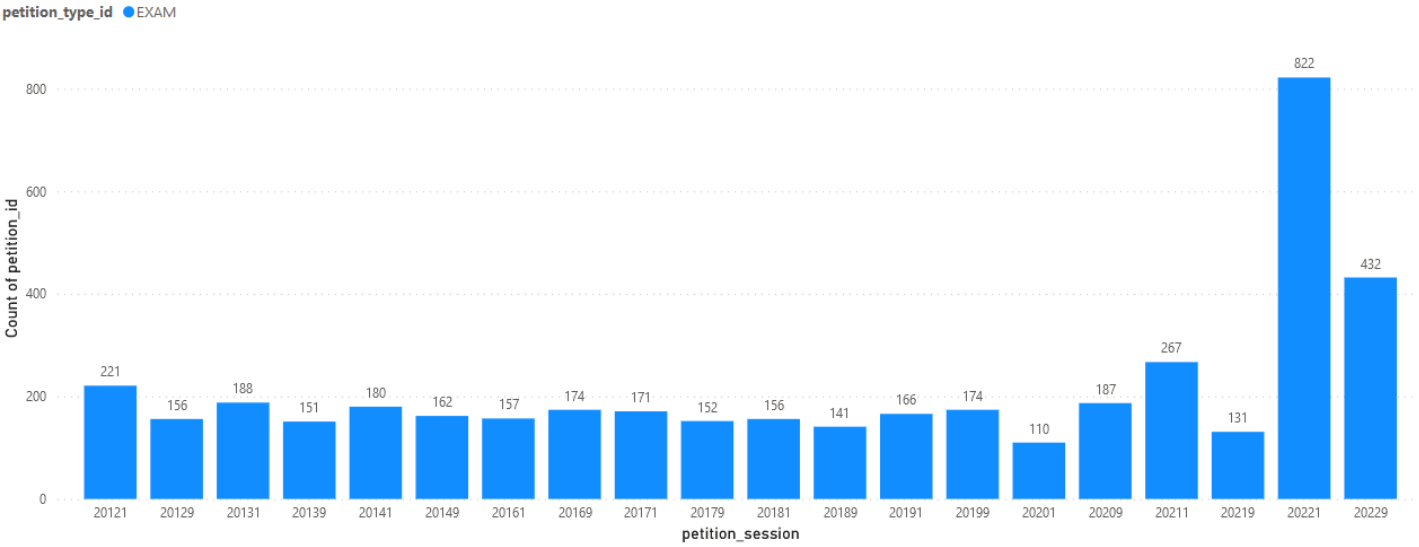


Figure 2. Petitions for Final Exams (e.g., missed exam, illness during exam). As of March 3, 2023.

