

SENATE

MONDAY March 4, 2024

3:30 P.M. EST

NH 3407 / Zoom

[Governing Documents and Resources](#)

TIMING	AGENDA ITEM	PAGE	ACTION
	OPEN SESSION		
3:30 p.m.	1. Territorial Acknowledgement (Mary Wells, Dean of Engineering)	Oral	
	2. Conflict of Interest	Oral	Declaration
	3. Approval of the Agenda, and Approval of the Consent Agenda To approve the agenda as presented/amended, and to approve or receive for information the items on the consent agenda, listed as items 13-16 of the Senate agenda.	Oral	Decision
	4. Minutes of the January 29, 2024 Meeting To approve the minutes of the January 29, 2024 meeting as distributed/amended.	5	Decision
	5. Business Arising from the Minutes	Oral	Input
	6. Senate Work Plan	11	Information
3:40 p.m. (30 mins)	7. Report of the President a. President's Update	Oral	Information
4:10 p.m. (30 mins)	8. Association Annual Updates - Report of the Presidents of FAUW, WUSA, GSA	Oral	Information
4:40 p.m. (15 mins)	9. Faculty Update Presentation - Arts (Sheila Ager)	Oral	Information
4:55 p.m. (20 mins)	10. Reports - Senate Undergraduate Council a. Major Modifications - Systems Design Engineering To approve the creation of a Human Factors & Interfaces Specialization, an Intelligent & Automated Systems Specialization, a Physical & Mechatronic Systems Specialization, and a Societal & Environmental Systems Specialization within the Systems Design Engineering plan, effective 1 September 2024, as presented.	13	Decision
	b. Major Modifications - Quantum Engineering Option To approve the creation of the Quantum Engineering Option within the Faculty of Engineering, effective 1 September 2024, as presented.	19	Decision

TIMING	AGENDA ITEM	PAGE	ACTION
	<p>c. Major Modifications – Microbiology Option & Cell and Molecular Biology Option To approve the creation of the Microbiology Option and the Cell and Molecular Biology Option within the Faculty of Science, effective 1 September 2024, as presented.</p>	23	Decision
	<p>d. Plan Inactivation – International Studies in Engineering Option & Society, Technology, and Values Option To approve the inactivation of the International Studies in Engineering Option and the Society, Technology, and Values Option, effective 1 September 2024, as presented.</p>	27	Decision
5:15 p.m. (30 mins)	<p>11. Report of the Senate Finance Committee a. Update on 2023/24 Annual Operating Budget (J. Rush)</p>	29	Information
5:45 p.m. (10 mins)	<p>12. Amendments to University Policies a. Recommended Amendments to Policy 3 – Sabbatical and Other leaves for Faculty Members and to Policy 43 – Special Conditions for Employment for Deans To approve the proposed amendments to Policy 3 – Sabbatical and Other Leaves for Faculty Members, and to cancel Policy 43 – Special Conditions for Employment for Deans (Policy 43), as described in this report and attachment; And further to recommend that the Board of Governors give final approval to the same proposed amendments.</p>	37	Decision
5:55 p.m. (5 mins)	<p>Consent Agenda <i>Motion: To approve or receive for information the items on the consent agenda, listed as items 13-16 of the Senate agenda</i></p>		
	<p>13. Report – Senate Undergraduate Council a. Regulation Revisions – Faculty of Engineering Dean’s Honours List To approve the proposed academic regulation revisions to update the Distinction and Dean’s Honours Minimum Cumulative Average for Graduating Honours and Term Distinction, for the Faculty of Engineering, effective 1 September 2024, as presented</p>	45 47	Information Decision
	<p>b. Regulation Revisions – Invalid Credential Combinations To approve the proposed academic regulation revisions to the Invalid Credential Combinations section of the Undergraduate Studies Academic Calendar for the Faculty of Environment’s Business Option and Sustainability Financial Management, effective 1 September 2024, as presented.</p>	51	Decision

TIMING	AGENDA ITEM	PAGE	ACTION
6:00p.m.	14. Report - Vice-President, Research & International - Awards, Distinctions, Grants, Waterloo International Engagements	53	Information
	15. Report of the Vice-President, Academic and Provost a. Faculty Appointments, Leaves	59	Information
	16. Committee Appointments - Teaching Awards To approve the committee appointments for the Distinguished Teacher Awards and for the Amit & Meena Chakma Award for Exceptional Teaching by a Student, as presented in this report.	61	Decision
	17. Other Business a. Senate Self-Assessment Surveys	Oral	Input
	CONFIDENTIAL Senators, Vice-Presidents, Secretariat and Technical Staff as required		
	18. Minutes of the January 29, 2024 Meeting To approve the minutes of the January 29, 2024 meeting as distributed/amended.	63	Decision
	19. Business Arising from the Minutes	Oral	Input
	20. Report of the President	Oral	Information
	21. Report of the Honorary Degrees Committee	65	Decision
	22. Other Business		
23. Adjournment	Oral	Input	

February 26, 2024

Mike Grivicic
Associate University Secretary to
Senate

Important Dates

March 5, 2024	TD Walter Bean Public Lecture
April 8, 2024	Senate Meeting
April 16, 2024	Board of Governors Meeting

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University of Waterloo
SENATE
Minutes of the Monday January 29, 2024 Meeting
[in agenda order]

Present: John Abraham, Nasser Abukhdeir, Sheila Ager, Marc Aucoin, Aubrey Basdeo, Jean Becker, Jeff Casello, Trevor Charles, Joan Coutu, Kristine Dalton, Laura Deakin, Charmaine Dean, Jack DeGooyer, David DeVidi, Catherine Dong, Aiman Fatima, Mark Ferro, Paul Fieguth, Wendy Fletcher, Bruce Frayne, Genevieve Gauthier-Chalifour (Secretary), Mark Giesbrecht, Vivek Goel (Chair), Rob Gorbet, Mike Grivicic (Secretary), Vikas Gupta, David Ha, Peter Hall, Kevin Hare, Neela Hassan, Chris Houser, Nadine Ibrahim, Sonia Ismail, Narveen Jandu, Martin Karsten, Acey Kaspar, Achim Kempf, Veronica Kitchen, Scott Kline, Christiane Lemieux, Xianguo Li, Lili Liu, Brad Lushman, Jennifer Lynes Murray, Shana MacDonald, Ellen MacEachen, Carol Ann MacGregor, Blake Madill, Colleen Maxwell, Peter Meehan, Kristiina Montero, Cathy Newell Kelly, Christopher Nielsen, Rory Norris, James Nugent, Erin O'Connell, David Porreca, Luke Potwarka, Jacinda Reitsma, Cynthia Richard, Mary Robinson, James Rush, John Saabas, Labibah Salim J Ali, Beth Sandore Namachchivaya, Rida Sayed, Asher Scaini, Marcus Shantz, James Skidmore, Christopher Taylor, Sharon Tucker, Graeme Turner, Diana Vangelisti, Dan Weber, Mary Wells, Stanley Woo, Clarence Woudsma, Changbao Wu

Guests: Aldo Caputo, Nenone Donaldson, Bernard Duncker, Becky Elming, Melanie Figueiredo, Barbara Forrest, Diana Goncalves, Sarah Hadley, Michelle Hollis, Ross Johnston, Karim Karim, Andrea Kelman, Norah McRae, Christine McWebb, Ian Milligan, Bessma Momani, Fayaz Noormohamed, Mary Power, Daniela Seskar-Hencic, Greg Smith, Allan Starr, Sean Thomas, Tim Weber-Kraljevski, Meghan Whitfield, Rebecca Wickens, Sarah Willey-Thomas, Nathanael Willms, Alfred Yu

Absent: Dominic Barton*, Judy Castaneda, Kim Cuddington, Murray Gamble*, Kelly Grindrod, Natalie Hutchings, Alysia Kolentsis, Stephanie Maaz, Richard Myers*, Troy Osborne, Sivabal Sivaloganathan*, Siva Sivoththaman, Annie Yang

*regrets

OPEN SESSION

The chair offered remarks:

- Saturday January 27th was International Holocaust Remembrance Day, and today is the National Day of Remembrance of the Québec City Mosque Attack and Action against Islamophobia
- February is Black History Month
- Launch of the 2024 Global Futures: Innovation Update one week ago
- Members of the community can expect to see communications pertaining to Senate elections for the upcoming cycle in the near term
- Welcome to Senate to Anita Taylor, who is serving as the acting Associate Vice-President of the Office of Equity, Diversity, Inclusion & Anti-Racism
- New appointments to note:
 - o Jon Mason joined the University as Chief Risk Officer on December 11, 2023
 - o Bessma Momani has begun a three-year term as Associate Vice-President, International
 - o Mark Weber has started into the role as Special Advisor to the Provost on Leadership Strategy and Development
 - o Eleanor McMahon will start as Vice-President, University Relations on March 1, 2024

1. TERRITORIAL ACKNOWLEDGEMENT

Mark Giesbrecht offered a territorial acknowledgement along with a personal reflection.

The chair indicated that Senate will seek volunteers for this agenda item for future meetings.

2. CONFLICT OF INTEREST

Senators were asked to declare any conflicts they may have in relation to the items on the agenda. No conflicts were declared.

3. APPROVAL OF THE AGENDA, AND APPROVAL OF THE CONSENT AGENDA

A motion was heard to approve the agenda as presented, and to approve or receive for information the items on the consent agenda, listed as items 15-19 of the Senate agenda. Abukhdeir and Woudsma. Carried.

4. MINUTES OF THE NOVEMBER 27, 2023 MEETING

A motion was heard to approve the minutes as distributed. Lynes Murray and Porreca. Carried.

5. BUSINESS ARISING FROM THE MINUTES

There was no business arising.

6. SENATE WORKPLAN

This item was received for information. The chair noted that items 13(b) and 13(c) were deferred from the November meeting.

7. REPORT OF THE PRESIDENT

a. President's Update. Goel provided his report and offered the following:

- Sorrow at the ongoing conflict in the Middle East, and hope that a peaceful solution may be found
- Launch of the task force on freedom of expression
- Conference "From Targeting in Academia to Promoting Trust and Understanding" is planned for June 2024, and Universities Canada will be running a workshop at the same time; Waterloo would aim to develop principles that could be adopted across Canada
- Continued work arising from emergency response report commissioned from Deloitte, and safety information has been posted in rooms on campus; the University is also testing technology solutions for security and room access
- On January 16, the federal government announced a policy on Sensitive Technology Research and Affiliations of Concern
- Recent happenings/changes to student visa requirements, including a federal court decision denying a Chinese resident's application to Waterloo on national security grounds, federal government announcing new caps on study permits, and changes to minimum funding requirements
- Provincial response to the Blue Ribbon Panel report is expected sometime in February, and advocacy efforts are ongoing via the Council of Ontario Universities
- Certificate issued on 12 January for CUPE to represent graduate teaching assistants and research assistants, and note that negotiations for sessional teacher group will be underway

The chair acknowledged a group of visitors in the meeting room and offered the floor. A member of the group voiced their anguish at the ongoing conflict in the Middle East and expressed concern regarding the University's public stance in that regard.

8. 2023 ANNUAL REPORT, OFFICE OF THE VICE-PRESIDENT, RESEARCH AND INTERNATIONAL

Charmaine Dean provided a presentation:

- Waterloo achievements in 2023 include advancing interdisciplinarity and health initiatives, breaking ground on the new Innovation Arena with plans to open in 2024, diversifying partnerships (corporate, government, international), leadership role in safeguarding research, and leading initiatives in equity, diversity and inclusion
- Plans for 2024 include activity related to the Global Futures Networks, expansion of partnerships including government engagement on international student issues, and the launch of the EDI Action Plan - Phase 2 (2024-29)
- Excellent suggestions were gleaned from discussions with Senators at luncheon events

One member observed that SSHRC funding is not emphasized in the report and highlighted the importance of funding for disciplines in the arts.

9. FACULTY UPDATE PRESENTATION - ENVIRONMENT

Bruce Frayne provided a presentation: academic units, enrollments, and degree offerings; faculty and staff complement, and research clusters/centers/funding; current Faculty strategic plan runs to 2025,

and currently working on the next strategic plan “Environment 2030”, including visioning exercises, identifying challenges and opportunities, and charting the path forward where Environment can leverage its unique strengths.

