Senate Undergraduate Council

Open Session

April 8, 2025

1:00 p.m. - 3:00 p.m.

Needles Hall

NH 3318 / Virtual Option

Waterloo Campus

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2025 04 08 Senate Undergraduate Council Meeting Book

AGENDA

	Governance Resources		
	Link to Governance Resources		
	1. Conflict of Interest		
	1.1 Declarations of conflict of interest		4
1:00 p.m.	Consent Agenda Motion to approve the items on the consent agenda, listed as item 2-5 below.		
	2. Approval of the Minutes		
	2.1 Minutes of the January 28, 2025 Meeting	Decision (SUC)	5
	3. Undergraduate Awards		
	3.1 New and Renewed Undergraduate Awards [Brenda Denomme]	Information	9
	4. Update to the Rules for Major Modifications		
	4.1 Program Name Change Rules [Angela Christelis]	Information	16
	5. Curricular Submissions		
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	5.2 Faculty of Environment	Information	19
	5.3 Office of the Registrar	Decision (SUC)	21
	Regular Agenda		
	6. Business Arising from the Minutes		
1:05 p.m.	7. Chair Remarks		
1:10 p.m.	8. Teaching Innovation Incubator [Kyle Scholz]		
	8.1 TII 2024 Year in Review	Information	25
1:25 p.m.	9. Undergraduate Communications Requirement Group [George Lamont]	Information	
1:40 p.m.	10. Co-operative and Experiential Education [Prier, Clifford]		
	10.1 PD14 Technological Features Course Outline	Decision (SUC)	27
2:00 p.m.	11. Curricular Submissions		
	11.1 Report from the SUC Curriculum Subcommittee	Information	36
	11.2 Faculty of Science (BScFM) [Deakin]	Decision (SEN-R)	37
	11.3 Faculty of Science (BMSci) [Deakin]	Information	

Excerpt from Senate Bylaw 1

8. Declarations of conflict of interest

8.01	At the beginning of each meeting of Senate or any of Senate's committees or councils, the chair will call for members to declare any conflicts of interest with regard to any agenda item. For agenda items to be discussed in closed session, the chair will call for declarations of conflict of interest at the beginning of the closed portion of the meeting. Members may nonetheless declare conflicts at any time during a meeting.
8.02	A member shall be considered to have an actual, perceived or potential conflict of interest, when the opportunity exists for the member to use confidential information gained as a member of Senate, or any of Senate's committees or councils, for the personal profit or advantage of any person, or use the authority, knowledge or influence of the Senate, or a committee or council thereof, to further her/his personal, familial or corporate interests or the interests of an employee of the university with whom the member has a marital, familial or sexual relationship.
8.03	Members who declare conflicts of interest shall not enter into debate nor vote upon the specified item upon which they have declared a conflict of interest. The chair will determine whether it is appropriate for said member to remove themselves from the meeting for the duration of debate on the specified item(s).
8.04	Where Senate or a committee or council of Senate is of the opinion that a conflict of interest exists that has not been declared, the body may declare by a resolution carried by two-thirds of its members present at the meeting that a conflict of interest exists and a member thus found to be in conflict shall not enter into debate on the specified item upon which they have declared a conflict of interest. The chair will determine whether it is appropriate for said member to remove themselves from the meeting for the duration of debate on the specified item(s).

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Minutes of the January 28, 2025 Meeting

Present: Katherine Acheson, Faisal Al-Faisal, Kareem Alfarra, Veronica Austen, Benoit Charbonneau, Victoria Chu, Ashley Day (secretary), Laura Deakin, David DeVidi (chair), Chloe Ding, Leanne Ferries, Jason Grove, Carol Ann MacGregor, Kristiina Montero, Cathy Newell Kelly, Cynthia Richard, Robert Stark, Victoria Swanson, Chris Vigna, Johanna Wandel, Richard Wikkerink

Resources/Guests: Angela Christelis, Natalie Clifford, Jennifer Coghlin, Mike Grivicic, Danielle Jeanneault, Carrie MacKinnon Molson, Mary Power, Andrea Prier, Mirko Vucicevich

Absent: Avery Akkerman, Namrah Hasan, Nicholas Pfeifle, Helena Shilomboleni, William Wong

Organization of Meeting David DeVidi took the chair, and Ashley Day acted as secretary. The secretary advised that a quorum was present. The agenda was approved without formal motion.

1. CONFLICT OF INTEREST
No conflicts of interest were declared.

CONSENT AGENDA
Council heard a motion to approve or receive for information the items of the consent agenda. Charbonneau and Deakin. Carried.

2. MINUTES OF THE NOVEMBER 19, 2024 MEETING
Council approved the minutes of the meeting as distributed.

3. CURRICULAR SUBMISSIONS
Council received for information item 3.1 and approved items 3.2 – 3.10 on behalf of Senate.

REGULAR AGENDA

4. BUSINESS ARISING FROM THE MINUTES
There was no business arising.

5. CHAIR'S REMARKS
Thei chair welcomed Kareem Alfarra who is the new Mathematics Society student member of SUC.

6. CO-OPERATIVE AND EXPERIENTIAL EDUCATION APPROACH
Prier and Clifford presented an overview of professional development (PD) at the University, including a reimagining of courses for the future. The reimagining would align with the Future Ready Talent Framework and institutional direction. The proposed course, PD14, is a pilot which may inform program modifications in the future. The proposed course will be fully online and include collaborative content creation, alignment with strategic frameworks, and shift to authentic skill applications. The course pilot has been endorsed by Norah McRae, Associate Provost, Co-op and Experiential Education, David DeVidi, Associate Vice-president, Academic, and the Co-op and Experiential Education Council. Prier and Clifford intend to return to SUC in Spring 2025 with an update on the course's development and seek feedback on recommendations for program direction.

Council discussed when assessments would be developed, as this information is required during the development and approval of undergraduate courses. It was clarified that once an instructor is assigned and builds out the course, assessments would be added to the course outline. Additionally, reflective work reports are not included in the description, however those will be added to the list of assessments. Council also discussed (1) the timeline to develop the full course outline, (2) ensuring the consultation process includes broad representation across all Faculties and AFIW, (3) adjusting

marketing to align with the new approach and, (4) fostering student understanding of PD programming at Waterloo.

A member inquired how students would be consulted for feedback as the Science Society student member was unaware of the proposal. Prier and Clifford clarified that next steps include engaging a full group of students regarding the planned PD program enhancements.

Members of Council raised concern over the proposal not including learning outcomes. Prier and Clifford clarified that an educational developer would build out a full course outline which would be reviewed by an advisory board.

By consensus Council agreed that this should move forward subject to learning outcomes being provided for review at the April SUC meeting. Should SUC's concerns persist regarding the course, Prier and Clifford agreed it would not be offered in Fall 2025 until Council gives full approval.

A motion was heard to approve the new course PD 14 Technological Futures: Responsible Digital Innovation on behalf of Senate, effective September 1, 2025, subject to satisfactory follow-up action pertaining to learning outcomes be brought forward to the April 2025 meeting. Wandel and Wikkerink. Carried.

7. SENATE COURSE OUTLINE REQUIREMENTS

Deakin and Power, with Vucicevich, spoke to the report and recommendations from the Course Outline Working Group. The working group was tasked with generating recommendations to improve the current course outline tool. The three recommendations proposed will allow for the inclusion of learning material costs in the course outline template, while updating the required list of basic elements in course outlines and also updating the standard text required in course outlines for accessibility and mental health supports.

Council discussed each recommendation fully, including whether use of the tool should be mandatory across all Faculties and which elements on the outline must be populated.

Council indicated that under recommendation two the language ought to be changed from 'should' to 'must', and that the list provided be revisited to match the template. Under recommendation three, it was discussed that supports should include information beyond mental health counseling and in the future could reference crisis intervention including a number or website for immediate support. Deakin will confirm on appropriate language with Counseling Services.

Council agreed that the report and recommendations be revised based on the feedback provided and that an e-vote be conducted to approve the recommendation for submission to the March Senate meeting. Members may submit any further feedback to Deakin directly. The Secretariat will issue the e-vote to members once the revised recommendations are prepared.

8. CURRICULAR SUBMISSIONS

8.2 Faculty of Engineering

Grove presented the three motions from the Faculty of Engineering. A minor amendment was made to the first motion to clarify that the diploma in Society, Technology and Values is a new proposal.

The following motions were heard:

To recommend that Senate approve the proposed new diploma in Society, Technology and Values, effective September 1, 2025, as presented.

To recommend that Senate approve the two new specializations and major plan modifications within Environmental Engineering, effective September 1, 2025, as presented.

To recommend that Senate approve the following regulation changes for Averages and Academic Standings, and Courses and Classes for the Faculty of Engineering, effective September 1, 2025, as presented.

Grove and Acheson. Carried.

8.3 Faculty of Arts

Acheson spoke to each motion related to the Faculty of Arts and presented a rationale for each proposal.

The following motions were heard:

To recommend to SUC, that Senate approve the following major modifications for Conrad Grebel University College, including retiring two specializations and creating three new specializations, as part of a larger program revision, effective September 1, 2025, as presented.

To recommend to SUC, that Senate approve the following major modifications for the Department of Fine Arts: Three-Year General Visual Culture, Honours Visual Culture, and Visual Culture in a Global Context Minor, effective September 1, 2025, as presented.

To recommend to SUC, that Senate approve the deletion of the Digital & Public History Specialization, and major plan modifications for the International Studies Minor, effective September 1, 2025, as presented.

To recommend to SUC, that Senate approve the major plan modifications to the Financial Leadership Specialization, effective September 1, 2025, as presented.

To recommend to SUC, that Senate approve the following regulation changes for the Bachelor of Arts Degree Requirements, Assessments: Scheduling Parameters, and Arts: Courses and Classes, effective September 1, 2025, as presented.

Acheson and McGregor. Carried.

8.4 Faculty of Mathematics

Charbonneau presented the major modifications from the Faculty of Mathematics. An error was noted on page 2907 of the meeting package under the subheading Required Courses. Council acknowledged the Kuali version of the submission as correct and a revised version would be included with the recommendation to Senate.

A motion was heard to recommend that Senate approve the major modifications to the Applied Mathematics with Scientific Computing and Scientific Machine Learning (Bachelor of Mathematics - Honours) and creation of a new CS-Game Design Specialization, effective September 1, 2025, as presented. Charbonneau and Al-Faisal. Carried.

8.5 Faculty of Environment

Wandel presented an overview of the proposed new diploma and specialization from the Faculty of Environment.

A motion was heard to recommend that Senate approve the proposed new Knowledge Integration Diploma and Sustainable Finance Specialization, effective September 1, 2025, as presented. Wandel and Grove. Carried.

8.6 Faculty of Science

Deakin provided an overview of the proposed new option for the Bachelor of Science.

A motion was heard to recommend that Senate approve the proposed new Ecology and Environmental Biology Option for the Bachelor of Science (Science), effective September 1, 2025, as presented. Deakin and Acheson. Carried

9. OTHER BUSINESS

Ding brought forward a question regarding the alignment of professors to specific courses in the Faculty of Science. Deakin will liaise with Ding separately on the question.

10. ADJOURNMENT

With no further business, the meeting adjourned. The next meeting will be held on Tuesday April 8, 2025, from 1-3pm in NH 3318.

January 31, 2025

Ashley Day
Governance Officer

NEW OR RENEWED UNDERGRADUATE AWARDS

for inclusion in the Undergraduate Awards Database

- submitted for April 8, 2025 meeting of Senate Undergraduate Council -

ENTRANCE AWARDS

Engineering Dean's Advisory Council Entrance Scholarship
One or more scholarships, valued at $20,000 each, will be awarded annually to outstanding full-time undergraduate students entering Year One of any program in the Faculty of Engineering. This scholarship is made possible by a donation from the Faculty of Engineering's Dean's Advisory Council which consists of esteemed alumni, friends and other industry leaders who provide input and guidance towards the Faculty's priorities and future strategic directions.

Method of Financing: annual donation (three-year pledge)

Guo Family Engineering Scholarship
A scholarship, valued at $5,000, will be provided annually to a full-time undergraduate student entering Year One of any program in the Faculty of Engineering. This fund is made possible by a donation from Terry Guo (BASc '01, Computer Engineering), to support the next generation of engineering talent.

Method of Financing: renewal of annual donation (two-year pledge)

Hallman Foundation Scholars Awards
Several awards, valued at up to $40,000 (paid over eight academic terms), will be provided annually to full-time undergraduate students entering Year One of any program at the University of Waterloo or its affiliated and federated institutions. To be considered, students must be a Canadian citizen or permanent resident, as well as a resident of the Region of Waterloo at the time of acceptance of an offer of admission. Selection will be based on demonstrated financial need as determined by Waterloo. To be considered for this award, students must complete the University of Waterloo Entrance Bursary application by April 15. Recipients will receive $5,000 per term for up to eight terms (1A-4B). All payments are contingent on maintaining good academic standing and full-time enrolment in degree studies. This award is made possible by a donation from the Lyle S. Hallman Foundation whose aim is to increase access to higher education and empower youth to pursue their educational aspirations.

Method of Financing: annual donation (five-year pledge)

Ho Pui Fun and Lee Wing Memorial Scholarship
A scholarship, valued at $1,200, will be awarded annually to a full-time international undergraduate student who identifies as a woman, entering Year One of any program in the David R. Cheriton School of Computer Science (excluding Software Engineering), wherein women are underrepresented. Selection will based on academic excellence, the Admission Information Form, and contest scores as assessed through the Centre for Education in Mathematics and Computing (CEMC). This fund is made possible by a donation from Anna Lee (BMath '81) and Connie Lai (BA '75), to honour their parents and to encourage international women to pursue a career in Computer Science.

Method of Financing: endowment

Intact Scholarship for Indigenous Students in STEM
A scholarship, valued at $5,000, will be awarded annually to a full-time Indigenous undergraduate student enrolled in Year One of any co-op program in the Faculty of Engineering, Mathematics, or Science. For the purpose of this scholarship, an Indigenous person is one who is a citizen or member of a First Nations community (Status/Non-Status), Métis and/or Inuit. To be considered, students must have completed the Indigenous Verification section in Quest and have had their Indigenous identity verified by the Office of Indigenous Relations. Selection will be based on a combination of academic achievement, demonstrated connection and/or contributions to Indigenous communities through extracurricular and/or volunteer activities, as well as a statement wherein students are asked to describe what receiving this award would mean to them in their pursuit of post-secondary studies. Interested students should submit an application by April 15. This fund is made possible by Intact Assurance, a proud Waterloo co-op employer, committed to supporting Indigenous students and creating a work environment that supports, inspires, and respects all individuals.

Method of Financing: annual donation (three-year pledge)

Paul M. Koch Entrance Scholarship for Academic Excellence and Community Volunteerism
Two scholarships, valued at up to $1,500 each, will be provided annually to full-time undergraduate students entering Year One: one to a student in the Faculty of Engineering and one to a student in the Faculty of Environment. Selection is based on academic excellence combined with extracurricular involvement, participation in volunteer activities, and/or community involvement. This fund is made possible by a donation from Paul M. Koch (BASc '63, MASc '64) and Marilyn Koch, to honour Paul's legacy as an early graduate, longtime supporter, volunteer and ambassador for the University of Waterloo.

Method of Financing: endowment

Lee Chan Chiou Entrance Scholarship in Physics
A scholarship, valued at $10,000, will be awarded annually to a full-time undergraduate student entering Year One of any program in the Department of Physics and Astronomy in the Faculty of Science, on the basis of academic excellence (minimum 90% admission average). This fund is made possible by a generous donation from Richard, Jenny, and Brenda Lee to support passionate science students in their first year.

Method of Financing: annual donation (five-year pledge)

Professor Cherian Sebastian Thachenkary Entrance Bursary
A bursary, in the amount of $5,000, will be provided annually to an undergraduate student who identifies as a woman enrolling in Year One of an eligible program in the Faculty of Engineering in which women are underrepresented. Preference will be given to students admitted to Chemical, Computer, Electrical, Mechanical, Mechatronics, Nanotechnology, and Software Engineering. Selection will be based on demonstrated financial need as determined by Waterloo. To be considered, students must complete the University of Waterloo Entrance Bursary application by April 15. This fund is made possible by a donation from University of Waterloo alumnus, Professor Cherian Sebastian Thachenkary (MASc '75, PhD '81, Management Engineering) and his wife, Pauline Thachenkary, in gratitude of Professor Thachenkary's very rewarding education at Waterloo, and to support and inspire women to pursue education and careers in engineering.

Method of Financing: annual donation (four-year pledge)

Ted Rogers Future Leaders Scholarship
Twenty scholarships, valued at up to $26,800 each, will be awarded to undergraduate students entering Year One of full-time degree studies at the University of Waterloo. Ten are allocated to students who identify as women enrolling in any program in the Faculties of Engineering, Mathematics, and Science, wherein women are underrepresented. Ten are allocated to Black or Indigenous students enrolling in any program in any Faculty in accordance with Waterloo's existing application and selection processes. Selection will be based on academic excellence (minimum 80% admission average) combined with any other standard Faculty scholarship selection criteria, where applicable. Recipients will receive $3,350 per term for up to eight academic terms (1A-4B). All payments are dependent on achieving a minimum cumulative average of 80% and full-time enrolment in degree studies. Rogers Communications has provided these scholarships to support post-secondary education.

Method of Financing: annual donation (two-year pledge, with hope of continuance)

Ted Rogers Legacy Scholarship
Two scholarships, valued at up to $100,000 each over eight academic terms, will be awarded to outstanding undergraduate students who identify as women entering Year One of Computer Engineering, Software Engineering, or Computer Science, wherein women are underrepresented. Selection is based on academic excellence combined with extracurricular and leadership achievements as assessed through the Admission Information Form. For applicants to Computer Science, the results of the Euclid Math Contest will also be considered. Recipients will receive $12,500 per academic term for up to eight terms (1A-4B). All payments are dependent on achieving a minimum cumulative average of 80% and full-time enrolment in a STEM degree program. Rogers Communications has provided these scholarships to support post-secondary education and foster talent in technology.

Method of Financing: annual donation (two-year pledge, with hope of continuance)

AWARDS FOR CURRENT STUDENTS

Thomas A. and Julia V. Andreoli Scholarship in Psychology
A scholarship, valued at $1,800, will be awarded annually to a full-time undergraduate student enrolled in Year Four of any Psychology program in either the Faculties of Arts or Science. Selection is based on academic excellence (minimum cumulative average of 83%) combined with a demonstrated commitment to community building among Psychology students at the University of Waterloo. This commitment could be evidenced by, for example, formal or informal peer mentorship in any domain (courses, research, advising, etc.), leadership in student initiatives, community volunteer work, or any other activities aimed towards motivating/inspiring others to work together collaboratively. Interested students should submit an application by February 1. This fund is made possible by a donation from Virginia Andreoli Mathie and James K. Mathie in honour of her parents, and in recognition of her lifelong commitment to collaboration.

Method of Financing: endowment

Bateman-Minello Award
An award, valued at $10,000, will be provided to a full-time undergraduate student enrolled in Year Two, Three, or Four of any program in the Faculty of Engineering. Selection is based on positive contributions to the 2SLGBTQ+ community through extracurricular or volunteer involvement. Interested students should submit an application by October 1. This fund is made possible by a donation from the Bateman Minello Family Foundation to support and celebrate the 2SLGBTQ+ community.

Method of Financing: renewal of annual donation (one-year pledge with hope of continuance)

Baylis MedTech Capstone Design Award
Six awards, valued at $5,000 each, will be provided to student groups undertaking a fourth-year Capstone Design Project in any program in the Faculty of Engineering. Selection to be based on project proposals that, in the opinion of the judges, demonstrate a healthcare/biomedical focus. The award funds will be divided equally among the winning team members. Interested students are to apply through the Faculty's Capstone Design website https://uwaterloo.ca/engineering/capstone-design-awards-application-form. Winning student groups may have the opportunity to work with industry mentors from Baylis Medical Technology upon request. This fund is made possible by a generous donation from proud alumni Kris Shah (BASc '86, Electrical), President of Baylis Medical Technologies, and Frank Baylis (BASc '86 Electrical) Executive Chairman of Baylis Medical Technologies.

Method of Financing: annual donation (five-year pledge)

BGC Engineering Capstone Design Award
One award, valued at $5,000, will be provided to an undergraduate student team enrolled in Year Four of the Geological, Environmental, or Civil Engineering program and undertaking a fourth-year Capstone Design Project. Selection will be based on projects that, in the opinion of the selection committee, are most innovative in the field of geological engineering. No application is required. This fund is made possible by a donation from BGC Engineering Inc. to support innovation in the field of geological engineering.

Method of Financing: one-time donation/award

Bhatti Family Scholarship for Excellence
A scholarship, valued at $2,000, will be provided annually to a full-time undergraduate student enrolled in Year Two, Three, or Four of any program in the Faculty of Health. Selection is based on academic excellence (minimum 80% cumulative average) combined with extracurricular or community involvement. Interested students should submit an application by November 1. This scholarship is made possible by a donation from Dr. Adil Bhatti, (BSc ’05, Kinesiology) and demonstrates his support of exceptional students and his appreciation for the path that his Waterloo education and the co-op program put him on.

Method of Financing: one-time donation (to support award for five years)

Mary Bland Engineering Award
An award, valued at up to $1,200, will be presented annually to a full-time undergraduate student enrolled in Year Two, Three, or Four of any program in the Faculty of Engineering. Selection will be based on academic achievement (minimum 75% cumulative average) combined with leadership involvement in Faculty of Engineering groups such as EngSoc, Engineering student design teams, WiE, and/or WEEF. Interested students should submit an application by October 1. This fund is made possible by the support of Waterloo Engineering faculty, staff, and alumni in honour of Mary Bland, former staff member of the Faculty of Engineering, to honour her commitment and support of engineering students during her 29-year career at the University of Waterloo.

Method of Financing: endowment

Dan and Anik Colquhoun Award
An award, valued at $2,500, will be provided annually to a full-time undergraduate student enrolled in Year Three or Four of Computer, Electrical, or Systems Design Engineering who can demonstrate that they have overcome a personal or medical challenge. Interested students should submit an application by October 1. This fund is made possible by a donation from Daniel and Anik Colquhoun.

Method of Financing: renewal of annual donation (five-year pledge)

CooperVision Contact Lens Innovation Award
One award, valued at $1,000, will be provided annually to a full-time undergraduate student enrolled in Year Four of the Doctor of Optometry program in the School of Optometry and Vision Science. Selection will be based on academic excellence (minimum cumulative average of 80%) and a written statement on the importance of fitting the latest technology in soft contact lenses to patients and how it will positively impact their life, while benefitting practice (500 words maximum). Preference will be given to applicants with demonstrated leadership and interest in contact lens excellence and innovation including extracurricular activities and/or Contact Lens Residency application. Interested students should apply by April 1. This fund is made possible through the support of CooperVision Canada to recognize future leaders in the profession.

Method of Financing: annual donation (five-year pledge)

CooperVision Myopia Management Award
One award, valued at $1,000, will be provided annually to a full-time undergraduate student enrolled in Year Four of the Doctor of Optometry program in the School of Optometry and Vision Science. Selection will be based on academic excellence (minimum cumulative average of 80%) and a written statement on the importance of myopia management and how it will impact their practice (500 words maximum). Interested students should apply by April 1. This fund is made possible through the support of CooperVision Canada to recognize future leaders in myopia management.

Method of Financing: annual donation (five-year pledge)

EssilorLuxottica Eye Care Award
Two awards, valued at $2,500 each, will be provided annually to full-time undergraduate students enrolled in Year Two and Year Three of the Doctor of Optometry program in the School of Optometry and Vision Science. Selection will be based on academic achievement (minimum 75% cumulative average) combined with demonstrated leadership related to extracurricular activities and/or volunteer activities. Interested students should apply by October 1. This fund is made possible through the support of EssilorLuxottica Eye Care to recognize future leaders in the profession.

Method of Financing: one-time donation (to fund award for five years)

Professor Shaun Frape Perseverance Award in Earth Sciences
An award, valued at $10,000, will be provided to a full-time undergraduate student enrolled in Year One of any program in the Department of Earth and Environmental Sciences in the Faculty of Science. Selection will be based on a combination of academic excellence (minimum admission average of 80%) and skills gained outside of academics, e.g., demonstrated leadership in community support and/or extra-curricular activities. Preference will be given to students who have overcome personal challenges on their road to post-secondary education. Interested students must apply by October 15. This award was established through the support of alumni and friends to honour Professor Shaun Frape and his belief that life skills, individual experiences, and perseverance are critical to one's success.

Method of Financing: pooled donations

Overbeeke Family Entrepreneurship Excellence Award
An award, valued at up to $10,000, will be awarded each term to a full-time undergraduate student enrolled in any year in the Faculty of Engineering who is pursuing an Enterprise Co-op opportunity. Selection will be based on the development of an outstanding presentation, business plan review, clarity of business description, and preparedness to lead a venture or social enterprise. Interested students should apply to be accepted into the Enterprise Co-op program no later than the start of the co-op term. This fund is made possible by a donation from H. David Overbeeke (BASc '85, Mechanical Engineering) to support engineering students with their entrepreneurial goals and business education.

Method of Financing: annual donation (two-year pledge)

Propel Holdings Capstone Design Award
One award, valued at $5,000, will be provided to an undergraduate student team enrolled in Year Four of Computer, Management, Systems Design, or Software Engineering and undertaking a fourth-year Capstone Design Project. Selection will be based on projects that, in the opinion of the selection committee, are most innovative and impactful in the field ~~of using~~ technology as a tool to broaden access to financial products or the financial system. The award funds will be divided equally among the winning team members. Interested students are to apply through the Faculty's Capstone Design website https://uwaterloo.ca/engineering/capstone-design-awards-application-form. This fund is made possible by a donation from Propel Holdings to support innovation in the field of financial technology.

Method of Financing: one-time donation (to fund award for two years)

Glen Schnarr Memorial Award
An award, valued at up to $1,500, will be provided annually to a full-time undergraduate student enrolled in Year Two, Three, or Four in the School of Planning. Selection is based on academic achievement (minimum 70% cumulative average) combined with extracurricular and/or volunteer involvement. Preference will be given to students who have demonstrated involvement in the School of Planning and/or the planning profession. Interested students should submit an application by March 15. This fund is made possible by donations from the Planning Class of 1974, along with friends, family, and colleagues in honour of Glen Schnarr.

Method of Financing: endowment

Rick and Cathy Snyder Award for Sustainability and Financial Management
An award, valued at $2,500, will be provided annually to a full-time, domestic, undergraduate student enrolled in Year Two, Three, or Four of the Sustainability and Financial Management program in the School of Accounting and Finance. Selection is based on academic achievement (minimum 75% cumulative average), combined with demonstrated leadership in extracurricular activities in the area of sustainable financial management. Interested students should submit an application by October 1. This fund is made possible by a gift from Cathy Snyder (BA ’84 and CPA) in loving honour of her late husband, Rick Snyder, CPA.

Method of Financing: annual donation (five-year pledge)

SPUR Innovation Centre Capstone Award
Up to three awards, valued at $10,000 each, will be presented annually to student teams enrolled in any program in the Faculty of Engineering and undertaking a fourth-year Capstone Design Project. Selection will be based on project proposals that, in the opinion of the selection committee, demonstrate outstanding innovations in computing, including in quantum computing, artificial intelligence, high performance computing, Web3 and internet of things. The award funds will be divided equally among the winning team members. Interested students should submit an application through the Faculty of Engineering’s Capstone Design website: https://uwaterloo.ca/engineering/capstone-design-awards application-form. This fund is made possible by a donation from SPUR Innovation Centre to inspire innovations in computing.

Method of Financing: annual donation (two-year pledge)

Tikkun Olam Award
One award, valued at $2,000, will be provided annually to a full-time undergraduate or graduate student enrolled in any year of any program at the University of Waterloo. Selection will be based on academic achievement (minimum 70% cumulative average) combined with contributions to Jewish culture and community through extracurricular or volunteer activities on campus and/or in other communities. As part of their application, students must include an essay/statement of 250-1,000 words to describe these contributions. Interested students should submit an application by November 1. This award has been established by Maryam Latifpoor-Keparoutis, along with family and friends, to inspire, encourage, and support students at the University of Waterloo.

Method of Financing: annual donation (five-year pledge)

Alan Uffelmann Award in Economics
An award, valued at $2,000, will be provided annually to a full-time undergraduate student enrolled in Year Two, Three, or Four of any program in the Department of Economics in the Faculty of Arts. Candidates must be in good academic standing (minimum 70% cumulative average) and have a demonstrated financial need, as determined by Waterloo. To be considered, students should complete the University of Waterloo bursary application by the fall term bursary deadline. This fund is made possible by a donation from Alan Uffelmann (BA ’86, Economics).

Method of Financing: renewal of annual donation (five-year pledge)

Wahl Family Scholarship for Community Involvement
One scholarship, valued at $2,500, is awarded annually to a full-time undergraduate student enrolled in Year Two, Three, or Four in the Faculty of Arts (excluding Accounting and Financial Management). Selection is based on academic excellence (minimum cumulative average of 80%), as well as demonstrated leadership in service to others, the community, or the world at large. Interested students should submit an application by February 1. This fund is made possible by a donation from Bettina and Scott Wahl.

Method of Financing: renewal of annual donation (four-year pledge)

STUDENT-ATHLETE AWARDS

Fairfax Financial Academic Honour Roll Awards
Four awards, valued at $1,000 each, are provided annually. Two awards will be presented to top academic athletes on a women's varsity team and two awards will be presented to top academic athletes on a men's varsity team. These awards are funded by a donation made possible by Fairfax Financial Holdings Limited.

Method of Financing: renewal of annual donation (three-year pledge)

Fairfax Financial Athlete Leadership Scholarship
Four scholarships, valued at $5,000 each, are presented annually to four exceptional upper-year student athletes who best display the values and mission of the interuniversity athletics program. To be eligible, candidates must be qualified student-athletes, enrolled in third or fourth year, have a minimum overall academic average of 80%, and have a demonstrated interest in finance or business (e.g., data science, financial services, or insurance). Applications are due by November 1. This scholarship is funded by a donation made possible by Fairfax Financial Holdings Limited.

Method of Financing: renewal of annual donation plus matching funds (three-year pledge)

Hargest Memorial Award
Multiple awards, valued at up to $5,000 each, are given to student-athletes on the varsity women's hockey team. Preference will be given to student-athletes from Grey County or Bruce County in Ontario. This award recognizes leadership, athletic talent, and contribution to Warriors Athletics and Recreation, Warriors Women's Hockey, and their community. This fund is supported by sisters Pam Coulter and Lee Anne O'Leary in memory of their brothers Steve and Greg Hargest.