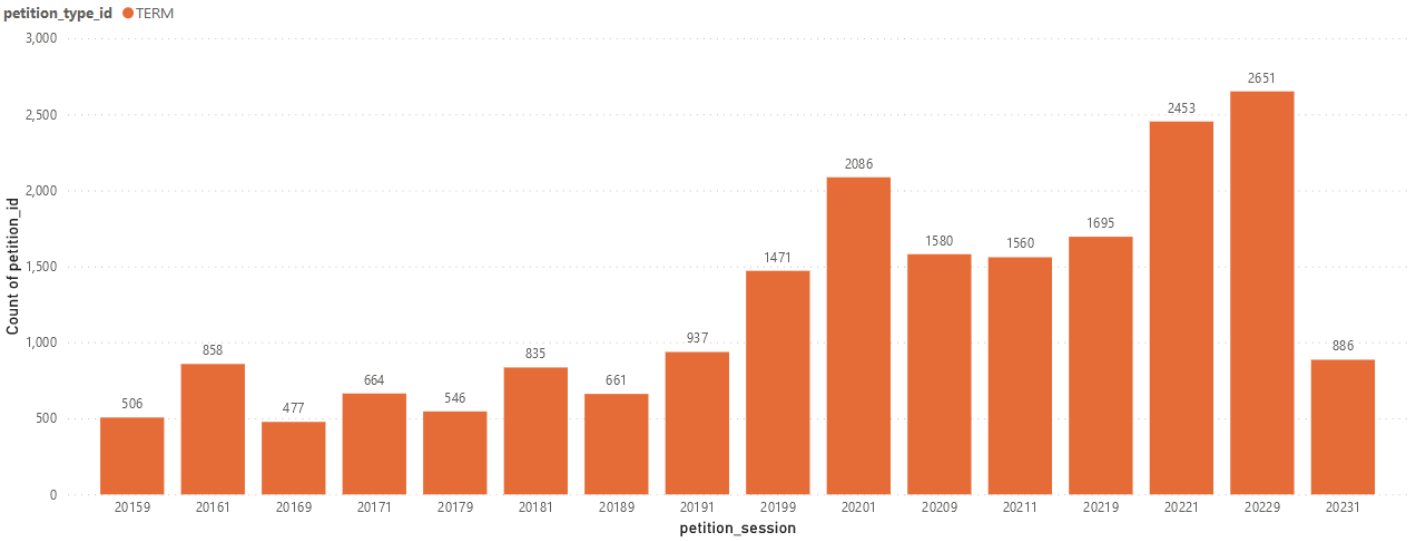


Figure 3. Term Work Petitions (e.g., assignment extensions, missed midterms). March 3, 2023.

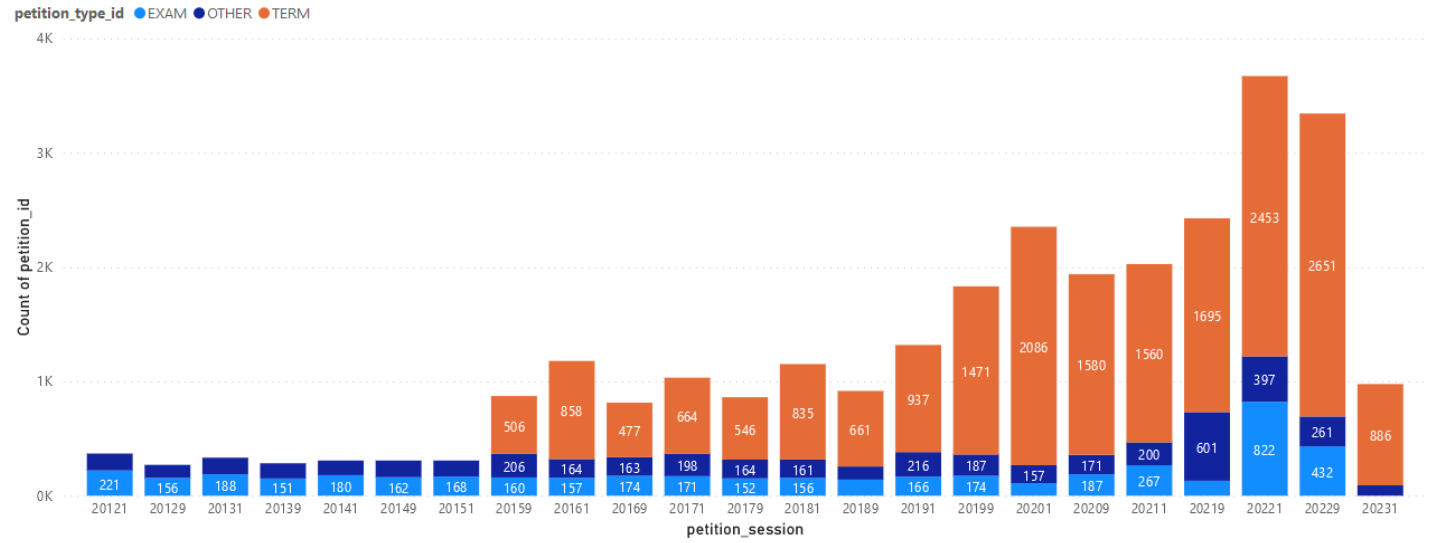


Figure 4. All petition types on a common scale. Light blue = Final Exams; dark blue = Special Consideration; Orange = Term Work. March 3, 2023.