10. APPROVAL OF MEMBERSHIP TO SENATE COMMITTEES AND COUNCILS

A motion was heard to elect Nasser Abukhdeir to the Senate Long Range Planning Committee as the member from the Board of Directors of the Faculty Association of the University of Waterloo, term to 30 April 2024. Porreca and Woudsma. Carried.

11. REPORT – SENATE GRADUATE & RESEARCH COUNCIL

a. Dissolution of the Survey Research Centre

Casello provided a short overview of the report and recommendation. A motion was heard to approve the dissolution of the Survey Research Centre, as presented. Casello and Giesbrecht. Carried.

12. REPORT – SENATE UNDERGRADUATE COUNCIL

DeVidi spoke to each report (a)-(d).

a. Major Modifications – Computer Engineering and Electrical Engineering

A motion was heard to approve the creation of the Quantum Engineering Specialization in (1) the Computer Engineering plan and (2) in the Electrical Engineering plan, effective 1 September 2024, as presented. DeVidi and Wells. Carried

b. Major Modifications – Nanotechnology Engineering

A motion was heard to approve the creation of a Nanoelectronics Specialization, Nanobiosystems Specialization, Nanofabrication Specialization, and Nanomaterials Specialization within the Nanotechnology Engineering plan, effective 1 September 2024, as presented. DeVidi and Wells. Carried.

c. Major Modifications – Planning Honours

A motion was heard to approve the following major modifications in Planning Honours: the creation of the Social Planning and Community Development Specialization; revisions to the Environmental Planning and Management Specialization, the Land Development Planning Specialization, and the Urban Design Specialization; and the inactivation of the Decision Support and Geographical Information Systems Specialization, effective 1 September 2024, as presented. DeVidi and Frayne. Carried.

d. Inactivation – Global Experience Certificate

DeVidi noted that a review of the certificate showed that students face challenges/barriers in completing this certificate, including difficulty in attaining the required courses within certain degree plans, costs associated with travel, changing plans in a way that prevents students from completing a term abroad, and difficulties completing the volunteering hours within a single term. A motion was heard to approve the inactivation of the Global Experience Certificate, effective 1 September 2024, as presented. DeVidi and Deakin. Carried with one abstaining.

13. REPORT OF THE VICE-PRESIDENT, ACADEMIC AND PROVOST

a. Revisions of Institutional Quality Assurance Process (IQAP)

Rush spoke to the report, noting that while the institution is required to comply with the regulation changes the framework for doing so is formulated and approved locally. He thanked DeVidi and Casello for their work, along with the staff in the Quality Assurance office and those in the department who contributed. DeVidi outlined the broad changes that are recommended: the IQAP reflects a compromise between the Quality Council setting broad standards/requirements, with universities setting their own rules and processes; process language has been extracted from the IQAP, which will facilitate easier approval of changes to processes in the future; change from two-year reports to mid-cycle review reports; programs currently under review will continue under the current framework, and the new IQAP processes will apply as new reviews commence; changes to procedures document will come to Senate. Members discussed: some of the activities under the IQAP are duplicative of those required for accreditation of professional programs; the University is subject to audits from the Quality Council, and the processes framework for the IQAP precludes direct oversight. It was emphasized that Senate approval is sought at this time for the IQAP, and not the process

documentation. A motion was heard to approve the revisions to the Institutional Quality Assurance Process as presented. DeVidi and Casello. Carried with three abstaining.

b. Briefing Note – Undergraduate and Graduate Admissions Data

Members heard that a multi-year forecast re: admissions will be part of the draft budget to come forward in the next cycle, and suggested that more longitudinal data could be included (e.g. before 2020) to more clearly show any effects from the pandemic period.

c. Report – University Committee on Student Appeals Annual Report (Policy 72)

Received for information.

14. AMENDMENT TO UNIVERSITY POLICIES

a. Recommended Amendments to Policy 76, Faculty Appointments, and to Policy 77, Tenure and Promotion of Faculty Members

Goel spoke to the report: there was communication to the community in December regarding the agreement between FAUW and the University on revisions to Policy 76 and 77, and the substantive content of the agreed revisions is included in the report and has been available to the community since December through the Provost’s website and regular campus communications; these amendments are coming forward for governance approvals following an extensive policy development process lasting several years, and supported by a mediator in recent months as was provided for in the process approved by Senate in October 2022; a faculty town hall event to discuss the changes occurred on January 15th, co-hosted by Peter Wood and David DeVidi.

Rush spoke to the required next steps, including changes to the Memorandum of Agreement with FAUW and final approval at the Board of Governors. Other parallel work is ongoing at the Faculty Relations Committee. Rush thanked Porreca on behalf of FAUW for their work on these amendments. Porreca indicated that the amendments will be put to the FAUW membership for a vote to ratify the recommended changes; FAUW is running two ballots as part of the commitment to seeking ratification via double majority, with one ballot exclusively for those who would be included within the prospective new teaching stream.

Members discussed:

- Mechanics of how earned course reductions may be utilized, including in ways which resemble sabbaticals but also allowing flexibility for other options
- The teaching stream is intended to be attractive to those who want careers focused on teaching
- There is facility in this framework to accommodate a variety of activities pertaining to scholarship
- Both pedagogical research and other forms of scholarship may support teaching excellence
- Policy allows for flexible appointments with respect to candidate qualifications, though other processes serve to ensure sufficient quality of those appointed into those roles
- Porreca invited faculty members with policy concerns to connect with him directly

A motion was heard to approve the proposed revised Policy 76 – Faculty Appointments and the proposed revised Policy 77 – Tenure and Promotion of Faculty Members effective 1 September 2024, in accordance with the agreed terms between the Faculty Association of the University of Waterloo (“FAUW”) and the University of Waterloo, and as described in this report, and to recommend that the Board of Governors give final approval to the same proposed revisions with the same effective date. Porreca and Rush. Carried with one opposed and one abstaining.

CONSENT AGENDA

The consent agenda was approved under item 3, with items approved or received for information.

15. REPORT – SENATE GRADUATE & RESEARCH COUNCIL

Received for information.

16. REPORT – SENATE UNDERGRADUATE COUNCIL

a. Regulation Revisions – Academic Considerations and Accommodations

To approve the proposed academic regulation revisions for the “University Policies, Guidelines and Academic Regulations, Assignments, Tests, and Final Exams, Accommodations” section of the Undergraduate Studies Academic Calendar, effective for the 2024-2025 Calendar, as presented.

b. Regulation Revisions – Invalid Credential Combinations

To approve the proposed academic regulation revisions to the Invalid Credential Combinations section of the Undergraduate Studies Academic Calendar for (i) the Diploma of Excellence in Geographic Information Systems, and (ii) the Diploma in Sustainability, and Sustainability and Financial Management, Honours, as presented and effective 1 September 2024.

c. Regulation Revisions – Faculty of Environment, Overview of Co-op Plan Requirements

To approve the proposed academic regulation revisions for the “Overview of Co-op Plan Requirements” of the Faculty of Environment, as presented and effective 1 September 2024.

d. Regulation Revisions – Faculty of Environment, Repeat Course Rule

To approve the proposed academic regulation revisions for the Faculty of Environment’s Repeat Course Rule, effective 1 September 2024, as presented.

17. REPORT – SENATE LONG RANGE PLANNING COMMITTEE

Received for information.

18. REPORT – VICE-PRESIDENT, RESEARCH & INTERNATIONAL - AWARDS, DISTINCTIONS, GRANTS, WATERLOO INTERNATIONAL ENGAGEMENTS

Received for information.

19. REPORT OF THE PROVOST – FACULTY APPOINTMENTS, LEAVES

Received for information.

20. OTHER BUSINESS

Members observed the group of students that appeared displayed self-control and maturity to convey their message respectfully and passionately. This environment and the space for expression at Waterloo contrasts positively against those at other institutions in that regard.

With no further business in open session, Senate convened in confidential session.

February 8, 2024
MG/dg

Mike Grivicic
Associate University Secretary to
Senate

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Senate Agenda Items · expected *as needed	15 May 2023	19 June 2023	18 September 2023	23 October 2023 <i>Strategic Plan Annual Update / Waterloo at 100</i>	27 November 2023	29 January 2024	4 March 2024	8 April 2024
REGULAR AGENDA (including items for information and discussion)								
Minutes	·	·	·	·	·	·	·	·
Business Arising	·	·	·	·	·	·	·	·
LEADERSHIP UPDATES⁶								
Report of the Vice-President, Academic & Provost	*	*	*	*	*	*	*	*
Report of the Vice-President, Research and International	*	*	*	*	*	*	*	*
COMMITTEE/COUNCIL REPORTS								
Executive Committee	*	*	*	*	*	*	*	*
Graduate & Research Council (GRC)	·	·	·	·	·	·	·	·
Undergraduate Council (UC)	·	·	·	·	·	·	·	·
Long Range Planning Committee				·		·		·
Fall Update, University Operating Budget				·				
Joint Report of GRC & UC, Academic Calendar Dates ¹					·			
University Committee on Student Appeals Annual Report ¹ (Policy 72)					·			
University Appointment Review Committee Annual Report ¹ (Policy 76)								·
Finance Committee - Budget Update ³							·	
Finance Committee - Budget recommendation ^{2, 3}								·
OTHER SENATE AGENDA ITEMS								
New Senator Orientations (before meeting)	·							
Teaching Awards Committee								·
Delegation of Roster of Graduands								·
Report of Roster of Graduands		·		·				
Convocation Report (CR&E) – summary of previous years' ceremonies								·
Undergraduate and Graduate Admissions Update						·		
Conduct Self-Assessment Survey ¹							·	
SENATE PRESENTATIONS								
Presentations from the Presidents of the Faculty Association, Waterloo Undergraduate Association and Graduate Student Association ¹							·	
Strategic Plan Accountability Update ¹ (June)								
PART Annual Update		·						
Faculty Update (6x/year)			ENG	HLTH	MATH	ENV	ARTS	SCI

¹ Annual item

² Board of Governors approval

³ Presented by the Vice-President Academic and Provost

⁴ Presented by the President and Vice-Chancellor, and Chair of Senate

⁵ Presented by the University Secretary

⁶ Leadership updates may include such topics as: Talent, We Accelerate Report, Communities (EDI, Sustainability), Waterloo International, etc.

Senate Agenda Items	15 May 2023	19 June 2023	23 September 2023	23 October 2023 <i>Strategic Plan Annual Update / Waterloo at 100</i>	27 November 2023	29 January 2024	4 March 2024	8 April 2024
• expected *as needed								
CONSENT AGENDA								
Reports from Faculties (e.g., appointments, administrative appointments, sabbaticals) ²	•	•	•	•	•	•	•	•
Tenure and Promotion Report ⁴			•					
University Professor Designation ³							•	
Call for Nominations for University Professor ³			•					
Call for Nominations for Honorary Degree Recipients ⁴						•		
Report of the COU Academic Colleague ¹	•							
Senate Committee Appointments ⁵	*	*	•	*	*	*	*	*
CLOSED AGENDA								
Minutes	•	•	•	•	•	•	•	•
Business Arising	•	•	•	•	•	•	•	•
Reports from Committees and Councils	*	*	*	*	*	*	*	*
Honorary Degree Recommendations	*	*	*	*	•	•	*	*
Reports from Search and Review Committees for Policy-based Senior Leadership Appointments and Reappointments	*	*	*	*	*	*	*	*
Report of VP Advancement on Policy 7 ¹		•						

Joint SENATE/BOARD Strategic Plan Focus Sessions 3-4:30	Joint SENATE/BOARD Continuing Education Sessions 3-4:30
<ul style="list-style-type: none"> To be determined 	<ul style="list-style-type: none"> To be determined

Special Topics for 2023-2024 to be Scheduled:

- President’s Anti-racism Task Force Update (PART)

For more information: secretariat@uwaterloo.ca
uwaterloo.ca/secretariat, NH 3060

¹ Annual item

² Board of Governors approval

³ Presented by the Vice-President Academic and Provost

⁴ Presented by the President and Vice-Chancellor, and Chair of Senate

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⁶ Leadership updates may include such topics as: Talent, We Accelerate Report, Communities (EDI, Sustainability), Waterloo International, etc.