Method of Financing: annual donation plus matching funds (five-year pledge)

John Shoniker Memorial Football Award
Multiple awards, valued at up to $5,000 each, are given to student-athletes on the varsity football team. This award recognizes leadership, athletic talent, and contribution to Warriors Athletics and Recreation, Warriors Football, and their community. This fund is supported by People Corporation in memory of Warriors Hall of Famer John Shoniker (BA '96).

Method of Financing: annual donation plus matching funds (four-year pledge)

To: Associate Deans, Undergraduate; Associate Deans, Graduate

From: Angela Christelis, Director, Academic Quality Enhancement

Date: Februart 2025

Subject: Update to Rules for Major Modifications – Program Name Changes

Note: This email is for information

Dear Associate Deans,

I am writing to inform you of a small change to our rules for classifying major modifications, specifically regarding program name changes. This adjustment has been made to better align with the Quality Council's framework for major modifications.

Rationale:
We have revised the classification criteria for program name changes to ensure consistency with the Quality Council's guidelines. Moving forward, some program name changes that were previously classified as major modifications will now be considered minor modifications.

New Rule for Major Modifications – Program Name Changes:
A program name change will be classified as a **major modification** only if it meets one or more of the following criteria:

1. **Changes to the learning outcomes** – The new name reflects a shift in the program's focus or content, resulting in revised learning outcomes.
2. **Changes to the degree nomenclature** – The new name alters the degree title (e.g., changing from a Bachelor of Arts to a Bachelor of Science).
3. **Marketability concerns** – The proposed name is similar to that of another program, potentially causing confusion or impeding the program's marketability.

All other program name changes will now be classified as **minor modifications**.

This change aims to streamline the modification process while maintaining alignment with the Quality Council’s framework. If you have any questions or require further clarification, please don’t hesitate to reach out.

For Approval **Consent Agenda**

To:	Senate Undergraduate Council
Sponsor/Presenter:	David DeVidi, Associate Vice-President, Academic
Date of Meeting:	April 7, 2025
Agenda Item Identification:	5.1 SUC Curriculum Subcommittee Report: Consent Agenda for Approval

Recommendation/Motion:

To approve the following curricular motions on behalf of Senate, as presented:

- Office of the Registrar
  - To recommend that SUC approve through its consent agenda, the regulation change Academic Considerations and Accommodations, as an amendment to the 2025-26 calendar, as presented.

Summary:

The SUC Curriculum Subcommittee has reviewed and agreed, via an e-vote which closed on March 31, 2025 to recommend to SUC for approval or receive for information as part of the consent agenda, the items included in the subsequent sections of this report (5.2 – 5.3).

To support easier navigation, items are also available in Kuali via the following links. If you have any issues accessing the links below, please contact Ashley Day, Governance Officer, for support.

a. Faculty of Environment – For Information
b. Office of the Registrar – For Approval

Documents Included:

- 5.2 Faculty of Environment
- 5.3 Office of the Registrar

SUC - 2025-04 - Consent Agenda - Faculty of Environment

Meeting Information

Agenda Page Title
SUC - 2025-04 - Consent Agenda - Faculty of Environment

Career Level
Undergraduate

Faculty/Unit
Environment

Date
04/08/2025

Time

Location

Summary

Other Business
Correction from the SUC subcommittee meeting January 8, 2025 and SUC meeting January 28, 2025 to two items proposed under the agendas titled:

SUC Curriculum Subcommittee - 2025 - 01 - Consent Agenda - Faculty of Environment
SUC - 2025 - 01 - Consent Agenda - Faculty of Environment

ENVS404 (Interdisciplinary Project)
- Component changed from Studio to Project

ENVS405 (Interdisciplinary Project)
- Component changed from Studio to Project

Rationale: ENVS404 and ENVS405 component should have been Project, not Studio, as indicated by the course name. ENVS404 will be scheduled as held with ENVS403A for the Fall term and ENVS405 will be scheduled as held with ENVS403B for the Winter term. The approved component for ENVS403A and ENVS403B is Project. This change will align all Interdisciplinary Project courses within the Faculty of Environment.

Attachment(s)

Course Proposals

Course Proposal Details

Courses: Retire

No proposals have been added.

Courses: New

No proposals have been added.

Courses: Changes

No proposals have been added.

Programs & Plans Proposals

Programs & Plans Proposal Details

Programs & Plans: Retire

No proposals have been added.

Programs & Plans: Major Modifications

No proposals have been added.

Programs & Plans: Minor Modifications

No proposals have been added.

Regulations Proposals

Regulations Proposal Details

Regulations: Retire

No proposals have been added.

Regulations: New

No proposals have been added.

Regulations: Changes

No proposals have been added.

SUC – 2025-04-08 – Consent Agenda – Office of the Registrar

Meeting Information

Agenda Page Title
SUC – 2025-04-08 – Consent Agenda – Office of the Registrar

Career Level
Undergraduate

Faculty/Unit
Office of the Registrar

Date
04/08/2025

Time
1 p.m.

Location
NH 3318

Summary

- Regulations:
  - Assessments: Academic Considerations and Accommodations > adding an exclusion clause for deferred/rescheduled final examinations for self-declaration short-term absences to the 2025-26 Calendar (amendment after publication)

Other Business

Attachment(s)

Course Proposals

Course Proposal Details

Courses: Retire
No proposals have been added.

Courses: New
No proposals have been added.

Courses: Changes
No proposals have been added.

Programs & Plans Proposals

Programs & Plans Proposal Details

Programs & Plans: Retire
No proposals have been added.

Programs & Plans: Major Modifications
No proposals have been added.

Programs & Plans: Minor Modifications
No proposals have been added.

Regulations Proposals

Regulations Proposal Details

Regulations: Retire
No proposals have been added.

Regulations: New
No proposals have been added.

Regulations: Changes

Code	Title	Type	Workflow Step
UG-AR-Assessments: Accommodations	Assessments: Academic Considerations and Accommodations	Policy	SUC Subcommittee, SUC Curricular Subcommittee | Under Review

UG-AR-Assessments: Accommodations
Assessments: Academic Considerations and Accommodations

Revision | Under Review | Fall 2025

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Changes

- Regulation Details

Effective Date & Career

Career
Undergraduate

IMPORTANT!

Effective Term and Year
Fall 2025

Proposal Details

Proposal Type
Change

Rationale and Background
Updating the "Academic Considerations for Short-Term Absences" section as follows:.

- Students may require a short-term absence from their academic responsibilities for any reason. For academic obligations during the Formal Lecture Period, students may self-declare a short-term absence within the student information system (Quest) using the Short-Term Absence self-declaration form. Self-declared short-term absences will not be accepted for the course/class components of Clinic (CLN), Field Studies (FLD), Laboratory (LAB), and Studio (STU)**, or for a deferred/rescheduled final examination**.
- A self-declared short-term absence will excuse students from their academic responsibilities for up to two consecutive calendar days. It applies to all courses (but not to CLN, FLD, LAB, or STU components **and for a deferred/rescheduled final examination**, as noted above). There is no expectation that a self-declared short-term absence be total; that is, students may elect to participate in any course and complete any course element despite not being required to.

Students are not able to submit a self-declared short-term absence request during the formal Final Examination Period. However, deferred/rescheduled final examinations may or may not occur during the formal Final Examination Period, and if not, allowing students to use the self-declared short-absence request process to further postpone their deferred/rescheduled final examination. Adding a clause that the self-declared short-term absence cannot be used for deferred/rescheduled final examinations will help mitigate this use.

This change is being made for Fall 2025 to the 2025-2026 Undergraduate Studies Academic Calendar so that it may apply during the 2025-26 academic year. It will become visible as an amendment after publication shortly after approval.

Supporting Documentation

General Regulation Information

Type of Regulation
University-wide

Regulation Grouping
Academic Regulations

Regulation Page Name
Assessments: Academic Considerations and Accommodations

Description
considerations and accommodation guidelines (illness, religious observances, final exam conflict, short-term absence, extenuating circumstances, athletic events, bereavement, disability).

Regulation Details

Proposed

Regulation Details

Students' ability to complete some component of a course may be affected by short-term extenuating circumstances or long-term or chronic medical conditions (physical or mental). For short-term extenuating circumstances, the term **academic consideration** is applicable and provides students with consistent, fair, and pedagogically appropriate consideration, without compromising the academic integrity of the course or program. Short-term extenuating circumstances might include common illness and ailments such as a cold or flu, minor injuries, compassionate/personal/wellness needs (unrelated to a disability/condition), bereavement, and participation in University of Waterloo sanctioned academic or athletic events that prevent them from meeting academic obligations.
In comparison, the term **academic accommodations** are modifications or adjustments to the way a student receives course curriculum and materials, participates in course activities, or demonstrates knowledge of course content and skills. Reasonable accommodations reduce or eliminate barriers in the academic environment but are not intended to alter the fundamental purpose or essential requirements of the academic program, milestone, or course. The University has a legal duty to accommodate students on a variety of grounds protected from discrimination including disability (which includes physical and mental health related conditions), creed, family status, and sex (including pregnancy and breast feeding).
Whether through academic consideration or academic accommodation, the University supports and upholds the duty to accommodate, and provides support to students who are experiencing extenuating circumstances.
Elective arrangements (such as travel plans) are not considered acceptable grounds for granting an academic consideration. Students who have long-term or chronic medical conditions (physical or mental) which may impede their ability to complete academic responsibilities are directed to seek academic accommodations through AccessAbility Services.

Academic Considerations

Academic Considerations for Short-Term Absences

Students may require a short-term absence from their academic responsibilities for any reason. For academic obligations during the Formal Lecture Period, students may self-declare a short-term absence within the student information system (Quest) using the Short-Term Absence self-declaration form. Self-declared short-term absences will not be accepted for the course/class components of Clinic (CLN), Field Studies (FLD), Laboratory (LAB), and Studio (STU), or for a deferred/rescheduled final examination.
Students will be permitted one short-term absence declaration per academic term. Thereafter, the student will be required to submit a University of Waterloo Verification of Illness Form (VIF) or register for academic accommodations with AccessAbility Services (depending on the nature of the reasons for the absence).
A self-declared short-term absence will excuse students from their academic responsibilities for up to two consecutive calendar days. It applies to all courses (but not to CLN, FLD, LAB, or STU components and for a deferred/rescheduled final examination, as noted above). There is no expectation that a self-declared short-term absence be total; that is, students may elect to participate in any course and complete any course element despite not being required to.
During the two-day academic consideration period, the instructor cannot require completion of any academic responsibilities. Students must contact the instructor no later than 24 hours after the missed assessment(s). If possible, students should contact the instructor prior to the expected missed assessment(s).

Academic Considerations Due to Illness

When students experience common, short-term illness and require academic consideration, they are required to provide a University of Waterloo Verification of Illness Form (VIF), following the faculty-specific process for their home faculty, if any one of the following is true:

- Absence is not covered by short-term academic consideration.
- Student has used their maximum permissible one self-declared short-term absence previously during the term.
- Student is retroactively reporting an illness.
- Student is seeking academic consideration due to illness for an academic assessment that falls outside the Formal Lecture Period.

Students should seek medical treatment and provide confirmation of the illness within 48 hours of the missed academic obligation by submitting a completed University of Waterloo Verification of Illness Form (VIF) to support requests for academic consideration due to illness.
The University of Waterloo Verification of Illness Form (VIF) is normally the only medical documentation accepted to support requests for academic consideration. Students who consult their physician or nurse practitioner or use the services of an off-campus walk-in clinic must provide this form to the attending physician for completion; notes and forms created by the physician or clinic are normally not acceptable. Medical documentation that contains the same information specified on the University of Waterloo Verification of Illness Form (VIF) may be accepted, though the University is not compelled to accept it. Health Services charges a fee for competing the University of Waterloo Verification of Illness Form (VIF) that is not covered by OHIP/UHIP. Fees for this service or those levied by off-campus practitioners are the student's responsibility.
False claims of illness and/or the submission of false supporting documentation of extenuating circumstances constitute an academic offence that may result in disciplinary action under Policy 71 (Student Discipline).
Adjustments of due dates or deferrals of term tests or final examinations are not automatic upon the presentation of acceptable medical documentation. Documentation along with all other information available will be considered when determining whether academic consideration is warranted.
Students experiencing illnesses or injuries that impact their ability to access and participate in their academics are encouraged to register with AccessAbility Services to explore the need for academic accommodations.

Academic Considerations Due to Final Examination Schedule Conflicts

A **final examination conflict** is when two final examinations that are scheduled on the same day, at the same time.
The University strives to create a conflict-free final examination schedule.
If students have a a final examination conflict with a Wilfrid Laurier University final examination that has been detected during the final examination scheduling process, the Office of the Registrar will notify the academic unit/instructor.
If students have an examination conflict that was not detected during the final examination scheduling process, they are required to complete the Final Examination Timetable Conflict Form. The Office of the Registrar will confirm the conflict then notify the academic unit/instructor.
Academic units/instructors who have been notified of confirmed final examination conflicts will determine alternative final examination arrangements and contact the impacted students to discuss the alternatives.
The University strives to schedule final examinations with:

- No student scheduled to write two final examinations in a row (i.e., back-to-back periods).
- No student writing in the last period on one day and the first period in the next day.

Where this cannot be accomplished for a particular student, the University provides final examination relief by making alternative scheduling arrangements for that student, by shifting one final examination period giving the student an additional hour break.
Students can elect to accept final examination combinations that violate these constraints. In doing so, they understand that petitions or appeals based on a violation of the above conflicts will not be granted.

Guidelines for Providing Academic Considerations

University of Waterloo instructors provide academic considerations when appropriate conditions are met (see the criteria above).
When instructors are asked to consider student's extenuating circumstances, the options available to students vary based on the nature of the extenuating circumstances/events they are facing, on the kind of assessment they are unable to complete on time, and the instructor's own grading practices stated in the course outline.

- **For in-term assignments (assignments, poster symposia, presentations, etc.):** Instructors may use an alternative such as extension or transfer of weight to a subsequent assessment or test/examinations. Details shall be included in the course outline.
- **For in-term tests and midterm examinations:** The weighting of the missed test is normally added to the final examination or spread over the remaining tests. In-term tests are normally not deferred (unless there are no remaining tests to transfer weight to).
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- **For WaterlooWorks arranged co-op interviews:** Employers may follow up with the student, but the University cannot require an employer to reschedule the interview.

Any University academic activity that appears in the Schedule of Classes will be given precedence over alternate arrangements in the resolution of an academic consideration.
Any unresolved disputes between instructors and students regarding the legitimacy of extenuating circumstances or the suitability of academic considerations will be decided by the appropriate associate dean(s). When in doubt, students should approach the associate dean from their home faculty. For students taught at the Affiliated and Federated Institutions of Waterloo where there is no associate dean, the dean exercises these responsibilities.

Academic Accommodations

Accommodations due to Disability

The University of Waterloo is committed to upholding the rights of persons with disabilities and creating accessible and inclusive learning environments for all. AccessAbility Services is the University's centralized office for the management of academic accommodations for all students with known or suspected disabilities and disabling conditions (injuries, medical conditions, and impacts of trauma). Students seeking academic accommodations as a result of disability/disabling conditions will register with AccessAbility Services to determine eligibility for academic accommodations, and to develop an academic accommodation plan as required. AccessAbility Services will relay the accommodation plan to instructors, and will work with the instructor and the student to ensure an appropriate accommodation plan is implemented. Disability covers a broad range and degree of conditions that can be permanent, temporary, sporadic, and suspected, including, but not limited to, physical disabilities, learning disabilities, developmental disabilities, mental health disabilities, medical conditions, and the physical, emotional, and psychological effects of trauma (e.g., sexual violence, discrimination, or oppression).
Refer to the Student Academic Accommodation Guidelines for more information on eligibility for academic accommodations, the process for registering with AccessAbility Services, and for information on roles and responsibilities in the accommodation process.

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The University acknowledges that, due to the pluralistic nature of the University community, some students may seek academic accommodations on religious grounds.
Students can complete the Religious or Creed-Related Absence self-declaration form in Quest, which will inform their instructors of the potential conflict for certain dates. As the dates of important religious observances are generally known well in advance, students must consult with their instructor(s) within two weeks of the announcement of the due date or scheduled examination date for which academic accommodation is being sought. The self-declaration form for short-term absences may also be used by students requiring an absence of two days or less during the Formal Lecture Period.

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Existing

Regulation Details

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Academic Accommodations due to Other Code Grounds

Students seeking an academic accommodation related to a protected ground (e.g., creed, family status, and sex, including pregnancy and breastfeeding) should inform their instructor/academic unit as soon as they become aware of the need.

Workflow Information

Change to Undergraduate Communication Requirement
No

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow

Senate Workflow
--

University of Waterloo Teaching Innovation Incubator

2024 Year in Review

The Teaching Innovation Incubator (TII) began as a pilot project in 2022, with early planning and development of five projects designed to explore new ideas capable of introducing innovative approaches to teaching and learning at Waterloo. In alignment with Waterloo's strategic vision, the Incubator's work harnesses the power of unconventional ideas through its support of project teams working to transform Waterloo's teaching and learning landscape. The role of the TII is to support the development of ideas brought forward by faculty, staff, and/or students, using a collaborative, cross-faculty, and cross-functional approach to sparking ideas, developing strategies, seeking input, and overcoming challenges.

The TII's 2.5 FTE staff members offer a wide range of supports for project teams, including project ideation support, networking and connections, project management, communications and event management, problem-solving and navigational advice, resources and research support, evaluation expertise, and access to educational technologies and spaces.

By investing in Waterloo faculty and staff on the frontlines of teaching and providing them with the resources to pilot and experiment with new teaching ideas, the TII is positioned to champion interdisciplinary work that spans our Global Futures, creating a space to develop, test, encourage, and enable innovative education with potential for significant impact and differentiation. TII projects embody the very values of Waterloo at 100, promoting principles of collaboration, interdisciplinary, inclusivity, and sustainability as key pillars of Waterloo's teaching and learning landscape.

The following TII projects are ongoing:

Project 1: Accelerating Integration of Sustainability in the Curriculum	
Key milestones	• Developed a Sustainability framework and toolkit, available for use by any program. • Published a final report, including 11 recommendations for integrating sustainability into the curriculum across programs. • Established a new grant program: Sustainability Integration in Curriculum Grants.
Challenges & learnings	• Need to identify a working definition of Sustainability that is adaptable to diverse program needs (e.g., programs that are further along their own sustainability journey; programs that are just beginning exploring sustainability's role in their curriculum).
Unanticipated benefits	• Broad institutional interest in sustainability integration already exists but requires the developed framework, toolkit, and community to help foster it.
Next steps	• Community engagement (e.g., Sustainability advisory group; Community of Practice, student certificate/micro credential in Sustainability Leadership). • In-depth pilot exploring what it looks like to integrate sustainability using the toolkit.
Strategic connections	• Credentials framework; Sustainable Futures; interdisciplinarity and institutional collaboration.

Project 2: Accessible Education	
Key milestones	• Establishment of working group to draft Student Academic Accommodations Policy. • Drafting of Waterloo Practices for Accessible Teaching and Helpful/Holistic Strategies (WatPATHS) to support accessible course design in alignment with Teaching Effectiveness Framework. • Categorizing recommendations into sets of action items best suited for support by various ASUs.
Challenges & learnings	• Faculty have expressed concern that this is yet another institutional priority they need to invest energy into.
Unanticipated benefits	• Representation from all faculties and many ASUs across campus in project teams allows for cross-functional and cross-faculty collaboration; evident in support for inaugural Accessible Education Day.
Next steps	• Develop Accessible Education Hub to act as one-stop shop for accessible teaching support. • Consult with various units on Policy draft and ASUs for commitment to support action items.
Strategic connections	• Credentials Framework; Digital Learning Strategy.

Project 3: Adapting Student-Led, Individually Created Courses to Encourage Self-Directed Learning	
Key milestones	• Laid groundwork for talking with faculty members, campus leaders, and programs about Student-Led, Individually Created Courses (SLICCs). • Developed SLICCs instructor toolkit. • Held event to highlight SLICCs offered at Waterloo and strategies for continued implementation.
Challenges & learnings	• Uneven uptake of SLICCs across disciplines due to disciplinary norms and context.
Unanticipated benefits	• SLICCs framework integration at Waterloo may look similar to ongoing discussions about integrating self-directed reflection into learning, which may resonate more across programs.
Next steps	• Offering more SLICCs courses in 2025, across more disciplines. • Diving deeper into conversations about the benefits of (and opportunities for) SLICCs in interdisciplinary learning.
Strategic connections	• Interdisciplinarity and institutional collaboration.

Project 4: Evaluating LEARN Tools – Creator+ and Performance +	
Key milestones	• Developed Creator+ training resources for pilot participants. • Offered three iterations of the Creator+ pilot with faculty and staff, examined the support developed for pilot participants, analyzed how and why faculty used it. • Began creating use-cases for Performance+ with academic advisors and faculty and early stages of piloting with instructors.
Challenges & learnings	• Rapid evolution of EdTech makes each tool difficult to evaluate. • Instructor autonomy re: using preferred educational technologies can be a barrier.
Unanticipated benefits	• Understanding how the TII can and should support projects focused on educational technologies, and how these will align with the launch of the EdTech Sandbox.
Next steps	• Continue to explore Performance+ applicability on campus (e.g., student advisors, academic support staff, students). • Determine long-term viability of Creator+ by spring 2025.
Strategic connections	• Technological Futures; Digital Learning Strategy.

Project 5: Interdisciplinary Grad Student Designed and Led "Wicked Problems" Courses	
Key milestones	• Two iterations of the interdisciplinary Wicked Problems course (topics: Climate Change and Precarity) taught by PhD students (W2023 & S2024). • PhD student instructors completed CTE training in course design and effective teaching. • Showcased efforts with broader UW community via end-of-term public symposium.
Challenges & learnings	• Resolving multiple administrative challenges related to the interdisciplinary nature of the course(s), e.g., central promotion; limitations of special topics courses; teaching credit options.
Unanticipated benefits	• Broader campus interest in logistics of offering interdisciplinary courses (i.e., 'Wicked Problems' approach to interdisciplinary course delivery and course design structure).
Next steps	• Further develop interdisciplinary, co-teaching training open to be open to all graduate students and instructors. • Find a long-term academic home and process for these courses.
Strategic connections	• Credentials Framework; interdisciplinarity and institutional collaboration.

Starting in 2025, the following projects have recently been accepted into the TII:

- **Learning by Teaching a Large Language Model -** This project will develop and evaluate a large language model (LLM) companion that students will use to enhance their learning experience. Unlike most AI systems that engage in some form of tutoring or question answering, we will flip the roles. The LLM agent will act as an ignorant virtual student, and the human student will be responsible for teaching concepts to the LLM companion.
- **AI Meets EDI: Virtual Simulations for Culturally Safe Indigenous Healthcare -** This project will develop a virtual training module to equip healthcare learners with the skills and knowledge needed to deliver culturally competent care to Indigenous patients. Using generative AI and immersive virtual simulations, the module integrates expertise from Indigenous content creators, the Office of Indigenous Relations, and AI technology developed in partnership with Ametros Learning.
- **Leveraging Artificial Intelligence (AI)-insights and CEE-Faculty partnerships to evolve Work-Integrated Learning at the University of Waterloo -** This project will explore how CEE can leverage AI-insights and create new faculty partnerships to strengthen and evolve Work-Integrated Learning at Waterloo. It focuses on 1Mentor, an AI platform that analyzes job market data to provide personalized career guidance and real-time insights to institutions.

PD 14 Technological Futures: Responsible Digital Innovation – Proposed Course Outline

Class Schedule

Course	Meet Days	Meet Time	Location	Instructor(s)
PD 14	Online			Andrea Prier pd14@uwaterloo.ca

Instructor & TA (Teaching Assistant) Information

The instructional team for this work-integrated learning (WIL) course consists of the course instructor, Dr. Andrea Prier, an Instructional Support Coordinator, and Teaching Assistants (TAs). This team is committed to guiding students through a course experience that enables them to apply their knowledge directly during their work-integrated learning term (i.e., co-op term). This approach helps students gain and then apply the skills and knowledge needed to thrive in the evolving workforce centered around PD 14 Technological Futures: Responsible Digital Innovation.

The instructional team is guided by content experts from both faculty and industry partners including:

	Faculty/Partner	SME Name	Personal or Company Website
WIL Authorship Collaborative	Faculty of Science	Dr. Okey Igboeli	https://uwaterloo.ca/science-and-business/profile/oigboeli
	Faculty of Engineering	TBC	
	Faculty of Arts	TBC	
Strategic Industry Advisors	Information and Communications Technology Council (ICTC)	TBC	https://ictc-ctic.ca/
	Invest Ontario	Priyanka Vaidyanth	https://www.investontario.ca/
	Environmental Careers Organization of Canada (ECO Canada)	Aaron Wilson	https://eco.ca
	Government of Canada (Job Bank)	Mina Riad	https://www.canada.ca/en/employment-social-development.html
	Velocity	John Dick	https://www.velocityincubator.com/

*All WIL Authorship Collaborative and Strategy Industry Advisor names/ contacts are subject to change.

Commented [AP1]: Note: we share forward for transparency in our development process. It is important to note that many of these individuals have not fully committed yet. Names listed does not necessarily mean a formal contract is in place.

In collaboration with our course development team, these experts shaped our approach to the creation of course content, WIL activities, and assessments to align with future workforce

demands and provide meaningful, authentic, real-world applications that reflect current workplace situations and practices.

Course Description

Calendar Description for PD 14

This interdisciplinary course delves into the evolving landscape of technology and its profound impact on the future of work. Students will engage with authentic workplace activities to enhance their ability to adapt to technological change, identify areas for improvement, and think critically about the implications of technological innovation. **Critical examination of experiences, assessment of evolving skills, and exploration of the alignment of these with the dynamic nature of work is addressed through ongoing and summative reflection**.

Commented [NC2]: Note: this sentence was included as an amendment after the January 28 SUC meeting

Learning Outcomes

By the end of this course, students should be able to:

- Identify the intersection of technology and human processes
- Consider ethical, privacy, and human-centered design principles in the evaluation of emerging technologies and their use in workplace settings
- Recommend opportunities for workplace enhancement based on critical assessments of technology applications and implications.
- Advocate for the adoption of technologies as appropriate for the workplace context.
- Identify areas for growth, engage in, and reflect upon learning opportunities to promote continuous improvement

Tentative Course Schedule

Week	Module	Assessments and % of final grade	Description	Student hours
1	Start of course	Pre-course reflection (2%)	The pre-course reflection (0.5 h) helps students assess their starting point, set personal learning goals, and consider how the course connects to their co-op experience.	0.5 hour
2-3	Module 1	Activity 1: Critical Thinking (15%)	Students will complete Module 1 (1.5 h) and work on WIL Activity 1* (1.5 h). They will submit A1 for grading and feedback at the end of wk 3.	3 hours
4-5	Module 2	Activity 2: Technological Agility (15%)	Students will complete Module 2 content (1.5 h) and work on WIL Activity 2* (1.5 h). They will submit A2 for grading and feedback at the end of wk 5.	3 hours
6	Mid-course Reflection	Mid-course reflection (3%)	The mid-course reflection (0.5 h) helps students assess their progress, refine their learning goals, and connect their	0.5 hours

Commented [NC3]: Note: these descriptions are to provide context for ADUG review; in the student-facing outline, they will appear as full activity/assessment descriptions in separate LEARN pages.

			course insights to their co-op experience.	
6-7	Module 3	Activity 3: Technology Implementation (15%)	Students will complete Module 3 content (1.5 h) and work on WIL Activity 3* (1.5 h). They will submit A3for grading and feedback at the end of wk 7.	3 hours
8-9	Final Assessment	Assignment (25%)	The assignment (4 h) follows the completion of the three modules and three WIL activities. It requires students to apply knowledge and skills gained from these modules and activities to real-world scenario and demonstrate their ability to develop recommendations/actionable solutions for an employer.	4 hours
10	End of course	Final Summative Reflection (25%)	The final summative reflection, as delivered by way of **a Major Reflective Report** (2.5 h) is a summative report where students evaluate their overall learning journey, assess their achievements in relation to their initial goals, critically analyze how the course content and their co-op experience intersected, highlighting key takeaways and areas for future growth.	2.5 hours

*see details regarding each of the course activities in the student assessment section below.

Textbook / Materials

No materials required.

Student Assessment

Component	Value (%)
Activities and Assignment (A&A) • Activity 1: Critical Thinking (15%) • Activity 2: Technological Agility (15%) • Activity 3: Implementing New Technology (15%) • Assignment (25%)	70
Reflection • Pre-course reflection (2%) • Mid-course reflection (3%) • Final Summative Major Reflective Report (25%)	30

Activities Details

Activity	Why	How	What
Activity 1: Critical Thinking	This activity encourages students to think critically about how technology-based decisions impact diverse employees, organizational culture, and society at large, preparing them to assess responsible innovation in their future careers.	Students will build their critical thinking and workplace problem-solving skills by engaging in an applied activity that mirrors real-world decisions about technology adoption in workplace settings. In this activity, students will identify and address barriers to technology adoption, evaluating potential challenges, benefits, and risks of implementing emerging technologies for various stakeholder groups.	As part of this process, they will conduct a stakeholder scan and **prepare a briefing note** that applies ethical, privacy, and equitable design principles to ensure technologies are evaluated not only for their technical potential, but also for their responsible, sustainable, and socially viable use.
Activity 2: Tech Agility	This activity encourages students to identify and assess an opportunity to apply technology to achieve enhanced workplace results.	Students will build their technological agility skills and practice AI tool evaluation by applying responsible use of AI guidelines to assess potential applications, organizational needs and potential implications.	As part of this process, they will **create a brief/presentation/process map** that advocates for the use of an innovative technology in a workplace setting.
Activity 3: Implementation	This activity encourages students to develop workplace skills related to systematically evaluating, recommending and supporting responsible AI adoption in a workplace context.	Students will build their implementation skills by drawing on critical evaluations for the responsible use of AI, and assessments of the intersections of technology and human processes to evaluate the application of technology within the workplace context.	As a part of this process, they will **create a tailored technology adoption plan** that can guide the implementation of a new technology into a given workplace setting.

Passing Requirements

- To pass the course you must satisfy the conditions:
    - Receive an overall grade of at least 50% (35 out of 70 weighted grades) on your Activities (1 –3) and Assignment plus any bonus opportunities AND
    - Receive a minimum of at least 50% on your Major Reflective Report
- The final grade submitted to the Registrar's office will be either a CR (credit) or NCR (no credit).
- Due dates for all of the course requirements are listed in the Course Schedule in LEARN.
- **All course work must be done individually unless otherwise noted on a specific activity/assignment.**

Administrative Policy

Email

The course's teaching assistants (TAs) can answer your questions about course content, assignments, and administration via email. Please send your questions to pd14@uwaterloo.ca. Email is checked frequently, and you can expect a response to your questions by email within 24-48 hours, Monday to Friday.