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Report No. 3747

MEMORANDUM

To: Faculty Council (April 26, 2023)

From: Professor Daniel Posen
Chair, Undergraduate Assessment Committee

Date: April 25, 2023

Re: **Revision of Undergraduate Assessment Committee Manual**

Each standing committee is required to maintain a manual of operation which provides detail particular to its responsibilities and operations.

At its December 16, 2021 meeting, Faculty Council approved the recommendation in Report 3693 Revised that instead of Council approving each standing committee manual of operation (as was the case), each committee's terms of reference, domain and membership composition would be specified in the Council by-laws and reviewed at least every five years by the committee, with the bylaws updated as necessary.

It was also recommended that each standing committee review its manual of operation and update or re-affirm it without change, at least every five years or more frequently as needed. Any changes to the manuals of operation must be approved by the Speaker of Council, reported to Faculty Council for information and posted on the Faculty Council website.

The manual of the Undergraduate Assessment Committee (formerly Examinations Committee) was last revised in December 2010 and therefore required updating.

The attached revised manual was reviewed by the Secretary of Faculty Council, approved by the Undergraduate Assessment Committee and approved by the Speaker of Faculty Council.

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Manual for the Undergraduate Assessment Committee

A Standing Committee of Faculty Council

Approved by the Speaker of the Council of the
Faculty of Applied Science & Engineering: April 25, 2023

UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Manual for the Undergraduate Assessment Committee

Preamble
Each Standing Committee of Council and the Academic Appeals Board are to be operated within the guidelines provided by the *Procedures for Standing Committees of Council*.

Each Standing Committee is required to have an up-to-date manual of operation approved by the Speaker of Faculty Council which provides detail particular to the committee. The purpose of the manual is to promote clarity and consistency in committee responsibilities and operations.

1. Name of the Committee
Undergraduate Assessment Committee (UAC)

2. Terms of Reference
On behalf of Faculty Council, each Standing Committee, being comprised of representative of stakeholders within the domain of the committee and supported by subject matter experts and administrative staff, is responsible, with respect to the domain to:

1. Provide a forum for the full range of stakeholder voices to discuss present practice and new proposals;
2. Pursue best practice: investigate, study, report on and promote;
3. Review, periodically, policies and procedures;
4. Recommend, as appropriate, changes to policy and procedures;
5. Carry out specific, defined duties;
6. Report, regularly, to Council on its activities and intentions.

3. Domain
With respect to undergraduate programs or courses, the Undergraduate Assessment Committee is responsible for the domain including:

a) Course-level grading practices and standards (including 500-level courses); (Note that instructors “recommend” course grades but the Committee determines final grades.)
b) Academic standing including honours, promotion, and Dean’s List;
c) Policy concerning final exams, e.g., schedule, duration, calculators, requests for regrading and exam viewing, and invigilation;
d) Use of non-grade statements and symbols (e.g., EXT, INC, SDF);
e) Petitions in final exams and for special consideration, e.g., grades, promotion; regulations, academic standing, late withdrawals, re-enrolment, awarding of degrees, and non-grade symbols and statements;
f) Policies concerning term work petitions.

Exclusions (managed by):

a) Academic offences (Departments or the Dean's Office);
b) Tuition and other financial matters (Registrar);
c) Transfers between programs (Undergraduate Admissions Committee);
d) Student awards and recognitions other than Honours Standing, Dean's List, and Honours upon graduation (Undergraduate Scholarships & Awards Committee);
e) Program load and full-time status (Undergraduate Curriculum Committee);
f) Program-specific degree requirements (Undergraduate Curriculum Committee);
g) Policy concerning curricular degree requirements such as the Practical Experience or English Proficiency Requirements (Undergraduate Curriculum Committee);
h) Student workload associated with student assessment (Departments and Undergraduate Curriculum Committee);
i) Petitions relating to personal circumstances from graduate students or students from other divisions enrolled in undergraduate FASE courses (student's originating division);
j) Petitions relating to course-policy issues from FASE undergraduate students in graduate or non-FASE courses (Graduate Division Academic Appeals Committee (GDAAC), or course division).