For Approval**Open Session**

To: **Senate**

Sponsor: David DeVidi
Associate Vice-President, Academic

Presenter: David DeVidi
Contact Information: david.devidi@uwaterloo.ca

Date of Meeting: March 4, 2024

Agenda Item Identification: **10a. Report – Senate Undergraduate Council:
Major Modifications – Systems Design Engineering**

Recommendation/Motion:

To approve the creation of a Human Factors & Interfaces Specialization, an Intelligent & Automated Systems Specialization, a Physical & Mechatronic Systems Specialization, and a Societal & Environmental Systems Specialization within Systems Design Engineering, effective 1 September 2024, as presented.

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following item to Senate for approval as part of the regular agenda.

Jurisdictional Information:

This item is being submitted to Senate in accordance with [Senate Bylaw 2](#), section 5.03(b): “Make recommendations to Senate with respect to new undergraduate programs/plans, the deletion of undergraduate programs/plans, and major changes to undergraduate programs/plans.”

Governance Path:

Engineering Faculty Council approval date (mm/dd/yy): 01/16/24

Senate Undergraduate Council approval date (mm/dd/yy): 02/05/24

Highlights/Rationale:

These major modifications are to create the following four new Specializations within Systems Design Engineering (SYDE): a Human Factors & Interfaces Specialization, an Intelligent & Automated Systems Specialization, a Physical & Mechatronic Systems Specialization, and a Societal & Environmental Systems Specialization.

Technical elective packages currently found on the SYDE calendar are advising content and will not appear in the new Quali calendar software since this is not consistent with the calendar guidelines. The creation of four new specializations is proposed to replace the current technical packages found in the calendar, allowing students to focus their studies in specific areas and have this represented on their transcript. Students active in the program when the new specializations are introduced can declare the specializations.

Proposed Revisions:

Current calendar text: (<https://ugradcalendar.uwaterloo.ca/page/ENG-Systems-Design-Engineering>)

Proposed calendar text: (underlined and bolded = new, strikethrough = deletion)

Systems Design Engineering

...

Technical Elective Packages

~~The Department has identified four technical elective areas within its current offerings. Additional information regarding elective packages may be obtained from the associate chair for undergraduate studies. Students may choose a technical elective package from the four areas identified below to help them in their selection of technical electives. Choosing a specific elective package is not mandatory. Students do not receive any official notification on their transcript for completing an elective package.~~

Human Systems Engineering

The elective courses in this package are as follows:

~~3B (Winter)~~

- ~~• SYDE 544 Biomedical Measurement and Signal Processing~~
- ~~• SYDE 548 User Centred Design Methods~~

~~4A (Fall)~~

- ~~• SYDE 543 Cognitive Ergonomics~~
- ~~• SYDE 575 Image Processing~~
- ~~• SYDE 584 Physiological Systems and Biomedical Design~~

~~4B (Winter)~~

- SYDE 542 Interface Design
- SYDE 544 Biomedical Measurement and Signal Processing
- SYDE 572 Introduction to Pattern Recognition

Intelligent Systems

The elective courses in this package are as follows:

3B (Winter)

- SYDE 322 Software Design
- SYDE 531 Design Optimization Under Probabilistic Uncertainty
- SYDE 544 Biomedical Measurement and Signal Processing
- SYDE 552/BIOL 487 Computational Neuroscience
- SYDE 572 Introduction to Pattern Recognition

4A (Fall)

- SYDE 543 Cognitive Ergonomics
- SYDE 556 Simulating Neurobiological Systems
- SYDE 575 Image Processing

4B (Winter)

- SYDE 522 Foundations of Artificial Intelligence
- SYDE 531 Design Optimization Under Probabilistic Uncertainty
- SYDE 544 Biomedical Measurement and Signal Processing
- SYDE 548 User Centred Design Methods
- SYDE 552/BIOL 487 Computational Neuroscience
- SYDE 572 Introduction to Pattern Recognition

Societal and Environmental Systems

Note: Additional experience can be gained by doing related workshop projects in SYDE 362, SYDE 461, and SYDE 462.

The elective courses in this package are as follows:

3B (Winter)

- SYDE 334 Applied Statistics
- SYDE 531 Design Optimization Under Probabilistic Uncertainty
- SYDE 532 Introduction to Complex Systems
- SYDE 572 Introduction to Pattern Recognition

4A (Fall)

- SYDE 533 Conflict Resolution
- SYDE 575 Image Processing

4B (Winter)

- SYDE 334 Applied Statistics
- SYDE 522 Foundations of Artificial Intelligence
- SYDE 531 Design Optimization Under Probabilistic Uncertainty
- SYDE 532 Introduction to Complex Systems
- SYDE 572 Introduction to Pattern Recognition

Systems Modelling and Analysis

Note: The elective package structure is such that the students enrolled in this elective package can take additional courses from other departments in order to focus on any specific engineering discipline and at the same time obtain a strong systems modelling and design foundation.

The elective courses in this package are as follows:

3B (Winter)

- SYDE 552/BIOL 487 Computational Neuroscience
- SYDE 572 Introduction to Pattern Recognition

4A (Fall)

- SYDE 553 Advanced Dynamics
- SYDE 556 Simulating Neurobiological Systems
- SYDE 575 Image Processing
- SYDE 584 Physiological Systems and Biomedical Design

4B (Winter)

- SYDE 532 Introduction to Complex Systems
- SYDE 552/BIOL 487 Computational Neuroscience
- SYDE 572 Introduction to Pattern Recognition

Specializations

Students must complete a minimum of six department-approved technical electives (TEs) to meet graduation requirements. Students may arrange the sequencing of the technical elective courses to suit their plan (and any course prerequisites).

The Faculty of Engineering recognizes four designated specializations within the BAsC degree in Systems Design Engineering:

- **Human Factors & Interfaces Specialization**
- **Intelligent & Automated Systems Specialization**
- **Physical & Mechatronic Systems Specialization**
- **Societal & Environmental Systems Specialization**

Students interested in pursuing one of these specializations must take four required technical elective courses from the corresponding list of approved technical electives specialization package. A minimum average of 60% in the four specialization courses and a grade of at least 50% in each of the four courses is required. Students who satisfy the requirements for Options, Specializations and Electives for Engineering Students will have the appropriate designation shown on their diploma and transcript. Students must declare a specialization for it to be recognized as part of their degree and appear on the transcript and diploma.

Human Factors & Interfaces Specialization

Required course:

- **SYDE 548 User Centred Design Methods**

At least 2 courses from the following list:

- **SYDE 334 Applied Statistics**
- **SYDE 542 Interface Design**
- **SYDE 543 Cognitive Ergonomics**

At least 1 course from the following list

- **MSE 543 Analytics and User Experience**
- **INTEG 340 Research Design and Methods**
- **INTEG 251 Creative Thinking**
- **STV 202 Design and Society**
- **STV 205 Cybernetics and Society**

Intelligent & Automated Systems Specialization

Required course:

- **SYDE 522 Foundations of Artificial Intelligence**

At least 2 courses from the following list:

- **SYDE 322 Software Design**
- **SYDE 577 Deep learning**
- **SYDE 552 Computational neuroscience**
- **SYDE 556 Simulating Neurobiological Systems**
- **SYDE 575 Image Processing**
- **SYDE 572 Introduction to Pattern Recognition**

At least 1 course from this list:

- **STV 208: Artificial Intelligence and Society—Impact, ethics, and equity**
- **STV 210: The computing society**
- **STV 302 Information Technology and Society**

Physical & Mechatronic Systems Specialization

Required course:

- **SYDE 553 Advanced Dynamics**

At least 2 courses from the following list:

- **SYDE 554 Nonlinear Dynamic Systems**
- **SYDE 586 Material Selection for Design**
- **BME 540 Fundamentals in Neural and Rehabilitation Engineering**
- **BME 550 Sport Engineering**
- **BME 551 Biomechanics of Human Movement**
- **BME 582 Biomedical Optics**

At least 1 course from the following list:

- **SYDE 584 Physiological systems and biomedical design**
- **ECE 224 Embedded Microprocessor Systems**
- **ECE 486 Robot Dynamics and Control**
- **ME 321 Kinematics and Dynamics of machine**
- **ME 547 Robot Manipulators: Kinematics, Dynamics, Control**
- **MTE 325 Microprocessor Systems and Interfacing for Mechatronics Engineering**
- **MTE 544 Autonomous Mobile Robots**

Societal & Environmental Systems Specialization

Required course:

- **SYDE 535 Computational Simulations for Societal and Environmental Systems**

At least 2 courses from the following list:

- **SYDE 531 Design Optimization Under Probabilistic Uncertainty**
- **SYDE 532 Introduction to Complex Systems**
- **SYDE 534 Electric Energy Systems (new course code for Jessie's SYDE 599 course)**
- **SYDE 536 Modeling Transportation Systems (new course code for Lisa's SYDE 599 course)**
- **SYDE 537 Artificial Life: Biology and Computation**

At least 1 course from the following list:

- **SYDE 533 Conflict Resolution**
 - **STV 201: Pluriversal alternatives—Ideas to postpone the end of the world**
- STV 305 Technology, Society and the modern city** **PLAN 478 Transit, Planning and Operations**

For Approval**Open Session**

To: **Senate**

Sponsor: David DeVidi
Associate Vice-President, Academic

Presenter: David DeVidi
Contact Information: david.devidi@uwaterloo.ca

Date of Meeting: March 4, 2024

Agenda Item Identification: **10b. Report – Senate Undergraduate Council:
Major Modifications – Quantum Engineering Option**

Recommendation/Motion:

To approve the creation of the Quantum Engineering Option within the Faculty of Engineering, effective 1 September 2024, as presented.

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following item to Senate for approval as part of the regular agenda.

Jurisdictional Information:

This item is being submitted to Senate in accordance with [Senate Bylaw 2](#), section 5.03(b): “Make recommendations to Senate with respect to new undergraduate programs/plans, the deletion of undergraduate programs/plans, and major changes to undergraduate programs/plans.”

Governance Path:

Engineering Faculty Council approval date (mm/dd/yy): 01/16/24

Senate Undergraduate Council approval date (mm/dd/yy): 02/05/24

Highlights/Rationale:

This major modification is to create the Quantum Engineering Option.

Quantum Engineering is an area of growing focus and is expected to be a fast-growing area requiring engineering talent in coming decades. The proposed Quantum Engineering Option is to help meet the growing demand for education and training in this area.

Active students can declare the option. It is available to BAsC and BSE students.

This Option complements the previously approved Quantum Engineering Specialization that is only available to ECE students. The Option has a higher declaration requirement and requires an additional course.

Overview:

Quantum Engineering is the application of quantum physics for the generation, transmission, processing, computation, and/or sensing of information using engineering principles and methods. The Quantum Engineering option focus is on foundations, design methodologies and experimental skills to analyze and implement technological platforms using quantum devices, systems and algorithms. This option relies on incorporating engineering approaches to quantum hardware, software and their integration with classical counterparts for applications ranging from computing, sensing, health, communication security to energy, drug discovery and financing.

The Quantum Engineering Option comprises:

- Two foundation lecture courses:
 - One required course in ordinary differential equations
 - One required course in electricity and magnetism or electric circuits
- Four quantum lecture courses:
 - One required course in quantum computing algorithms
 - One elective course in quantum mechanics
 - One elective course in quantum information processing devices
 - One elective course in quantum circuits

Depending on the engineering plan, some of these courses may be part of the student's core curriculum.

Intended Learning Outcomes

Students who complete the option will be able to:

- Demonstrate fundamental knowledge in new "Quantum Engineering" area
- Apply that knowledge to hardware and software platforms

Coordinator

The option coordinator will normally be an ECE faculty member. The first option coordinator is Hamed Majedi, with Na Young Kim covering the role when Hamed Majedi is unavailable.

Calendar Description:

Quantum Engineering Option

The option is available to BAsC and BSE students.

Declaration Requirements

- Students may not declare this option until they have completed both a calculus course (List 1) and a circuits course (List 2). Students must have a minimum average of 75.0% calculated across these two courses, and a minimum cumulative average of 75.0% in order to declare this Option.