The course's TAs are supervised by a full-time Instructional Support Coordinator (ISC). You can email the ISC if you have questions or concerns about support you've received in the course or the way the course is run. Visit the Centre for WIL contacts page for your ISC's contact information.

Technical problems with Waterloo LEARN should be directed to **Technical Support** at learnhelp@uwaterloo.ca. Include your full name, WatIAM user ID, student number, and course name and number. Technical support is available during regular business hours, Monday to Friday, 8:30 AM to 4:30 PM (Eastern Time). LEARN Help: IST Knowledge Base: For Students.
In the case of co-op specific situations, send a message to a co-op advisor using WaterlooWorks.

Announcements

The course staff will post announcements in the Announcements area on the Course Home page in LEARN during the term to address any issues with the course content or assignments. **It is important that you either subscribe to the Announcements area using the RSS feed or that you set up notifications from the Notifications area so that you receive email alerts when posts or replies are made.** This area may also be used to post descriptions of common errors students have made on assignments. If there are recurring questions received by staff via email, answers or clarification will be provided in the Announcements area.

Course Discussion

The **Course Discussion** in LEARN is a great place for you to look when you have a question about the course content or assessments. Your question may already have been asked and answered here. The course staff will reply to questions at least once a day, Monday to Friday. In this way, all students benefit from the questions/answers of the other students. Any questions specific to you or your situation should be directed to the course staff through email at pd14@uwaterloo.ca and not posted on the discussion forum.

Missed Assignments

Should you require an accommodation or extension for a missed assignment, please email pd14@uwaterloo.ca as soon as possible. The PD14 team will respond to your request within two working days.

In your email, please include:

- Your student number
- Your full name (as listed on WatIAM)
- Your extension request information

AccessAbility Services supports academic accommodations for students with permanent, temporary, or suspected disabilities/disabling conditions, including the physical, emotional, and psychological effects of a trauma. If you require an academic accommodation to ensure you're able to meaningfully participate in the course, please register with AccessAbility Services at the beginning of each academic term and for each course.

Late Days

What are Late Days?

The assessments are due on the date and time specified in the Course Schedule in LEARN. You have three late days you may use throughout the term. If you miss an assignment deadline, your work will still be accepted up to three days late, provided that you did/do not miss any other deadlines. You have three late days total (not three late days per assignment). If you use up your late days and miss another assignment, the assignment will not be accepted.

How do I view and use Late Days?

To view how many late days you have remaining, click **Connect** and then **Groups** on the LEARN navigation bar and check the "Late Days" group in which you are enrolled. Your late day status will be updated within one week of each assignment due date. **Please do not use the dropboxes or quizzes to determine how many late days you have remaining, as they may not accurately reflect late days.** If you have any questions about Late Days, please email us at pd14@uwaterloo.ca.

If you still have late days available you can simply submit your assignment late. You do not need to notify us if you are using your late days.

Please note in LEARN, students can see who else is a member of their group. This means that peers with the same number of late days available as you will know how many late days you have remaining. **If you are uncomfortable with other students knowing your late day status, send an email to the pd14@uwaterloo.ca account and alternate arrangements for tracking your late days will be discussed.**

Use of Generative Artificial Intelligence (GenAI) in PD 14

Generative Artificial Intelligence (GenAI) that is trained using large language models (LLM) or other methods to produce text, images, music, or code, like Chat GPT, DALL-E, or GitHub CoPilot, is not prohibited in this course, **however, proper documentation, citation, and acknowledgement**, as with any other source you may consult and reference (e.g., journal articles, textbooks), is required.

Unauthorized use of GenAI in this course, such as submitting content generated by Artificial Intelligence (AI) without proper attribution, or representing content generated by AI as your own idea or work will be considered a violation of Policy 71.

If you choose to use GenAI in your course work, it should NOT replace your own ideas, work, or voice.

Prohibited:

- Representing content generated by GenAI as your own, without proper attribution.
- Sharing copyright-protected materials with open access GenAI (e.g., inputting any course materials into a GenAI tool).

Not-Prohibited:

- Using GenAI to brainstorm, generate prompts or examples that encourage reflection; to refine an original idea; or support your editing process.

If you choose to use GenAI, ensure you:

- Maintain primary authorship and your own voice throughout your work.
- Critically assess and evaluate whether output from GenAI is factual, verifiable, and relevant.
- Attribute properly throughout your work for all submissions.
- Maintain documentation of how you've used GenAI in case it is requested.

Resources for Using Generative Artificial Intelligence

Users remain responsible for ensuring that their use of AI tools complies with copyright and intellectual property laws.

Documenting and Citing GenAI content

To learn more about documenting and citing Generative Artificial Intelligence, visit the Writing and Communication Centre's AI and the Writing Process – Documenting and Citing page or the Library's Research Guide on Generative Artificial Intelligence.

Using GenAI

The Writing and Communication Centre has a great resource on Using ChatGPT and other Text-Generating Artificial Intelligence (GenAI) and how to be productive and ethical in your use of GenAI as well as cautions and risks to consider.

Professionalism in Communication

The intention of the PD program, in part, is to promote the capacity to think, act and write professionally. This course will provide many opportunities to practice your professional communication skills, from preparing the assessment materials that you submit for grading to email communication with the PD graders, staff, or instructors. Students are expected to maintain a suitable level of professionalism in all course-related communications and to avoid unprofessional or offensive material.

An assessment which includes unprofessional content will receive a grade of zero. If you are not sure whether or not your content is professional, ask yourself the following questions:

1. Would you present this in a job interview?
2. Would you present this to your supervisor post-graduation?
3. Would you talk about this in a networking or conference setting with colleagues?
4. Would you present this to your instructors as part of an academic assignment?

Territorial Acknowledgement

The University of Waterloo acknowledges that much of our work takes place on the traditional territory of the Neutral, Anishinaabeg, and Haudenosaunee peoples. Our main campus is situated on the Haldimand Tract, the land granted to the Six Nations that includes six miles on each side of the Grand River. Our active work toward reconciliation takes place across our campuses through research, learning, teaching, and community building, and is co-ordinated within the Office of Indigenous Relations.

University Policy

Academic integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check the Office of Academic Integrity for more information.]

Grievance: A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4. When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for their actions. [Check the Office of Academic Integrity for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline. For typical penalties, check Guidelines for the Assessment of Penalties.

Appeals: A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to Policy 72, Student Appeals.

Note for students with disabilities: AccessAbility Services, located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.
It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.

UNIVERSITY OF WATERLOO | Senate

Senate Undergraduate Council
Curriculum Subcommittee

For Approval **Regular Agenda**

To:	Senate Undergraduate Council
Sponsor/Presenter:	David DeVidi, Associate Vice-President, Academic
Date of Meeting:	April 7, 2025
Agenda Item Identification:	11.1 SUC Curriculum Subcommittee Report: Regular Agenda for Approval

Recommendation/Motion:

To recommend that Senate approve the following curricular motions, as presented:

- Faculty of Science
    - To recommend that Senate approve the Honours Bachelor of Science and Financial Management (BScFM) program with three science and three business specializations, and, to retire the Honours Bachelor of Science, Biotechnology/Chartered Professional Accountancy program, effective September 1, 2026, as presented.

Summary:

The SUC Curriculum Subcommittee has reviewed and agreed, via an e-vote which closed on March 31, 2025 to recommend to SUC, as part of the regular agenda for recommendation to Senate for approval, the item included in the subsequent section of this report (11.2).

To support easier navigation, items are also available in Kuali via the following links. If you have any issues accessing the links below, please contact Ashley Day, Governance Officer, for support.

- Faculty of Science (BScFM)

Please note that the following item is coming forward to SUC for information as part of an expedited approval process and has not yet been reviewed by the SUC Curriculum Subcommittee. An e-vote will be conducted to approve at both SUC Curriculum Subcommittee and SUC at a future date.

- Bachelor of Medical Science: Faculty of Science (BMSci)

Documents Included:

- 11.2 Faculty of Science (BScFM) For Approval
- 11.3.1 Faculty of Science – Program Proposal (BMSci) For Information
- 11.3.2 Faculty of Science – Courses, Plan and Regulation Changes (BMSci) For Information

SUC Curriculum Subcommittee - 2025-03- Regular Agenda - Faculty of Science

Meeting Information

Agenda Page Title
SUC Curriculum Subcommittee - 2025-03- Regular Agenda - Faculty of Science

Career Level
Undergraduate

Faculty/Unit
Science

Date
03/19/2025

Time

Location

Summary

Motion:

To approve the Honours Bachelor of Science and Financial Management (BScFM) program with three science and three business specializations, and, to retire the Honours Bachelor of Science, Biotechnology/Chartered Professional Accountancy program.

Summary

The impetus stems from high attrition rates and a recommendation from students to provide more options in science and business management options.

With a modification to the program, students will be able access a degree program with a broader science and business background and the choice of several specializations, three in business (Professional Accountant, Financial Markets and Business Analytics) and three in science (Biotechnology, Earth and Water Science, and Physics of Systems and Energy). With these specializations, students will have more choices to focus on a preferred area of study and a suite of interdisciplinary programs.

To align with the vision of the modifications, the Biotech/CPA program will be retired and a new title, Bachelor of Science and Financial Management (BScFM) will launch September 1, 2026.

Other Business

Attachment(s)

Course Proposals

Course Proposal Details

Courses: Retire
No proposals have been added.

Courses: New
No proposals have been added.

Courses: Changes
No proposals have been added.

Programs & Plans Proposals

Programs & Plans Proposal Details

Retired

H- Biotechnology/Chartered Professional Accountancy program is to be retired as of September 1, 2026 to account for program modifications and new title, Honours Bachelor of Science and Financial Management (BScFM) (see Major Modifications).

Major Modifications

As per the statement of retirement: the Bachelor of Science and Financial Management (BScFM) is the result of the modification of the H- Biotechnology/Chartered Professional Accountancy program. These changes include a change in program name, degree, and increase in flexibility.

The BScFM program has three business specializations (Professional Accountant, Financial Markets and Business Analytics) and three science specializations (Biotechnology, Physics of Systems and Energy Specialization, and Earth and Water Science) from which students in the program must select one specialization from each category.
Note, Biotechnology and Professional Accountant are existing set of courses embedded in the H- Biotechnology/Chartered Professional Accountancy program and have not been modified for the H- Science and Financial Management (BScFM) program.

The Physics of Systems and Energy, and, Earth and Water Science specializations are new but draw from existing courses. These were developed in consultation with the Department of Physics and Astronomy and the Department of Earth and Environmental Sciences, respectively.

The two other business specializations (Financial Markets and Business Analytics) are drawn from existing specializations in the suite of financial management programs - Bachelor of Accounting and Financial Management (AFM) offered by the School of Accounting and Finance (SAF) in the Faculty of Arts (Arts).

Science Specializations:

Biotechnology Specialization
Earth and Water Science Specialization
Physics of Systems and Energy Specialization

Business Specializations:

Business Analytics Specialization
Financial Markets Specialization
Professional Accountant Specialization

Programs & Plans: Retire

Code	Title	Type	Workflow Step
H-Biotechnology/Chartered Professional Accountancy	Biotechnology/Chartered Professional Accountancy (Bachelor of Science - Honours)	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review

Programs & Plans: Major Modifications

Code	Title	Type	Workflow Step
H-Science & Financial Management	Science and Financial Management (Bachelor of Science and Financial Management - Honours)	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
Biotechnology Specialization	Biotechnology Specialization	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
Earth & Water Science Specialization	Earth and Water Science Specialization	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
Physics of Systems & Energy Specialization	Physics of Systems and Energy Specialization	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
ScFM-Business Analytics Specialization	Business Analytics Specialization	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
ScFM-Financial Markets Specialization	Financial Markets Specialization	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
ScFM-Professional Accountant Specialization	Professional Accountant Specialization	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review

Programs & Plans: Minor Modifications

No proposals have been added.

Regulations Proposals

Regulations Proposal Details

Regulations: Retire

No proposals have been added.

Regulations: New

No proposals have been added.

Regulations: Changes

No proposals have been added.

H-Biotechnology/Chartered Professional Accountancy
Biotechnology/Chartered Professional Accountancy (Bachelor of Science - Honours)

Under Review | Fall 2026

Proposal Information

Status

Changes

~~Active~~**Retired**

Warning: All versions that start after the retired version will be deleted.

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲

Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski
Mike Grivicic
Diana Goncalves
Kuali - Arts
Kuali - Env
Melanie Figueiredo
Kuali - Math
Kuali - Eng
Kuali - Hlth
Ashley Day
Kuali - Science

Changes

- Effective Term and Year
- Admin Notes

Effective Date and Career

Career

Undergraduate

Important!

Proposed
Effective Term and Year
Fall 2026

Existing
Effective Term and Year
Fall 2025

Proposal Details

Proposal Type

Retire

Academic Unit Approval

02/03/2025

Quality Assurance Designation

Major Modification

Major Modification Categories

Change program name

Is there an impact to existing students?

Yes

Impact on Existing Students

Students in this program will be informed about the new program once it becomes effective on September 1, 2026. They will have the opportunity to transition to the new program, provided it is feasible based on the remaining requirements needed to complete their current program, including remaining courses and outstanding co-op terms.

Rationale and Background for Change(s)

The impetus to modify the H- Biotechnology/Chartered Professional Accountancy (Biotech/CPA) program stems from a recommendation to provide students with more options in science and business management. This recommendation is supported by student feedback and applicant, registration, retention and graduate data from the current cyclical review and recent surveys of students and alumni. This is an interdisciplinary plan and is designed to produce a pool of multifaceted graduates equipped with a unique blend of knowledge in science technology and business, as well as, information technology, creative problem solving, and decision-making skills. It is designed to prepare students for a career in management in the technology-intensive global marketplace.

With a modification to the program, students will be able access a degree program with a broader science and business background and the choice of several specializations, three in business (Professional Accountant, Financial Markets and Business Analytics) and three in science (Biotechnology, Earth and Water Science, and Physics of Systems and Energy). With these specializations, students will have more choices to focus on a preferred area of study and a suite of interdisciplinary programs in science and business management.

To align with the vision of the modifications, the Biotech/CPA program will be retired and a new program title, Bachelor of Science and Financial Management (BScFM) will launch September 1, 2026.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Field of Study
Biotechnology/Chartered Professional Accountancy

Faculty
Faculty of Science

Undergraduate Credential Type
Major

Program Type
Honours

Degree
Bachelor of Science (Science)

Program/Plan Name
Biotechnology/Chartered Professional Accountancy (Bachelor of Science - Honours)

Systems of Study
Co-operative

Online Degree/Diploma

Admissions

Admissions Entry Point
Direct Entry

Admission Requirements: Minimum Requirements

Requirements Information

Invalid Combinations
Yes

List of Invalid Combinations
Biology Minor

Average Requirement
Yes

Minimum Average(s) Required
- A minimum cumulative overall average of 70.0%.
- A minimum cumulative Science average of 65.0%.
- A minimum cumulative Accounting average of 70.0%.

Graduation Requirements
- See Bachelor of Science degree-level requirements.
- Complete a total of 22.0 units:
  - 21.5 units of required courses (see below):
    - 8.0 units of required Science courses.
    - 11.0 units of required AFM courses.
    - 2.5 units of other required courses.
  - 0.5 unit of electives.

Co-operative Education Program Requirements
See Bachelor of Science co-operative education program requirements.

Course Requirements (units)

Required Courses

21.5
Units to Complete

- Complete all of the following
  - Complete all the following:
    - AFM112 - Analytic Methods for Business 1 (0.50)
    - AFM113 - Analytic Methods for Business 2 (0.50)
    - AFM121 - Introduction to Global Financial Markets (0.50)
    - AFM182 - Introduction to Financial Reporting and Managerial Decision Making 2 (0.50)
    - AFM191 - Introduction to Financial Reporting and Managerial Decision Making 1 (0.50)
    - AFM206 - Introduction to Tax (0.25)
    - AFM208 - Introduction to Assurance (0.25)
    - AFM212 - Financial Analysis and Planning (0.50)
    - AFM273 - Financial Instruments and Capital Markets (0.50)
    - AFM274 - Introduction to Corporate Finance (0.50)
    - AFM291 - Intermediate Financial Accounting 1 (0.50)
    - AFM321 - Personal Financial Planning and Taxation (0.50)
    - AFM335 - Business Law for Financial Managers (0.50)
    - AFM341 - Accounting Information Systems (0.50)
    - AFM362 - Corporate Taxation (0.50)
    - AFM373 - Cases and Applications in Corporate Finance (0.50)
    - AFM382 - Cost Management Systems (0.50)
    - AFM391 - Intermediate Financial Accounting 2 (0.50)
    - AFM433 - Business Strategy (0.50)
    - AFM451 - Audit Strategy (0.50)
    - AFM462 - Specialized Topics in Taxation (0.50)
    - AFM482 - Performance Measurement and Organization Control (0.50)
    - AFM491 - Advanced Financial Accounting (0.50)
  - Complete all the following:
    - BIOL130 - Introductory Cell Biology (0.50)
    - BIOL235 - Foundations of Molecular Biology (0.50)
    - BIOL239 - Genetics (0.50)
    - BIOL240 - Fundamentals of Microbiology (0.50)
    - BIOL240L - Microbiology Laboratory (0.25)
    - BIOL241 - Introduction to Applied Microbiology (0.50)
    - BIOL331 - Advanced Cell Biology (0.50)
    - BIOL342 - Molecular Biotechnology 1 (0.50)
    - BIOL432 - Molecular Biotechnology 2 (0.50)
    - BIOL443 - Fermentation Biotechnology (0.50)
    - CHEM120 - General Chemistry 1 (0.50)
    - CHEM120L - General Chemistry Laboratory 1 (0.25)
    - CHEM123 - General Chemistry 2 (0.50)
    - CHEM123L - General Chemistry Laboratory 2 (0.25)
    - CHEM237 - Introductory Biochemistry (0.50)
    - CHEM266 - Basic Organic Chemistry 1 (0.50)
    - CHEM266L - Organic Chemistry Laboratory (0.25)
  - Complete all the following:
    - ECON101 - Introduction to Microeconomics (0.50)
    - ECON102 - Introduction to Macroeconomics (0.50)
    - SCBUS122 - Management of Business Organizations (0.50)
    - SCBUS225 - Organizational Behaviour in Scientific and Technical Workplaces (0.50)
  - Complete 1 of the following:
    - BIOL345 - Microorganisms in Foods (0.50)
    - BIOL431 - Bacterial Molecular Genetics (0.50)
    - BIOL434 - Human Molecular Genetics (0.50)
    - BIOL441 - Advances in Immunology (0.50)
    - BIOL442 - Virology (0.50)
    - BIOL444 - Bacterial Pathogenesis (0.50)

- BIOL483 - Animal Cell Biotechnology (0.50)
- CHEM333 - Metabolism 1 (0.50)
- CHEM432 - Metabolism 2 (0.50)

- Complete 1 of the following:
  - COMMST193 - Communication in the Sciences (0.50)
  - ENGL193 - Communication in the Sciences (0.50)

Grand Total Units: 21.5

Course Requirements (no units)

Required Courses

No Rules

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
Yes

Cross-Listings Options
All cross-listings to be displayed

Additional Constraints

Notes

- See list of academic advisors.
- See Faculty of Science for recommended course sequences.

Specializations

Specializations for this Major
No

Workflow Information

Workflow Path	Faculty/AFIW Path(s) for Workflow	Senate Workflow
Committee approvals	Faculty of Science	--

Dependencies

Dependent Courses and Programs/Plans

ANTIREQUISITES

- LS 283 - Business Law — View Courses
- AFM 231 - Business Law — View Courses
- AFM 101 - Introduction to Financial Accounting — View Courses

COREQUISITES

- ECON 221 - Statistics for Economists — View Courses

PREREQUISITES

- AFM 433 - Business Strategy — View Courses
- AFM 491 - Advanced Financial Accounting — View Courses
- AFM 274 - Introduction to Corporate Finance — View Courses
- AFM 391 - Intermediate Financial Accounting 2 — View Courses
- AFM 273 - Financial Instruments and Capital Markets — View Courses
- AFM 341 - Accounting Information Systems — View Courses
- AFM 401 - Accounting Theory — View Courses
- AFM 443 - E-business: Introduction to Electronic Commerce — View Courses
- AFM 442 - E-business: Enterprise Systems — View Courses
- AFM 482 - Performance Measurement and Organization Control — View Courses
- AFM 434 - Corporate Governance and Risk Management — View Courses
- AFM 121 - Introduction to Global Financial Markets — View Courses
- AFM 362 - Corporate Taxation — View Courses
- AFM 483 - Applications of Analytics to Business — View Courses
- AFM 462 - Specialized Topics in Taxation — View Courses
- AFM 429 - Investment Management - Senior Portfolio Manager — View Courses
- AFM 329 - Investment Management - Senior Analyst — View Courses
- AFM 328 - Investment Management - Junior Analyst — View Courses
- AFM 479 - Cases and Applications in Finance 2 — View Courses
- AFM 444 - Business Analytics Project Management — View Courses
- AFM 200 - Continuation of Experiential Learning — View Courses
- AFM 100 - Introduction to Experiential Learning — View Courses
- AFM 207 - Introduction to Performance Analytics — View Courses
- AFM 112 - Analytic Methods for Business 1 — View Courses
- AFM 113 - Analytic Methods for Business 2 — View Courses
- AFM 324 - Wealth Management — View Courses
- AFM 345 - Business Applications of Social Media Analytics — View Courses
- AFM 347 - Cybersecurity — View Courses
- AFM 244 - Analytic Methods for Business 3 — View Courses
- AFM 446 - Performance Management and Tax Analytics — View Courses
- AFM 447 - Governance and Ethical Issues with Data and Emerging Technologies — View Courses
- AFM 346 - Applications of Predictive Analytics in Accounting and Finance — View Courses
- AFM 427 - Intermediate Portfolio Management — View Courses
- AFM 445 - Information Technology Assurance and Audit Analytics — View Courses
- AFM 334 - International Study Experience — View Courses
- AFM 418 - Special Topics in Finance or Accounting — View Courses
- AFM 428 - Investment Management - Junior Portfolio Manager — View Courses
- AFM 448 - Data Analytics and Emerging Technologies Consulting Group — View Courses
- AFM 451 - Audit Strategy — View Courses
- COMMST 111 - Leadership, Communication, and Collaboration — View Courses
- SCBUS 122 - Management of Business Organizations — View Courses
- SCBUS 225 - Organizational Behaviour in Scientific and Technical Workplaces — View Courses
- STAT 211 - Introductory Statistics and Sampling for Accounting — View Courses
- AFM 127 - Introduction to Global Capital Markets and Financial Analytics — View Courses
- ACTSC 127 - Introduction to Global Capital Markets and Financial Analytics — View Courses
- AFM 272 - Global Capital Markets and Financial Analytics — View Courses
- ACTSC 291 - Global Capital Markets and Financial Analytics — View Courses
- AFM 480 - Introduction to Organizational Behaviour — View Courses
- AFM 191 - Introduction to Financial Reporting and Managerial Decision Making 1 — View Courses
- AFM 182 - Introduction to Financial Reporting and Managerial Decision Making 2 — View Courses
- AFM 206 - Introduction to Tax — View Courses
- AFM 208 - Introduction to Assurance — View Courses
- AFM 285 - Introduction to Sustainability and Sustainable Business — View Courses
- AFM 321 - Personal Financial Planning and Taxation — View Courses
- AFM 322 - Derivative Securities — View Courses
- AFM 326 - Student Venture Fund - Analyst — View Courses
- AFM 426 - Student Venture Fund-Associate — View Courses
- AFM 335 - Business Law for Financial Managers — View Courses
- AFM 452 - Internal Audit — View Courses
- AFM 205 - Introduction to Financial Services — View Courses
- AFM 241 - Impact of Technology on Business — View Courses
- AFM 291 - Intermediate Financial Accounting 1 — View Courses
- AFM 212 - Financial Analysis and Planning — View Courses
- AFM 276 - Financial Statement Analysis — View Courses
- AFM 382 - Cost Management Systems — View Courses
- AFM 373 - Cases and Applications in Corporate Finance — View Courses

- AFM 470 - Financial Management of High Growth Companies — View Courses
- AFM 484 - Advanced Management Control Systems — View Courses
- AFM 473 - Advanced Topics in Corporate Finance — View Courses
- AFM 363 - Taxation 2 - Integration — View Courses

H-Science & Financial Management
Science and Financial Management (Bachelor of Science and Financial Management - Honours)

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
01/24/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Change program name

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Yes

Co-operative Education Consultation
Co-op consultation and a feasibility study was carried out to assess whether Co-operative and Experiential Education (CEE) supports the major plan modification for H-Biotechnology/CPA. Currently the H-Biotechnology/CPA program maintains an enrolment target of 25 students. The H-Science & Financial Management program aims to stabilize that enrolment target with a goal of growing to 50 students per year.

Based on this information and an assessment of CEE's resource capacity, it was determined CEE supports the major plan modification with the understanding that ongoing engagement with the School of Accounting and Finance (SAF) and the Faculty of Science (Science) will look to grow in a manner that supports student co-op experiences.

Feasibility Study results provided January 27, 2025 (see Supporting Documentation).

Creating or Changing Invalid Combinations
Yes

Invalid Combinations Consultations
The H-Science & Financial Management program aligns with the Accounting and Financial Management (AFM) and Sustainability and Financial Management (SMF) programs in that it is incompatible with Arts and Business and the Management Studies Minor. Additionally, students cannot complete a second financial management plan alongside the BScFM plan.

Rationale and Background for New Program/Plan

The Bachelor of Science in Biotechnology/Chartered Professional Accountancy (Biotech/CPA) program is offered exclusively through the co-operative system of study by the Faculty of Science (Science) in collaboration with the School of Accounting and Finance (SAF). It requires the successful completion of 22.0 units which includes: 8.0 science units covering biology and chemistry specific to the biotechnology designation, 11.0 units in accounting-related subjects (of which 3.0 units are specific for the CPA designation), 2.5 units in economics, business, and communication courses, and one 0.5 elective unit. The current cap on enrolment for this program is 25 students per year.

Science is proposing the following modifications for implementation in Fall 2026:

1. Update to program title from Bachelor of Science in Biotechnology/ Chartered Professional Accountancy (Biotech/CPA) to Bachelor of Science and Financial Management (BScFM), and change degree from Bachelor of Science to Bachelor of Science and Financial Management.
2. The CPA courses are retained, forming the CPA specialization, and there is an addition of two business specializations, currently existing in AFM program: Financial Markets and Business Analytics.
3. The Biotechnology courses are retained, forming the Biotechnology specialization, and there is an addition of two science specializations: Physics of Systems and Energy, and Earth and Water Science.
4. Minor revision to the PLOs to support a broader articulation of the expected graduate outcomes (see attachment).
5. Creation of a regular stream option to support special circumstances for students who have met the academic requirements to graduate if they are not able to meet all the co-op requirements. This is in alignment with AFM regular stream opportunities.

The BScFM will require the completion of 22 units. This includes 8.0 units for science, with courses dependent upon the chosen science specialization, 10.5 to 11.0 units of AFM courses depending on the business specialization chosen, 2.5 units in economics, Science and Business, and communication courses, and 0.5 to 1.0 elective units.

Modification to the Biotech/CPA program is supported by student and alumni feedback (student satisfaction surveys) and data on applicant registration, retention, and graduate outcomes from the current cyclical review. The BScFM program effective date and the Biotech/CPA retirement date is September 1, 2026. Science is hopeful that enrolment will increase to 50 students per year after a couple of years of delivery of the BScFM program.

Students will receive communication about the modification to the Biotech/CPA program, and will be provided an opportunity to remain in and graduate from the Biotech/CPA program, or they will be able to request a transfer to the BScFM program in their second year and graduate with the BScFM degree. Students beyond second year in the Biotech/CPA program, can be considered for the BScFM program where feasible, based on their progression in the current program.

Proposed Major Modifications:

Criteria	Current Biotech/CPA Program (BSc)	Proposed Science and Financial Management Program (BScFM)
Total Units	22.0	22.0
Science Units	8.0 (Biology and Chemistry)	8.0 (Dependent on specialization)
AFM Units	11.0 (3.0 specific to CPA)	10.5 to 11.0 (2.5 to 3.0 specific to business specialization)
Economics, Science & Business, and Communication Units	2.5	2.5
Elective Units	0.5	0.5 to 1.0 (Dependent on business specialization)
Enrolment Cap Target	25 students per year	50 students per year (after a couple of years)
Min. Cumulative Science average	65%	60%
Min. Cumulative Overall average	70%	60%
Min. Cumulative AFM average	70%	70%
AFM 341	Required	Optional (part of a list of courses)
Co-op Sequence	Sequence #4	Sequence #1
Required AFM Courses	AFM 206 and 208	AFM 206 and 208 or AFM 205 and 207

Shift from BSc, Biotech/CPA to BScFM: The shift to BScFM aligns the new program title with other similar interdisciplinary programs in Financial Management and better communicates both the science focus and the financial management aspect of the program, which is essential for industry recognition. This shift introduces multiple business and science specializations, providing students with more tailored choices and enhancing their skills, aligning with potential career paths in both the business and science sectors. This also creates opportunities for future program expansion.

Business Specializations: In addition to the Professional Accountant set of courses (3.0 units), specializations in Business Analytics (2.5 units) and Financial Markets (3.0 units) are proposed. These specializations are drawn from existing courses in a suite of Financial Management programs, and students would be required to select one of these specializations for this degree.

- If the Business Analytics Specialization is selected, it would allow for an additional 0.5 elective unit in the program.
- If the Professional Accountant Specialization is selected, AFM 206 and AFM 208 are required.
- If the Business Analytics Specialization or Financial Markets Specialization is selected, then AFM 205 and AFM 207 are required instead.

Science Specializations: In addition to the Biotechnology set of courses (8.0 units), specializations in Earth and Water Science (3.0 units) and Physics of Systems and Energy (3.0 units) are proposed. Students would be required to select one of these specializations for this degree.

- If the Biotechnology Specialization is selected, 8.0 units of courses are required.
- If either Earth and Water Science or Physics of Systems and Energy Specializations are selected (3.0 units each), an additional 5.0 science units are required, where 1.0 units can be replaced with mathematics or computer science courses. Up to 2.0 SCI units are permitted to count toward the requirement.

Reduction of Minimum Average Requirements: The minimum cumulative overall and cumulative science averages would be reduced to 60.0%, aligning with other similar interdisciplinary programs in Financial Management and most BSc programs, respectively. The minimum required cumulative accounting average will remain at 70.0%.