4. Membership

Constituent Group	**Number**	**Length of Term**	**Notes**
Teaching Staff: Representing Academic Units • Chemical Engineering & Applied Chemistry • Civil & Mineral Engineering • Electrical & Computer Engineering • Engineering Science • Institute for Studies in Transdisciplinary Engineering Education & Practice • Materials Science & Engineering • Mechanical & Industrial Engineering	7	3 years	One from each listed unit
Undergraduate Students	2	1 year	Four appointed, two voting[1]
Non-academic Staff – Department Academic Advisor	1	1 year	See appendix for selection procedure
Ex-Officio • Registrar • Vice-Dean, First Year • Vice-Dean, Undergraduate	3	Ongoing	
Subject Matter Experts (non-voting) • Associate Registrar, Student Services and Records	1	Ongoing	

[1] Four undergraduate students will be voting members in order to share the considerable burden of the work of this committee among four rather than two students. At any given time, only two students will count towards quorum and only two students will be permitted to vote.

Constituent Group	Number	Length of Term	Notes
• Department Undergraduate Academic Advisors (from the First-Year Office and from each undergraduate program)	~10		Exact numbers fluctuate depending on how departments manage advising
Recording Secretary (non-voting)		Ongoing	

5. Duties

In carrying out its duties, the Undergraduate Assessment Committee aims to ensure integrity, consistency and fairness in assessment and promotion practices for students in undergraduate engineering academic programs and/or courses.

5.1. Policy Duties

The Undergraduate Assessment Committee shall review and, when appropriate, recommend to the Faculty Council amendments to the Faculty Grading Policies, student promotion regulations, handling of petitions, policies concerning the administration of final course examinations, and policies concerning any other areas within the Committee's domain.

5.2. Recurring Duties (Routine, Administrative)

The recurring/administrative duties of the Undergraduate Assessment Committee are to:

a) Review proposed Composition of Final Marks for courses which deviate from Faculty Grading Policies and determine if the instructor must submit a request for permission for this deviation;
b) Adjudicate instructor requests to deviate from Faculty Grading Policies. To assist the Committee, the Registrar's Office shall maintain a record of such approvals, including the duration for which the approval is granted (e.g., one semester; 10 years);
c) Review final course grades recommended by instructors with the goal of maintaining consistent standards of student evaluation. The Committee has the final responsibility for assigning the official course grade. If grades fall outside the Faculty norms, the following steps should be taken (in priority order):
    (i) Seek clarification/justification from the instructor;
    (ii) If the Committee feels the justification is insufficient, either issue a warning or request that the instructor adjust the grades accordingly;
    (iii) If the instructor is unavailable or unwilling to adjust their grades, undertake such adjustment directly. Where grades are adjusted by the Committee, the students as well as the instructor shall be informed. On request, the students or the instructor shall be given the reason for the adjustment of grades and a description of the methodology used to adjust the grades.
d) Evaluate final course grades shortly after the end of exam period (generally within 10 working days) and ensure that students are notified in a timely manner of their pass/fail or probation status;
e) Review and adjudicate all petitions falling under its domain in in a timely, fair and consistent manner. To assist the Committee in maintaining consistency in its

decisions, the Committee will regularly review and update guidelines summarizing past deliberations and decisions;

f) Review and adjudicate appeals and disputes regarding term work petitions. Authority to review and adjudicate validity of a term work petitions is otherwise delegated to the relevant undergraduate advisor in consultation with the department Associate Chair if needed; authority to decide on an appropriate accommodation for a term work petition is otherwise delegated to the course instructor;
g) Ensure departments have procedures in place to verify that students who graduate have completed an approved program;
h) Inform the relevant Department Chair in cases of faculty non-compliance with policies under the jurisdiction of the Undergraduate Assessment Committee and coordinate to achieve a resolution;
i) Ensure that the Committee's manual of procedures is regularly reviewed and updated as necessary.