Minimum Average(s) Required

- A minimum option average of 75.0 in the option courses.

Graduation Requirements

- Complete a total of 3.0 units.

Required Courses

Complete all of the following:

- ECE.405C Programming of Quantum Computing Algorithms
- Complete 1 of the following:
 - AMATH.373 Quantum Theory 1
 - CHEM.356 Introductory Quantum Mechanics
 - ECE.305 Introduction to Quantum Mechanics
 - ECE.405 Introduction to Quantum Mechanics
 - NE.332 Quantum Mechanics
 - PHYS.233 Introduction to Quantum Mechanics
 - PHYS.234 Quantum Physics 1
- Complete 1 of the following:
 - ECE.405A Quantum Information Processing Devices
 - PHYS.468 Introduction to the Implementation of Quantum Information Processing
- Complete 1 of the following:
 - ECE.405B Fundamentals of Experimental Quantum Information
 - ECE.405D Superconducting Quantum Circuits

List 1

Complete 1 of the following:

- AE.223 Differential Equations and Balance Laws
- CIVE.222 Differential Equations
- ECE.205 Advanced Calculus 1 for Electrical and Computer Engineers
- ENVE.223 Differential Equations and Balance Laws
- GEOE.223 Differential Equations and Balance Laws
- MATH.211 Advanced Calculus 1 for Electrical and Computer Engineers
- MATH.213 Signals, Systems, and Differential Equations

- MATH.217 Calculus 3 for Chemical Engineering
- MATH.218 Differential Equations for Engineers
- ME.203 Ordinary Differential Equations
- MSCI.271 Advanced Calculus and Numerical Methods
- MTE.202 Ordinary Differential Equations
- NE.216 Advanced Calculus and Numerical Methods 1
- SYDE.211 Calculus 3

List 2

Complete 1 of the following:

- AE.123 Electrical Circuits and Instrumentation
- BME.294 Circuits, Instrumentation, and Measurements
- CIVE.123 Electrical Circuits and Instrumentation
- ECE.106 Electricity and Magnetism
- ECE.140 Linear Circuits
- ECE.375 Electromagnetic Fields and Waves
- ENVE.123 Electrical Circuits and Instrumentation
- GENE.123 Electrical Circuits and Instrumentation
- GEOE.123 Electrical Circuits and Instrumentation
- ME.123 Electrical Engineering for Mechanical Engineers
- MTE.120 Circuits
- NE.241 Electromagnetism
- PHYS.342 Electricity and Magnetism 2
- SYDE.292 Circuits, Instrumentation, and Measurements

For Approval**Open Session****To:** Senate**Sponsor:** David DeVidi
Associate Vice-President, Academic**Presenter:** David DeVidi
Contact Information: david.devidi@uwaterloo.ca**Date of Meeting:** March 4, 2024**Agenda Item Identification:** **10c. Report – Senate Undergraduate Council:
Major Modifications – Microbiology Option & Cell and Molecular
Biology Option****Recommendation/Motion:**

To approve the creation of the Microbiology Option and the Cell and Molecular Biology Option within the Faculty of Science, effective 1 September 2024, as presented.

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following item to Senate for approval as part of the regular agenda.

Jurisdictional Information:

This item is being submitted to Senate in accordance with [Senate Bylaw 2](#), section 5.03(b): “Make recommendations to Senate with respect to new undergraduate programs/plans, the deletion of undergraduate programs/plans, and major changes to undergraduate programs/plans.”

Governance Path:

Science Faculty Council approval date (mm/dd/yy): 12/01/23

Senate Undergraduate Council approval date (mm/dd/yy): 02/05/24

Highlights/Rationale:

These major modifications are for the creation of two new Options for students in Faculty of Science. These were approved in Biology May 23-24, 2023 (via electronic vote).

Microbiology Option

The Microbiology Option provides a path for students interested in emphasizing microbiology during their undergraduate degree. This Option will provide guidance in selecting relevant microbiology courses and provides recognition of a microbiology focus as part of student academic credentials. It is expected that students interested in this Option will be primarily drawn from Honours Biology, Honours Biomedical Sciences, and Honours Science plans, though it is open to students in any program within the Faculty of Science. Some prerequisite courses for the Option are already required by the Honours Biology and Honours Biomedical Sciences plans and have not been listed as specific requirements for the Microbiology Option itself.

This option will require background in cell biology and genetics, equivalents to BIOL 130 and 239 as well as a background in a microbiology lab equivalent to BIOL 240L. This background will be required to declare this option.

The Microbiology Option can't be combined with a Biology Minor, Biochemistry Minor, Biophysics Minor, Bioinformatics Option, and Cell and Molecular Biology Option, which needs to be included in [Invalid Credential Combinations](#) page of the Undergraduate Calendar.

Requirements:

1. 4.0 units distributed as follows:
 - 1.0 BIOL units: BIOL 240, BIOL 241
 - 3.0 BIOL units chosen from: BIOL 341, BIOL 345, BIOL 346, BIOL 348L, BIOL 431, BIOL 441, BIOL 442, BIOL 443, BIOL 444, BIOL 447, BIOL 448, BIOL 449, and BIOL 475
2. A minimum cumulative option average of 65%.

Cell And Molecular Biology Option

The Cell and Molecular Biology Option provides a path for students interested in cell and molecular biology theory and techniques. This Option will provide guidance in selecting relevant cell and molecular biology courses and provides recognition of a cell and microbiology focus as part of student academic credentials. It is expected that students interested in this Option will be primarily drawn from Honours Biology, Honours Biomedical Sciences, and Honours Science plans, though it is open to any students in any program within the Faculty of Science. Some prerequisite courses for the Option are already required by the Honours Biology and Honours Biomedical Sciences plans and have not been listed as specific requirements for the Molecular Biology Option itself.

This option will require background in cell biology and genetics, equivalents to BIOL 130 and 239. This background will be required to declare this option.

The Cell and Molecular Biology Option can't be combined with a Biology Minor, Biochemistry Minor, Biophysics Minor, Bioinformatics Option, and Microbiology Option, which needs to be included in [Invalid Credential Combinations](#) page of the Undergraduate Calendar.

Requirements:

1. 4.0 units distributed as follows:
 - 1.0 BIOL units: BIOL 240, BIOL 241 2.0 BIOL units: BIOL 235, BIOL 308, BIOL 331, BIOL 342
 - 0.5 BIOL unit chosen from: BIOL 302, BIOL 335L, and BIOL 341
 - 1.5 BIOL units chosen from: BIOL 302, BIOL 335L, BIOL 341, BIOL 431, BIOL 432, BIOL 433, BIOL 434, BIOL 441, BIOL 442, BIOL 472, BIOL 483, and BIOL 484
2. A minimum cumulative option average of 65%.

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For Approval**Open Session****To:** Senate**Sponsor:** David DeVidi
Associate Vice-President, Academic**Presenter:** David DeVidi
Contact Information: david.devidi@uwaterloo.ca**Date of Meeting:** March 4, 2024**Agenda Item Identification:** **10d. Report – Senate Undergraduate Council:
Plan Inactivations - International Studies in Engineering Option &
Society, Technology, and Values Option****Recommendation/Motion:**

To approve the inactivation of the International Studies in Engineering Option and the Society, Technology, and Values Option, effective 1 September 2024, as presented.

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following item to Senate for approval as part of the regular agenda.

Jurisdictional Information:

This item is being submitted to Senate in accordance with [Senate Bylaw 2](#), section 5.03(b): “Make recommendations to Senate with respect to new undergraduate programs/plans, the deletion of undergraduate programs/plans, and major changes to undergraduate programs/plans.”

Governance Path:

Engineering Faculty Council approval date (mm/dd/yy): 01/16/24

Senate Undergraduate Council approval date (mm/dd/yy): 02/05/24

Highlights/Rationale:

These plan inactivations are for the International Studies in Engineering Option, and the Society, Technology, and Values Option.

International Studies in Engineering Option

The International Studies in Engineering Option has extremely low enrolment. For the classes of 2013- 2022, the numbers of graduating students achieving the option were: 4, 6, 6, 3, 2, 3, 1, 0, 0, 0. Currently, only 1 student has declared the option. Given the lack of interest, its inactivation is proposed.

The student currently in the option will be able to continue. Current students wishing to declare the option will need to do so by Spring 2024; the Faculty of Engineering is not aware of any students who have expressed interest and based on historical interest do not anticipate any negative effect.

The Faculty of Engineering will direct students towards the offerings coordinated by the Student Success Office (SSO). Current students can enroll in the Global Experience Certificate (GEC), although this has recently been approved by Senate for inactivation. The SSO is developing a new certificate to replace the GEC: the Global Learning and Intercultural Development Experience (GLIDE) Certificate.

Society, Technology, and Values Option

The Society, Technology and Values (STV) option has had very limited enrolment in recent years, on average fewer than 1 per year. The Centre for STV advises that there are no current students on track to complete the option. In a thorough review of the option, it was identified that the onerous requirements are preventing wider student interest. Enrolment in individual STV courses is healthy and the development of a replacement Diploma credential is in progress, targeting the 2025 calendar for implementation. In addition, this is an option that is open to students in all faculties, which is not compliant with the University credential framework, which indicates that options should be faculty-specific.

Given the above, the inactivation of the STV option is proposed.

Current students wishing to declare the option will need to do so by Spring 2024; STV will advise students in their courses of this. It is hoped that the replacement diploma will become available for the 2025 calendar. It would be possible for any student falling in the gap to petition for a back-dated plan modification to add the option.



Senate Finance Committee

For Information

Open Session

To: Senate

Sponsor: Vivek Goel, President and Vice-Chancellor
president@uwaterloo.ca

Presenter: James W.E. Rush, Vice-President, Academic and Provost
provost@uwaterloo.ca

Date of Meeting: March 4, 2024

Agenda Item Identification: **11a. Report of the Senate Finance Committee**

Summary:

Senate Finance Committee met on February 7, 2024 to provide an update on the 2023-24 operating budget.

At the Senate meeting, James Rush, Vice-President, Academic and Provost, will provide an annual operating budget update with respect to the 2023-24 Operating Budget. Senators will recall that they received an update on the 23/24 budget at the October 2023 Senate meeting, with respect to uncertainties identified earlier in 2023.

The 2024-25 operating budget will be presented to Senate at the April 8, 2024 meeting.

Documentation Provided:

- 2023/24 Operating Budget Update and Budget Presentation (as presented to Senate Finance Committee, February 2024)

University of Waterloo
Senate Finance Committee
February 2024

FOR INFORMATION

2023/24 Operating Budget Update

The 2023/24 Operating Income and Expense budget update is included in Attachment 1.

Executive Summary

At the time of preparation and presentation of the 2023/24 opening operating budget, uncertainties were identified in several areas with updates expected later in the year. Updates were provided in the fall regarding the nature of these uncertainties and estimated impact on the operating budget.

The table below summarizes the updates to the opening budget.

Operating Budget (in thousands)	
Deficit for 2023/24 in budget at start of year	(\$ 4,017)
<u>Fall Update to Budget:</u>	
Bill 124 base salary amendments	(16,000)
Increase in interest income	5,000
Estimated deficit	<u>(\$15,017)</u>
<u>February Budget Update:</u>	
Increase in operating grants	200
Tuition – enrolment impacts	(400)
Increase in other income	600
Increase in benefits expense – extended health	(1,000)
Increase in utilities expense	<u>(575)</u>
Unfunded deficit	<u>(16,192)</u>

The University will address the unfunded deficit through foregoing planned spending of centrally managed funds that would otherwise have been used to address University priorities, and will therefore be unable to achieve important work in areas including deferred maintenance and sustainability, enterprise systems and capital projects.

Income

The income budget is increasing by \$5.4m to \$889.2m. The \$5.4m increase in the income budget relates mainly to increases in interest income of \$5m due to rising interest rates throughout calendar 2023. The income budget for tuition reflects a 0% domestic undergraduate Ontario tuition rate increase and a 5%

domestic undergraduate out-of-province tuition rate increase as well as the international tuition rates previously approved by the Board of Governors.