Modification of Co-op Sequence: A slight modification to the co-op sequence will align it with other similar interdisciplinary programs in Financial Management (see Table below).

Co-operative Education Program Requirements for Graduation: The co-op program requirements for graduation will shift to align with other similar interdisciplinary programs in Financial Management, providing flexibility for students who may not meet the co-op requirements but still wish to complete their degrees. This will expand accessibility and help retain students who face logistical barriers to full participation in the co-op system, while also offering the opportunity for students to graduate with a co-op degree if they successfully complete three of the four work terms.

- Students who meet all academic requirements for the program but fail to meet the minimum co-op requirements may, in exceptional cases and at the discretion of the Faculty of Science, Science Petitions Committee, be awarded a regular Honours Bachelor of Science and Financial Management degree.
- Students who attempt to secure employment for all four work terms but succeed in only securing three may still be considered for a co-op degree, at the discretion of the Faculty of Science, Science Petitions Committee in consultation with Co-operative and Experiential Education.

Sustainability Requirements for Accounting: Chartered Professional Accountancy (CPA) Canada has introduced a new competency map requiring foundational knowledge of sustainability for all accounting students, but it has not simultaneously removed any competencies. Similarly, the CFA Institute has incorporated sustainability into its Body of Knowledge. In response, the AFM 285 course is specifically designed to meet these requirements and will be added to the BScFM program, without the addition of courses to the program. Through an assessment of the course curriculum, AFM 212 was deemed the least critical course to remove which keeps the accounting/AFM units at 11.0.

AFM 341 as an Optional Requirement:
AFM 341 is designed for accountants, and therefore ideal for the Professional Accountant Specialization. Students in the other business specializations will not require this course.

Consultations (Departmental)
Jan 21, 2025, email reach out to science departments (L. Deakin) for approval of new science specialization options to be included with a Biotechnology Specialization, currently part of the current H-Biotechnology/Chartered Professional Accounting program, which will stay as an option for the new BScFM.

Jan 24, 2025, approval email (J. Wandel & K, Acheson)- for Faculty of Environment and Faculty of Arts courses in the BScFM program and Specializations.

Jan 24, 2025, approval/support from SAF and director (B. Phillips) for new BScFM and included Specializations (Business Analytics, Financial Markets, and Professional Accountant).

Jan 24, 2025, approval email from Physics (B. Lee)- for inclusion of Physics of Systems and Energy Specialization in BScFM program.

Jan 27, 2025, approval from Chemistry (M. Nooijen) supporting removal of CHEM 266L in the Biotechnology Specialization (to create room for prerequisites).

Jan 27, 2025, approval from Biology (M. Pinheiro) for addition of BIOL 130L in the Biotechnology Specialization (to address prerequisites).

Co-op approval (see Supporting Documentation- feasibility study provided Jan 28, 2025).

Feb 7, 2025, approval email from Earth (J. Johnston)- for inclusion of the Earth and Water Specialization in the BScFM program.

March 25, 2025, approval email from Math (B. Charbonneau) for inclusion of math courses as electives within the Physics of Systems and Energy Specialization in the BScFM program.

Supporting Documentation

- Biotech CPA major modification feasibility.docx
- Major Modification Biotech-CPA to BScFM PLOs.pdf

General Program/Plan Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Major

Program Type
Honours

Degree
Bachelor of Science and Financial Management

Program/Plan Name
Science and Financial Management (Bachelor of Science and Financial Management - Honours)

Systems of Study
Co-operative

Online Degree/Diploma

Admissions

Admissions Entry Point
Direct Entry

Admission Requirements: Minimum Requirements
Students normally apply for direct admission from high school to the first year of Science and Financial Management program.

At this time, they normally select one of the three science specializations to determine the science courses to include in the 1A and 1B terms.

Students normally select one of three financial management specializations, at some point after completion of year one.

Requirements Information

Invalid Combinations
Yes

List of Invalid Combinations
Arts & BusinessManagement Studies Minor

Average Requirement
Yes

Minimum Average(s) Required
- A minimum cumulative overall average of 60.0%.
- A minimum cumulative Science average of 60.0%, from all BIOL, CHEM, EARTH, MNS, PHYS or SCI courses included in addition to, and as part of any one science specialization.
- A minimum cumulative AFM average of 70.0%, from all required AFM courses below, and from all AFM courses included in any one financial management specialization.

Graduation Requirements

Unit Requirements

- Complete a total of 22.0 units:
  - Complete 10.5 units of required courses listed below.
  - Complete 8.0 units by completing one of the following Specializations:
    - Biotechnology Specialization; or
    - Earth and Water Science Specialization and 5.0 additional Science units (see Additional Constraints); or
    - Physics of Systems and Energy Specialization and 5.0 additional Science units (see Additional Constraints).
  - Complete 3.0 units by completing one of the following Specializations:
    - Business Analytics Specialization and 0.5 unit of elective courses; or
    - Financial Markets Specialization; or
    - Professional Accountant Specialization.
  - Complete 0.5 unit of elective courses.

Undergraduate Communication Requirement (UCR)

Students are required to complete one course to meet the Undergraduate Communication Requirement: COMMST193/ENGL193.

Notes

1. Successful completion of the UCR will results in a communication milestone on the student record.
2. Students transferring to another faculty should note that additional courses may be required to satisfy the other faculty's UCR.
3. Normally, transfer credits cannot be used to satisfy the UCR.

Co-operative Education Program Requirements

1. Complete a minimum of four credited work terms:
    1. A minimum of three must be standard work terms.
2. Complete a minimum of four Professional Development (PD) courses:
    1. PD1: Must be taken in an academic term prior to the first work term.
    2. PD11: Must be taken during the first work term.
    3. Two additional PD courses: To be taken during subsequent work terms.

Additional Constraints and Notes

1. Students may not end their sequence with a work term, and must maintain a full-time course load in an academic term preceding a work term.
2. The co-operative system of study is not open to students seeking to complete a second degree.
3. Students not meeting requirements of their plan will be transferred to another Science academic plan, if possible.
4. Students who have attempted to secure employment for all four available work terms, but are successful in doing so for only three work terms, may be considered for a co-op degree, provided they have received credit for all three of their work terms, and they have successfully completed all academic requirements. This decision is at the discretion of the Science Petitions Committee in consultation with Co-operative Education.
5. Students are required to follow only prescribed study/work-term sequencing options through to graduation.
6. Students who meet all the academic requirements for this plan, but who do not meet the minimum requirements for a co-op degree may, in exceptional circumstances and at the discretion of the Science Petitions Committee, be awarded a regular Honours Bachelor of Science and Financial Management degree.

Legend for Study/Work Sequence Information Chart

Key	Description
F,W,S	Terms: F=September-December; W=January-April; S=May-August
1,2,3,4 plus A or B	Denotes academic year and term.
WT	Work term.
off	Neither an academic term nor a work term
Sequences	Sequence 1 is the default sequence assigned to all Science and Financial Management students at admission. Requests to change sequence are considered individually following the 2B and 3B terms respectively.

Study/Work Sequence Information Chart

Sequence	F	W	S	F	W	S	F	W	S	F	W	S	F
1	1A	1B	off	2A	WT	2B	WT	3A	3B	WT	4A	WT	4B
2	1A	1B	off	2A	WT	2B	WT	3A	3B	4A	WT	WT	4B
3	1A	1B	off	2A	WT	2B	WT	3A	3B	WT	WT	4A	4B
4	1A	1B	off	2A	WT	2B	3A	WT	3B	WT	4A	WT	4B
5	1A	1B	off	2A	WT	2B	3A	WT	3B	4A	WT	WT	4B
6	1A	1B	off	2A	WT	2B	3A	WT	3B	WT	WT	4A	4B

Course Requirements (units)

Required Courses

10.5
Units to Complete

- Complete all of the following

- Complete all the following:
  - AFM112 - Analytic Methods for Business 1 (0.50)
  - AFM113 - Analytic Methods for Business 2 (0.50)
  - AFM121 - Introduction to Global Financial Markets (0.50)
  - AFM182 - Introduction to Financial Reporting and Managerial Decision Making 2 (0.50)
  - AFM191 - Introduction to Financial Reporting and Managerial Decision Making 1 (0.50)
  - AFM273 - Financial Instruments and Capital Markets (0.50)
  - AFM274 - Introduction to Corporate Finance (0.50)
  - AFM285 - Introduction to Sustainability and Sustainable Business (0.50)
  - AFM291 - Intermediate Financial Accounting 1 (0.50)
  - AFM321 - Personal Financial Planning and Taxation (0.50)
  - AFM335 - Business Law for Financial Managers (0.50)
  - AFM373 - Cases and Applications in Corporate Finance (0.50)
  - AFM391 - Intermediate Financial Accounting 2 (0.50)
  - AFM433 - Business Strategy (0.50)
  - ECON101 - Introduction to Microeconomics (0.50)
  - ECON102 - Introduction to Macroeconomics (0.50)
  - SCBUS122 - Management of Business Organizations (0.50)
  - SCBUS225 - Organizational Behaviour in Scientific and Technical Workplaces (0.50)
- Complete 2 of the following:
  - AFM205 - Introduction to Financial Services (0.25)
  - AFM206 - Introduction to Tax (0.25)
  - AFM207 - Introduction to Performance Analytics (0.25)
  - AFM208 - Introduction to Assurance (0.25)
- Complete 1 of the following:
  - AFM323 - Quantitative Foundations for Finance (0.50)
  - AFM341 - Accounting Information Systems (0.50)
  - AFM345 - Business Applications of Social Media Analytics (0.50)
  - AFM346 - Applications of Predictive Analytics in Accounting and Finance (0.50)
  - STAT374 - Quantitative Foundations for Finance (0.50)
- Complete 1 of the following:
  - COMMST193 - Communication in the Sciences (0.50)
  - ENGL193 - Communication in the Sciences (0.50)

Grand Total Units: 10.5

Course Requirements (no units)

Required Courses

No Rules

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
Yes

Cross-Listings Options
All cross-listings to be displayed

Additional Constraints

1. Students may only complete one course from any cross-listed set.
2. No one course may fulfil more than one requirement within this major.
3. One unit of the 5.0-unit additional Science unit requirement, can be used towards mathematics courses chosen from the following subject codes: ACTSC, AMATH, CO, CS, MATH, PMATH, or STAT, when desired or as required for prerequisites.
4. Science units can be chosen from the following subject codes: BIOL, CHEM, EARTH, MNS, PHYS, or SCI.
5. A maximum of 2.0 units of SCI courses may be counted towards this degree.
6. Students declaring the Professional Accountant Specialization are required to select AFM206, AFM208, and AFM341.
7. Students declaring the Business Analytics or Financial Markets Specializations are required to select AFM205 and AFM207.

Notes

- See list of Science academic advisors.
- See School of Accounting and Finance (SAF) academic advisors.
- See Faculty of Science for recommended course sequences.

Specializations

Specializations for this Major
Yes - Required (separate record)

Specialization Details
Students must complete one of three science specializations and one of three financial management specializations, to complete this degree. See Graduation Requirements above for specifics.

Specializations List

- Biotechnology Specialization, Earth & Water Science Specialization, Physics of Systems & Energy Specialization, ScFM-Business Analytics Specialization, ScFM-Financial Markets Specialization, or ScFM-Professional Accountant Specialization

Workflow Information

Workflow Path	Faculty/AFIW Path(s) for Workflow	Senate Workflow
Committee approvals	Faculty of Science	--

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

Proposed/Amended Program Name:

Honours Bachelor of Science and Financial Management

Please indicate the type of proposal for which the Feasibility Study has been completed:

Amended Co-op Program/Plan

Former name of Program/Plan:

Honours Bachelor of Science in Biotechnology/Chartered Professional Accountancy (Biotech/CPA)

Faculty/Department Sponsor:

Laura Deakin, Associate Dean Teaching & Learning

CE Representative:

Kirsty Budd, Co-op Faculty Relations Manager

Anticipated Effective Date of Proposed Program/Plan:

Fall 2026

Executive Summary

The Faculty of Science is proposing a major plan modification to the Honours Bachelor of Science Biotechnology/Chartered Professional Accountancy (Biotech/CPA). The modification would see the program renamed to Honours Bachelor of Science and Financial Management (BScFM) and updated to the same work study sequence as other joint School of Accounting and Finance (SAF) programs. The modification to the program will allow students the flexibility to choose from several science and financial specializations instead of being required to select Biotech/CPA. The BScFM will continue to be jointly offered by the Faculty of Science and SAF with program requirements remaining the same.

Biotech/CPA currently maintains an enrolment target of 25 students; the BScFM aims to stabilize that enrolment target with a goal of growing to 50 students per year. The proposed program would see its first intake in F26 and the first cohort would be scheduled for a first work term in W28.

The existing program performs well in terms of employment rate, consistently achieving 100%. Many students in the current program (39% of all work terms from 2016-2023) have found work at one of the 'Big Four' accounting firms, and the top ten job titles include variations of 'accountant', 'CPA', 'tax' or 'audit'. It's important to note that labour markets are volatile and the impact of AI and blockchain technology on industry sectors associated with financial management remain challenging to predict. As additional students are admitted to the BScFM and select specializations outside of the CPA designation, it will be necessary for CEE to closely track employment trends to ensure that students feel supported competing in the evolving labour market.

CEE supports the major plan modification with the understanding that ongoing engagement with SAF and the Faculty of Science will be critical to ensure employment outcomes continue to meet program and student expectations.

1.0 Proposal Overview

1.1 Proposal objective and rationale

The proposed Honours Bachelor of Science and Financial Management builds on the success of the existing Biotech/CPA program with the goal of providing students with more options at the intersection of science and business management. The proposed specializations include three in business (CPA, Financial Markets and Business Analytics) and five in Science (Biotech, Biodiversity, Materials Chemistry, Physics of Systems and Energy and Earth and Water Science).

The four-year BScFM degree will maintain the same degree requirements (four work terms and four PD courses). The program will also include a non-co-op option that supports students in the event they are unable to complete co-op requirements (in alignment with processes followed by other joint SAF co-op programs).

1.2 Context/competition

Students in the existing Biotech/CPA program regularly compete for employment against students in other joint SAF co-op programs (AFM, CFM and SFM) as well as students in related programs from other institutions. In the most recent program review (2016-2023), Biotech CPA students achieved 100% employment over the reporting period.

1.3 Societal goals/employability expectations

The proposed program is similar to the other joint SAF degree programs in that they are interdisciplinary and designed to produce a pool of multifaceted graduates. These students are expected to be equipped with a unique blend of knowledge in science technology and business, as well as, information technology, creative problem solving, and decision-making skills. The proposed program is designed to prepare students for a career in management in the technology-intensive global marketplace.

2.0 Proposal Data and Logistics

2.1 Enrolment and admission

The proposed program looks to stabilize the enrolment target (25 new students per year), with the goal of growing that enrolment to 50 students per year, with the first new cohort seeking a first work term in W28. BScFM admission requirements will remain the same.

2.2 Co-op sequence

The proposed program will see a change to the existing co-op sequence, allowing for alignment with SAF's approach to sequences. Students will follow sequence 1, with additional sequence options available to ensure students in the program are able to meet academic and co-op requirements. This existing sequence for AFM and SFM students is already laid out in the undergraduate calendar.

Sequence	F	W	S	F	W	S	F	W	S	F	W	S	F
1	1A	1B	off	2A	WT	2B	WT	3A	3B	WT	4A	WT	4B
2	1A	1B	off	2A	WT	2B	WT	3A	3B	4A	WT	WT	4B
3	1A	1B	off	2A	WT	2B	WT	3A	3B	WT	WT	4A	4B
4	1A	1B	off	2A	WT	2B	3A	WT	3B	WT	4A	WT	4B
5	1A	1B	off	2A	WT	2B	3A	WT	3B	4A	WT	WT	4B
6	1A	1B	off	2A	WT	2B	3A	WT	3B	WT	WT	4A	4B

2.3 Current employment data for students in the program/plan

Biotech CPA students have historically achieved high employment rates; in the most recent program review (2016-2023), there was a 100% employment rate over the reporting period and this included multiple terms impacted by COVID-19.

Most Biotech CPA students secured work through two methods: using Waterloo's co-op job postings on the co-op job board (45%) or by returning to an employer (35%). This pattern of employment closely aligns with other joint SAF programs.

Over half of the students in the existing Biotech/CPA program find employment in accounting, tax preparation, bookkeeping and payroll services; 39% of work terms are with one of the 'Big Four' accounting firms and the top ten job titles are aligned with accounting occupations.

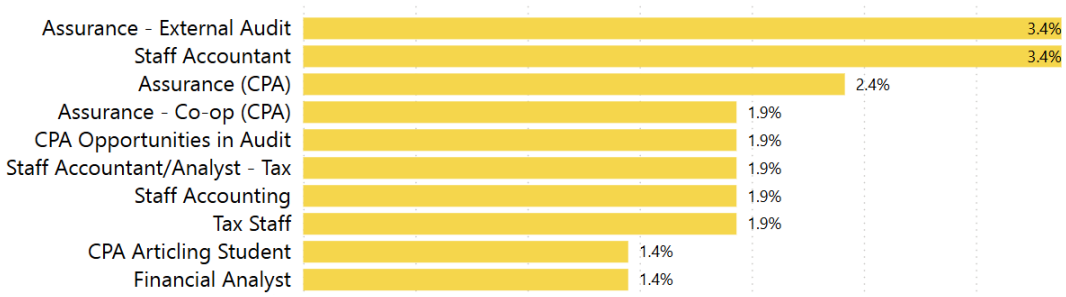

Figure 1 Biotech/CPA hires by top ten job title 2016-2023

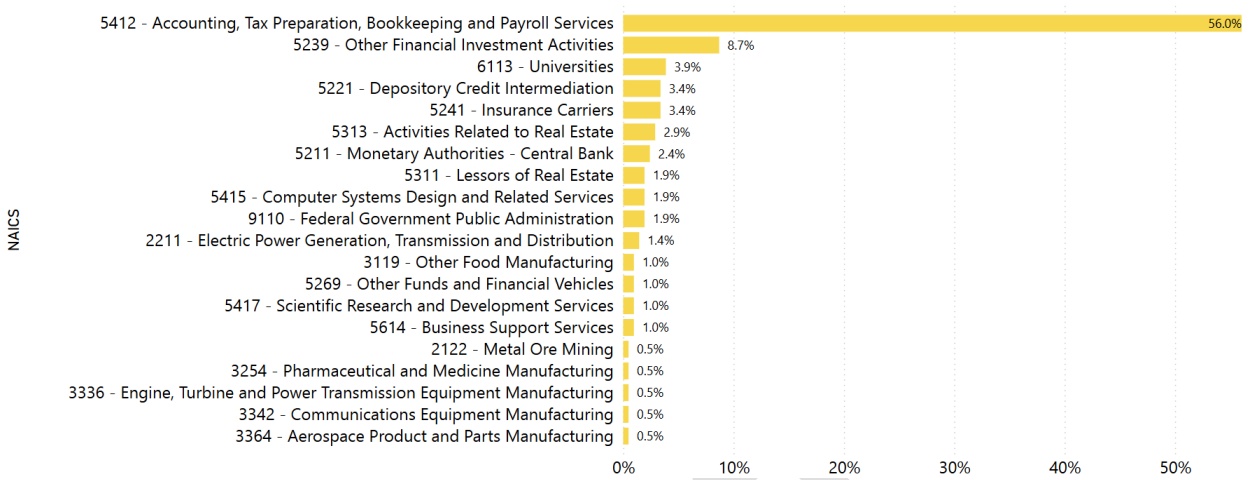

Figure 2 Biotech/CPA hires by North American Industry Classification System 2016-2023

Organization	Job Title	City
Bank of Montreal	Corporate Banking Analyst	Toronto
Barrick Gold Corporation	Finance Analyst	Toronto
BDO Canada LLP	Valuations	Toronto
Canada Revenue Agency	Auditor Trainee	Toronto
Canadian Imperial Bank of Commerce	Analyst, Alternate Solutions Group	Toronto
Capco	Business Analysis Consulting	Toronto
Capital One	Business Analyst	Toronto
Clark & Horner LLP	Staff Accounting	Toronto
Corus Entertainment	Finance Intern	Toronto
Deloitte	Staff Accountant/Analyst - Tax	Toronto
Ernst & Young LLP	Canadian Assurance - External Audit	Waterloo
Fairfax Financial Holdings Ltd	Financial Analyst	Toronto
GGFL LLP	Junior Staff Accountant	Ottawa
Korn Ferry (CA) Ltd	Consulting & Data Analysis Intern	Toronto
KPMG LLP Canada	Advisory - Forensics	
Magna International Inc	Transfer Pricing Analyst	Aurora
Manulife Financial	Co-op Financial Reporting Analyst	
McMaster University	Clinical Research Assistant	Hamilton
Northland Power	Accounting Analyst	Toronto
Office of the Superintendent of Financial Institutions	Financial Risk Analysis Co-op Student	Toronto
Onex Corporation	Staff Accountant Intern	Toronto
Ontario Ministry of Health	Business Finance	Toronto
Ontario Power Generation Inc	Business - Fund Management Department	Toronto
Ontario Teachers' Pension Plan	Co-op Student, Strategy & Risk - Responsible Investing	Toronto
PwC	Tax - Co-op Associate	
RBC Financial Group	Financial Analyst, Capital Markets Reporting	Toronto
TD Bank Group	Wealth Automation Change Analyst	Toronto
Treasury Board Secretariat	Research Analyst	
Welch LLP	Co-op Staff Accountant	

Figure 3 Sample Biotech CPA employers & job titles

Labour markets are volatile and can change rapidly due to changes in technology (AI, Blockchain) and economic conditions. It will be important for CEE, Faculty of Science and SAF to collaborate on monitoring labour market trends, assessing the impact of changes to the industry and considering emerging sectors for employment opportunities.

3.0 Timelines / Resources

3.1 Timelines & Resource implications for CEE

CEE and SAF proactively engage and nurture strong connections in the industries BScFM students are expected to pursue and as a result, CEE anticipates providing a range of suitable opportunities.

As students are admitted to the BScFM and choose specializations that sees them exploring pathways outside of the CPA designation, it will be necessary for CEE to closely track employment trends. If students indicate job expectations that do not align with WaterlooWorks postings, there may be need for additional job development efforts.

4.0 CE Recommendation

CEE supports the major plan modification with the understanding that ongoing program engagement will be critical to ensure employment outcomes continue to meet program and student expectations.

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Richard Wikkerink, Director Student & Faculty Relations

_____

Laura Deakin, Associate Dean, Teaching & Learning

UNIVERSITY OF WATERLOO

MAJOR MODIFICATION

BACHELOR OF BIOTECHNOLOGY/CHARTERED PROFESSIONAL ACCOUNTANCY (BIOTECH/CPA)

Primary Contact
Laura Deakin

FEBRUARY 2025

Current Program Learning Outcomes and Alignment with Undergraduate Degree Level Expectations (UDLES)

	Current PLO	Alignment to UDLES
1.	Critically understand key concepts of basic scientific theory, physical and life sciences, mathematics, information, communication technologies and statistical methods.	Depth and Breadth of Knowledge
2.	Develop advanced skills in accounting practice including financial analysis and planning capabilities through case analysis in science, technology and business scenarios.	Application of Knowledge
3.	Synthesize requirements of accounting practice and their applicability to science, technology, business fields and operational practices.	Depth and Breadth of Knowledge
4.	Apply quantitative accounting, finance, science and business methods in real world settings to develop defensible outcomes.	Knowledge of Methodologies
5.	Develop and interpret quantitative data, draw connections between accounting scenarios and company strategies, identify gaps, and assess scientific and business models.	Application of Knowledge
6.	Evaluate related concepts across disciplines to leverage corporate strategy and related science or technology in an ethical manner.	Application of Knowledge
7.	Identify limitations in the application of accounting, finance, science and business methods.	Awareness of Limits of Knowledge
8.	Identify audit and accounting problems, describe their significance, and propose practical solutions.	Awareness of Limits of Knowledge Communication
9.	Troubleshoot uncertainties associated with accounting, finance, science and technology concepts.	Awareness of Limits of Knowledge
10.	Demonstrate excellent leadership skills while working with others.	Professional Leadership and Team Skills
11.	Use team dynamics and communication strategies to motivate successful group outcomes.	Professional Leadership and Team Skills
12.	Impart information, arguments and analysis to a wide audience of lay, technical and business people using discipline-specific oral and written formats.	Communication Skills
13.	Be resourceful, ethical, accountable and professionally responsible.	Experiential Learning

	Current PLO	Alignment to UDLES
14.	Apply a strategic mindset in making fiscal decisions that impact organizations and citizens.	Experiential Learning
15.	Demonstrate action-based contingency planning and time management skills.	Experiential Learning
16.	Have hands-on-training in portfolio management, equity assessment and scientific research.	Experiential Learning
17.	Effectively assess audience interests, lead, communicate, and work interdependently with people of different cultural backgrounds.	Diversity
18.	Demonstrate value for diversity, especially in areas of creativity, productivity and innovation.	Diversity
19.	Recognize that financial understanding, science and business combine to open opportunities in a broad-based diverse community.	Diversity

Analysis and Rationale for Revision to Current PLOs and Alignment to UDLES

No.	Proposed PLO	Alignment of Current PLOs	Proposed Modification to PLO	Alignment to UDLES
1	Critically understand key concepts of basic scientific theory, physical and life sciences, mathematics, information, communication technologies and statistical methods.	Same as current PLO1.	No change to PLO1.	Depth and Breadth of Knowledge
2	Demonstrate an understanding of the fundamental and intermediate concepts of both Science and Financial Management required for a financial professional working in a science paradigm.	2.Develop advanced skills in accounting practice including financial analysis and planning capabilities through case analysis in science, technology and business scenarios. 3.Synthesize requirements of accounting practice and their applicability to science, technology, business fields and operational practices. 19. Recognize that financial understanding, science and business combine to open opportunities in a broad-based diverse community.	Consolidation of three current PLOs. Proposing one PLO to address the knowledge and skills at the intersection of science and business. Also removes the specificity of “accounting practice”.	Depth and Breadth of Knowledge
3	Analyze, interpret, and make inferences from large datasets and numerical model output in science, technology and business scenarios.	5.Develop and interpret quantitative data, draw connections between accounting scenarios and company strategies, identify gaps, and assess scientific and business models.	Modified current PLO to remove reference to “accounting”.	Knowledge of Methodologies
4	Apply knowledge and concepts from multiple disciplines in a problem-solving framework to achieve business practices	6.Evaluate related concepts across disciplines to leverage corporate strategy and related science or technology in an ethical manner.	Consolidation of three current PLOs. Proposing one PLO to address problem solving.	Application of Knowledge

No.	Proposed PLO	Alignment of Current PLOs	Proposed Modification to PLO	Alignment to UDLES
	that balance fiscal and sustainability objectives.	14. Apply a strategic mindset in making fiscal decisions that impact organizations and citizens. 15. Demonstrate action-based contingency planning and time management skills.		
5	Frame a problem and develop a solution based on the analysis of generated alternatives. This includes the ability to: i. Identify and define problems ii. Determine the information needed and then research and analyze data relevant to the problem iii. Evaluate information sources critically iv. Present potential solutions to complex fiscal sustainability problems by articulating the risks, benefits and drawbacks of options v. Make decisions and propose actions to minimize trade-offs in approaches to problem solving vi. Evaluate the efficacy of the action and course correct as necessary.	7.Identify limitations in the application of accounting, finance, science and business methods. 8.Identify audit and accounting problems, describe their significance, and propose practical solutions. 9.Troubleshoot uncertainties associated with accounting, finance, science and technology concepts.	Consolidation of three current PLOs. Proposing one PLO to address developing solutions and generating alternatives.	Application of Knowledge
6	Communicate information, arguments, and analyses accurately and reliably, orally and in writing to a range of audiences.	8.Identify audit and accounting problems, describe their significance, and propose practical solutions. 12. Impart information, arguments and analysis to a wide audience of lay,	Consolidation of two current PLOs. Proposing one PLO to address communication.	Communication Skills

No.	Proposed PLO	Alignment of Current PLOs	Proposed Modification to PLO	Alignment to UDLES
		technical and business people using discipline-specific oral and written formats.		
7	Understand the broader business environment and current trends regarding how it interfaces with and impacts sustainability of the natural environment and science disciplines broadly.	19.Recognize that financial understanding, science and business combine to open opportunities in a broad-based diverse community.	Modified to address sustainability at the intersection of science and business.	Awareness of Limits of Knowledge
8	Demonstrate leadership, collaboration, and inter-personal skills which includes demonstrating: i. the ability to work collaboratively in teams, understanding and valuing unique team contributions by oneself and team members ii. the ability to negotiate and compromise with teammates and the ability to resolve conflict iii. the ability to recognize and articulate leadership style and the role of team members to achieving a shared objective iv. the ability to both deliver constructive feedback and respond effectively to feedback provided by team members.	10.Demonstrate excellent leadership skills while working with others. 11.Use team dynamics and communication strategies to motivate successful group outcomes.	Consolidation of two current PLOs. Proposing one PLO to address leadership.	Autonomy and Professional Capacity
9	Ethical Conduct and Social Responsibility	Partial alignment with PLO13.	Created one new PLO to address ethical conduct and social responsibility as a separate PLO.	Autonomy and Professional Capacity

No.	Proposed PLO	Alignment of Current PLOs	Proposed Modification to PLO	Alignment to UDLES
	i. Identify ethical issues and dimensions of problems ii. Demonstrate an understanding of basic ethical frameworks and the ability to apply them to the analysis to problems iii. Evaluate and analyze Corporate Social Responsibility (CSR) and codes of conduct in relation to the ethical risks within industries iv. Demonstrate an understanding of alternative views and theories in finance and economics on the purpose and value of CSR.			
10	Be resourceful, ethical, accountable and professionally responsible.	Same as PLO13.	No change.	Autonomy and Professional Capacity
11	Apply knowledge and competencies gained from classroom activities to solve real world problems.	2.Develop advanced skills in accounting practice including financial analysis and planning capabilities through case analysis in science, technology and business scenarios. 4.Apply quantitative accounting, finance, science and business methods in real world settings to develop defensible outcomes.	Consolidation of two current PLOs. Proposing one PLO to address knowledge and competencies gained from active learning and assessment practices.	Experiential Learning
12	Demonstrate an understanding and recognition of the value of diversity and inclusion in teams, especially in areas of creativity, productivity and innovation.	16. Have hands-on-training in portfolio management, equity assessment and scientific research.	Consolidation of three current PLOs. Proposing one PLO to address diversity.	Diversity

No.	Proposed PLO	Alignment of Current PLOs	Proposed Modification to PLO	Alignment to UDLES
		17. Effectively assess audience interests, lead, communicate, and work interdependently with people of different cultural backgrounds. 18.Demonstrate value for diversity, especially in areas of creativity, productivity and innovation.		