5.3. Reporting and Coordinating Duties

Reporting duties of the Undergraduate Assessment Committee include:

a) Reporting its actions and recommendations according to the Procedures for Committees of Council;
b) Reporting annually a summary of the Committee's activities to Faculty Council for information;
c) Periodically reporting to Faculty Council relevant trends in course grades and student petitions;
d) Submitting the minutes of its meetings to the Secretary of Faculty Council for archiving.

The Committee shall be cognizant of a number of duties routinely performed by the Registrar's Office which relate to the Undergraduate Assessment Committee. Some of these include:

a) Collecting information regarding Composition of Final Marks and final exam type for all undergraduate engineering courses;
b) Administering instructor requests to deviate from Faculty Grading Policies;
c) Collecting final examination papers within three working days prior to each examination;
d) Ensuring that final exams are supervised, wherever possible, by the course instructor or an appropriate replacement from the academic staff;
e) Collecting marks from course instructors within 10 calendar days after their examination;
f) Ensuring that term work reports are collected from instructors whenever needed to assess students' performance in the term;
g) Providing students with official course grades as soon as possible after the Committee holds its sessional meetings;
h) Administering Committee decisions on petitions;
i) Providing to the University, for each convocation period, a complete list of students who are eligible to graduate with either pass or honours standing.

6. Rules and Procedures Differing from the Procedures for Committees of Council

6.1. Deviations from Quorum Requirements

A quorum of 6 voting members (40%, rounded up) is normally required to carry out any of the Committee's recurring duties with the following exceptions.

a) Where expectations from the Committee are clear due to recent precedent or explicit guidelines, the following decisions can be taken without quorum:
   (i) Deviations from Faculty Grading Practices may be approved jointly by either the Committee Chair or Vice-Chair, in conjunction with the teaching staff member representing the department to which the course belongs. If one person occupies both roles, then an additional voting member should also be consulted;
   (ii) Uncontentious petitions may be adjudicated by a majority of undergraduate advisors. If there is any doubt regarding how the Committee would rule, the petition must be referred either to the full Committee or a sub-Committee as defined below.

b) At the discretion of the Undergraduate Assessment Committee Chair, petitions decisions may be delegated to one or more subcommittees. A valid subcommittee should include at least three voting members (or appropriate designates), including:
   (i) One member of Committee leadership (Chair, Vice Chair or Vice Dean), who will serve as convener;
   (ii) A teaching staff representative from the affected department;
   (iii) A student representative.

   One person may fill multiple roles (e.g., convener and department representative), provided there are still three distinct voting members. At the discretion of the convener, a subcommittee may proceed with a different combination of three or more voting members, provided that all constituent groups have been notified and there are no objections from the absent groups.

   For a subcommittee decision to take effect, a supermajority of members present must support the decision, defined in the table below:

Voting members present	Minimum number of "Yay" votes	Maximum number of "Nay" votes
3	3	0
4	3	0
5	4	1
6 + (full Committee quorum)	Must outnumber the nay votes	N/A

6.2. Member Responsibilities

From the Procedures for Committees of Council

- A member is to act ethically and professionally.
- A member is to do their best to create a climate and culture free of bias, racism, harassment, or discrimination of any kind.
- A member is to be informed about, and give due consideration to, the issues at hand.
- A member is to vote in accordance with their good judgment and conscience.
- A Representative Member is expected to reflect what they believe are the views of their constituency.
- A Representative Member is to inform the Committee if they believe views are significantly different from those of their constituency.