The \$0.4m decrease in tuition income relates to decreases in international enrolment of \$9.2m offset by increases in domestic enrolment of \$8.8m.

Expenses

The expense budget is increasing by \$17.6m to \$905.4m. The \$17.6m increase in the expense budget relates to salaries of \$14m and benefits of \$3m and utilities of \$0.6m.

The salary budget increase of \$14m reflects costs for salary increases relating to Bill 124 reopener agreements with employee groups, resulting in extraordinary salary base increases for eligible faculty and staff effective May 1, 2023.

The benefit budget increase of \$3m includes \$2m for the estimated incremental benefit costs associated with the salary budget increase (mainly employer pension plan and Ontario employer health tax contributions) and \$1m for increasing extended health benefits claim experience.

Planning for 2024/25 Operating Budget

The University considers various scenarios for the operating budget for the four fiscal years that follow the current fiscal year (i.e. currently through to the year ending April 30, 2028). In all scenarios across this four-year period, expenses are increasing, and, in general, revenues are expected to be relatively flat, or to increase only modestly. For 2024/25, without mitigation, we expect that the University will have a significant operating budget deficit, due to decreased revenues and increased expenses. However, the University is developing a plan to work towards mitigating the deficit to the extent possible.

There are a number of uncertainties that will affect both revenues and expenses, including:

- The timing and content of the province's response to the Blue Ribbon Panel report, including a tuition framework for the 2024/2025 year
- The conclusion of salary agreements with the University's employee groups effective for the 2024/2025 year and the two following years
- Domestic and international enrolment levels, including:
 - increasing geopolitical and economic factors that could impact international enrolment levels, and
 - a newly introduced Canadian federal 2-year cap on international student study visa permits. Provinces have been tasked with deciding how permits will be distributed among universities and colleges in their jurisdictions. It is not yet clear how this will impact international enrolment.

The University is undertaking significant work to determine how to bring forward through governance (beginning with the March 2024 Senate Finance Committee meeting) a budget for the 2024/25 year, given significantly constrained and uncertain revenues and increased expenses. Multiple short-term and longer-term efforts, including significant spending constraints and budget reductions will be required to mitigate the gap between revenues and expenses.

UNIVERSITY OF WATERLOO
2023/24 Operating Income Budget (in thousands)

Senate Finance Committee
February 7, 2024

Estimated 2023/24 As at April 4, 2023	Increase / (Decrease)	Estimated 2023/24 As at February 6, 2024	Notes
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INCOME

Operating Grant

Enrolment	112,268	-	112,268
SMA3 Performance Outcomes	138,355	-	138,355
Special Purpose	5,550	100	5,650
International Student Recovery	(5,000)	100	(4,900)
Transfers to AFIW	(13,150)	-	(13,150)
	238,023	200	238,223

Tuition

Domestic - Undergraduate	239,700	9,000	248,700	Note 1
Domestic - Graduate	27,300	(200)	27,100	
International - Undergraduate	257,300	(10,300)	247,000	Note 2
International - Graduate	55,100	1,100	56,200	Note 3
Transfers to AFIW	(20,550)	-	(20,550)	
	558,850	(400)	558,450	

Other Revenue

Co-op Recovery	27,100	100	27,200	
Student Services Fees	16,210	-	16,210	
Interest	30,000	5,000	35,000	Note 4
Services to AFIW	3,960	-	3,960	
Miscellaneous Income	9,670	500	10,170	Note 5
	86,940	5,600	92,540	

Total Income

883,813	5,400	889,213
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Note 1: The increase in Domestic Undergraduate tuition is due to new student intakes exceeding opening budget plan.

Note 2: The decrease in International Undergraduate tuition is due to new students intake below opening budget plan. This has been further impacted by student graduations accelerating beyond expected in the opening budget plan.

Note 3: The increase in International Graduate tuition is due to new international Masters students intakes exceeding opening budget plan.

Note 4: The investment income earned on operational funds is based on current and forecasted cash management and investment plans. The increase is due to the impact on general interest rates of the significant increases Bank of Canada has made in interest rates during calendar year 2023.

Note 5: Miscellaneous income includes application fees, rental income and various other fees such as transcripts, verification letters, etc. The increase reflects increased application revenues.

UNIVERSITY OF WATERLOO
2023/24 Operating Expense Budget (in thousands)

Senate Finance Committee
February 7, 2024

Estimated 2023/24 As at April 4, 2023	Increase / (Decrease)	Estimated 2023/24 As at February 6, 2024	Notes
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EXPENSES

Salary and Wages

Current salaries and wages	535,177	14,000	549,177	
Current benefits	132,160	3,000	135,160	
	<u>667,337</u>	<u>17,000</u>	<u>684,337</u>	Note 1

Non Salary Expenses - Strategic and Priority Spending

Student Support	75,967	-	75,967	Note 2
University Fund	43,100	-	43,100	Note 3
Capital Project Fund	4,300	-	4,300	Note 4
Deferred Maintenance Fund	6,000	-	6,000	Note 5
	<u>129,367</u>	<u>-</u>	<u>129,367</u>	

Non-Salary Expenses - Other

Insurance	3,250	-	3,250	
Municipal taxes	3,050	-	3,050	
Utilities	22,925	575	23,500	
Other non-salary expenses	77,501	-	77,501	
Total other - before budget reduction	<u>106,726</u>	<u>575</u>	<u>107,301</u>	Note 6
Budget reduction	<u>(2,700)</u>	<u>-</u>	<u>(2,700)</u>	
Total other - after budget reduction	104,026	575	104,601	

Gross expenses

<u>900,730</u>	<u>17,575</u>	<u>918,305</u>
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Cost recoveries

<u>(12,900)</u>	<u>-</u>	<u>(12,900)</u>	Note 7
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Estimated net expenses

<u>887,830</u>	<u>17,575</u>	<u>905,405</u>
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Estimated income

<u>883,813</u>		<u>889,213</u>
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Surplus (Deficit)

<u>(4,017)</u>		<u>(16,192)</u>
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The University plans to fund the current year budget deficit through planned underspending of current year centrally managed budgets, and if needed through use of available one-time resources

Note 1: The budget increase reflects the salary scale increases and benefits cost impacts related to the Bill 124 salary agreement reopener adjustments (\$16m) and an increase in costs for extended health benefits (\$1m).

Note 2: Student Support includes Tuition Set Aside (TSA), as well as undergraduate and graduate support in the form of scholarships, bursaries and awards. The TSA amount (approximately \$27 million) is calculated based on a formula mandated by the Ministry of Colleges and Universities and it is to be used for needs based student support programs.

Note 3: The University Fund is used strategically for funding the University's strategic priorities and managing risk.

Note 4: The Capital Project Fund budget supports central funding of capital projects. Other support for capital projects includes other central operating funds, faculty funding, donations and other sources.

Note 5: The Deferred Maintenance Fund supports central funding of deferred maintenance projects. Other support for deferred maintenance includes other central operating funds, faculty funding, grants and donations.

Note 6: Other non-salary budget reflects the budget for a variety of non-salary expenses of the Faculties and Academic Support Units including investments in capital and enterprise software, and expenses in professional services, maintenance and supplies. Faculties and Administrative Support Units determine use of this budget based on operational requirements.

Note 7: Chargeouts and cost recoveries primarily include recoveries from Ancillary Enterprises (Housing, Food Services, Print & Retail Solutions, Watcard and Parking) for space charges and administrative support.

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For Approval

Open Session

To: Senate

From: Secretariat
Contact Information: secretariat@uwaterloo.ca

Date of Meeting: March 4, 2024

Agenda Item Identification: **12a. Recommended Amendments to Policy 3 – Sabbatical and Other Leaves for Faculty Members and to Policy 43 – Special Conditions for Employment for Deans**

Recommendation/Motion:

To approve the proposed amendments to Policy 3 – Sabbatical and Other Leaves for Faculty Members, and to cancel Policy 43 – Special Conditions for Employment for Deans (Policy 43), as described in this report and attachment;

And further to recommend that the Board of Governors give final approval to the same proposed amendments.

Summary:

In October 2023 and February 2024, the Faculty Relations Committee considered amendments to the policies that would mitigate the granting of an extra and unintended administrative credit to certain administrators. The committee agreed to recommend the suggested amendments to Policy 3 and the cancellation of Policy 43 and the “Chakma Memo”, a directive from then-Vice President Academic & Provost, Amit Chakma related to Policy 43. The recommendation prevents the unintended ‘doubling-up’ of administrative service credits and provides clarity in the application of the policies by incorporating the necessary information from Policy 43 and the “Chakma Memo” into Policy 3. As per the requirements for approval of class “F” and class “A” policies under Policy 1, the committee recommended the amendments to the president which were approved on 12 February 2024, and are further recommended onward to Senate (and presumptively thereon to the Board of Governors).

Jurisdictional Information:

This item is submitted to Senate in accordance with the requirement for approvals of Class F and Class A policies which is described in Policy 1, section 4 (excerpt):

4. Jurisdiction, Initiation and Development

...

Class F

...

Approvals

The approval process is a collegial one in which the approval by each of the Senate, the Administration, the Faculty Association and the Board of Governors, is required. The approval route is from the FRC to the President, then to Senate, and finally to the Board of Governors. Upon receipt of the new or amended policy from the FRC, the President will approve it and recommend it to Senate, or return it to the FRC with accompanying reasons for its return.

Upon receipt of the new or amended policy from the President, Senate will approve it and recommend it to the Board of Governors, or return it to the FRC with accompanying reasons for its return.

Upon receipt of the new or amended policy from Senate, the Board of Governors will approve it and the policy will be in force, or return it to the FRC with accompanying reasons for its return.

If the policy is returned at any stage, the FRC will review the reasons given for its return, make any revisions that it deems necessary, and return the (amended) policy for approval so long as it continues to have majority support from members appointed by each of the Administration and Faculty Association. If that support is lost, the draft policy will be shelved and Senate so informed.

...

Class A

Initiation, Development and Approval

As for Class F, except that the Policy Drafting Committee may be differently constituted...

Governance Path:

Faculty Relations Committee approval date (mm/dd/yy): 02/08/2024

President approval date (mm/dd/yy): 02/12/2024

Senate approval date (mm/dd/yy): 03/04/24 [prospective]

Board of Governors approval date (mm/dd/yy): 04/16/24 [prospective]

Documentation Provided:

- Memo to President from Faculty Relations Committee, 8 February 2024



To: Vivek Goel, President and Vice-Chancellor

From: David Porreca, President, Faculty Association (co-chair, Faculty Relations Committee)
James W.E. Rush, Vice-President, Academic & Provost (co-chair, Faculty Relations Committee)

Date: 8 February 2024

Subject: Proposed Amendments to Policy 3 – Sabbatical and Other Leaves for Faculty Members and Policy 43 – Special Conditions for Employment for Deans

[Policy 3 – Sabbatical and Other Leaves for Faculty Members](#) (Policy 3) is a Class F policy that was last updated on 5 June 2001.

[Policy 43 – Special Conditions for Employment for Deans](#) (Policy 43) is a Class A policy that was established and last updated on 11 April 1972. Policy 43 is considered in relation to the attached memo from then-Vice-President Academic & Provost, Amit Chakma, which provides a directive that allows those considered in Policy 43 (Deans, Associate Deans, Chairs/Directors) to take an administrative leave of four months for four years of administrative service, at full pay, in advance of or subsequent to an approved sabbatical leave and to apply unused administrative service credit of less than four years as a salary top-up (the Chakma Memo).

Class F Policy Requirements under Policy 1 – Initiation and Review of University Policies

The responsibility for Class F policy development is vested in the Faculty Relations Committee (FRC). Policy 1 states that requests for amendment of a Class F policy shall be reviewed by the FRC which will decide whether to proceed with the request. The decision will be to proceed if a majority of the members appointed by each of the Administration and the Faculty Association is in favour.

Normally, in the course of development of the Class F policy, a Faculty Policy Drafting Committee (FPDC) will be formed, with terms of reference provided by the FRC. Where an FPDC is established, the draft policy is sent by the FPDC to the FRC, who, once satisfied with the draft, will forward it to the Senate, the Vice-President, Academic & Provost and the Board of Directors of the FAUW for comment. That said, Policy 1 states that minor amendments may be dealt with directly by the FRC without the formation of an FPDC.