Biotechnology Specialization
Biotechnology Specialization

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
01/24/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Add/re-name a graduate research field, graduate specialization, honours, option, specialization, undergraduate diploma, minor

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
Yes

Invalid Combinations Consultations
Consistent with the Honours Biotechnology/Chartered Professional Accountancy (Biotech/CPA) program, the Honours Bachelor of Science and Financial Management (BScFM) with the Biotechnology specialization will remain incompatible with a Biology major and minor.

Rationale and Background for New Program/Plan
This 8.0-unit specialization, is one of three science specializations for a new Bachelor of Science and Financial Management (BScFM) program. The core and elective courses in this specialization have not changed from those currently included in the Honours BSc Biotechnology/Chartered Professional Accounting (Biotech/CPA) program.

There is a change in category (core and elective) for two of the courses, BIOL 130L and CHEM 266L. BIOL 130L has been added as a core requirement, to support a pre-requisite as a change coming forward, and CHEM 266L has been removed to make room for BIO 130L.

See the new H-Science and Financial Management program for Rationale and Background.

Consultations (Departmental)
See the new H-Science and Financial Management program for consultations.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Specialization

Program/Plan Name
Biotechnology Specialization

Admissions

Specialization is available for students in the following majors
- H-Science & Financial Management

Admissions Entry Point
Declare Plan

Declaration Requirements

Requirements Information

Invalid Combinations
Yes

List of Invalid Combinations
H-BiologyBiology Minor

Average Requirement
No

Graduation Requirements
- Complete at total of 8.0 units.

Course Requirements (units)

Required Courses

8
Units to Complete

- Complete all of the following
  - Complete all the following:
    - BIOL130 - Introductory Cell Biology (0.50)
    - BIOL235 - Foundations of Molecular Biology (0.50)
    - BIOL239 - Genetics (0.50)
    - BIOL240 - Fundamentals of Microbiology (0.50)
    - BIOL240L - Microbiology Laboratory (0.25)
    - BIOL241 - Introduction to Applied Microbiology (0.50)
    - BIOL331 - Advanced Cell Biology (0.50)
    - BIOL342 - Molecular Biotechnology 1 (0.50)
    - BIOL432 - Molecular Biotechnology 2 (0.50)
    - BIOL443 - Fermentation Biotechnology (0.50)
    - CHEM120 - General Chemistry 1 (0.50)
    - CHEM120L - General Chemistry Laboratory 1 (0.25)
    - CHEM123 - General Chemistry 2 (0.50)
    - CHEM123L - General Chemistry Laboratory 2 (0.25)
    - CHEM237 - Introductory Biochemistry (0.50)
    - CHEM266 - Basic Organic Chemistry 1 (0.50)
    - BIOL130L - Cell Biology Laboratory (0.25)
  - Complete 1 of the following:
    - BIOL345 - Microorganisms in Foods (0.50)
    - BIOL431 - Bacterial Molecular Genetics (0.50)
    - BIOL432 - Molecular Biotechnology 2 (0.50)
    - BIOL441 - Advances in Immunology (0.50)
    - BIOL442 - Virology (0.50)
    - BIOL447 - Environmental Microbiology (0.50)
    - BIOL483 - Animal Cell Biotechnology (0.50)
    - CHEM333 - Metabolism 1 (0.50)
    - CHEM432 - Metabolism 2 (0.50)

Grand Total Units: 8

Course Requirements (no units)

Required Courses

No Rules

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
No

Additional Constraints

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Senate Workflow
--

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

Earth & Water Science Specialization
Earth and Water Science Specialization

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
02/07/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Add/re-name a graduate research field, graduate specialization, honours, option, specialization, undergraduate diploma, minor

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
No

Rationale and Background for New Program/Plan
This is a 3.0 unit specialization within the Bachelor of Science and Financial Management (BScFM) program. Students must select one science specialization to complete the degree.

See the new H-Science and Financial Management program for Rationale and Background.

Consultations (Departmental)
See the new H-Science and Financial Management program for consultations.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Specialization

Program/Plan Name
Earth and Water Science Specialization

Admissions

Specialization is available for students in the following majors

- H-Science & Financial Management

Admissions Entry Point
Declare Plan

Declaration Requirements

Requirements Information

Invalid Combinations
No

Average Requirement
No

Graduation Requirements
- Complete a total of 3.0 units.

Course Requirements (units)

Required Courses

0
Units to Complete

No Rules

Course Requirements (no units)

Required Courses

- Complete all of the following
  - Complete all the following:
    - EARTH121 - Introductory Earth Sciences (0.50)
    - EARTH122 - Introductory Environmental Sciences (0.50)
    - EARTH123 - Introductory Hydrology (0.50)
    - EARTH270 - Disasters and Natural Hazards (0.50)
  - Complete all of the following
    - Complete 1.0 unit from the following list.
    - Choose any of the following:
      - EARTH121L - Introductory Earth Sciences Laboratory (0.25)
      - EARTH122L - Introductory Environmental Sciences Laboratory (0.25)
      - EARTH221 - Introductory Geochemistry (0.50)
      - EARTH231 - Mineralogy (0.50)
      - EARTH235 - Stratigraphic Approaches to Understanding Earth's History (0.50)
      - EARTH355 - Water: Data to Decisions (0.50)
      - EARTH444 - Applied Wetland Science (0.50)
      - ENVS105 - Environmental Sustainability and Ethics (0.50)

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
No

Additional Constraints

Notes

Workflow Information

Workflow Path	Faculty/AFIW Path(s) for Workflow	Senate Workflow
Committee approvals	Faculty of Science	--

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

Physics of Systems & Energy Specialization
Physics of Systems and Energy Specialization

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
01/27/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Add/re-name a graduate research field, graduate specialization, honours, option, specialization, undergraduate diploma, minor

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
No

Rationale and Background for New Program/Plan
This is a 3.0 unit specialization within the Bachelor of Science and Financial Management (BScFM) program. Students must select one science specialization to complete the degree.

See the new H-Science and Financial Management program for Rationale and Background.

Consultations (Departmental)
See the new H-Science and Financial Management program for consultations.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Specialization

Program/Plan Name
Physics of Systems and Energy Specialization

Admissions

Specialization is available for students in the following majors

- H-Science & Financial Management

Admissions Entry Point
Declare Plan

Declaration Requirements

Requirements Information

Invalid Combinations
No

Average Requirement
No

Graduation Requirements
- Complete a total of 3.0 units.

Course Requirements (units)

Required Courses

0
Units to Complete

No Rules

Course Requirements (no units)

Required Courses

- Complete all of the following
  - Complete all the following:
    - PHYS111 - Physics 1 (0.50)
    - PHYS112 - Physics 2 (0.50)
    - SCI206 - The Physics of How Things Work (0.50)
  - Complete all of the following
    - Complete 1.5 units from the following list.
    - Choose any of the following:
      - MATH127 - Calculus 1 for the Sciences (0.50)
      - MATH128 - Calculus 2 for the Sciences (0.50)
      - PHYS111L - Physics 1 Laboratory (0.25)
      - PHYS112L - Physics 2 Laboratory (0.25)
      - PHYS233 - Introduction to Quantum Mechanics (0.50)
      - SCI200 - Energy - Its Development, Use, and Issues (0.50)
      - SCI201 - Global Warming and Climate Change (0.50)
      - SCI207 - Physics, the Universe, and Everything (0.50)

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
No

Additional Constraints

Notes

Workflow Information

Workflow Path	Faculty/AFIW Path(s) for Workflow	Senate Workflow
Committee approvals	Faculty of Science	--

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

ScFM-Business Analytics Specialization
Business Analytics Specialization

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
01/24/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Add/re-name a graduate research field, graduate specialization, honours, option, specialization, undergraduate diploma, minor

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
No

Rationale and Background for New Program/Plan
This is a 2.5 unit specialization within the Bachelor of Science and Financial Management (BScFM) program. Students must select one business specialization to complete the degree.

See the new H-Science and Financial Management program for Rationale and Background.

Consultations (Departmental)
See the new H-Science and Financial Management program for consultations.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Arts

Academic Unit
School of Accounting and Finance

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Specialization

Program/Plan Name
Business Analytics Specialization

Admissions

Specialization is available for students in the following majors

- H-Science & Financial Management

Admissions Entry Point
Declare Plan

Declaration Requirements

Requirements Information

Invalid Combinations
No

Average Requirement
No

Graduation Requirements
- Complete a total of 2.5 units.

Course Requirements (units)

Required Courses

0
Units to Complete

No Rules

Course Requirements (no units)

Required Courses

- Complete all of the following
  - Complete 1 of the following:
    - AFM345 - Business Applications of Social Media Analytics (0.50)
    - AFM346 - Applications of Predictive Analytics in Accounting and Finance (0.50)
  - Complete all of the following
    - Complete 2.0 units from the list of courses below.
    - Choose any of the following:
      - ACTSC423 - Topics in Financial Econometrics (0.50)
      - AFM323 - Quantitative Foundations for Finance (0.50)
      - AFM341 - Accounting Information Systems (0.50)
      - AFM345 - Business Applications of Social Media Analytics (0.50)
      - AFM346 - Applications of Predictive Analytics in Accounting and Finance (0.50)
      - AFM347 - Cybersecurity (0.50)
      - AFM423 - Topics in Financial Econometrics (0.50)
      - AFM444 - Business Analytics Project Management (0.50)
      - AFM445 - Information Technology Assurance and Audit Analytics (0.50)
      - AFM446 - Performance Management and Tax Analytics (0.50)
      - AFM447 - Governance and Ethical Issues with Data and Emerging Technologies (0.50)
      - AFM448 - Data Analytics and Emerging Technologies Consulting Group (0.25)
      - STAT374 - Quantitative Foundations for Finance (0.50)

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
Yes

Cross-Listings Options
All cross-listings to be displayed

Additional Constraints
1. Students may only complete one course from any cross-listed set.
2. Students may complete both AFM345 and AFM346 and would then be required to complete three additional courses to complete the specialization.

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Senate Workflow
--

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

ScFM-Financial Markets Specialization
Financial Markets Specialization

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
01/24/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Add/re-name a graduate research field, graduate specialization, honours, option, specialization, undergraduate diploma, minor

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
No

Rationale and Background for New Program/Plan
This is a 3.0 unit specialization within the Bachelor of Science and Financial Management (BScFM) program. Students must select one business specialization to complete the degree.

See the new H-Science and Financial Management program for Rationale and Background.

Consultations (Departmental)
See the new H-Science and Financial Management program for consultations.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Arts

Academic Unit
School of Accounting and Finance

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Specialization

Program/Plan Name
Financial Markets Specialization

Admissions

Specialization is available for students in the following majors

- H-Science & Financial Management

Admissions Entry Point
Declare Plan

Declaration Requirements

Requirements Information

Invalid Combinations
No

Average Requirement
No

Graduation Requirements
- Complete a total of 3.0 units.

Course Requirements (units)

Required Courses

0
Units to Complete

No Rules

Course Requirements (no units)

Required Courses

- Complete all of the following
  - Complete 3.0 units from the list of courses below.
  - Choose any of the following:
    - ACTSC423 - Topics in Financial Econometrics (0.50)
    - AFM276 - Financial Statement Analysis (0.50)
    - AFM322 - Derivative Securities (0.50)
    - AFM324 - Wealth Management (0.50)
    - AFM326 - Student Venture Fund - Analyst (0.25)
    - AFM328 - Investment Management - Junior Analyst (0.25)
    - AFM329 - Investment Management - Senior Analyst (0.25)
    - AFM377 - Private Equity and Venture Capital (0.50)
    - AFM422 - Management of Financial Institutions (0.50)
    - AFM423 - Topics in Financial Econometrics (0.50)
    - AFM425 - Fixed Income Securities (0.50)
    - AFM426 - Student Venture Fund-Associate (0.25)
    - AFM427 - Intermediate Portfolio Management (0.50)
    - AFM428 - Investment Management - Junior Portfolio Manager (0.25)
    - AFM429 - Investment Management - Senior Portfolio Manager (0.25)
    - AFM434 - Corporate Governance and Risk Management (0.50)
    - AFM470 - Financial Management of High Growth Companies (0.50)
    - AFM477 - Mergers and Acquisitions (0.50)
    - AFM478 - International Financial Management (0.50)
    - SFM310 - Sustainability in Capital Markets (0.50)
    - SFM412 - Investor Behaviour (0.50)

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
Yes

Cross-Listings Options
All cross-listings to be displayed

Additional Constraints
1. Students may only complete one course from any cross-listed set.

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Senate Workflow
--

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

ScFM-Professional Accountant Specialization
Professional Accountant Specialization

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
01/24/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Add/re-name a graduate research field, graduate specialization, honours, option, specialization, undergraduate diploma, minor

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
No

Rationale and Background for New Program/Plan
This is a 3.0 unit specialization within the Bachelor of Science and Financial Management (BScFM) program. Students must select one business specialization to complete the degree.

See the new H-Science and Financial Management program for Rationale and Background.

Consultations (Departmental)
See the new H-Science and Financial Management program for consultations.

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Arts

Academic Unit
School of Accounting and Finance

Field of Study
Science and Financial Management

Faculty
Faculty of Science

Undergraduate Credential Type
Specialization

Program/Plan Name
Professional Accountant Specialization

Admissions

Specialization is available for students in the following majors

- H-Science & Financial Management

Admissions Entry Point
Declare Plan

Declaration Requirements

Requirements Information

Invalid Combinations
No

Average Requirement
No

Graduation Requirements
- Complete a total of 3.0 units.

Course Requirements (units)

Required Courses

3
Units to Complete

- Complete all the following:
  - AFM362 - Corporate Taxation (0.50)
  - AFM382 - Cost Management Systems (0.50)
  - AFM451 - Audit Strategy (0.50)
  - AFM462 - Specialized Topics in Taxation (0.50)
  - AFM482 - Performance Measurement and Organization Control (0.50)
  - AFM491 - Advanced Financial Accounting (0.50)

Grand Total Units: 3

Course Requirements (no units)

Required Courses

No Rules

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
No

Additional Constraints

Notes

Workflow Information

Workflow Path	Faculty/AFIW Path(s) for Workflow	Senate Workflow
Committee approvals	Faculty of Science	--

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

UNIVERSITY OF WATERLOO

NEW PROGRAM PROPOSAL

OF

BACHELOR

OF

MEDICAL SCIENCES

Submitted to the
Ontario Universities Council on Quality Assurance

VOLUME I - PROPOSED BRIEF

SEPTEMBER 2026

***NOTE:** This template must be used for submission of a new program proposal. Please consult the University of Waterloo Institutional Quality Assurance Process and the Quality Assurance Framework (QAF) for details or the Academic Quality Enhancement Office.

****Volumes I, II, III must be reviewed and approved by the Academic Quality Enhancement Office, GSPA and IAP prior to submission to your Faculty Council****

Completed by AQuE Office

Proposed Start Date:

Fall 2026

(subject to change by AQuE Office depending on meeting approval milestones)

- QC Submission by May 2025
- QC Approval by July 2025

Approved Start Date:

[ ]

TABLE OF CONTENTS

1. INTRODUCTION

The Bachelor of Medical Sciences (BMSci)[1] program and pathway to a Doctor of Medicine (M.D.) program, known as the 6- and 5-Year Medical Degree Track and referred to as the proposed program throughout the application, is designed to provide students with the core knowledge, skills and abilities fundamental to academic success in health and medical sciences programs, as well as other science- and medical-related programs. Students develop their knowledge and skills in communications, biology, physiology, physics, and general and organic chemistry to prepare them for the rigours of continuing studies in medicine. In addition, students gain valuable coaching and mentorship by highly skilled faculty, physicians and graduates to prepare them for potential careers in the health and medical sciences that will enable them to achieve their career objectives.

The proposed program objectives and learning outcomes capture the fundamental principles in biology, anatomy and physiology and the impact of the social determinants of health on patient outcomes. This supports the graduate's clinical reasoning when evaluating patient symptoms and assessing potential and effective treatments, and, is a curricular foundation for further exploration of the learning outcomes that support patient care for the M.D. program at St. George's University (SGU) in Grenada, West Indies.

The Faculty of Science (Science), in partnership with SGU, will provide students in the proposed program with an educational pathway to medical training, residency and employment opportunities in a shorter duration (2+4 years versus 4+4 years). The negotiation of this agreement between SGU and the University of Waterloo (UW) will align with the success of an existing agreement between SGU and Northumbria University (NU) in the United Kingdom (UK). These agreements are focused on reducing barriers for students seeking pathways to becoming physicians. Currently there are no other Ontario institutions with a similar co-matriculation agreement with an international medical school.

As the current number of medical school graduates is predicted to yield a short-fall of physicians with Ontario currently under resourced for family physicians (CBC, Number of Ontarians without family doctor reaches 2.5 million, college says, July 12, 2024; Ontario Medical Association News release, January 29, 2024), the international school pathway permits a larger number of Canadian students to obtain this expertise. SGU has already placed over 200 Canadian graduates in Canadian residences, and over 68 UW graduates have proceeded to obtain their M.D. degree from SGU's medical school (data collected between 1980 and 2024). As this pathway is already of interest to students, and with demonstrated routes to return to practice in Canada (see Appendix C), this partnership will enhance Canada's recruitment of qualified medical personnel. Between 1980 and 2024, a total 203 Canadian graduates from SGU successfully matched into Canadian residency programs. Of these: 108 graduates (53 per cent) secured positions in Family Medicine residencies.

The agreement increases the number and diversity of medical school pathways available to students at the UW and supports undergraduate enrolment growth in Science. As a full cost-

[1] The BMSci program is a four-year honours program and will be used to refer to the first four years of the 6-Year Track and the last three years of the four-year honours program refers to the 5-Year Track.

recovery program[2] based on a 2+4 model, it does not affect Ministry of Colleges and Universities (MCU) corridor funding and sets a precedent for similar pathways in the future at the UW.

The proposed program is comprised of a six-year full-time, on campus and regular stream program which includes a pathway to completing the M.D. program at SGU. This is referred to as the 6-year Medical Degree Track. Potential students can also access a 5-year Medical Degree Track. This provides potential students, with the requisite requirements, to access the second year of the proposed program. For the 6-year track, students are geographically located, for the first two years, at the UW and for the subsequent four years at SGU where they will be taking medical science courses to advance their skills in medicine-specific clinical settings. Students in the 5-year track are geographically located, for the first year, at UW and for the subsequent four years at SGU where they will be taking medical science courses to advance their skills in medicine-specific clinical settings.

Students in the proposed program co-matriculate with a BMSci undergraduate degree from UW, and a Doctor of Medicine (M.D.) degree from SGU. Students in the 5-year track will be awarded the BMSci degree after three years and students in the 6-year track after four years. Students in the 5-year track are awarded an M.D. after five years and students in the 6-year track are awarded an M.D. after six years (See Appendix B for a visual representation of the BMSci (UW), Doctor of Medicine (SGU), and 5YR and 6YR tracks). Please note that students will need to be located at SGU to complete the third- and fourth-year courses of the BMSci program.

Grade Conversion

As students in the SGU M.D. program can complete their pre-clinical courses at either SGU, Northumbria (NU) or UW, it is necessary to establish equivalencies through grade conversions.

The SGU/UW grade conversion is achieved using the grade of 70 per cent at SGU representing a passing (satisfactory) minimum and aligning this with 60 per cent grade at UW, also representing a minimum satisfactory (C category) grade. The following will be used to interconvert between SGU and UW percentages:

UW% = 1.33 * SGU% - 33.3

where UW represents the percentage grade reported by a UW course and on a UW transcript, and where SGU per cent represents the percentage grade reported by a SGU course and is recorded on a SGU transcript.

SGU will set the progression and promotion requirements for students. Students receive this information in their manuals upon acceptance to SGU.

The minimum mark that students UW/SGU M.D. pathway must obtain in every course in terms 1A-2A is 70 per cent at SGU, converting to 60 per cent at UW. The term average requirements is set as an SGU grade point of 3.2 (~83 per cent). This corresponds to 77 per cent at UW.

The requirements for UW students to meet the term progressions between 1A and 2A is:

[2] As a full cost-recovery program, Science is aware it is not eligible for Ministry of Colleges and Universities (MCU) funding, students do not contribute to corridor admission reporting, and students may be eligible for the Ontario Student Assistance Program (OSAP).

- Minimum grade of 60 per cent in every course; and
- Minimum overall term average of 77 per cent.

During the 2B term, students are only taking SGU courses. The grades for these courses, determined by SGU grading, will be converted to UW grading for the BMSci UW student transcript.

Progression Requirements

Both UW and SGU will monitor the student's progress through the proposed program and can audit the administration of the program to ensure it is running efficiently, in alignment with the program objectives (POs), program learning outcomes (PLOs) and Degree Level Expectations and according to the terms and obligations set forth in the agreement. UW is responsible for monitoring students' progress while students are enrolled in the first two years of study and will keep SGU informed of student progress.

Progression from 1A to 2B

Courses

Students must obtain SGU 70 per cent (UW 60 per cent minimum in every course).

- If a student does not meet this minimum, they must retake that course before progression to the next term. Only the higher grade is used in average calculations when repeated.
- A student can normally repeat a failed course only once, advisors will be in contact with these students to help them succeed.

Term Average

Students must meet the term average of SGU 83 per cent (UW 77 per cent) to progress to the next term.

- Students who do not meet this average will not proceed to the following term;
- Those who do not proceed can retake one or more courses to increase the grade in those courses to impact the overall term average, as only the higher grade is used in calculations of averages.

Promotion from 2B to 3A

Students must obtain:

- SGU 70 per cent (UW 60 per cent minimum in every course);
- SGU 83 per cent (UW 77 per cent) weighted average across all 2A and 2B courses
- SGU 80 per cent (UW 73 per cent) weighted average across all 2A and 2B science (Science courses do not include the Communications and Learning Strategies courses); and
- SGU 70 per cent (UW 60 per cent) minimum grade on each component of the comprehensive exam.

SGU will determine promotion and may offer students who do not meet one or more of the above requirements an opportunity to take courses in the following term at SGU so that their grades can meet requirements.

Progression once in M.D. program

Required minimum grade in each course:

- 3A: 69.5 per cent (UW 59 per cent);
- 3B: 71.5 per cent (UW 61.5 per cent); and

- 4A, 4B and 4C: 72.5 per cent (UW 63 per cent).

All grades from 2B and higher terms will be SGU graded, converted into UW percentages (using established grade conversion formula), and the UW grades will be recorded on the UW BMSci transcript.

Pathways and Student Transferability: UW Programs

The postsecondary credits students earn in the proposed program could be transferred to other science-related programs because there is considerable overlap in course requirements between the BMSci and other programs in Science. Students who choose not to continue in the proposed program, or who have failed to meet progression requirements (see above), will have the opportunity to apply to the UW to transfer the course credits for entry to several existing Science programs. At this time, students will be reassessed to determine whether they meet the admission requirements for entry to programs at UW. If student applicants are found not to have completed the course requirements for Science, they will be denied admission and directed and guided to other opportunities, such as an online delivery to fulfill those requirements.

If successful with their application to transfer to another Science program, the student will continue to be registered at the UW and will pay the domestic or international tuition fee associated with the program, as appropriate. The student will continue to have access to all the resources and services (for example, counselling, campus wellness, athletics, bus pass, etc.) afforded any UW student.

An existing Science program with the best alignment to the proposed program is the Honours Bachelor of Biomedical Sciences (Biomedical Sciences) program, as there are many courses that contribute toward the core requirements in both programs. This is a regular program and therefore does not require students to complete co-op requirements. In this scenario all course credits from year one and two of the proposed program could be transferable. Students will need to meet the 65 per cent average in courses in Science and 60 per cent overall average, and any additional admission requirements (if applicable), for transfer to the Biomedical Sciences program.

An alternative to the Biomedical Sciences program is the Honours Bachelor of Science program, which is a very flexible program. In this case, all courses from year one and two of the proposed program could be transferred to either core or elective requirements of the program. Students will need to meet the 60 per cent average in courses in Science and 60 per cent overall average requirements, and any additional admission requirements (if applicable). The Honours Bachelor of Science is a regular program, chosen by many students who are interested in continuing studies in Canadian Medicine, Dentistry, Pharmacy or Optometry programs.

Any student who does not meet the above average requirements could transfer to the Bachelor of General Science three-year degree program that requires a 55 per cent average in courses in Science and a 55 per cent overall average, and any additional admission requirements (if applicable). Students who do not meet these requirements would not be permitted to continue studying in the Faculty of Science and can meet with advisors about transferring out of the Faculty.

Tuition

The proposed program is administered fully on-campus with a proposed launch of Fall 2026 and a first-year intake of up to 100 students, with a projected enrolment of 25 students for each of the 6-year and 5-year tracks, with a minimum student number of 10 for each track - below which the program will not be offered[3]. The tuition fee for Fall 2026, according to the partnership agreement, is at a rate of $47,904 USD for the academic year. This converts, on February 3, 2026, to approximately $34,932 CAD/ for the term and $69,863 CAD for the academic year. This is remitted to SGU by the student. SGU invoices students and collects all applicable student fees. SGU is also responsible for keeping an accurate accounting of student fees and for providing that accounting to the UW for review.

This tuition fee also accounts for the human resource costs of administering the proposed program. Once the tuition fee is collected by SGU, a portion of the gross revenue is allocated to UW.

Application Process

Potential students apply to the proposed program through the application procedure at SGU. SGU's committee on admissions, the Faculty Student Selection Committee (FSSC), reviews applicants holistically, taking into account both academic performance and personal attributes. Admission to the pre-clinical track requires strong academic achievement in high school, and especially in science subjects such as Biology, Chemistry, and Math. Additional factors, such as motivation for medicine, empathy and compassion, communication skills, critical thinking and curiosity, resilience, and teamwork, are also important in the selection process. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

All students admitted into the program by SGU will have met SGU requirements. Once SGU completes an assessment of the potential students' credentials and have deemed they meet the admission requirements, they are provided with a link to an Ontario Universities' Application Centre (OUAC) application specific to this program. The OUAC application fee will be waived. The OUAC application to UW will enable the standard new student processes to take place. Once the potential UW student accepts the offer from the university, they are added to the Student Information System/Student Records (Quest) and receive identical communication and services afforded any student. At this stage they are considered a standard UW student with all the rights and privileges of a first-year student which means they have access to all the resources, amenities, benefits, services on-campus, and guaranteed access to housing in residence (only first year students are guaranteed a spot in residence).

Registration

The Office of the Registrar will 'block enroll' students into required courses in each term of the four years of the proposed program. At the end of UW year three and UW year four, transcripts from SGU will be provided to record grades. During years three and four, as students are not

[3] According to the agreement between UW and SGU, For the inaugural class, in September 2026, the minimum starting enrolment will be 10 Students. For future cohorts, this minimum viable cohort may be revised upon the agreement of both Parties, taking into consideration both internal and external factors that may impact setting the appropriate class size (Enrolment Targets, Schedule 3 – Recruitment and Marketing).

present on campus, they will be enrolled with no fees[4] applicable as they will not be accessing UW resources. These students will not be paying ancillary or tuition fees to UW. Students will apply for graduation from UW at the end of year four. Students are geographically located at the UW in year one and two and at SGU in year three, four, five and six (see table below for visual representation; see Appendix B for program maps for the BMSci program, and 5- and 6-year tracks).

Delivered at the University of Waterloo (*content/assessments provided by SGU)				Delivered at St. George's University			
1A Term (Fall)	1B Term (Winter)	2A Term (Fall)	*2B Term (Winter) 16 weeks	3A Term (Fall) 17 weeks	3B Term (Winter) 18 weeks	4A Term (Fall)	4B Term (Winter) 18 weeks
All courses taken at UW	All courses taken at UW	All courses taken at UW	All courses taken at UW	All courses taken at SGU	All courses taken at SGU	All courses taken at SGU	All courses taken at SGU
Fees applicable (students will pay SGU and SGU will transfer to UW)				Student will be enrolled in courses at UW but no fees will apply (all courses are 'zero billing units')			

UW Student Program Incentives

Students in the proposed program, while at the UW, will be placed in sections with students in other programs. To account for the tuition fee for the students in the proposed program, additional administrative and scholarly support to best facilitate their success in the program is provided. This includes a dedicated advisor at the UW, after hours support, an advisor at SGU and a peer mentorship program.

UW will provide access to peer mentors. The advisor for BMSci students will monitor student performance through the first-year midterm check-in and will connect with students to ensure they are aware of the progression requirements and the resources to succeed. The advisor will then determine if a student needs and is interested in participating in peer mentoring. Peer mentors are students who have excelled in particular courses and volunteer their time to support students to succeed. The advisor will have access to a list of tutors should students seek more specialized and individualized support. The benefits of a strong mentorship program can enhance academic success, improve study skills, increase student engagement, promote peer collaboration, and develop communication and leadership skills.

For fourth year students in the proposed program/second year student in the M.D. program, the SGU's Office of Career Guidance and Student Development offers comprehensive resources for Canadian students aiming to return to Canada for residency, which can be divided into two groups: those seeking residency through the Canadian Resident Matching Service (CaRMS) process and those who have completed a U.S. residency (see Appendix C for a discussion about the two pathways). Their support includes an annual webinar that presents updates on the CaRMS match and recent match statistics for both Canada and the U.S., broken down by

[4] The reference to fees is to those attributed to students who are physically on-campus. This does not refer to tuition. Students in years three and four will pay tuition to SGU.

specialty, geography, and institution. They also host specific sessions for Canadian interview preparation and a post-match webinar, featuring recent graduates who share insights on Canadian interview styles and contemporary topics both provincially and nationally.

In addition, Canadian students are assigned to a Canadian Residency Mentor, Dr. Joshua Ramjist, an SGU Canadian graduate, the Associate Program Director of the Pediatric General and Thoracic Surgery Fellowship at SickKids and liaison to the General Surgery program at the University of Toronto (UoT). He offers a valuable perspective on the nuances of recruitment, including the importance of diversity, equity, and inclusion in the current medical climate. He serves as a direct point of contact for Canadian students, assisting them as they navigate the process. The services through the Office of Career Guidance start in the second year of the M.D. program (before clinical rotations) and continue after students graduate and enter residency. As per the partnership agreement, the services offered by SGU's Office of Career Guidance and Student Development to Canadian students is access to a Canadian Residency Mentor to provide coaching on navigating the recruitment process.

Student Financial Support

The support in the form of scholarships provided to UW students in the first two years of the proposed program is currently being assessed. Science is exploring financial support for students in the first two years of the proposed program.

Comparable Program at UW

There are no comparable programs at UW. The Honours BMSci program uniquely presents students with the opportunity to co-matriculate with an international institution, where the fundamentals of medicine are condensed into two years of preclinical work undertaken at UW. The first two years of the M.D. program will provide the connection between more specialized anatomy, physiology and biochemistry, and pathology and treating the patient, and these two years will be counted towards degree requirements for both the BMSci and M.D. programs.