Additional Committee-specific Member Responsibilities

- Teaching staff representing academic units are responsible for taking the lead on communication between the Undergraduate Assessment Committee and members of their constituency. This includes, for example:
    - Reviewing requests related to Composition of Marks and presenting such requests to Undergraduate Assessment Committee;
    - Reviewing course grades and communicating with the instructor about Undergraduate Assessment Committee concerns.
- A member is to treat all Committee discussions and information as strictly confidential which shall not be revealed to any persons outside of the Committee except as required to inform their constituencies or consult with other relevant stakeholder groups regarding policy development or general trends in Committee activities.
    - For potentially controversial policies that are still under development, permission should be sought from the Committee Chair prior to discussing the matter outside the Committee;
    - If doubt exists regarding the level of detail that may be shared outside the Committee, clarification must be sought from the Committee Chair.

6.3. Conflict of Interest

From the Procedures for Committees of Council

- A member is obliged to self-assess any real, potential or perceived conflict of interest;
- A member must declare any conflict of interest to the Chair of the committee, preferably as soon as possible;
- Where a conflict of interest exists, the member must abstain from participating in the discussion and from voting;
- If you have questions about what constitutes a conflict of interest you may direct your inquiry to the Registrar or the Secretary of Faculty Council.

Additional Committee-specific Guidance on Conflict of Interest

- For petitions regarding a student's personal circumstances:
    - Prior knowledge of the case (e.g., as a course instructor or academic advisor) will generally *not* constitute a conflict of interest;
    - For reasons of confidentiality, a student member of the Undergraduate Assessment Committee is generally expected to declare a conflict of interest if they have any personal relationship with the petitioner.
- Matters pertaining to approval of grades, instructor requests to deviate from Faculty Grading Policy, or petitions regarding course policy:
    - If the instructor is a member of Undergraduate Assessment Committee, they are permitted to present any relevant information to the Committee but should then recuse themselves from the discussion and voting.

6. Appendices

Committees may provide appendices to their manuals without requiring approval from the Speaker of Council, e.g., operating principles for decision making, details of procedure, lists of units involved, reference materials, etc.

Appendix 1 – Selection of Voting Representative from among Academic Advisors

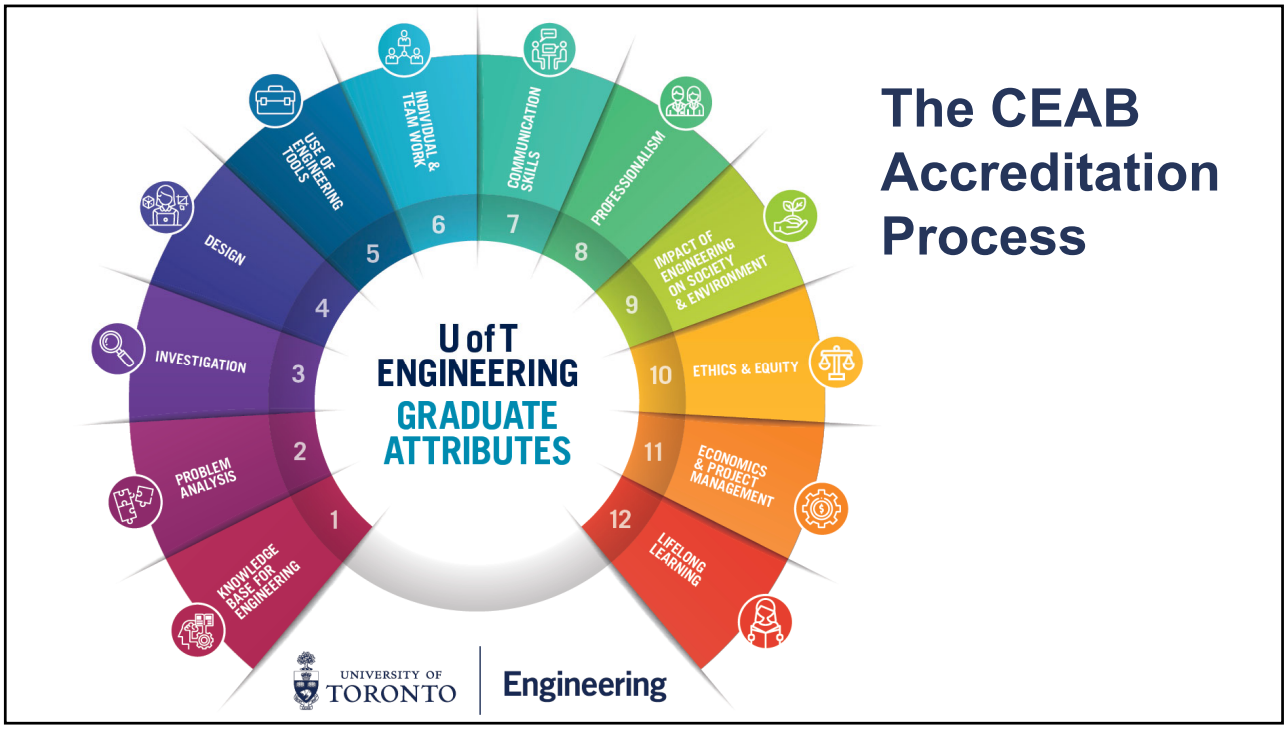
Each academic year (July 1-June 30), a new academic advisor will be the responsible vote on the Undergraduate Assessment Committee. The vote will rotate via all programs as per how they are listed in the academic calendar, with the exception of first-year advisors, who will be included with Track One. A substitute advisor to the Committee (for when the main voting advisor is unavailable) will be the advisor who was the previous year's appointed voter.