The approval process is a collegial one in which the approval by each of the Senate, the Administration, the Faculty Association and the Board of Governors is required. The approval route is from the FRC to the President, then to Senate, and finally to the Board of Governors. Upon receipt of the amended policy from the FRC, the President will approve it and recommend it to Senate (or return it to the FRC with reasons). Upon receipt of the amended policy from the President, Senate will approve it and recommend it to the Board of Governors (or return it to the FRC with reasons). Upon receipt of the amended policy from Senate, the Board of Governors will approve it and the policy will be in force (or return it to the FRC with reasons). If the policy is returned at any stage, the FRC will review the reasons given for its

return, make any revisions that it deems necessary and return the amended policy for approval so long as it continues to have majority support from members appointed by each of the Administration and the Faculty Association.

Class A Policy Requirements under Policy 1 – Initiation and Review of University Policies

Responsibility for the initiation, development and approval of Class A policies is the same as listed above for Class F, except that the President may appoint up to two additional members to the FPDC representing other constituent groups.

Proposed Amendments

At meetings held on 5 October 2023, and 8 February 2024, the FRC considered amendments to Policy 3 and Policy 43, presented by a member of the committee, intended to clarify the interpretation of the two policies and the Chakma Memo. The committee agreed that as written, and as sometimes interpreted, the policies allow those who serve in the roles of Dean, Associate Dean or Chair/Director to receive a service credit toward sabbatical leave under Policy 3, an administrative credit toward sabbatical leave under Policy 3 and an extra and unintended administrative credit under Policy 43. The suggested amendments to the policies would prevent the unintended doubling-up of administrative service credits and would provide clarity in the application of the policy by incorporating the necessary information from Policy 43 and the Chakma Memo into Policy 3, thereafter cancelling Policy 43 and the Chakma Memo.

The FRC unanimously agreed to consider the proposed changes within the FRC, without the formation of a formal FPDC as contemplated by Policy 1. The changes were deemed to be minor in that they did not alter intended practices under the policies and the Chakma Memo, rather they proposed to amend the wording of Policy 3 for clarity, formalizing the directive of Policy 43 and the Chakma Memo therein.

Members unanimously supported the proposed amendments to Policy 3 below and recommend that the proposed amendments come into effect upon final approval by the Board of Governors, with those in Dean, Associate Dean, Chair/Director roles prior to that date exempted.

Policy 3 Suggested Amendment – Section 3

3. SABBATICAL LEAVE

Sabbatical leave may be granted for a period of up to, but not exceeding, twelve months. The University will continue salary payments to the grantee, subject to the terms outlined below.

Faculty members are eligible to apply for a regular sabbatical leave (either a half-year leave at full salary or a full-year leave at 85% salary) to be taken after six years, full-time (including 12 terms teaching) in the professorial ranks.

“Half-year leave” shall mean leave from normal teaching duties for one term (approximately four months) of the two teaching terms normally required in a 12-month period plus one-half of a non-teaching term. Salary will continue at the individual’s normal annual rate.

“Full-year leave” shall mean leave from normal teaching duties for the two teaching terms normally required in a 12-month period plus one full non-teaching term. Salary will continue at 85% of the individual’s normal annual rate.

Sabbatical leave is subject to the condition that if a faculty member is eligible to apply for regular sabbatical leave and such leave is deferred by the individual, in consultation with the Department Chair, the additional time served, up to a maximum of three years, may be applied toward eligibility for a succeeding sabbatical leave or may be used to enhance the 85% salary of a current full-year sabbatical leave at the rate of one-twelfth of the normal salary for each extra year of service credit. Total income from the University may not exceed 100% of the normal salary for the year. If deferral is at the request of the University, the three-year limit on additional service credit does not apply.

An “early sabbatical” leave may be awarded after a minimum of three years, full-time (including six terms teaching) in the professorial ranks. Early sabbaticals are half-year leaves at 85% salary and consume credit for three years of service. For early sabbaticals, unused years of service credit count toward subsequent sabbatical leaves and may not be taken in terms of salary equivalent.

Faculty members holding probationary appointments may apply for a special early sabbatical at full salary rather than at 85% of salary; this sabbatical would normally be completed during the fourth year of probationary appointment.

Where faculty members have assumed substantial administrative responsibilities (e.g. Deans, Associate Deans, Department Chairs, or School Directors) for an extended period (usually four or five years), they shall normally be present on campus for three terms each year. In those or in other exceptional circumstances, the University, at the discretion of the Vice-President, Academic & Provost, may waive the normal service requirement or the normal restriction against granting two consecutive leaves to a faculty member. Sabbatical leave may not be taken during the first two years of appointment.

Where faculty members have accrued a number of years’ administrative credit as Dean, Associate Dean, Department Chair or School Director, they may exercise the following option:

- Four years of unused administrative service credit may be exchanged once for four months of fully paid leave; such leaves may be taken in advance of or subsequent to an approved sabbatical leave, allowing a faculty member to be away from campus for up to 16 consecutive months.
- Unused administrative service credit of less than four years may be used only as a salary top-up. While on leave, total income from the University may not exceed the individual’s normal annual salary.

That is, one must have at least four years of unused administrative service credit in order to exchange it for paid leave, and such an exchange may occur only once during a faculty member’s tenure at the University.

~~Faculty members with substantial administrative duties will accrue administrative credit in addition to the normal service credit. Administrative credits do not count toward eligibility for sabbatical, but may be used for sabbatical salary enhancement at the rate of one twelfth of the normal salary for each year of administrative service; total income from the University may not exceed the individual's normal annual salary. Unused administrative credit may be used for salary enhancement toward a subsequent sabbatical but is otherwise forfeited.~~

The following consultations have taken place:

- Deans' Group – October 4, 2023
- FAUW Board of Directors – October 26, 2023

This amendment is respectfully submitted to you as a minor amendment to Policy 3, and Policy 43, requesting your approval and recommendation to Senate.

Please indicate your decision below.

I approve

I do not approve for the following reasons:

I approve with the following recommendations:



Date 12 February 2024

Vivek Goel
President and Vice-Chancellor

EFFECTIVE JULY 1, 2003

ADMINISTRATIVE CREDIT (USE OF) FOR:
SABBATICAL SALARY ENHANCEMENT
4 FOR 4 EXCHANGE

Sabbatical accrual and administrative credit at UW

Six years of normal service makes an active faculty member eligible to apply for a 12-month sabbatical leave at 85% salary (or a 6-month leave at full salary), and three years of normal service makes an active faculty member eligible for a 6-month "early" sabbatical leave at 85% salary. In addition, administrative service as Dean, Associate Dean, Department Chair, or School Director provides administrative service credit equal to the term of the administrative appointment (i.e., a 3-year appointment equals 3 years' admin. credit).

Sabbatical Salary Enhancement

Administrative credit may be used as salary top-up, to bring the normal sabbatical salary to 100% of normal salary. (Currently, 1 year & 10 months of admin. credit will enhance a 12-month leave to full salary.)

4 For 4 Exchange (or use of excess administrative credit)

Where faculty members have accrued a number of years' administrative credit, they may exercise the following option:

- Four years of unused administrative service credit may be exchanged **once** for four months of fully paid leave; such leave may be taken in advance of or subsequent to an approved sabbatical leave, allowing a faculty member to be away from campus for up to 16 consecutive months.
- Unused administrative service credit of less than four years may be used only as salary top-up.

That is, one must have at least four years of unused administrative service credit in order to exchange it for paid leave, and such an exchange may occur only once during a faculty member's tenure at UW.

Amit Chakma
Vice-President Academic & Provost
June 2003

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Senate Undergraduate Council

For Information

Consent Agenda

Open Session

To: **Senate**

Sponsor: David DeVidi
Associate Vice-President, Academic

Presenter: David DeVidi
Contact Information: david.devidi@uwaterloo.ca

Date of Meeting: March 4, 2024

Agenda Item Identification: **13. Report – Senate Undergraduate Council**

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following items to Senate for information as part of the consent agenda. On behalf of Senate, the following items were approved:

1. Academic Program Reviews

Following the review of the reports and presentations from the programs, Council approved the following reports:

- a. Final Assessment Report: [Civil Engineering, Environmental Engineering, Geological Engineering, and Water Resources](#)
- b. Final Assessment Report: [Computer Science, Computer Science - Data Science, Business Administration and Computer Science, and Computing](#)
- c. Final Assessment Report: [Nanotechnology Engineering](#)
- d. Progress Report: [Global Business and Digital Arts, and Digital Experience Innovation](#) (This report had been approved pending revisions on 21 November 2023 and the revisions have now been completed)

There were no issues noted in the reports.

2. Curricular Submissions

Council approved new courses, course changes, course inactivations, and minor program modifications for:

- a. [Faculty of Arts](#) (School of Accounting and Finance; Anthropology; Communication Arts; Dean of Arts; Economics; Econometrics Specialization; English Language and Literature; History; Political Science; Psychology; Renison University College; Sociology and Legal Studies; St. Jerome's University)
- b. [Faculty of Engineering](#) (Architectural Engineering; Biomedical Engineering; Chemical Engineering; Civil Engineering; Computer Engineering Option; Electrical & Computer Engineering; Environmental Engineering; General Engineering; Geological Engineering; Interdisciplinary Studies; Management Science & Engineering; Management Sciences Option; Mechanical Engineering; Mechatronics Engineering; Nanotechnology Engineering; School of Architecture; Software Engineering Option; Systems Design Engineering)
- c. [Faculty of Environment](#) (Science, Technology, and Society Specialization; Aviation Specialization; Dean of Environment; Diploma in Ecological Restoration; Diploma in Environmental Assessment; Environmental Planning Specialization; Geography & Environmental Management; Knowledge Integration; School of Environment, Enterprise & Development; School of Environment, Resources & Sustainability; School of Planning; Urban Studies Minor)
- d. [Faculty of Health](#) (Kinesiology and Health Sciences; Medical Physiology Minor; Pre-Clinical Specialization; Recreation & Leisure Studies; School of Public Health Sciences)
- e. [Faculty of Mathematics](#) (Applied Mathematics; Combinatorics and Optimization; Computer Science; Co-op; Dean of Math Office; Pure Mathematics; Statistics and Actuarial Science)
- f. [Faculty of Science](#) (Bioinformatics Option; Biology; Chemistry; Dean of Science Office; Earth and Environmental Sciences; Ecology Specialization; Physics and Astronomy; School of Pharmacy)

Jurisdictional Information:

As provided for in [Senate Bylaw 2](#), section 5.03, council is empowered to make approvals on behalf of Senate for a variety of operational matters:

- c. On behalf of Senate; consider and approve all new undergraduate courses; the deletion of undergraduate courses; and proposed changes to existing undergraduate courses and minor changes to programs and/or plans; and provide Senate with a summary of council's deliberations in this regard. Any matter of controversy that might arise may be referred to Senate.

Senate Undergraduate Council

For Approval

Consent Agenda

Open Session

To: Senate

Sponsor: David DeVidi
Associate Vice-President, Academic

Presenter: David DeVidi
Contact Information: david.devidi@uwaterloo.ca

Date of Meeting: March 4, 2024

Agenda Item Identification: **13a. Report – Senate Undergraduate Council:
Regulation Revisions – Faculty of Engineering Dean’s Honours List**

Recommendation/Motion:

To approve the proposed academic regulation revisions to update the Distinction and Dean’s Honours Minimum Cumulative Average for Graduating Honours and Term Distinction, for the Faculty of Engineering, effective 1 September 2024, as presented.

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following item to Senate for approval as part of the regular agenda.

Jurisdictional Information:

This item is being submitted to Senate in accordance with [Senate Bylaw 2](#), section 5.03(a): “Make recommendations to Senate with respect to rules and regulations for the governance, direction and management of undergraduate studies in the university.”

Governance Path:

Engineering Faculty Council approval date (mm/dd/yy): 01/16/24

Senate Undergraduate Council approval date (mm/dd/yy): 02/05/24

Highlights/Rationale:

These regulation revisions are to update the Distinction and Dean's Honours Minimum Cumulative Average for Graduating Honours and Term Distinction. The Faculty of Engineering would like to remove the faculty-specific requirements for Term and Graduating honours and align with the other faculties who adopted a consistent framework in 2020.