The Pre-Clinical Specialization in the School of Public Health Sciences at UW offers a blend of courses in the behaviour and health sciences. This specialization provides an opportunity to study the foundational sciences, such as biology, chemistry and physics, and the areas of global health, behaviour science and policy and health promotion. The proposed program differs from the Pre-Clinical Health Sciences Specialization as it addresses learning objectives principally in the areas of anatomy, biochemistry, physiology and psychology for the prevention, treatment and palliation of disease.

Comparable Programs in Ontario

There are two programs in Ontario that have a very similar title to the proposed degree program, and similar curricular and admission requirements. The programs at Western University and Brock University do not have formalized academic pathway agreements for graduates of an undergraduate program to an M.D. program.

Trent University has a number of pathways and partnerships, namely with SGU, the University of Medicine and Health Sciences (St. Kitts), Trinity School of Medicine (St. Vincent and the Grenadines) and Massachusetts College of Pharmacy and Health Sciences (United States) (see table below for details). The SGU agreement is a 4+4 pathway where after four years of study, graduates of the Bachelor Honours B.A. or B.Sc. while completing the Medical Professional

Stream earn the qualifications for entry into SGU's School of Medicine (SoM) Doctor of Medicine (M.D.) program. Applicants from Trent University are required to graduate with a cumulative average of 77 per cent, complete an undergraduate interview with graduates of SGU's SoM, and meet all the admission requirements of SGU's SoM, including a letter of recommendation from the Trent University Medical Professional Stream. These students may spend their first two years studying in Grenada or choose to complete their first year at Northumbria University in the United Kingdom as part of the SGU NU/UK program before returning to Grenada for their second year. During the third and fourth years, students will complete clinical rotations in the United States, United Kingdom, or Canada.

Ontario Tech also has 4+4 pathway agreements with Saba University School of Medicine, Medical University of the Americas, St. Matthew's University School of Medicine and SGU's SoM. Graduates of Chemical Biology, Health Sciences, Human Health Science, Neuroscience, Biomedical Science and Public Health with a minimum cumulative GPA of 75 per cent are eligible for admission to the M.D. programs. Graduates must satisfactorily complete an undergraduate interview with the admissions team at one of the pathway universities, along with other steps in the admissions process.

University/ Program Title	Western University Bachelor of Medical Sciences Approximately 800 students are admitted to Medical Sciences 1 each year.
Overview	Molecular, cellular and systematic organization of the human body and the biological mechanisms it uses to adapt to environmental changes and disease. Subject Areas: Biochemistry, Epidemiology and Biostatistics, Interdisciplinary Medical Sciences, Medical Biophysics, Medical Cell Biology, Medical Health Informatics, Microbiology and Immunology, One Health, Pathology, Pharmacology, and Physiology.
Admission Requirements	OSSD Ontario Grade 12 courses required for admission include: Biology, Chemistry, Calculus, English and two other 4U/M courses. Recommended Physics Students are registered as Medical Sciences students in Years 1 and 2 and apply to the BMSc Program when they enter Year 3. Entry into the BMSc Program is competitive and limited but admission is assured for Medical Sciences 2 students who achieve a minimum average of 80%, with no mark less than 60%, in the Year 2 courses that are specific to the student's module of interest for Year 3 BMSc.

Educational or Career Pathways	Many graduates with BMSc degrees go on to pursue further education in graduate studies (MSc and/or PhD) or professional schools such as: Dentistry, Medicine, Veterinary Medicine, Pharmacy, Physical Therapy, and Optometry. Other career opportunities include: Law (bioethics, patent development); Business (biotechnology marketing, research and development, quality control); Industry (pharmaceuticals, biotechnology, biosafety regulation and enforcement); and Teaching (elementary, secondary, post-secondary).
University/ Program Title	Brock University Bachelor of Science in Medical Sciences
Overview	Medical Sciences focuses on the biophysical foundation of human health. In addition to courses in anatomy, biology, physiology and the social sciences, we offer advanced courses in clinical epidemiology, cardiology, medical microbiology and pharmacology.
Admission Requirements	OSSD English (ENG4U) Biology (SBI4U) Chemistry (SCH4U) (min. 70%) One 4U math (MDM4U preferred) Recommended Exercise Science (PSE4U) or Introductory Kinesiology (PSK4U) Data Management (MDM4U)
Educational or Career Pathways	Graduates of this program have the foundation to pursue other advanced and professional degrees in medicine, dentistry, rehabilitation or occupational therapy, among others. For instance, Physician, Dentist, Optometrist, Chiropractor, Pharmacist, and Health researcher. *Some careers may require additional education/qualifications
University/ Program Title	Trent University Medical School Pathways & Partnerships
Overview	Through these partnerships and learning experiences, students can earn a competitive edge for entry into the Schools' professional medicine programs. Students begin their journey to medical school at Trent University, where they will spend four years completing an undergraduate degree in the program of their choice while concurrently participating in unique learning opportunities to prepare for medical school through the Medical Professional Stream.

Admission Requirements	SGU Requirements • Students must graduate Trent University with a Bachelor Honours B.A. or B.Sc. while completing the Medical Professional Stream with a cumulative average of 77% • Must obtain a competitive score on the Medical College Admission Test (MCAT), within three points of the prior term average score at St. George's • Complete an undergraduate interview with graduates of St. George's University • Meet all the admission requirements of St. George's University School of Medicine • A letter of recommendation from the Trent University Medical Professional Stream University of Medicine and Health Sciences (St. Kitts) Pathway • Completion of 20 credits of university level courses and the required prerequisite courses • An overall Grade Point Average of 3.2 (77%) or higher • No grade lower than a "C" (65%) in any of the prerequisite courses • Minimum MCAT score of 490 for those applicants applying to the Standard Basic Science Program • Applicants that do not meet this minimum MCAT requirement or do not have an MCAT score will be reviewed for the Extended Basic Sciences Program (5 semesters) or the Accelerated Review Program • A recommendation for admission by UMHS interviewer who interviewed the applicant • A written recommendation from Trent attesting to the candidate's preparation and that they are suitable for the study and practice of medicine. Trinity School of Medicine (Saint Vincent and the Grenadines) Pathway • Students must have 90 credit hours of undergraduate coursework or equivalent to 15 credits in Trent University standards, with a concentration of courses in the sciences (biology, chemistry and biochemistry) • Students should have a 77% cumulative grade average • The MCAT is no longer required for admission. • An interview with TMSU and two letters of recommendation Massachusetts College of Pharmacy and Health Sciences Pathway • Graduate from Trent University with a Bachelor Honours B.A. or B.Sc. while completing the Medical Professional Stream (MPS) • Achieve a competitive cumulative average (minimum 77%)

	• Complete an undergraduate interview with MCPHS admissions representatives • Submit a letter of recommendation from the Trent University MPS program • Meet all MCPHS admission requirements • MCAT not required for admission
Educational or Career Pathways	SGU University of Medicine and Health Sciences (St. Kitts) Pathway Trinity School of Medicine (Saint Vincent and the Grenadines) Pathway • Doctor • Surgeon • Anesthesiologist • Policy Advisor • Medical Researcher • General Practitioner • Professor Massachusetts College of Pharmacy and Health Sciences Pathway • Pharmacist • Optometrist • Clinical Researcher • Healthcare Consultant
University/ Program Title	Ontario Tech University Medical School Pathway
Overview	Ontario Tech students who successfully graduate from the following programs with a minimum cumulative GPA of 75 per cent* will be eligible for admission** to the Doctor of Medicine (MD) program at Saba University School of Medicine, Medical University of the Americas, St. Matthew's University School of Medicine or St. George's University of Grenada School of Medicine: • Chemical Biology • Health Sciences • Human Health Science • Neuroscience • Biomedical Science • Public Health *Ontario Tech graduates with a GPA lower than 75 per cent will be considered on an individual basis and subject to seat availability. **To receive entry, Ontario Tech graduates must satisfactorily complete an undergraduate interview with the admissions team at one of the pathway universities, along with other steps in the admissions process.

Admission Requirements	The following courses are the pre-medical requirements for admission Biology: One-year General Biology or Zoology course with a laboratory requirement. Students who elect to pursue additional coursework in the Biological Sciences should consider Genetics, Embryology, Cell and Molecular Biology, or Comparative Anatomy. Chemistry: One year of Organic Chemistry with a laboratory component. Biochemistry can be considered as an option for one semester of Organic Chemistry. English: At least one year of post-secondary level English literature, composition or communications.
Educational or Career Pathways	• Doctor • Surgeon • Anesthesiologist • Policy Advisor • Medical Researcher • General Practitioner • Professor

Comparable Program in Canada

The only Canadian 2+4 program combining an undergraduate Bachelor of Medical Science with a professional degree in the medical field is the University of Alberta pathway for Doctor of Dental Surgery (DDS) students. Students can enter with two years of post-secondary education in the social sciences, general or physical science or engineering, and obtain a Bachelor of Medical Science degree after two years in the DDS program. The proposed UW BMSci program presents a route through an international institution, and as such is not constrained by availability in a Canadian medical school.

Rationale for Proposed Program

The impetus for proposing this new program stems from the need in Ontario and Canada for physicians and a potential solution to the current limitations for training physicians in medical schools. Currently 2.5 million people in Ontario are without a family physician and that number is expected to double in two years (CBC, Number of Ontarians without family doctor reaches 2.5 million, college says, July 12, 2024; Ontario Medical Association News release, January 29, 2024). This amounts to approximately 2.8 physicians per 1000 people (Ontario Medical Association Fact Sheet: Ontario's Doctor Shortage). Despite forecasts that the shortage will worsen, enrolment at the 17 medical schools in Canada have not been permitted to increase at a rate that closes the gap, unlike our United States counterpart "which is nearing a targeted increase of 30 per cent set by the Association of American Medical Colleges in 2006 to address a projected physician shortage" (Owens, B., October 22, 2018, If Canada needs more doctors, why hasn't medical school enrolment increased? Canadian Medical Association Journal).

This agreement between the UW and SGU is timely. Since SGU has the capacity to accept a higher number of incoming medical students, the proposed program provides students access

to medical training that has the potential to close the skills gap. Benefiting from the success of an existing 2+4 agreement with Northumbria University (NU) in the United Kingdom (UK), the UW will be the institution in the North American space to provide access to the preclinical courses and medical training[5] at SGU.

Based on the data from SGU, there are a number of Canadian students entering SGU directly to do their two preparatory years followed by the M.D. program and currently paying the tuition fee and travelling internationally to obtain this medical training. SGU has reported that over the past 40 years approximately 2,400 Canadian students have graduated with an M.D. degree, 203 have secured Canadian Residencies and 125 are practicing in Ontario. There have been 68 graduates with a UW undergraduate degree who have proceeded to enrol in the SGU M.D. program between 1989 and 2020, with 24 UW graduates currently enrolled.

Canadian and American students achieved a 96 per cent first time pass rate on the United States Medical Licensing Examination (USMLE) Step 1. This is not surprising considering students in the proposed program have access to medical professionals, including SGU's Medical School instructors and advisors, and courses developed and delivered by SGU (2B term), referred to as the 'mirror' term. The content of the mirror term parallels the agreement between SGU and NU and is designed to provide students at NU and the UW an equivalent educational experience and comparable entry requirement for the clinical courses in the M.D. program. With past UW graduates succeeding in these exams, it is predicted that this proposed program will also generate successful graduates of the M.D. program.

With the implementation of this new proposed program and agreement with SGU, it is expected that SGU enrolment of Ontario students could grow to align with North American students' preference to remain closer to home for the first two years of post-secondary education. The UW/SGU partnership is well placed to provide students with an alternate avenue to pursue their MD and clear pathways to return to Canada as a practicing physician.

2. EVALUATION CRITERIA

2.1 Objectives of the program (QAF 2.1.2.1)

Program Objectives (POs)

- To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.
- To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.
- To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for patients and provide optimal healthcare.

[5] The agreement to support this proposed program is two-way between SGU and the UW. It is consistent with the successful program at NU to ensure students are equally prepared. NU is an external consultant to provide guidance and direction on how to structure the agreement.

- To provide a program where students develop the self-evaluation skills and passion for life-long learning that improves patient care and maintains a healthy professional identity.
- To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with patients, families, and all members of the health care team to advance patient care.

Nomenclature

The proposed title for the four-year degree is Honours Bachelor of Medical Sciences (BMSci). It meets degree level standards in credential, subject matter and outcomes. The courses at the UW have had curricular and instructional support by Educational Developers in the Centre for Teaching Excellence (CTE), who are familiar with degree level study. The title of the proposed program reflects the level of postsecondary education achieved and is consistent with the nomenclature of similar degrees in the sector, facilitating public understanding of the credential. By way of example, Western University, Bachelor of Medical Sciences, and Brock University, Bachelor of Science in Medical Sciences, have similar and most notably recognizable program titles.

Program Learning Outcomes (PLOs)

By the time of graduation, all students will be able to:

1. Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.
2. Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.
3. Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.
4. Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.
5. Apply scientific health information in clinical reasoning.
6. Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.
7. Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.
8. Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.
9. Assess healthcare systems, resources, services and patient care.

Alignment with Strategic Plans

The partnership with SGU is in the spirit of the UW's historical foundation of "[c]onnecting with our community and being engaged nationally and globally". It champions the UW's and Science's commitment to interdisciplinary and international educational opportunities that empower students to forge connections and engagement with communities more broadly. Science is committed to "[d]eveloping programs to support employees and students [that] create a strong, supportive community where people have the tools they need to succeed".

The students of the proposed program engage with a community of peers, colleagues and healthcare professionals to forge, as graduates, social connections on a global scale.

This partnership recognizes the strength of the UW's intellectual and research talent, strength of the academic programs, and the rich student experience evident in programs at the university. The proposed program removes systemic barriers to achieving personal, academic and professional goals and contributes strong future talent to address the urgent need for physicians globally. The launch of the proposed program in Fall 2026 increases the number and diversity of medical school pathways at the UW and increases the undergraduate enrolment in Science. Students accessing this diverse learning experience and educational pathway will be strong future-ready talent and global citizens addressing a rapidly changing and complex future.

Equity

Addressing equity, diversity and inclusion (EDI) in Science responds to one of the three main pillars in the UW's Strategic plan: "strengthening sustainable and diverse communities". For instance, the Department of Biology's and Physics' commitment to EDI is directly in line with a commitment to a strong, diverse, and productive community. Empirical studies have repeatedly demonstrated that highly diverse environments improve team productivity and decision making. Ensuring department members feel safe and empowered within their place of work will help members maximize their potential and strengthen research and teaching outcomes.

There have been many developments and initiatives aimed at addressing equity. For instance, the Department of Physics has been addressing the underrepresentation of women since 2016. Below is a list of initiatives:

- The Department invited a Site Visit from the American Physical Society's Committee on the Status of Women in Physics, March 20-23, 2016. The committee found that "the Department has a collegial environment for faculty" and that the visit itself is a "clear indication that the Department is willing to work towards making an equally welcome environment for all members of the community". They provided a written report with recommendations and action items to the Chair which was made available to faculty and staff. Many of the recommendations and action items have been addressed.
- Departmental support for FemPhys, a community of undergraduate and graduate students in physics and related fields. They hold regular events and discussions around a variety of social and academic topics, often related to equity. Physics provides the club with newly renovated space, a faculty liaison, and some financial support.
- Departmental funding (about $3000/year) to partially subsidize students who wish to attend the Women in Physics Canada (WIPC) and the Canadian Conference for Undergraduate Women in Physics (CCUWiP) conferences, in addition to the annual meeting of the Canadian Association of Physicists (CAP). Approximately ten students per year are supported through these funds.
- Departmental seminars and colloquia about equity (1-2 per year).
- Physics participated in an intervention led by the College Transition Collaborative (CTC) and provided partial financial support.
- Hiring procedures have been overhauled. Equity training for hiring committees, conducted through the Office of Equity, Diversity, Inclusion and Anti-Racism, is now

mandatory for all members. In addition, we have changed our procedures to adopt best practices, including asking standardized questions of all candidates during interviews.

- Online content (e.g., course outlines) have been updated to conform to Accessibility requirements.

Another example is the formation of the Department of Biology Equity, Diversity, and Inclusion (EDI) committee initiated in January 2021. An internal survey of staff, lecturers, and faculty identified areas for improvement and was the impetus for formation of this committee. There was considerable enthusiasm within the department for the committee.

Activities to date: The EDI committee built a website which is hosted within the Department of Biology website, including a resource page with compiled resources from reputable sources addressing diverse topics within the EDI space. The website also has an anonymous comment form, to encourage confidential feedback. A fact sheet on Microaggressions was developed and circulated to the department, addressing an identified issue within the Department. The fact sheets focus on definitions of a given issue of interest and suggest ways to address the issue from the perspective of perpetrators, observers, and the impacted individuals. The number of fact sheets is impressive and the development of more is underway.

The EDI committee partnered with Science Outreach and the Earth Sciences Museum to host an exhibit featuring Dr. Anne Dagg's writings on women in science with a display of artifacts from her career as an internationally recognized giraffologist. The exhibit ran from August to November 2022 in the STC main lobby. The EDI committee hosted Dr. Dagg and her daughter Mary for a Q&A and meet and greet at the close of the exhibit.

In the Winter 2023, the EDI committee ran a 12-Week EDI Challenge for the Department of Biology graduate students, postdoctoral fellows, staff, instructors, and faculty members. The challenge consisted of a weekly email on a topic (e.g., racism, LGBTQ2SIA+ identities, Indigenous rights) which provided 1-3 quick challenges to connect with the topic (including highlighting UW-specific resources, organizations, and clubs) and a series of reflective questions. Each week also included opportunities for a deeper examination of the topic through books, podcasts, workshops, and options to expand the participants' networks.

The 12-Week EDI challenge highlighted workshops and courses available at the UW or freely available elsewhere on topics including Indigenous Rights and sexism. The EDI Challenge also shared resources and quick actions members of the Department could take to improve equity or inclusion in their teaching and research activities, including suggestions to list pronouns, improve diversity of highlighted scientists within lectures, and a science-themed safe space poster.

In teaching and learning activities (e.g., courses, workshops, seminars, etc.), the Biology Department EDI committee has liaised with the Seminar committee to improve diversity within the speaker series and include speakers with research examining EDI considerations. Highlights of this collaboration include Dr. Juliet Daniels from McMaster University, who researches cancer in underrepresented populations, Dr. Lauren Esposito from CalAcademy, who is the co-founder for the network of 500 Queer Scientists, and Mr. Myeengun Henry, the UW Health Sciences Indigenous Knowledge Holder.

The Department of Biology has been steadily improving the diversity within their faculty demographics. A mentorship program has been developed, which helps to ensure members of underrepresented groups do not feel isolated and have equal knowledge of and access to resources on campus.

Resources

University of Waterloo. Faculty of Science (n.d.) Future of Science, Strategic Plan 2024-2029.
University of Waterloo. (n.d.) Connecting Imagination with Impact, Strategic Plan 2020-2025.

2.2 Program Requirements (QAF 2.1.2.2)

Subject Areas and Scaffolding

The program's structure and curricular requirements meet the program objectives and program-level learning outcomes through a scaffolded curricular approach that includes increasing complexity of subject matter and assessment of student proficiency. During the first year of study, the students are introduced to the foundational subject areas in science, chemistry, biology and physics. This is expanded during the second year, to capture the more complex examples in anatomy, organic chemistry, biochemistry, physiology and psychopathology. As the students progress through year three, they are challenged to apply the fundamental knowledge of natural science to better understand human systems, for example, musculoskeletal, cardiovascular, pulmonary and renal systems. During the fourth and final year of the program, students work to develop evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.

In-person Delivery

The proposed program is composed of courses that will rely on in-person delivery. The in-person delivery, in addition to the structure, curricular requirements and the teaching and assessment practices, facilitates the students' successful achievement of the POs and PLOs. Courses may choose to engage students online as well. In-person delivery is significant for the students' ability to engage in active learning and experiential learning opportunities to support them to solve clinical problems and apply communication skills to engage in an ethical and professional manner. Students will have access to laboratories for hands-on skills and application of knowledge, tools and methodologies to support clinical reasoning.

The curriculum for the BMSci program aligns with the preparatory two years delivered by NU. These students have demonstrated strong success in U.S. licensing examinations (USMLEs), success matching residencies, and have obtained work as physicians in many different countries. With this success, we are confident that the foundations of this proposed program are well aimed to develop the skills needed for students' success.

Program Currency: SGU[6]

The curriculum for the 6- and 5-Year tracks (see Appendix B) falls under the Joint Curriculum Committee of the Pre-Clinical Sciences Program (JCC-PCSP) which is a sub-committee of the

[6] See 2.7 Quality and other indicators below for a discussion about Faculty Currency at UW and SGU.

Basic Sciences Curriculum Committee for the 4-year M.D. program and the Curriculum Committee of the School of Arts and Sciences (SAS). The JCC-PCSP is formed with School of Medicine (SOM) faculty, SAS Faculty, and student representatives from the student government.

The M.D. program has a four-year cycle of curriculum review that includes all faculty from the M.D. program including clinical faculty who are residency directors from affiliated hospital sites that are also affiliated SGU faculty and in some cases also serve as faculty for other medical schools. These are industry specialists and affiliated faculty of SGU in the clinical setting; they work across the healthcare sector in the UK and USA and are often responsible for postgraduate medical training and residency administration outside of their SGU-SOM role. The pre-medical program follows an adjusted program review based on the cadence of the M.D. review process, where every four years there is a whole curriculum review. This is scheduled for Spring 2025 and is the first cycle of a new review pattern as adopted by the curriculum committee.

Additionally, the SOM board is designated as a set of academic and industry representatives that act as the governance committee for the SOM M.D. program, but may also advise on pre-med and feeder programs for the SOM. The Admissions Policy Board of the School of Medicine (APBSOM) establishes policies and regulations for admissions requirements, including the feeder programs.

2.3 Assessment of teaching and learning (QAF 2.1.2.4)

The grading and assessment of student succession throughout the proposed program aligns with the practices currently used in existing programs in Science. Students will learn through lectures, laboratory classes, and small group work. They will submit written assignments, engage with case analyses, participate in group and individual assignments, deliver presentations, complete examinations (mid-term tests and final examinations) and participate in simulation or performance-based assessments. See Appendix A for a curriculum map of the courses and assessments to the PLOs and Undergraduate Degree Level Expectations (UDLEs).

Written assignments are effective in assessing students' ability to express understanding, analysis, and interpretation of a topic, issue, question, or prompt provided by an instructor. Written assignments can take various forms, such as essays - argumentative, expository, analytical, and reflective – research projects, online discussion posts, presentations and reports. These types of assessments meet the POs and PLOs that address the application of communication strategies (PO#1, PLO#1), the description of science-related technical content as it relates to other forms of information (PLO#2), the evaluation of scientific content (PO#3, PLO#6) and the commitment to self-reflective practice for the health care professional and engaging in networking opportunities (PO#4, PLO#8).

Case analysis prepares students to engage in an analysis and/or evaluation of a specific case study, in which key issues/problems are identified and practical solutions or recommendations are proposed. This supports students to meet the expectation to incorporate psycho-social, institutional (PLO#9) and scientific information to assess the impact on human health (PO#1, PLO#3, PLO#4). Case study analysis provides students the opportunity to demonstrate critical thinking and critical reasoning skills (PO#2, PLO#5) in the

application of specific knowledge and skills in activities that simulate real-life situations. It also facilitates opportunities to practice and receive feedback from colleagues and instructors to build respectful professional relationships (PLO#7, PLO#8, PLO#9). Students' participation in collaborative tasks and/or projects involving small groups assess their collective and individual learning outcomes, skills, and abilities. Group work focuses on evaluating students' capacity to work effectively as part of a team, solve problems collaboratively, communicate ideas, and achieve shared goals. This supports PLOs that address adherence to ethical and respectful behaviour (PO#5, PLO#7) and building a strong professional identity (PO#4, PLO#8).

Tests and examinations are used in the proposed program to prepare students to demonstrate their knowledge, understanding, and skills without access to any external resources or materials, perform specific skills, tasks, procedures, or demonstrations within a controlled setting. These types of assessments focus on assessing scientific knowledge (PLO#6), demonstrating technical proficiency (PLO#2), and applying theoretical concepts (PO#3, PLO#5).

Students also engage in simulation or performance-based assessments. These are structured educational experiences to engage in hands-on learning and practical training within a professional setting relevant to the discipline studied. Students demonstrate critical thinking (PO#2, PLO#5), the application of specific knowledge and skills in activities that simulate real-life situations (PO#5, PLO#6) and professionalism (PO#4, PLO#7).

Students develop theoretical knowledge across eight terms through a program curriculum scaffolded with increasing complexity and detailed knowledge expectations (Depth and Breadth & Diversity). The use of a variety of assessment practices supports learners in applying concepts (Application of Knowledge), theory and methods (Knowledge of Methodologies), procedural skills (Experiential Learning & Autonomy and Professional Capacity), communication strategies (Communication Skills) and clinical reasoning (Application of Knowledge & Awareness of Limits of Knowledge) to inform medical care. The assessments will be diversified and challenge students to apply the knowledge and skills to demonstrate proficiency in meeting the POs and PLOs.

Overall course grades will be based on the student's performance on these various assessments and serve to evaluate the achievement of the Degree Level Expectations, POs and PLOs. Each will be measured by several assessments embedded in the courses throughout the curriculum. Student performance on these and the final assessments will be measured against pre-established performance benchmarks and conveyed using rubrics, where appropriate. See a curriculum map of the PLOs aligned to the UDLEs, courses and assessments in Appendix A.

Quality Assurance: Academic Curriculum Alignment

The UW and SGU share the responsibility for curricular quality control of the proposed program (see Program Currency above for discussion about industry engagement and academic quality measures). Quality of provision is the responsibility of all managerial, academic, administrative and technical staff associated with the proposed program. The proposed program shall be subject to UW's Institutional Quality Assurance Processes (alignment with POs, PLOs and Degree Level Expectations) and SGU's reasonable academic standards, according to the agreement.

As is the case for both UW and SGU instructor expectations, instructors are responsible to deliver and assess the subject, maintain appropriate records and have academic oversight, this includes responsibility for all Quality Assurance procedures, such as the co-ordination, organisation and development of the content and the delivery of the course(s) and co-ordination and organisation of assessment of the course(s).

A joint academic management structure will be defined by both institutions to support curriculum co-ordination, ensure academic quality, establish joint systems and arbitrate any concerns or problems. This structure centers on the appointment of representatives or appointed designates (known as Partnership Managers) at both institutions. Partnership Managers will be responsible for implementing the structure and for revising as needed for the continued administration of the proposed program. The UW Partnership Managers will be responsible for the proposed program and ultimately, the relevant academic outcomes. A Joint Steering Committee will meet quarterly to discuss issues arising from the operation of the proposed program, including recruitment, financial performance, fees and other related matters.

Graduate Metrics

The Advancement Office in Science (University of Waterloo Faculty of Science) collects data at various points in time. The first is at convocation where the graduate scans a QR code and provides information about their next steps. At year one and five, incentivized surveys are distributed. The objective of these surveys is to update contact information and employment. The office is also responsible for participating in the cyclical review and collects data relevant to the Department's needs.

SGU maintains records of all graduates from the M.D. program, including student residency specialty and location. From these records, UW will be able to connect with Canadian physicians and gradates of UW's BMSci program. To date, SGU is aware of four UW graduates who continued and obtained an SGU M.D. degree and who obtained an Ontario residency (Emergency Medicine, Internal Medicine and two in Family Medicine).

2.4 Admission Requirements (QAF 2.1.2.5)

This proposed program is a full-time and a fully on-campus delivery (see 2.2 Program Requirements above for a description of the significance of an in-person delivery). Courses retain the freedom to require students to engage with online material, including online assessments, at the discretion of the instructor.

For direct entry from high school, an Ontario Secondary School Diploma (OSSD) with an overall average of at least 90 per cent with a strong science performance, are the typical requirements for entry to SGU pre-clinical programs. The students admitted into the BMSci program will have met SGU admission requirements. SGU also undertakes a holistic admission process where students are examined for personal characteristics such as motivation for medicine, empathy and compassion, communication skills, critical thinking and curiosity, resilience, and teamwork, are also important in the selection process. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

2.5 Resources (QAF 2.1.2.6)

Given the program's planned / anticipated class sizes and cohorts as well as its program-level learning outcomes:

a) Provide evidence of participation of a sufficient number and quality of core faculty who are competent to teach and/or supervise in and achieve the goals of the program and foster the appropriate academic environment;

NOTE: It may be helpful to create a table or map detailing faculty teaching assignments.

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
1/A	CHEM 120: General Chemistry 1 Equivalent: CHEM 122 (SGU)	0.5	Laura Ingram Associate Professor, Teaching Stream Department of Chemistry	Ph.D. Organic Chemistry	Regular	2022 University of Waterloo WUSA Excellence in Undergraduate Teaching Award 2009 Author of three published journal articles (2006, 2009, 2011), one of which was a "Featured Article" in the Journal of Organic Chemistry 2007-2010 NSERC Council of Canada Postgraduate Scholarship (Doctoral) 2007 Dean of Science Award for Outstanding Research in a Chemistry M.Sc. Program 2007-2010 University of Waterloo President's Graduate Scholarship 2007 University of Waterloo Provost Doctoral Entrance Award 2008 & 2005 Poster Awards for Biological and Medicinal Chemistry – CSC Conference 2006 Oral Presentation Award for Organic Chemistry – CSC Conference
	CHEM 120L: General Chemistry Laboratory 1	0.25	Sue Stathopulos Laboratory Instructor	BSc – Honours Science	Staff	Workshops UW First Year Science student workshop: 2022-2024 Marketing your science skills

[7] Only select information, to streamline the table, is included on this table. CVs, which have more detail about community engagement, graduate student advising, and publications, for instance are available for review in Volume 3.

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Department of Chemistry			SHAD Canada 3-day chemistry workshop: 2024 topic – green chemistry SHAD Canada 3-day chemistry workshop: 2023 topic – technology in the laboratory STAO 2016: Workshop presentation: Taking the fear out of the first-year chemistry lab Gairdner Lecture workshop: Topic- Reaction Kinetics and Rate Laws TD Discovery Days workshops: Topic – Vitamin C analysis Chem Ed Conference: Workshop presentation: First-year Chemistry Success UW Living Learning Community workshop: Topic – Writing Laboratory Reports BCCE 1998: Chemicals and Equipment Chair Chem Ed 2013: Logistics Chair
	PSYCH 101: Introductory Psychology Equivalent: PHYC 201 (SGU)	0.5	Paul Wehr Associate Professor, Teaching Stream Department of Psychology	Ph.D. Psychology	Regular	**Awards** 2019 University of Waterloo Online Course Design Award for PSYCH101. 2018 – 2020 Arts First Teaching Fellow with grant (CDN 2,000), University of Waterloo. 2016 – 2017 Learning Innovation and Technology Enhancement Full Grant (CDN 30,000), University of Waterloo. 2011 Recipient of the Knox Master Teaching Award for best sessional instructor in the psychology department at UBC, as voted by the student body.