If the department whose turn it is to provide an advisor is not able to do so, the advisor from the next department on the list will be selected.

Program	**First Academic year**
Track One and First year (rotate through the advisors available to be decided in the first year office)	2026-2027
Chemical Engineering and Applied Chemistry	2027-2028
Civil and Mineral Engineering	2021-2022
Electrical and Computer Engineering	2022-2023
Engineering Science (rotate through the advisors available to be decided in Engineering Science)	2023-2024
Materials Science and Engineering	2024-2025
Mechanical and Industrial Engineering	2025-2026

For further information:

- For policy and information items approved by Faculty Council, see the Faculty Council webpage.
- For other items produced by the Committee regarding operations, etc., contact the Committee's Recording Secretary. Their contact information is available on the Faculty Council webpage.



1

Accreditation

From Engineers Canada:

engineerscanada
ingénieurscanada

- Engineers Canada accredits Canadian undergraduate programs in engineering. Students who successfully receive a degree from an accredited engineering program meet the academic requirements needed to become licensed with Canada's engineering regulators.
- Accredited engineering programs bring multiple benefits for both students and regulators:
  - Regular accreditation of programs fosters the continual improvement of education
  - Accreditation ensures that programs are meeting the high standards necessary for licensure
  - Degrees from accredited programs are accepted by engineering regulators nationwide and are also recognized by our international partners.

https://engineerscanada.ca/accreditation/about-accreditation

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Accreditation Criteria

- Graduate Attributes
- Continual Improvement Process
- Curriculum Content and Quality
- Policies for Admission, Counselling, Promotion and Graduation of Students
- Program Environment (Students, Faculty, Staff, Facilities, Financial Resources, Library, etc.)
- Additional Criteria (Title of Program, Options, etc.)

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Accreditation of U of T Engineering Programs

- All programs were accredited for the maximum 6-year period in 2019 (July 2019 – June 2025 + 1 year extension due to COVID)
- What is new this time?
  - Increased expectations for our implementation of the Graduate Attribute and Continual Improvement processes
  - Changes in U of T sessional dates impact number of teaching days
  - Changes in PEO licensure policies
  - Introduction of an online system for submission of information and data (replaces PDF and Excel files)

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Accreditation Preparation Timeline

June 2026 – Receipt of CEAB Decisions!