The current method used by Engineering means that the average required to be Dean's Honours List (DHL) in a term is not consistent across programs, terms or levels and is not transparent for students. DHL is different for each program, so a student getting 85 in one program may get DHL, while a higher grade in another program or subsequent term doesn't get DHL. The calculation is only done once in a term, so any student that has a grade change after the fact may remain on (or off) the DHL for the term. The current process is manual and therefore prone to coding and calculation errors. This process is not transparent for students, so they may be on the DHL one term, then off the next with a higher term average. This is potentially demotivating for student, contributing to a poor student experience. There is an equity issue for small programs or students on reduced load (AAS) as they are not eligible under the current rules.

Proposed Revisions:

Current calendar text: <https://ugradcalendar.uwaterloo.ca/page/Acad-Regs-Awards-of-Excellence>

Proposed calendar text: (underlined and bolded = new, strikethrough = deletion)

Awards of Excellence

The Awards of Excellence presented on this page apply to students in degree-granting programs, ~~excluding all majors from the Faculty of Engineering (including Software Engineering).~~ Engineering students should view the [Faculty of Engineering section](#) of this Calendar.

Graduating Honours

A student who demonstrates exceptional academic performance in a degree-granting program may be recommended to graduate with either "Dean's Honours" or "Distinction", based on their final cumulative average. Only the highest honour is awarded.

Faculty/Program	Distinction Minimum Cumulative Average	Dean's Honours Minimum Cumulative Average
Arts (including Computing and Financial Management)	80.0%	85.0%
<u>Engineering (BAS plan)</u>	<u>80.0%</u>	<u>85.0%</u>
<u>Engineering (BASc and BSE plans)</u>	<u>80.0%</u>	<u>87.0%</u>
Environment	80.0%	85.0%

Health	80.0%	85.0%
Mathematics	80.0%	87.0%
Science	80.0%	85.0%
Bachelor of Social Work	80.0%	85.0%

Term Distinction

A student is eligible to receive “Term Distinction” based on their average in all courses taken during a term while in a degree-granting program. In order to receive “Term Distinction”, the following must be true:

- The term must have at least one alpha/numeric grade in the average.
- A minimum term average of 80.0% must be achieved.
 - **For Faculty of Engineering students (excluding Architecture), a minimum term average of 87.0% must be achieved.**
 - **For Architecture students, a minimum term average of 85.0% must be achieved.**
- An academic standing for the term of Promoted, Eligible, Satisfactory, Good, or Excellent.
- The term cannot have an INC, IP, MM, or UR. When these grades are resolved to alpha/numeric grades, the term’s average will be reviewed for eligibility.

Notes

1. Students may be deemed ineligible at the discretion of the associate dean, undergraduate studies.
2. Students in Optometry and Pharmacy who are taking less than a full course load due to failure will be ineligible for “Term Distinction” in reduced-load terms.
3. **Students in the Faculty of Engineering taking less than 1.5 units in the term will be ineligible for “Term Distinction.”**

Current calendar text: <https://ugradcalendar.uwaterloo.ca/page/ENG-Examinations-and-Promotions-Rules>

Proposed calendar text: (underlined and bolded = new, strikethrough = deletion)

Rules

...

- ~~14. Although it is the Senate of the University that confers degrees, the Faculty of Engineering does recommend students for degrees in Engineering. A student who has successfully met all of the requirements will be Recommended for the BAsC or BSE degree. The degree awarded will be the one associated with the plan of registration. A student who has demonstrated exceptional performance will be Recommended for the BAsC or BSE Degree with Distinction. This recognition is granted to a student who has a cumulative average of 80% or greater, starting with their first enrolment in the 3A term, of those courses that are requirements for their plan, and that have been included in a corresponding term average (i.e., those courses of type blank above). Courses taken while on exchange, or terms for which the academic decision has Aegrotat added as a qualifier, do not contribute to the cumulative average. In~~

such cases, the cumulative average will include the most recent four academic terms completed at Waterloo for which a numerical average is available.

...

Current calendar text: <https://ugradcalendar.uwaterloo.ca/page/ENG-Examinations-and-Promotions-Rules>

Proposed calendar text: (underlined and bolded = new, strikethrough = deletion)

Dean's Honours List

To recognize outstanding academic achievement each term, the designation Dean's Honours List will be awarded to exceptional undergraduate Engineering students in each plan. To achieve this designation for a particular term, students must meet the following criteria for the term in question:

1. ~~They must be unconditionally promoted at the end of that term (standings and official grades are available on Quest as specified in the [Calendar of Events and Academic Deadlines](#)).~~
2. ~~They must have term decisions of Excellent and have received no penalties under [Policy 71](#) during the term.~~
3. ~~Their term averages minus their percentile ranks from the tops of their classes for that academic term must be greater than or equal to 80.~~
4. ~~They must be in cohorts with 10 or more students.~~
5. ~~Their course loads must equal or exceed the minimum number of academic units specified by their plan for that term.~~

~~This designation will be reflected on students' transcripts. Students not in the top 10% of their classes are normally not eligible.~~

~~Students with outstanding records throughout their undergraduate careers in Engineering will graduate on the Dean's Honours List if they have been on the Dean's Honours List for at least two of the six academic terms preceding graduation, and have cumulative averages over the final six academic terms of their plan of at least 80%. An appropriate notation will appear on students' official transcript.~~

~~Students enrolled in the Bachelor of Software Engineering (BSE) degree may also qualify for the Dean's Honours List using rules specified by the Dean of Mathematics. The process is described in detail in [Software Engineering](#).~~

Senate Undergraduate Council

For Approval

Consent Agenda

Open Session

To:**Senate****Sponsor:**David DeVidi
Associate Vice-President, Academic**Presenter:**

David DeVidi

Contact Information:david.devidi@uwaterloo.ca**Date of Meeting:**

March 4, 2024

Agenda Item Identification:**13b. Report – Senate Undergraduate Council:
Regulation Revisions – Invalid Credential Combinations****Recommendation/Motion:**

To approve the proposed academic regulation revisions to the Invalid Credential Combinations section of the Undergraduate Studies Academic Calendar for the Faculty of Environment’s Business Option and Sustainability Financial Management, effective 1 September 2024, as presented.

Summary:

[Senate Undergraduate Council](#) met on 5 February 2024 and agreed to forward the following item to Senate for approval as part of the regular agenda.

Jurisdictional Information:

This item is being submitted to Senate in accordance with [Senate Bylaw 2](#), section 5.03(a): “Make recommendations to Senate with respect to rules and regulations for the governance, direction and management of undergraduate studies in the university.”

Governance Path:

Arts Faculty Council approval date (mm/dd/yy): 11/14/2023

Environment Faculty Council approval date (mm/dd/yy): 01/18/24

Senate Undergraduate Council approval date (mm/dd/yy): 02/05/24

Highlights/Rationale:

These regulation revisions are to add the Sustainability Financial Management (SMF) as an invalid combination with the Faculty of Environment's Business Options. SFM students are already completing a business and environment combination degree, so allowing them to complete the Business Option does not add value for a student's marketability and is a redundant credential.

Consultation was done within both the School of Environment, Enterprise and Development (SEED) and SMF, and this revision was approved at both Arts and Environment Faculty Councils. Faculty of Arts will present this at Undergraduate Affairs Group (UGAG) as an information item.

Proposed Revisions:

Current calendar text: (<http://ugradcalendar.uwaterloo.ca/page/Acad-Regs-Invalid-Credential-Combinations>)

Proposed calendar text: (underlined and bolded = new, strikethrough = deletion)

Invalid Credential Combinations

...

A Business Option is available to all undergraduates in the Faculty of Environment, ~~with the exception of~~ **except for** students in Honours Environment and Business **Honours, and Sustainability and Financial Management Honours**. It may not be combined with the Human Resources Management Minor or the Management Studies Minor because of similar coursework.

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For Discussion

Open Session

To: Senate**Sponsor:** Charmaine B. Dean, Vice President Research and International
Contact Information: vpri@uwaterloo.ca**Presenter:** Charmaine B. Dean, Vice President Research and International
Contact Information: vpri@uwaterloo.ca**Date of Meeting:** March 4, 2024**Agenda Item Identification:** 14. Awards, Distinctions, Grants, Waterloo International Engagements**Summary:**

Presenting the Vice-President, Research and International Report to Senate for March 2024. This report to Senate highlights successful research, international and entrepreneurial outputs and outcomes for the period January 2024 by the thematic areas as outlined in Waterloo's Strategic Plan 2020-25.

Documentation Provided:

- Vice-President, Research and International March 2024 Report to Senate

**Vice-President, Research & International
Report to Senate
March 2024**

Introduction

This report to Senate highlights successful research and international outputs and outcomes for the period January 2024 by the thematic areas as outlined in Waterloo's Strategic Plan 2020-25.

Community Partner Highlight:

Kitchener-Waterloo, Wellesley, Woolwich, and Wilmot (KW4) Ontario Health Team (OHT)

The Health Initiatives team has been working closely with the KW4 OHT by assisting in the development of a 3 Graham Seed Fund proposals. One of these proposals has led to the development of [an App to improve Newcomer's ability to self-navigate local health and social services with accurate, timely and up to date information](#). The App will guide Newcomers to the most appropriate care and support for their given circumstance by providing support 24 hours a day, 7 days a week in the language of their choice.

Velocity Highlights:

Michael Phillips (BASC '17) and Phillip Cooper's (BASC '17) - Vena Medical

Vena Medical is spun out of and is working with Velocity Science.

Using a tiny camera - MicroAngioscope™ - invented from Michael Phillips and Phillip Cooper's fourth-year mechanical engineering design project physicians get a real-time, full colour view of inside the brain's blood vessels. Using the MicroAngioscope™ doctors have been able to not only pinpoint the cause of the stroke attack but also treat the patient in just one hour.

Phillips' and Cooper's expertise as engineers and entrepreneurs may have brought this tiny camera to life but the idea came from understanding the professional challenges their physician family members often face. Before deciding on what problem to focus on for their fourth-year design project, they researched the frustrations for specialists who treat strokes, and what consequences it would have for patients. (see more information [here](#))

Esteban Veintimilla (MBET '22, BMath '18) - 1Mentor

1Mentor accessed Velocity's start-up business development programs

1Mentor's founder, Esteban Veintimilla, got his business idea during his time in the Master of Business, Entrepreneurship and Technology program at Waterloo. He saw the knowledge gap for students to understand what type of skills they would need in the real world of work.

1Mentor's artificial intelligence (AI) enabled technology sifts through employers' job postings to provide insights into employers' needs and identify skills required for success. It also equips higher education institutions with the information they need to adjust programming to address the skills gap. Recently, 1Mentor's entire company and staff were acquired by Quacquarelli Symonds (QS), the world's largest global higher education network. QS will enable 1Mentor to grow as a new business unit for at least the next five years. (see more information [here](#))

Funded Research Awards:

Innovation for Defence Excellence and Security (IDEaS)

Dr. David Cory | Dr. Thomas Jennewein | Dr. Christopher Wilson (Institute for Quantum Computing)

Three faculty members each received \$3,000,000 for advancing research into the real-world applications of quantum technology. The Innovation for Defense Excellence and Security (IDEaS) program is intended to stimulate ideas critical to innovation and rapid development and deployment of quantum technologies. Of the six total projects selected for funding from IDEaS, half of them are led by IQC.

NSERC Alliance, Option 1

Timothy Brecht (School of Computer Science)

Title: "Real-time hockey-analytics using puck and player tracking data."

NSERC \$59,929 over 2 years | \$31,820 cash and \$8,800 in-kind from partner contributions

Carl Haas (Civil & Environmental Engineering)

Title: "Masonry, Masons and Machines: Leveraging Augmented Reality to Improve Productivity, Health and Safety Outcomes."

NSERC \$320,000 over 5 years | \$160,000 cash and \$264,840 in-kind from partner contributions

Adrian Gerlich (Mechanical and Mechatronics Engineering)

Title: "Optimization of filler wire and post-weld treatment in AHSS laser welds."