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						2007 Recipient of an Award for Teaching Excellence, Kwantlen Polytechnic University. Student nominated award. 2011, 2012 Notice of Special Recognition, Capilano University. Submitted by graduating students to thank a faculty or staff member who made an impact on their life, or who helped them to achieve their educational goals. 2004 – 2006Centre of Excellence Research Grant (CDN 10,000), Hokkaido University. 2000 – 2003University Graduate Fellowship (CDN 40,000), University of British Columbia. 1998 Best Thesis in Psychology, Nomination, CSULB
	PHYS 105: Introduction to Physics for the Health Care Professions (new) Equivalent: PHYS 200 (SGU)	0.5	Stefan Idziak Associate Dean of Science for Experiential Education and Computing Department of Physics and Astronomy	Ph.D., Physics	Regular	**Awards** 2022 Excellence in Science Teaching Award 2018 Youth Science Canada Distinguished Service Award 2000 Premier's Research Excellence Award 1987 Dean's Fellow, University of Pennsylvania 1986 Robert E. Bell Prize University Scholar, McGill University; E. R. Crawford Scholarship, McGill University
	HLTH 101: Introduction to Health 1 Equivalent: PUBH 302 (SGU)	0.5	Diane E. (Ronan) Williams Associate Director Undergrad	Ph.D. Speech and Hearing Bioscience and Technology	Regular	**Academic Awards and Distinctions** April 2003-2004 Vollum Institute Training Grant, Oregon Health and Sciences University. June 24-July 1, 2001 NSF Fellowship to attend the 4th international IEEE EMBS (Engineering in Medicine and Biology Society) Summer School on

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			Faculty of Health, School of Public Health Sciences			Biocomplexity, Bioscaling, and Biosignal Interpretation at Dartmouth College in New Hampshire.
	BIOL 130: Introductory Cell Biology	0.5	Vivian Dayeh Associate Professor, Teaching Stream Department of Biology	Ph.D., Biology	Regular	**Research Grants** 2024–2025 Indigenous Learning Circles in Stem Education, University of Waterloo LITE Seed Grant, $7,500, (Principal Investigator, with collaborators B. Lee and S. Sloat) 2023–2024 Building an Accurate and Learner-Centered Library of Scientific Artwork in the Area of Human Physiology, Staebler Insurance OER Fellows Grant; $5,000 (Principal Investigator) **Scholarships/Awards** 2024 Society for In Vitro Biology (SIVB) Service Award 2023 Society for In Vitro Biology (SIVB) President's Award 2023 Society for In Vitro Biology (SIVB) Service Award 2021 Society for In Vitro Biology (SIVB) Fellow Award (2021). Awarded to those who have made a significant contribution to the field of in vitro biology and service to the society. 2021 Society for In Vitro Biology (SIVB) Service Award

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						2020 University of Waterloo Outstanding Performance Award 2018 Professor Jack Carlson Teaching Excellence Award. Department of Biology, University of Waterloo
	BIOL 130L: Cell Biology Laboratory	0.25	Jola Gurska	Ph.D. Biology	Staff	**Awards, Scholarships and Grants** 2021-2022 University of Waterloo, CTE LITE SEED Grant, $6800 2020-2021 University of Waterloo, CTE LITE SEED Grant, $4000
1/B	CHEM 123: General Chemistry 2 Equivalent: CHEM 124 (SGU)	0.5	Laura Ingram Associate Professor, Teaching Stream Department of Chemistry	Ph.D. in Organic Chemistry	Regular	See General Chemistry 1 above
	CHEM 123L: General Chemistry Laboratory 2 Equivalent: CHEM 125 (SGU)	0.25	Sue Stathopulos		Staff	See General Chemistry Laboratory 1
	KIN 146: Introduction to Human Nutrition Equivalent: NUTR 201 (SGU)	0.5	Ken D. Stark Professor Department of Kinesiology and Health Sciences	Ph.D. Human Biology and Nutritional Science	Regular	**Academic Awards and Distinctions** 2017-2022 Tier 2 CIHR Canada Research Chair Renewal 2012-2017 Tier 2 CIHR Canada Research Chair 2009 Early Researcher Award – Ontario Ministry of Research and Innovation 2009 Young Scientist Award - American Oil Chemists' Society

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						2006 Young Investigator Grant - International Society for the Study of Fatty Acids and Lipids 2005 – 2007 New Investigator Scholarship - GENESIS ICE Team (Canadian Institutes of Health Research/Heart and Stroke Foundation of Canada Interdisciplinary Capacity Enhancement Team. Gender and Sex Determinants of Cardiovascular Disease: From Bench to Beyond) **Scholarly and Professional Activities** **Grant Review Activity** 2024 NSERC Discovery Grant External Reviewer (X1) 2022 NSERC Discovery Grant External Reviewer (X2) 2021 NSERC Discovery Grant External Reviewer (X2) 2018 CFI Leaders Fund External Reviewer 2018-2019 CIHR College of Reviewers 2018 NSERC Discovery Grant External Reviewer 2017 UW Network for Aging Research Catalyst Grant 2017 NSERC Discovery Grant External Reviewer (X3) 2015-2018 CIHR Vanier Canada Graduate Scholarships selection committee
	BIOL 201: Human Anatomy Equivalent: BIOL 101 (SGU)	0.5)	Michael Bording-Jorgensen Assistant Professor, Teaching Stream	PhD in Physiology	Regular	**Funding** 2023 Farncombe Family Digestive Health Research Institute Postdoctoral Fellowship Project: Therapeutic effects of new-generation anti-proteolytic probiotics in colitis

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			Department of Biology & Vivian Dayeh (see details above)			2021 Weston Family Foundation Proof-of-Principle LOI Project Title: Dietary fibers: feeding the microbiome, or fueling inflammation in diseases of dysbiosis Principle Applicant: Dr. Heather Armstrong Role: Co-Applicant 2020-2022 Postdoctoral Fellowship November Funding Agency: Mitacs Elevate and W. Garfield Weston Foundation Project Title: Fibre in Children with Inflammatory Bowel Diseases: Feeding Our Microbes vs. Fuelling Inflammation **Professional Awards** 2024 Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology 2023 Farncombe Family Digestive Health Research Institute Research Day Poster Award 2023 Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology 2022 Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology 2021 Division of Gastroenterology Top Poster Award 2020-2022 Mitacs Elevate Post-Doctoral Fellowship

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	BIOL 239: Genetics Equivalent: BIOL 320 (SGU)	0.5	Jacqueline MacDonald Assistant Professor Department of Biology	Ph.D. Chemical Engineering and Applied Chemistry	Regular	**Scholarships and Awards** 2012-2015 NSERC Visiting Fellowship, $150,000 2011-2012 Biozone Graduate Scholarship, $3,000 2011-2012 McAllister Graduate Fellowship, $2,500 2010-2011 Doctoral Completion Award, $3,560 2008-2009 Ontario Graduate Scholarship in Science and Technology, $15,000 2007-2008 University of Toronto Open Fellowship, $19,000 2000-2004 Dean's Honor List (all 4 years) 2000-2001 Western Scholar Award, $750
	HLTH 204: Quantitative Approaches to Health Science Equivalent: MATH 220 (SGU)	0.5	Ashok Chaurasia Associate Professor School of Public Health Sciences	Ph.D. Statistics	Regular	**Academic Awards and Distinctions** 2023 Nominated for the 2023 Faculty of Health Mid-Career Graduate Mentorship Award. 2022 Applied Health Sciences Teaching Award Co-recipient, University of Waterloo. 2017-2018 Nominated for Applied Health Sciences Teaching Award, University of Waterloo. 2014 Young Researcher Travel Award for Ordered Data Analysis, Models, and Health Research Models: An International Conference. **Research Grants and Contracts** 2022-2023 Project Grant, Government of Alberta, Can traumatic events across the lifespan affect cardiovascular and metabolic health in first responders? $56,898.01 (CAD) 2021-2022 Operating Grant: Emerging COVID-19 Research Gaps & Priorities - Indigenous Health

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						Research, CIHR, What impacts COVID-19 vaccine uptake in Métis Citizens in Ontario? A population-based data linkage study., $181,960 (CAD) 2018-2024 NSERC Discovery Grant, NSERC, Power calculators for studies with designed missingness., PI, $92, 000 (CAD) 2018-2022 Project Grant, Occupational Health and Safety, An exploration of the occupational and psychosocial variables moderating the biological embedding of stress within firefighters., $43,439.16 (CAD) 2018-2022 Project Grant, CIHR, Beyond diarrhea, to disability and death: uncovering the hidden health consequences of foodborne infections. $585,224 (CAD) 2016-2021 Project Grant, CIHR, Extension of the COMPASS Study: building on our current success shaping the direction of youth health. $1,578,695 (CAD)
	HLTH 107: Sociology of Activity, Health, and Well-Being UCR equivalency	0.5	Michelle Ogrodnik Assistant Professor, Teaching Stream Department of Kinesiology and Health Sciences, Faculty of Health	Ph.D.	Regular	**Teaching Focused Research Grants** Fall 2024 Learning Innovation and Teaching Enhancement (LITE) Seed Grant. Comparison of Generative Artificial Intelligence in Health-Related Workforce and in Faculty of Health Classrooms at the University of Waterloo, $7500 (CAD). Collaborator: Dr. Laura Williams, University of Waterloo, Centre for Teaching Excellence. Summer 2023 Student Partner Project Funding – Exploring the impact of a Senior Laboratory. Thesis on Undergraduate Student Professional

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						Development as Researchers, $2000 (CAD). Collaborators: Dr. Celeste Suart, Hailey Zubyk, Cailtlin Mullarkey, and Felicia Vulcu - McMaster University, MacPherson Institute. Summer 2021 Student Partner Project Funding – Department of Kinesiology. Strategizing for Curriculum Review, $1932 (CAD). Collaborators: Dr. Steven Bray & Krista Madsen - McMaster University, MacPherson Institute. 2021-2022 Student Partner Project Funding – Department of Kinesiology. Data Collection for Curriculum Review, $1932 (CAD). Collaborators: Dr. Steven Bray & Krista Madsen - McMaster University, MacPherson Institute. **Bursaries & Scholarships** 2020-2023 Joseph-Armand Bombardier Canada Graduate Scholarship (CGS-D), $105 000 (CAD) 2020-2021 Wilson Leadership Scholar Award, $25 000 (CAD) 2019-2020 Ontario Graduate Scholarship (central competition), $15 000 (CAD) 2019 Educational Developer Grants for Exchanges (EDGEs), $2000 (CAD) 2019 Student Travel Award, Society for Teaching and Learning in Higher Education, $475 (CAD) 2018-2019 Ontario Graduate Scholarship (central competition), $15 000 (CAD) 2017-2018 Canada Graduate Scholarship Master's SSHRC, $17 500 (CAD)

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						Publications (sample) Karsan, S., Kuhn, T., Ogrodnik, M., Middleton, L. E., & Heisz, J. J. (2024). Exploring the interactive effect of dysfunctional sleep beliefs and mental health on sleep in university students. Frontiers in Sleep, 3, 1340729. Suart, C., Ogrodnik, M., & Suttie, M. (2024). Learning the landscape: Using journal clubs to introduce graduate students and early-career researchers to SoTL. In Miller-Young, J., & Chick, N. L. (Eds.), Becoming a SoTL scholar. Elon University. Coletta, G., Tuckey, C., McQuarrie, A., Ogrodnik, M., Nicholson, E., Phillips, S. M., & Cupido, C. (2023). A Virtual Versus In-Person Comparison of the Senior Fitness Test: A Randomized Crossover Trial. Physiotherapy Canada, e20230026. Ogrodnik, M., Karsan, S., Malamis, B., Kwan, M., Fenesi, B., & Heisz, J. (2023). Exploring barriers and facilitators to physical activity in adults with ADHD: A qualitative investigation. Journal of Developmental and Physical Disabilities. 1–21. Ogrodnik, M., Karsan, S., & Heisz, J. (2023) Mental health in adults with ADHD: Examining the relationship with cardiorespiratory fitness. Journal of Attention Disorders, 27(7), 698–708. Ogrodnik, M., Karsan, S., Cirone, V., & Heisz, J. (2023). Exploring the relationship between cardiorespiratory fitness and executive

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						functioning in adults with ADHD. Brain Sciences, 13(4), 673. Halladay, J., Ogrodnik, M., Alla, J. F., Sunderland, M., Gardner, L. A., & Georgiades, K. (2023). Playing for more than winning: Exploring sports participation, physical activity, and belongingness and their relationship with patterns of adolescent substance use and mental health. Drug and Alcohol Dependence, 111039.
2/A	CHEM 237: Introductory Biochemistry	0.5	Thorsten Dieckmann Associate Professor Department of Chemistry	Dr. rer. nat.	Regular	**Research Funding** 2022-2027 NSERC Discovery Grant, Structure and Function of Aptamer based Biosensor Building Blocks (PI), $120, 000 2019-2020 Canada Foundation for Innovation, John R. Evans Leaders Fund "High Resolution NMR Facility for Structure Elucidation" (T. Dieckmann, G. Murphy, and S. Taylor Investigators), $352,810 2019-2020 Ontario Research Foundation, "Comprehensive update of the Chemistry NMR Facility" (T. Dieckmann, G. Murphy, and S. Taylor Investigators), $352,810 2017-2018 OCE-VIP "DNA detection scheme for paper-based allergy tests" (PI), $25,000
	CHEM 266: Basic Organic Chemistry 1 Equivalent: CHEM 222 (SGU)	0.5	Julie Goll	M.Sc. in Organic Chemistry	Staff	**Awards and Scholarships** 2023 Excellence in Science Teaching Award (University of Waterloo) 2007-2008 Ontario Graduate Scholarship (Chemistry)

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						2006 Women in Chemistry Scholarship University of Waterloo) 2005-2007 Ontario Graduate Scholarship (Chemistry)
	CHEM 266L: Organic Chemistry Laboratory Equivalent: CHEM 223 (SGU)	0.25	Leanne Racicot Chemistry Instructor Department of Chemistry	Ph.D. Chemistry	Staff	**Awards and Grants** 2023 Gold level Green Lab certification, Undergraduate Organic Chemistry Teaching Lab 2023 Staff Enhancement Experience (SEE) Canada Grant (University of Waterloo) 2021 eCampus Ontario Virtual Learning Strategy (VLS) Grant (Organic Chemistry Virtual Labs, Principal Investigator, $70,252) Download link: https://bit.ly/3W0Lg5p **Publications** Racicot, L.; Valliant, J.F., Murphy, G. K. "Synthesis and Evaluation of Fluorous-Tagged and Polystyrene-Supported Precursors for Fluoro-benziodoxole" Synthesis, 2023; 55, 2730. Cuzzucoli, F.; Racicot, L.; Valliant, J.F., Murphy, G. K. "Transition metal-free fluorocyclization of unsaturated N-methoxyamides gives cyclic N-methoxyimidates" Tetrahedron, 2022, 123, 132982. Murphy, G. K.; Racicot, L.; Carle, M. S. "The Chemistry Between Hypervalent Iodine(III) Reagents and Organophosphorus Compounds" Asian J. Org. Chem., 2018, 7, 837. Zhao, Z.; Racicot, L.; Murphy, G. K. "Fluorinative Rearrangements of Substituted Phenylallenes Mediated by (Difluoroiodo)toluene: Synthesis of

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						a-(Difluoromethyl)styrenes" Angew. Chem., Int. Ed., 2017, 56, 11620. Racicot, L.; Ciufolini, M. A. "Iodonium Metathesis Reactions of Unreactive Aryl Iodides" Tetrahedron, 2017, 73, 7067.
	BIOL 240: Fundamentals of Microbiology Equivalent: BIOL 401 (SGU)	0.5	Josh Neufeld Professor Department of Biology	Ph.D. Environmental Microbiology	Regular	**Research Funding** 2025-2030 NSERC Discovery (Nitrification and beyond: ecology and activity of nitrifiers in engineered aquatic environments) (PI), $80,000 2023-2025 AMTD Global Talent Postdoctoral Fellowship (Aerobic methane oxidation in anoxic waters of boreal shield lakes: mechanisms, models, and microorganisms) (PI), $80,000 2022-2025 NSERC Alliance (Validation of ammoniaoxidizing archaea and comammox Nitrospira for commercial application) (PI), $30,000 2022-2027 NSERC Alliance (Integrated molecular profiling to explore the microbiology of deep geological repository components for storage of used nuclear fuel) (PI), $560,000 2022-2027 Climate Action and Awareness Fund (CAAF) (Mitigation of methane emission hot-spots from municipal landfills), $25,000 2019-2025 NSERC Discovery (Exploring nitrification within engineered aquatic environments) (PI), $50,000
	BIOL 240L: Fundamental Microbiology Lab	0.25	Cheryl Duxbury	Ph.D. in Biology	Staff	**Qualifications**

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						Research and education (B.Sc., M.Sc., Ph.D. and B.Ed.) encompass a diverse and extensive background of academic and applied biological sciences. Proven commitment to teaching exemplified by the attainment of a B.Ed. and an Ontario Teachers Certificate (Dean's Honour Role). Course work, laboratory teaching assistantships and research include animal, plant and microbial systems at the biochemical, cytological, physiological and toxicological levels. Familiar with the internal administration, curriculum and staff through a 35-year association with the Department of Biology at the University of Waterloo. Experienced educator, spanning introductory to advanced level courses in Biology Committed to continuous professional development by attending workshops on teaching pedagogy and supporting diverse learners in equitable environments Teaching of core courses in the Department of Biology with consistently high-performance evaluations. Have completed approximately 16 teaching assistantships for various laboratory courses ranging from introductory to senior levels in the Department of Biology.

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						Conduct surveys for feedback on assessments, lecture pace and style and level of difficulty.
	BIOL 273: Principles of Human Physiology Equivalent: BIOL 202 (SGU)	0.5	Laura Lemieux Associate Professor, Teaching Stream Department of Biology	Ph.D. Biochemistry	Regular	**Scholarships/Awards** 2024 Staebler Insurance OER Fellows Grant 2023 Biology Jack Carlson Teaching Excellence Award 5/2019-8/2019 DUTI (Deans Undergrad Teaching Innovation) grant to design CRISPR active learning component in Biotechnology II Course **Research Grants** 2019-now Working with Moira Glerum's research group on CRISPR mutations in PIC2, research on copper transport in yeast 2014-2015 NSERC, ARD1 Grant - $25,000, "Cell Production Augmentation Techniques" (PI) 2014-2015 Ontario Centre for Excellence - $20,000, "Cell Production Augmentation Techniques" (PI) 2014-2015 Octane Biotech Inc. - $5,010 (cash), "Cell Production Augmentation Techniques" (PI) 2014-2015 Octane Biotech Inc. - $113,280 (in-kind), "Cell Production Augmentation Techniques" (PI)
	MEDSCI 202: Communication for Health Professions I Equivalent: PCLN 302 (SGU)	0.5	TBD		Regular	

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	MEDSCI 200: Learning Strategies for Preprofessional Programs Equivalent: PCLN 301 (SGU)	0.25	TBD		Contract, PT	
2/B	MEDSCI 270: Biochemistry Equivalent: CHEM 450 (SGU)	0.5	TBD		Regular	
	MEDSCI 280: Introduction to Psychopathology Equivalent: PSYC 411 (SGU)	0.5	Pamela Seeds Associate Professor, Teaching Stream Department of Psychology	Ph.D. Clinical Psychology	Regular	**Honours** 2017 Outstanding Performance Award, University of Waterloo 2016 Dr. Ruth Berman Award for an Early Career Psychologist, Ontario Psychological Association (OPA)
	MEDSCI 290: Molecular Biology Equivalent: BIOL 321 (SGU)	0.5	TBD		Regular	
	MEDSCI 260: Human Anatomy Equivalent: BIOL 460 (SGU)	0.5	TBD		Regular	
	MEDSCI 250: Physiology Equivalent: BIOL 441 (SGU)	0.5	TBD		Regular	

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	MEDSCI 203: Communication for Health Professions II Equivalent: PCLN 303 (SGU)	0.5	TBD		Regular	
3/A[8,9] SGU	MEDSCI 300: Basic Principles of Medicine I	2.5	Kevlian Andrew, MD, MBA Assistant Professor, Anatomical Sciences Subramanya Upadhya, MBBS	M.D. DNB Varies	Regular	**Andrew** **Administrative Appointments** 2020-2021 Associate Course Director, Anatomy & Physiology 1 (BIOL 101) 11/20 – Present Assistant Year 1 Clinical Tutor Coordinator, St. George's University 2021-Present Course Director, Anatomy & Physiology 1 (BIOL 101) **University Service** 11/20 – Present Member, Clinical Tutor Coordinator Committee

[8] Please note, SGU faculty teaching courses in 3A-4B are numerous due to the collaborative and co-teaching model. Please see (Basic Medical Sciences Faculty - St. George's University) to access the SoM faculty at SGU.

[9] General Academic Requirements at SGU

Rank Minimum Requirements at time of appointment or application for promotion:

Basic Sciences

Demonstrator - Bachelor's degree or equivalent; Instructor - Master's degree in an appropriate discipline; and Assistant, Associate and Full Professor - Terminal/professional degree: MD, MBBS, PhD or equivalent.

Clinical Faculty

Clinical teaching fellow MD or MMBS (without residency) without a postgraduate degree or internship; Clinical instructor MD or MBBS (without residency) without postgraduate degree, but with a completed internship; Lecturer - MD or MBBS (without residency) without postgraduate degree (e.g., MSc, MPH, MBA or other appropriate degree) in an appropriate field of study; and Assistant, Associate and Full Professor - MD or MBBS plus a postgraduate degree in their field, or board certification (SGU SOM Faculty Handbook).

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			Professor of Physiology, Neuroscience and Behavioral Sciences			4/21 – Present Member, Faculty Development Committee 4/21 – Present Chair, Year 1 Clinical Tutor Hiring Committee 8/21 – Present Member, Supplemental Academic Support Committee **Professional Organizations** 2020 – Present Member, American Association of Clinical Anatomists (AACA) **Research Experience** 7/20 – Present MSRI Faculty Advisor **Publications** Andrew K, Iwanaga J, Loukas M, et al. Does the Venus de Milo have a Spinal Deformity?. Cureus. 2018; 10(8): e3219. doi:10.7759/cureus.3219 Andrew K, Iwanaga J, Loukas M, et al. A Variant Origin of the Carotid Sinus Nerve. Cureus. 2018; 10(6): e2883. doi:10.7759/cureus.2883 **Upadhya** **Fellowship** Awarded with Research Scientist fellowship and worked at National Guard Hospital, Riyadh, Saudi Arabia in year 2000. **Administrative Experience** Deputy Controller of Examinations at Manipal Academy of Higher Education (MAHE) (January 1996 to August 2006) **Publications** (select)

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Beneficial Effects of ragi (Finger Millet) on Hematological Parameters, Body Mass Index, and Scholastic Performance among Anemic Adolescent High-School Girls (AHSG). Suja Karkada, Sharmila Upadhya, Subramanya Upadhya & Gopalakrishna Bhat. Comprehensive Child and Adolescent Nursing, March 2018, DOI: 10.1080/24694193.2018.1440031. Link to this article: https://doi.org/10.1080/24694193.2018.1440031 Psychomotor functions at various weeks of chronic renal failure in rats. Merin Iype, Subramanya Upadhya, Sharmila Upadhya, Gopalakrishna Bhat. Cogn Neurodyn. April 2015, Volume 9, Issue 2, pp 201-211; DOI 10.1007/s11571-014-9315-z. Enhanced dendritic arborization of hippocampal CA3 neurons by Bacopa monniera extract treatment in adult rats. Vollala VR, Subramanya Upadhya, Nayak S. Rom J Morphol Embryol. 2011;52(3):879-86. PMID: 21892534. Enhancement of basolateral amygdaloid neuronal dendritic arborization following Bacopa monniera extract treatment in adult rats. Vollala VR, Subramanya Upadhya, Nayak S. Clinics (Sao Paulo). 2011;66(4):663-71. PMID: 21655763. Enhanced dendritic arborization of amygdala neurons during growth spurt periods in rats orally intubated with Bacopa monniera extract. Vollala VR, Subramanya Upadhya, Nayak S. Anat Sci Int.

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						2011 Dec;86(4):179-88. Epub 2011 Mar 17. PMID: 21409525.
3/B SGU	MEDSCI 350: Basic Principles of Medicine II	2.5	Janine Paul, MBBS Lecturer of Physiology, Neuroscience and Behavioral Sciences Mary C. Maj, PHD, MSc Professor of Biochemistry	Post Graduate Certificate in Medicine Ph.D. Biochemistry	Regular	**Paul** **Work Experience** • General Hospital Saint George's Grenada. January 2012 to December 2012 - Medical Internship-clinical rotations • Saint George's University. 2013 to 2016 - Clinical tutor in the Neuroscience, Physiology and Behavioral Sciences. Department responsible for all subjects taught in terms 1and 2 in the School of Medicine. • Saint George's University. 2018 to present - Clinical tutor in the Neuroscience, Physiology and Behavioral Sciences. Department responsible for all subjects in terms 1 and 3 in the School of Medicine. **Maj** **St. George's University Service** January 2020 to Present SOM Subcommittee for Promotions Chair January 2016-to Present SOM Judiciary Committee Chair **Publications** 1. In Preparation: M.Maj, K. Landau, D. Li, E. Bhoh, H. Toriello, B. Nelson, H. Hakonarson, S. Gluschitz, R. Walker, A. Sobering (2021) A novel

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						homozygouse truncating variant in SYNJ1 in causing early infantile epileptic encephalopathy 53 in and Afro-Caribbean individual 2. In Preparation: E. Salter, K. Balhotra, I. Holman, H.S. La, J. Lendore, K. Yearwood, A. Holbein, A. Reese, A. Brooks, T. John-Ballantyne, A. Bahador-Yetman, G. Lambert, P.J. Fields, M.C. Maj, F. McGill,(2017) Self Pap as a Method of Cervical Screening Modification and HPV Testing in Grenada 3. A. Wardeh, T. Jackson, B. Nelson, C. Ernst, J.F. Théroux, W. Al-Hertani, A. K. Sobering1, and M. C. Maj, (2018) Identification of a de novo case of COL5A1-related Ehlers-Danlos syndrome in an infant in the West Indies leading to improved targeted clinical care. Clinical Case Report 4. M.D. Thompson, T. Sakurai, I. Rainero, M.C. Maj and J.P. Kukkonen. (2017) Orexin Receptor Multimerization versus Functional Interactions: Neuropharmacological Implications for Opioid and Cannabinoid Signalling and Pharmacogenetics. Pharmaceuticals (Basel). 2017 Oct 8;10(4). pii: E79. **Editor** Webmed Central: Open Access Biomedical Publisher using Post Publication Peer Review **Professional Societies** Canadian Society of Biological, Molecular and Cellular Biology United Mitochondrial Disease Foundation

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Society for the Study of Inborn Errors of Metabolism
4A SGU	MEDSCI 400: Principles of Clinical Medicine 1	2.5	Ewarld Marshall, MD, MSc, MSMEd Associate Professor, Pathology Theofanis Kollias, M.D. Assistant Professor Microbiology, Pharmacology and Immunology Alvin Billey, M.D. Lecturer, Pathology	MSMEd M.D. M.D.	Regular	**Marshall** **Visiting Professor** Post Graduate Anatomy and Histology. 2018-present. Department of Cell Biology, Harvard Medical School. Medical Education Feb -May 2020. Lake Erie College of Osteopathic Medicine. **Publications** Klaassen, Z., Marshall, E., Tubbs, R. S., Louis Jr, R. G., Wartmann, C. T., & Loukas, M. (2011). Anatomy of the ilioinguinal and iliohypogastric nerves with observations of their spinal nerve contributions. Clinical Anatomy, 24(4), 454-461. Pontell, M. E., Scali, F., Marshall, E., & Enix, D. (2013). The obliquus capitis inferior myodural bridge. Clinical anatomy, 26(4), 450-454. Scali, F., Pontell, M. E., Enix, D. E., & Marshall, E. (2013). Histological analysis of the rectus capitis posterior major's myodural bridge. The Spine Journal, 13(5), 558-563. Scali, F., Pontell, M. E., Welk, A. B., Malmstrom, T. K., Marshall, E., & Kettner, N. W. (2013). Magnetic resonance imaging investigation of the atlanto-axial interspace. Clinical anatomy, 26(4), 444-449. Pontell, M. E., Scali, F., Enix, D. E., Battaglia, P. J., & Marshall, E. (2013). Histological examination of the human obliquus capitis inferior myodural

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						bridge. Annals of Anatomy-Anatomischer Anzeiger, 195(6), 522-526. Pontell, M., Scali, F., & Marshall, E. (2011). A unique variation in the course of the musculocutaneous nerve. Clinical Anatomy, 24(8), 968-970. **Kollias** **Professional Experience** • 06/2021-present: Deputy Chair for the department of Pharmacology. St. George's University • 0/6/21-present: Faculty advisor for BIZMED St. George's University School of Medicine • 01/2021-present: Content manager for the department of Pharmacology. St. George's University • 08/2018-present: Instructor for the department of Pharmacology. St. George's University • 08/2018-present: Hippocrates College Director. St. George's University **Publication** Richard Isaiah Tubbs, James C. Barton III , Caroline C. Watson , Theofanis Kollias , Robert J. Ward , Marios Loukas , Nicholas M. Barbaro , Aaron A. Cohen-Gadol. A novel method for sciatic nerve decompression: Cadaveric feasibility study with potential application to patients with piriformis syndrome. Translational Research in Anatomy 1 (2015) 40e43

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Billey **Awards** Best Researcher Award for Research on "Knowledge Attitudes and Practices of Stroke among patients attending GPHC Medical Clinic" **Publications** Aishwarya Singh, Rohit Mishra, Alvin Billey Cardiac Lesions in Sudden Death: Insights from autopsy and histopathological analysis. Int J Acad Med Pharm 47009/jamp.2023.5.5.308.
	MEDSCI 420: Basic Principles of Medicine III	1.0	Kerry Mitchell, Ph.D. Associate Professor, Public Health & Preventive Lauren Orlando, Ph.D., MSc Assistant Professor, Epidemiology	Ph.D. Biological Sciences Ph.D. Public Health	Regular	**Mitchell** **Administrative** • Dean of Students, Assistant Dean 2021 – present • SOM Honors Selective I & II, Co-Director 2021 – present • SGU Iota Epsilon Alpha (IEA), Faculty Advisor 2021 - present • St. George's University Institutional Review • Board, Vice Chair 2020 - present • St. George's University Institutional Review Board, Secretary 2019 – 2020 • St. George's University Institutional Review • Board, non-executive member 2018 – 2019 • Department of Public Health and Preventive • Medicine Admissions and Graduate Committee, member 2018 – present • Department of Public Health and Preventive Medicine Research and Scholarly Activity Committee, member 2018 – present