Fall 2025 – Visit, receipt of visiting team report, submission of responses

July 2025 – Submission of questionnaire and related information and data
– Plan visit logistics

May 2025 – Complete 1st draft of questionnaire

April 2025 – Collect course information (test questions, assignment statements)
– Collect exemplars of student work in selected courses
– Continue to collect and analyze GA indicator data

September 2024 – Develop awareness among faculty and students of GA and CI processes

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Accreditation Preparation Timeline

August 2024 – Continue to collect and submit GA indicator data to El GATO
– Workshops to support applications for licensure
EIT program ends summer, demonstration of pursuing licensure
Preparation for Law and Ethics Exam, guidance in completing professional experience
– Working Group to:
Develop guidance for development of GA Indicator assessments and analysis of data

September 2023 Develop guidance to revise and implement CI Plans

September 2023 – Approval of curriculum changes for 2024-25
– Approval of revised Graduate Attribute Indicators

August 2023 – Review AU counts for existing curriculum, identify changes required
– Review licensure status of instructors
– Review and collect GA indicator data, submit to El GATO v.2, backfill where possible

April 2023 – Review existing Continual Improvement Plan design and implementation

June 2023 – Revision, testing, and roll-out of El GATO v.2

April 2023 – Initial meetings of the Accreditation Preparation Working Group

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6

Graduate Attributes and Continual Improvement

From the EGAD Project

https://egad.engineering.queensu.ca/?page_id=2671

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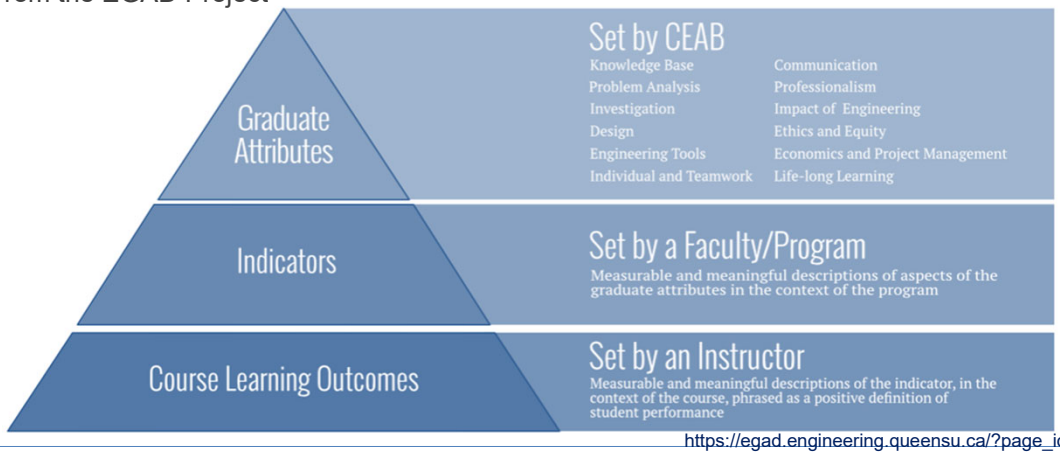
Graduate Attributes

From the EGAD Project



https://egad.engineering.queensu.ca/?page_id=2671

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Graduate Attributes

- Graduate Attributes and Continual Improvement
  From the Engineering Graduate Attribute Development (EGAD) Project

1. Programs set their own requirements and priorities
2. Programs develop their own indicators for Graduate Attributes
3. Programs map indicators to curriculum
4. Instructors assess indicators, programs collect data
5. Programs process and interpret data, working with stakeholders to make meaning and gain insight
6. Programs use insights and meaning to improve programs and processes

https://egad.engineering.queensu.ca/?page_id=2671

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Curriculum Content and Quality

- All students must meet all curriculum content and quality criteria
- Accreditation Units (AU) or alternatives are used to measure curriculum content in 5 components (1 AU = 1 hr lecture = 2 hr lab/tutorial)
  - Mathematics
  - Natural sciences
  - Engineering science (instructor must be P.Eng., L.L., or EIT*)
  - Engineering design (instructor must be P.Eng. or L.L.)
  - Complementary studies

*EIT program ends Summer 2023

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