NSERC \$174,600 over 3 years | \$162,300 cash and \$30,000 in-kind from partner contributions

Carl Haas (Civil & Environmental Engineering)

Title: "Digitization and asset information modeling to support planning for nuclear power plant decommissioning."

NSERC \$212,295 over 3 years | \$106,155 cash and \$107,901 in-kind from partner contributions

Naveen Chandrashekar (Mechanical and Mechatronics Engineering)

Title: "Design, Development and Evaluation of Smart Grip Force Monitoring Device for Industrial Use."

NSERC \$64,567 over 3 years | \$32,283 cash and \$24,000 in-kind from partner contributions

Adrian Gerlich (Mechanical and Mechatronics Engineering)

Title: "High speed droplet transfer and feedback control in arc welding."

NSERC \$265,667 over 2 years | \$132,833 cash and \$35,000 in-kind from partner contributions

Ehsan Toyserkani (Mechanical and Mechatronics Engineering)

Title: "Holistic Innovation in Additive Manufacturing 2.0 (HI-AM 2.0): Capitalizing on Prior Achievements and Exploring New Frontiers in Directed Energy Deposition Processes."

NSERC \$3,498,073 over 5 years | \$1,749,038 cash and \$1,608,066 in-kind from partner contributions

NSERC Alliance Quantum grants

Lan Wei (Electrical and Computer Engineering)

Title: "Towards large-scale spin qubit quantum computers: simulation, modeling and experiment."
NSERC \$1,690,122 over 5 years | \$603,000 in-kind from partner contributions

NSERC Alliance/ Mitacs

Yuning Li (Chemical Engineering)

Title: "Development of solid electrolytes based on novel oxirane-based polymers."
NSERC \$270,000 over 3 years | \$22,500 cash from Mitacs | \$135,000 cash and \$90,000 in-kind from partner contributions

Roland Hall (Biology)

Title: "Pre-release' baselines for compounds of concern in lakes of the Peace-Athabasca Delta before treated oil sands process water is discharged to the Athabasca River."
NSERC \$59,288 over 1 year | \$135,000 cash from Mitacs, | \$59,289 cash and \$5,280 in-kind from partner contributions

Amir Khajepour (Mechanical and Mechatronics Engineering)

Title: "Digital Underground Mining: Operation Assist Systems."
NSERC award \$720,000 over 5 years | \$440,000 cash from Mitacs, | \$360,000 cash and \$550,000 in-kind from partner contributions

Canada Research Chairs (CRC) 2023

Mark Ferro (School of Public Health Sciences)

Tier 2, CIHR renewal - [Youth Mental Health](#)

Mark and his research team are investigating the epidemiology, trajectories and mechanisms that lead to childhood multimorbidity. They are also studying how multimorbidity and COVID-19 infection influence the use of mental health services. Ultimately, their findings could help identify at-risk youth and inform prevention and intervention efforts to eliminate childhood multimorbidity.

Awards and Distinctions:

Shai Ben-David (Cheriton School of Computer Science)

[2023 ACM Fellow - Association for Computing Machinery](#)

The Association for Computing Machinery is recognizing Professor Ben-David for his contributions to and research leadership in machine learning theory.

David Clausi (Systems Design Engineering)

[Fellowship, Engineering Institute of Canada \(EIC\)](#)

The EIC was founded in 1887 and recognises excellence in engineering while assuring standards through the accreditation of continuing education credits. EIC fellowships are awarded by the council of the institute for excellence in engineering and services to the profession and society.

John English (History)

[Member, Order of Ontario, Lieutenant Governor of Ontario's office](#)

Distinguished Professor Emeritus John English has been named to the Order of Ontario. Dr. English was among 25 appointees named to the Order by the Honourable Edith Dumont, Lieutenant Governor of Ontario and Chancellor of the Order of Ontario on January 1, 2024.

Ian Goldberg (Cheriton School of Computer Science)

[2023 ACM Fellow - Association for Computing Machinery](#)

The Association for Computing Machinery is recognizing Professor Goldberg for his contributions to the development and deployment of privacy enhancing technologies.

John Hirdes (School of Public Health Sciences)

[Member - Order of Canada, Governor General's Office](#)

Professor John Hirdes is appointed a member of the Order of Canada for his "contributions to evidence-based health care practice and policy, notably through the research and development of standardized assessments and decision support tools.

Nikolas Knowles (Kinesiology and Health Sciences)

[Stars Career Development Award, Arthritis Society of Canada](#)

Dr. Nikolas Knowles, a researcher in the Department of Kinesiology and Health Sciences, has received a Stars Career Development Award from Arthritis Society Canada in recognition of his research on improving early detection and treatment of shoulder osteoarthritis.

Ming Li (Cheriton School of Computer Science)

[W. Wallace McDowell Award, IEEE Computer Society](#)

Professor Ming Li is the 2024 recipient of the IEEE Computer Society W. Wallace McDowell Award, a prestigious honour conferred for his pioneering and enduring contributions to modern information theory and bioinformatics.

Mark Matsen (Chemical Engineering/Physics and Astronomy)

[Polymer Physics Group Founders' Prize](#)

Only 11 scholars have been awarded this prize since its inception in 2001. The prize is for scientists who have made an exceptional contribution to Polymer Physics. It was created by the Institute of Physics (IoP), the Royal Society of Chemistry (RCS), and the Institute of Materials, Minerals and Mining (IoM3).

John McPhee (Systems Design Engineering)

[Gold Medal, Ontario Society of Professional Engineers \(OSPE\)](#)

OSPE's highest honour. This is the first Gold Medal awarded since 2019, and Dr. John McPhee is the first recipient of this award from the University of Waterloo in over 33 years.

Carolyn Ren (Mechanical and Mechatronics Engineering)

[Fellowship, Engineering Institute of Canada \(EIC\)](#)

The EIC was founded in 1887 and recognises excellence in engineering while assuring standards through the accreditation of continuing education credits. EIC fellowships are awarded by the council of the institute for excellence in engineering and services to the profession and society.

Daniel Vogel (Cheriton School of Computer Science)

[Member, Association for Computing Machinery](#)

The Association for Computing Machinery has named Professor Daniel Vogel a Distinguished Member for his fundamental contributions to human-computer interaction and applications of novel forms of interaction.

Chris Yakymchuk (Earth and Environmental Sciences)

[2024 Early Geological Career Award - Geological Society of America Mineralogy, Geochemistry, Petrology and Volcanology \(MGPV\) Division](#)

Dr. Yakymchuk, an Earth and Environmental Sciences Professor, is being recognized for his outstanding contributions to understanding the evolution of the Earth's crust.

International Agreements:

Subsequent to the previous AVP, International Dr. Ian Rowlands's October 2023 trip to Japan, Indonesia and Vietnam, the following agreements were executed:

- **Akita International University (AIU) – Japan:** This is a renewal of an agreement that was first signed in 2010 enabling exchange of students. It involves the Faculties of Arts, and Mathematics.
- **Vietnam National University Ho Chi Minh City – University of Science (VNU-HCMC-US) – Vietnam:** This a new MOU that enables the institutions to explore collaboration across a range of educational, research, innovation, and community areas.
- **Institut Teknologi Bandung (ITB) – Indonesia:** This is a new MOU that enables the institutions to explore collaboration across a range of educational, research, innovation, and community areas..

International Education Week (IEW):

IEW took place from November 20-24, 2023, and was coordinated by Waterloo International with a focus on highlighting the impact of internationalization across the University community. A number of events took place, including, to name a few, the Balinese Gamela Ensemble hosted by Conrad Grebel University College and international trivia on ways to integrate international experiences into your career path with the Centre for Career Development. Additionally, Graduate Studies and Postdoctoral Affairs hosted a Postdoc Social, as roughly 65% of our postdocs are international. Co-operative and Experiential Education presented their annual "Where in the World?!" international photo contest for students working abroad. And DAAD – the German international mobility facilitator – celebrated the ways in which internationalization enriches our learning, research, and community work.



Office of the Vice-President, Academic and Provost

For Information

Open Session

To: Senate

Sponsor: James W.E. Rush, Vice-President, Academic and Provost
Contact Information: provost@uwaterloo.ca

Presenter: James W.E. Rush, Vice-President, Academic and Provost
Contact Information: provost@uwaterloo.ca

Date of Meeting: November 27, 2023

Agenda Item Identification: 15. Report of the Provost – Faculty Appointments, Leaves

Summary:

The Faculty Reports for Senators' information regarding the variety of appointments, reappointments, special appointments, leaves, and other matters of interest about individuals in the Faculties are available at the [Senate agenda page](#)¹.

¹ <https://uwaterloo.ca/secretariat/sites/default/files/uploads/documents/all-faculties-march-2024.pdf>

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For Approval**Open Session****To:** Senate**Sponsor/Presenter:** David DeVidi, Associate Vice-President, Academic
david.devidi@uwaterloo.ca**Sponsor/Presenter:** Jeff Casello, Associate Vice-President, Graduate Studies and
Postdoctoral Affairs
jcasello@uwaterloo.ca**Date of Meeting:** March 4, 2024**Agenda Item Identification:** **16. Committee Appointments - Teaching Awards****Recommendation/Motion:**

To approve the committee appointments for the Distinguished Teacher Awards and for the Amit & Meena Chakma Award for Exceptional Teaching by a Student, as presented in this report.

Summary:

Senate appoints the membership of the two awards committees. Per past precedent, staff in the Centre for Teaching Excellence have formed a recommended committee membership based on the terms of the awards; owing to the difficulty in securing members to serve, this year's recommendation for each committee has slightly fewer members than is formally called for. Senate has previously approved the memberships with similar minor shortfalls and may feasibly do so again in this instance.

Jurisdictional Information:

Not applicable.

Governance Path:

Senate approval date (mm/dd/yy): 03/04/24

Highlights/Rationale:

The **Distinguished Teacher Awards** (DTA) are awarded to exemplary instructors at the University of Waterloo. The awards are open to all who teach at the University, and the main criterion of the award is a record of excellent teaching at Waterloo of usually at least five years' time. The committee considers: evidence of intellectual vigour and communication skills in the interpretation and presentation of subject matter; evidence of educational impact beyond the classroom; the instructor's concern for and sensitivity to the needs of students; and a clear indication that the nominee has a favorable and lasting influence on students, and, where relevant, on colleagues. The DTA is awarded to four instructors annually and individuals are announced at the March meeting of Senate. The committee is appointed by Senate and

consists of three undergraduate students (nominated by Waterloo Undergraduate Student Association), two graduate students (nominated by the Graduate Student Association), one alumni representative, four members of faculty (typically previous winners of the award), and the associate vice-president, academic as chair.

The **Amit & Meena Chakma Award for Exceptional Teaching by a Student** (AETS) awards are open to all students who have a formal teaching role at the University of Waterloo. Up to four awards are given annually in recognition of excellence in teaching of all kinds by registered students (e.g., teaching assistant, laboratory demonstrator, sessional lecturer). The selection committee considers intellectual vigour and communication skills in the interpretation and presentation of subject matter. Concern for and sensitivity to the academic need of the students is an important criterion. The committee is appointed by Senate and consists of three undergraduate students (nominated by Waterloo Undergraduate Student Association), two graduate students (nominated by the Graduate Student Association), two members of faculty, and the associate vice-president, graduate studies and postdoctoral affairs as chair.

Recommended committee memberships:

Distinguished Teacher Awards

Undergraduate:	Charlie Uebele (environment and business, honours) Rachel Lam (psychology) Catherine Dong (mathematics)
Graduate:	Giuseppe Femia (English language & literature) Emma McDougall (planning)
Alumni:	Tiffany Bradley
Faculty:	Cynthia Richard (pharmacy) Greta Kroeker (history) Suzanne Kearns (geography & environmental management)
Chair (AVPA):	David DeVidi

Amit & Meena Chakma Award for Exceptional Teaching by a Student

Undergraduate:	Alicia Seebalak Maya Baboolal Avery Kelly
Graduate:	Eugenia Dadzie Nicolas Banks
Faculty:	Carrie Mitchell – Associate Director of Undergraduate Studies and Associate Professor, School of Planning
Chair (AVP, GSPA):	Jeff Casello