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Professional Review Editor 2021 – present • Editorial Board of Soil Pollution and Remediation, Frontiers in Soils Science, Lausanne Switzerland; ISSN:2673-8619 (Online) Ad-Hoc Journal Reviewer 2017 – present • Environmental Science and Pollution Research, Springer Berlin Heidelberg; ISSN: 0944-1344 (Print), 1614-7499 (Online) • Bragantia Revista de Ciências Agronômicas, Instituto Agronômico de Campinas; ISSN: 0006-8705 (Print) / 1678-4499 (Online) Consultant 2020 – present • The Grenada National Ecosystem Assessment; Caribbean Natural Resources Institute Thesis Advisor 2014 – present **Publications** • Mitchell, K., Moreno-Jimenez, E., Jones, R., Zheng, L., Trakal, L., Hough, R., & Beesley, L. (2020). Mobility of arsenic, chromium and copper arising from soil application of stabilised aggregates made from contaminated wood ash. Journal of Hazardous Materials, 393(122479), 1–10. https://doi.org/10.1016/j.jhazmat.2020.122479 • Mitchell, K., Mendoza-González, C. V., Ramos-Gómez, M. S., Yamamoto-Flores, L., Guerrero-Barrera, A. L., Macias-Medrano, R., & Avelar-González, F. J. (2020). The effect of low-temperature biochar and its non-pyrolyzed composted biosolids source on the geochemical

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						fractionation of Pb and Cd in calcareous river sediments. Environmental Earth Sciences, 79(7), 1–8. https://doi.org/10.1007/s12665-020-08908-5 • Ray, E., & Mitchell, K. (2019). Environmental Atrazine Exposure and Endocrine Health: Implications for Rural Communities in Midwestern United States. Public Health - Topics, Themes and Trends, 11(4), 37–53; corresponding author • Flores de la Torre, J. A., Mitchell, K., Ramos Gómez, M. S., Guerrero Barrera, A. L., Yamamoto Flores, L., & Avelar González, F. J. (2018). Effect of plant growth on Pb and Zn geoaccumulation in 300-year-old mine tailings of Zacatecas, México. Environmental Earth Sciences, 77(10), 0. https://doi.org/10.1007/s12665-018-7563-7 • Mitchell, K., Trakal, L., Sillerova, H., Avelar-González, F. J., Guerrero-Barrera, A. L., Hough, R., & Beesley, L. (2018). Mobility of As, Cr and Cu in a contaminated grassland soil in response to diverse organic amendments; a sequential column leaching experiment. Applied Geochemistry, 88, 95–102. https://doi.org/10.1016/j.apgeochem.2017.05.020 • Trakal, L., Raya-Moreno, I., Mitchell, K., & Beesley, L. (2017). Stabilization of metal(loid)s in two contaminated agricultural soils: Comparing biochar to its non-pyrolysed source material. Chemosphere, 181, 150–159. https://doi.org/10.1016/j.chemosphere.2017.04.064

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						Presentations • Bogollagama, M., Khan, T., Forde, M., Compton, S., Mendes, J., Edwards, O., & Mitchell, K. corresponding author (2021). Nutrient concentrations in surface and subterranean water sources in the Southern Region of Grenada. Caribbean Science Symposium on Water Magazine, 21–22. • Dirienzo, N., Mitchell, K., Forde, M., Rainham, D., & Villeneuve, P. J. (2021). Temporal trends in ambient fine particulate matter air pollution, and the impacts of COVID-19 on this pollution in Grenada, West Indies. 4th Life Sciences Day - Carleton University, Ottawa. • Khan, T., & Mitchell, K. corresponding author (2021). Evaluation of the Association between Maternal Exposure to Indoor Air Pollutants and Low Birth Weight. 65th Annual Health Research Conference, Virtual. • Mitchell, K. (2021a). Air Pollution - A Public Health Emergency? Seminario de Investigación MCBQ- Universidad Autónoma de San Luis Potosi, San Luis Potosi, Mexico - Virtual. • Mitchell, K. (2021b). Efectos del Cambio Climático en la Salud Comunitaria. Webinar de Organizacion Dominicana de Estudiantes de Medicina (ODEM) & One Health Lessons, Virtual. • Mitchell, K., Avelar-González, F. J., Guerrero-Barrera, A. L., Ramos-Gómez, M. S., & Yamamoto-Flores, L. (2021). Evaluating the potential mobility of Cd in contaminated calcareous sediments

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						amended with biosolids and biochar. SETAC Europe 31st Annual Meeting - 2021 - Global Challenges. An Emergency for Environmental Sciences - Abstract Book, 202. • Mitchell, K., Edwards, O., Forde, M., Punch, B., Khan, T., & Bogollagama, S. (2021). Priority setting for occupational carcinogen exposure among doctors. 65th Annual Health Research Conference. • Mitchell, K., Forde, M., Smith, M., Villenueve, P., & Dirienzo, N. (2020, November). Preliminary monitoring of ambient particulate matter mass concentrations in Grenada. Virtual Public Health Conference - Relevance, Creativity & Innovation, Grenada; Virtual. • Flores de la Torre, J. A., Mitchell, K., Ramos-Gomez, M. S., Yamamoto-Flores, L., Peña-Cabriales, J. J., Guerrero-Barrera, A. L., & Avelar-González, F. J. (2017). Effect of Cortaderia Selloana and Sporobolus airoide on the geoaccumulation index of Pb. 14th International Phytotechnologies Conference, Montreal. • Mark-George, I., Sealy, H., Mc Lawrence, J., Mitchell, K., & Enoe, J. (2017, October). The public health impacts of the influx of Sargassum seaweed on the residents of Soubise, Grenada in 2015. Phi Zeta Research Emphasis and Research Day, St. George's University. • Mitchell, K., Avelar-González, F., Guerrero-Barrera, A., Ramos-Gómez, M., & Yamamoto-Flores, L. (2017, October). Fractionation of Pb in contaminated calcareous sediments amended

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						with biosolids and biochar. Phi Zeta Research Emphasis and Research Day, St. George's University, St. George's University. **Orlando** **Presentations** • RISE for Equity: Reflect, Inspire, Strengthen & Empower 2024, Mayo Clinic, Washington D.C. (August 2024) • European Public Health Conference, Dublin, Ireland (November 2023) • Caribbean Public Health Agency (CARPHA) Annual Health Research Conference, Nassau, Bahamas (April 2023) • Consortium of Universities for Global Health Conference, Washington, D.C. (April 2023) • St. George's University 20th Research Day, True Blue, Grenada (March 2023) • CRCP2020+ Caribbean Regional Conference of Psychology, St. Croix (November 2021) • ISANA 30th International Education Association Conference, Melbourne, Australia (December 2019) • Council for Education in the Commonwealth (CEC) Annual Conference, True Blue, Grenada (May 2019) •ISANA 29th International Education Association Conference, Sydney, Australia (December 2018) **Publications**

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• Prince, M. A., Orlando, L., Prince, E., & Fasanmi, A. (2023, December). 1397. What were the Birth Outcomes of Infants Born to Zika Positive Mothers in Developing Countries? Open Forum Infectious Diseases, 10(2). https://doi.org/10.1093/ofid/ofad500.1234 • Landon, B., Thomas, E.D., Orlando, L., Evans, R. L., Murray, T., Mohammed, L., Noel, J., Isaac, R. & Waechter, R. (2023). Spare the rod, spoil the child: The process of shifting • intergenerational beliefs and behaviors around corporal punishment. Frontiers in Public Health, 11. https://doi.org/10.3389/fpubh.2023.1127687 • Chitterman, A., Palanichami, D.K., La, A., Adedara, V., Orlando, L., Keku, E.O., & Fasanmi, A. (2023). Evaluation of the effectiveness of ivermectin in chemoprophylaxis and treatment of COVID-19 patients: A narrative review. International Public Health Journal, 15(1), 57-67. • Palmer, K., Adedara, V., Ogunmoyin, T., Kuteyi, A., Palanichami, D.K., La, A., Orlando, L., Fasanmi, A., & Keku, E. O. (2023). Elective surgical procedures in the COVID-19 era. International Public Health Journal, 15(1), 91-99. • Eagel, B.A., La, A., Palanichami, D.K., St Cyr, G., Orlando, L., Fasanmi, A., & Keku, E.O. (2023). Dengue vaccine development and safety: What went wrong? International Public Health Journal, 15(1), 101-115.

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• Waechter, R., Evans, R., Fernandes, M., Bailey, B., Holmes, S., Murray, T., Isaac, R., Punch, B., Cudjoe, N., Orlando, L., & Landon, B. (2022, May). A community-based responsive caregiving program improves neurodevelopment in two-year old children in a middle-income country, Grenada, West Indies. Psychosocial Intervention, 31(2), 97-107. https://doi.org/10.5093/pi2022a6 • Orlando, L., & Frame, T. (2021). Assessment of implementation of the Spotlight Initiative to end gender-based violence in six Caribbean countries during the COVID-19 pandemic. Caribbean Journal of Psychology, 13(2), 161-191.
4/B SGU	MEDSCI 450: Principles of Clinical Medicine 2	2.5	Anna Cyrus-Murden, M.D., MPH Assistant Professor, Clinical Skills Assistant Dean of Simulation Morona Sukhoo-Pertab, MBBS Lecturer, Clinical Skills Assistant Dean, Clinical Studies	M.D., MPH MBBS	Regular	**Cyrus-Murden** **Administrative** • 2017 – Pres Deputy Chair of Clinical Skills, St. George's University • 2018 – Pres Director of Simulation Center, St. George's University **Departmental Service** • Pathology Review Committee • BPM 1 review Committee • Clinical Skills Faculty Search Committee • Clinical Skills Curriculum Sub-Committee University **University Service** • Focus Group on Simulation Activities (Chair) • Focus Group on Curriculum Management, Design, Review/Content Monitoring, Evaluation and Comparability • Focus group on Physical Examination and OSCE

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• Focus Group on Curriculum Reform • Focus Group on 'Flipped Classroom' • SGU Senate – Clinical Division • SGU Curriculum Committee • SGU Judicial Advisor • Committee for Technology based Teaching and Learning • Joint Curriculum Coordinating Committee • Candidates Selection Committee Workshops • USMLE Subcommittee **Professional Memberships** • Member, Society for Simulation in Healthcare • Member, Directors of Clinical Skills • Member, American Association of Clinical Anatomists **Presentations** Local/Regional • Feb 2020 Featured Speaker - Grenada General Hospital Internship Program Interns' Graduation, Grenada • Feb 2020 "Clinical Skills in Grenada", Clinical Meetings, St. George's University, Grenada • Sept 2019 "Technologies in the Healthcare Industry", Rotaract Career Day Speech, Grenada • Feb 2019 Featured Speaker - Grenada General Hospital Internship Program Interns' Graduation, Grenada International • Oct 2020 "Online Clinical Evaluation Exercise (OCEX)", Clinical

Year/ Term	Course Title	Units (13wk term at UW)	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise[7] (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Meetings, St. George's University, Grenada (Online) **Sukhoo-Pertab** **Licenses and Certifications** • 2022 Strategic Leadership in Healthcare, Doane University, MicoMasters Program • 2021 Health Informatics and Technology in Decision Making, Doane University, MicoMasters Program • 2021 Healthcare Organization and Delivery Modes, Doane University, MicoMasters Program • 2021 Basic Biomedical Research Certification, Collaborative Institutional Training Initiative (CITI) • 2020 Defeating Malaria from the Genes to the Globe, Harvard University, Online Learning Initiative **Services and Memberships** • 2021 BPM3 Course Evaluator, St. George's University • 2020 CAAM Accreditation Working Group on Educational Database, St. George's University • 2019 – Present Basic Sciences Curriculum Subcommittee, St. George's University • 2019 – Present Committee for Academic Performance and Professional (CAPPS) Pre-Clinical Sciences • 2016 – 2019 Pediatric Club, St. George's University Role: Volunteer medical doctor at various centers/schools to screen and examine patients.

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						Assisted pre-clinical medical students in history taking and physical examination skills • 2016 – 2019 Academic Advisor, St. George's University Role: Provide counselling and guidance on academic status, academic outcomes and alternative options for post-exam medical students in Term 4 identified by the APRC • 2014 – present Sparkle Grenada Children's Foundation Inc Non-governmental organization. Secretary and Project Leader "Back to School"

b) As applicable, discuss and/or explain the role and approximate percentage of adjunct/part-time faculty/limited term appointments used in the delivery of the program, including plans to ensure the sustainability of the program and the quality of the student experience;

The majority of the proposed program, 75 per cent as demonstrated in the table above, will be delivered by full-time regular faculty members (of varying ranks). Full-time staff, principally as laboratory instructors, make up the remaining 25 per cent. The percentage of part-time faculty/limited term appointments used in the delivery of the program is negligible but may occur due to unexpected absences.

c) Describe the provision of supervision of experiential learning opportunities, if applicable;

This is a regular program therefore students will require no supervision for any work-integrated learning opportunities (i.e., field placement or co-op). Students will participate in several experiential learning opportunities (EL) at UW throughout the proposed program and will be supervised by the faculty member and/or lab technicians, as applicable.

While at SGU, students will have opportunities to observe and practice communication skills in actual healthcare settings during visits to local hospitals and community health centers. Additionally, student-led organizations provide platforms for demonstration and supervised hands-on practice on various basic medical procedures. Students also engage in research-oriented coursework, including group presentations, article reviews, and critiques. These activities help develop foundational research skills and critical analytical abilities, preparing students for more advanced research opportunities in the medical program.

d) Describe the administrative unit's planned use of existing human, physical and financial resources, including implications for other existing programs or support units at the university;

Resources: HR, Faculty

The delivery of the first two years of the proposed program requires access to four courses and faculty members from the Faculty of Health (Health), one from the Faculty of Arts (Arts), and the remainder (19) from Science. The courses in the 2B term mirror those taught at SGU and NU to ensure students who progress have achieved the same course learning outcomes (CLOs). These courses, developed by SGU, will draw on the expertise of the Faculty areas at the UW to deliver content and assess student achievement. Any needs that arise for an additional instructor to deliver the proposed program will be supported by Science.

Resources: HR, Administrative

Students in the proposed program require an advisor who will liaise with the SGU program administrators. The advisor will act as a liaison between the two institutions to support the students' progression throughout the program (see 2.5(f) for additional information about administrative resourcing).

Resources: Facilities/Space

The proposed program, in alignment with the partnership agreement, requires dedicated and private office space for any BMSci program staff for daily use. Science will also use existing laboratory and classroom space for delivery of the curriculum. Science does not require any additional space, equipment or upgrades to the existing space to support these requirements.

e) Provide evidence that there are adequate resources to sustain the quality of scholarship and research activities produced by students, including library support (a report from the Library should be prepared and included), information technology support, laboratory access and space; and

Library

Liaison librarians are specialists in their discipline and able to provide insight into research strategies, literature reviews and related areas. The Library provides a high level of instructional, research, and collections support to both the undergraduate and graduate programs in Science. Librarians also have expertise in scholarly communication (including copyright, licensing and open access) and research data management. Further involvement of the Library in this area helps to improve student research skills and support achievement of degree level expectations.

Liaison Librarians are available to answer reference questions from faculty members and students via telephone or email to support research and scholarly activities. Additionally, faculty and students can schedule one-on-one consultations with Liaison Librarians to discuss research strategies and techniques for graduate theses, coursework, and article publications. Students are encouraged to make use of the teaching, learning, research support services, and expertise the Library offers.

In accordance with the UW's Indigenization efforts, the Library is promoting and collecting research and resources that celebrate and explore Indigenous ways of knowing and doing. For instance, the biology librarian is a member of the Library's Indigenous research committee, which has authored an Indigenous research guide that will be reviewed annually. They also maintain an Indigenous science and ways of knowing section in the biology research guide. The Liaison Librarian for Physics, Astronomy and related disciplines provide course-based instruction through classroom sessions to incorporate a more systematic, program wide approach to increase skills related to information research, evaluation, and use throughout the Physics and Astronomy curricula.

The Library purchases and subscribes to a number of resources relevant to the science disciplines. Ongoing Library subscriptions include Oxford Handbooks and Reference, Springer, and Taylor & Francis ebook collections; the BioOne, CAB Direct, OVID Medline and Embase, Reaxys, SciFinder-n, and Web of Science databases; the ASM Protocols, Colloquium Life Sciences, Jove (Basic and Advanced Biology, and Chemistry collections), and Springer Nature Experiments digital libraries; and Scopus, SPIE Digital Library, IEEE, and MathSciNet. Access is also provided to journals from publishers such as the American Chemical Society (ACS), Canadian Science Publishing (CSP), Elsevier, the National Research Council of Canada (NRC), Nature, the Society for Freshwater Science Wiley, the American Physical Society, the Institute of Physics, and the American Institute of Physics.

OMNI, the library catalogue shared by Ontario universities, allows users to discover and request materials from 16 universities directly through the catalogue. In addition to the local collection, the UW Library partners with other Ontario and Canadian universities to further expand access to physics and astronomy collections. Such collaborations include the libraries of the University of Guelph (UG) and Wilfrid Laurier University (WLU), the 10 other Ontario institutions that make up the OCUL consortium Collaborative Futures initiative and the Canadian Research Knowledge Network (CRKN).

Laboratory Facilities

There are no specific lab equipment needs to meet the PLOs for the proposed program. The existing facilities are sufficient to meet the PLOs for the proposed program. The teaching labs managed by the four Science departments have undergone a significant reorganization and improvement with the opening of the Science Teaching Complex (STC), which provided its first scheduled lectures and labs in the Winter 2016 term. Students have access to updated facilities and lockers for use during labs.

The STC is a 20,000 square metre (215,000 sq. ft.) building and includes a range of facilities:

- Below grade: five 150-seat classrooms;
- Main level: study and seating area for (50); 450-seat classroom; student society and club space; a small food outlet;
- Level two: Science Undergraduate Office; study and seating area for (25); upper entrance to 450-seat classroom;
- Level three: five undergraduate teaching labs and related support facilities;
- Level four: five undergraduate teaching labs and related support facilities; and
- Level five: one undergraduate teaching lab and support facility.

Biology lectures are held in many locations across campus including the STC, Biology 1, Biology 2, and Math, Arts, and Engineering buildings. The core Biology laboratory spaces are six labs in the STC, five in Biology 2, and three in Biology 1. All lab spaces have a capacity of 32 to 34 students with the exception of one smaller lab in Biology 1 with a capacity of 24 students. Various labs are equipped to run courses in microbiology (including Biohazard level 2 spaces in Biology 1 and the STC), physiology, cell and molecular biology, zoology, plant sciences, and to provide support for ecology and field courses. The Biology Research laboratories are located in the Biology 1, Biology 2 and part of the Earth Sciences and Chemistry buildings, plus one laboratory in the Quantum-Nano Centre. Teaching laboratories are in Biology 1 and 2, and the new STC.

Computer Facilities

Science provides computer support through the Science Computing Help Desk, which is staffed daily from 9 am to 4 pm. The university site licenses many software packages (e.g., Office 365, Adobe Acrobat) and makes some available free or at substantial discounts to students and faculty members. There are three computing labs, each outfitted with audio-visual podiums, projectors, and chalk/dry-erase boards.

Computing Lab	Facilities
C2-160	• 35 workstations • Not typically booked for courses

Computing Lab	Facilities
	• available for open use during normal business hours when not booked for courses
PHY-342	• 20 workstations • Not typically booked for courses • available 24/7 when not booked for courses

f) If necessary, provide evidence of additional institutional resource commitments to support the program in step with its ongoing implementation.

Currently the proposed program is undergoing a financial viability analysis in consultation with IAP.

What is evident by the partnership agreement is that the proposed program will be administered jointly by the UW and SGU. Faculty expertise and courses are required from Science, Health, and Arts to support the delivery of the proposed program. Science is the UW's administrative lead in the partnership agreement with SGU and will provide the administrative support for the proposed program. At this time there are no plans for any other institution to be involved in offering the proposed program. In fact, according to the non-compete clause in the agreement, SGU shall not directly or indirectly establish a Doctor of Medicine (M.D.) track involving an Early Assurance program to SGU's M.D. degree program with any university in Ontario, other than with the UW.

The UW and SGU will share the responsibility for planning, management, and administrative aspects of the proposed program. As indicated above, this structure centers on the appointment of representatives or appointed designates (known as Partnership Managers) at both institutions. Partnership Managers will be responsible for implementing the structure and for revising as needed for the continued administration of the proposed program. This will be assumed under the responsibilities of the Associate Dean initially and re-evaluated regularly.

A "Joint Steering Committee" will meet quarterly to discuss issues arising from the operation of the proposed program, including recruitment, financial performance, fees and other related matters. SGU and the UW will define the attendees and terms of reference within three months of the date of the agreement. Each institution is entitled to replace any of its representatives on the Joint Steering Committee from time to time.

Where the formation of a separate section is required to account for the students in the BMSci program, the sessional instructor fee will be paid by Science to cover that additional section(s). In addition, UW faculty members will support the build of a new course (PHYS105: Introduction to Physics for Health Care Professions) and the update to existing courses, if applicable (see Appendix B – Program Map for a visual representation of the courses and associated Faculty/Departments).

2.6 Resources for graduate programs only (QAF 2.1.2.7)

Not applicable for this application.

2.7 Quality and other indicators (QAF 2.1.2.8)

As is evidenced in the table above (2.5 Resources), faculty members in Science, Health and Arts are committed to the intellectual quality of the student experience. Faculty members' qualifications, funding, honours, awards, research, innovation and scholarly record demonstrate the strength of the collective faculty expertise and commitment to remaining current and innovative.

As per Policy 76 – Faculty Appointments and the definitions of the appointment categories (tenured or permanent, probationary, definite-term) and appointment intensities (full-time, part-time, fractional load) at the UW, and the rigors of the tenure and teaching stream expectations, the tenure, permanence and promotion procedures, and professional conduct expectations specified in Policy 77 -- Tenure and Promotion of Faculty Members, the collective faculty members are a strong community of scholars supporting the university's commitment to developing intellectual resources and traditions for the modern university. In alignment with Policy 77, "faculty members [are] effective and committed teachers and scholars, constantly striving to expand and communicate their knowledge, ideas and understanding for the benefit of society" (Introduction).

At SGU in the SOM, for each rank, the faculty member is expected to display an appropriate level and combination of evidence as relevant to the rank applied. The weighting of activities varies depending on the primary area of focus. The more senior the rank, the higher the expectation in terms of evidence that will be required to be provided for promotion to that rank.

It is not expected that a faculty member will demonstrate achievement of all the specified examples/standards, but that their achievement will be at a level/standard commensurate with the rank of their appointment/promotion and activities. For example, a faculty member in the Educator track with a primary focus on teaching who has a substantial service contribution as an Assistant Dean or a Chair of a Department, would reasonably be expected to have less evidence of contribution to the scholarship component.

For all tracks, the requirements are:

- Primary focus area as per the stipulations of the track (Education, Research, etc.).
- Distinction in primary focus area.
- Secondary contributions to academic and clinical mission of SGU.

The diversity of SGU faculty in terms of their backgrounds and educational training means there is a natural level of variation in levels of qualifications and experience. Generally, faculty in the Teaching tracks will have different expectations and associated standards with respect to their teaching and pedagogical contributions, compared to faculty in the Investigator track. For all tracks, there is a secondary expectation of

contributions to other fields, including scholarly activity, administration and service to the university community, as appropriate to the faculty members' seniority and teaching responsibilities as defined in their letter of appointment, and as defined by the associated promotions criteria for their track.

This secondary expectation includes contribution to the administrative and committee services that support the educational mission of the SOM and SGU. All scholarly activities of the applicant must carry an SGU affiliation to be counted towards fulfilling the specified promotion requirements.

In the School of Arts and Sciences, SGU strives to maintain the highest standards of teaching, research, and service; therefore, it is essential that the faculty be composed of individuals with high personal and professional qualifications. Effective teaching is the most prized quality in members of the faculty. The primary criteria for judging the fitness of a faculty member for rank or promotion are academic degree, length and effectiveness of teaching, and knowledge and understanding of important problems in the field. In addition, professional activities, research, and participation in university life are considered. The faculty members at SGU are encouraged to engage in scholarly and creative work.

In general, a terminal degree appropriate to the candidate's field of expertise will be required. In some cases, after taking into account the specific nature of the faculty member's academic discipline, equivalent outstanding achievement may be substituted. The specific Educational Standards for each academic rank are as follows:

- Demonstrator: An earned Bachelor's Degree with special administrative responsibilities.
- Instructor: An earned Master's Degree, or equivalent in appropriate field of study.
- Assistant Professor: An earned doctorate, or equivalent in appropriate field of study, or all degree requirements completed and the degree pending.
- Associate Professor: An earned doctorate or equivalent in appropriate field of study.
- Full Professor: An earned doctorate or equivalent in appropriate field of study.

Appendix A – Summary of PLOs and UDLEs Mapped to Courses and Assessment Methods

						UDLEs	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Knowledge of Methodologies Communication Skills Experiential Learning	Application of Knowledge Awareness of Limits of Knowledge	Application of Knowledge Awareness of Limits of Knowledge	Knowledge of Methodologies Application of Knowledge	Knowledge of Methodologies Application of Knowledge Experiential Learning	Autonomy & Professional Capacity Diversity	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Awareness of Limits of Knowledge Diversity
Year/ Term		Program Objective					PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with	Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
1/A Courses	CHEM120: General Chemistry 1	X Q/T, EXM		X ONLN, A					X Q/T, EXM						
	CHEM120L: General Chemistry Laboratory 1	X A, EXM				X RPT, A, LB			X RPT, EXM						
	PSYCH101: Introductory Psychology	X EXM	X A, RSCH		X A, RSCH		X EXM			X EXM	X EXM				X A, RSCH
	PHYS105: Introduction to Physics for Health Care Professions (new)	X Q/T, EXM		X Q/T, EXM				X Q/T, EXM			X Q/T, EXM				
	HLTH101: Introduction to Health 1		X A, PRES, EXM	X A&P, A, EXM		X A, PRES				X A, PRES, EXM	X A&P, A, PRES, EXM			X A&P, A, PRES	X A, PRES, EXM
	BIOL130: Introductory Cell Biology	X ONLN		X A					X Q/T, EXM						
	BIOL130L: Cell Biology Laboratory	X Q/T				X RPT, A			X LB						
1/B Courses	CHEM123: General Chemistry 2	X Q/T, EXM		X A&P, ONLN				X A&P, Q/T, EXM	X ONLN, Q/T, EXM						
	CHEM123L: General Chemistry Laboratory 2	X A, RPT				X LB, RPT, EXM		X A, LB, RPT, EXM	X A, LB, RPT, EXM						
	KIN146: Introduction to Human Nutrition	X Q/T, A	X A						X Q/T, A		X A				
	HLTH 204: Quantitative Approaches to Health Science	X EXM		X LB, A		X LB					X EXM	X LB, A			

							UDLEs	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Knowledge of Methodologies Communication Skills Experiential Learning	Application of Knowledge Awareness of Limits of Knowledge	Application of Knowledge Awareness of Limits of Knowledge	Knowledge of Methodologies Application of Knowledge	Knowledge of Methodologies Application of Knowledge Experiential Learning	Autonomy & Professional Capacity Diversity	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Awareness of Limits of Knowledge Diversity
Year/ Term		Program Objective						PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with		Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
	HLTH107: Sociology of Activity, Health, and Well-Being	X Q/T, A&P			X A&P, A			X A&P, A			X A&P, A		X A, Q/T			X A&P, A
	BIOL201: Human Anatomy	X Q/T, A, EXM		X A&P, A						X A&P, Q/T, A		X EXM				
	BIOL239: Genetics	X Q/T, A, EXM		X A&P, A						X A&P, Q/T, A		X EXM				
2/A Courses	CHEM237: Introductory Biochemistry	X Q/T, EXM		X Q/T, EXM					X Q/T, EXM			X EXM				
	CHEM266: Basic Organic Chemistry 1	X A, Q/T, EXM		X A						X A, Q/T, EXM		X A, EXM				
	CHEM266L: Organic Chemistry Laboratory	X Q/T, EXM				X LB, A, RPT				X Q/T, EXM		X LB, A, RPT				
	Communication for Health Professions I		X A&P, Q/T, A		X A&P, A	X A&P, A		X A&P, A				X Q/T, A	X A		X A&P	
	BIOL240: Fundamentals of Microbiology	X Q/T, EXM		X Q/T, EXM					X Q/T, EXM			X EXM				
	BIOL 240L: Fundamental Microbiology Lab	X Q/T, LB				X A&P, RPT, LB, A			X RPT, LB, A			X Q/T, LB				
	BIOL 273: Principles of Human Physiology	X A, Q/T, EXM		X A, EXM						X A, Q/T, EXM				X A, Q/T, EXM		
	Learning Strategies for Preprofessional Programs			X A, A&P	X A, A&P	X A, A&P		X A, A&P							X A, A&P	X A, A&P
	MEDSCI270: Biochemistry	X Q/T, A		X A					X Q/T, A	X Q/T, A						

							UDLEs	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Knowledge of Methodologies Communication Skills Experiential Learning	Application of Knowledge Awareness of Limits of Knowledge	Application of Knowledge Awareness of Limits of Knowledge	Knowledge of Methodologies Application of Knowledge	Knowledge of Methodologies Application of Knowledge Experiential Learning	Autonomy & Professional Capacity Diversity	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Awareness of Limits of Knowledge Diversity
Year/ Term		Program Objective						PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with		Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
2/B Courses	MEDSCI280: Introduction to Psychopathology	X Q/T, EXM	X EXM							X EXM	X Q/T, EXM		X EXM			X EXM
	MEDSCI203: Communication for Health Professions II		X A&P, A		X A&P, A			X A&P, A				X A&P, A			X A&P, A	
	MEDSCI260: Human Anatomy	X A&P, Q/T, EXM		X EXM						X Q/T, EXM				X A&P		X Q/T, EXM
	MEDSCI250: Physiology	X A&P, Q/T, A, EXM		X A&P, A						X Q/T, A, EXM				X A&P		X Q/T, A, EXM
	MEDSCI290: Molecular Biology	X Q/T, EXM		X EXM					X EXM	X EXM						
3/A Courses at SGU	MEDSCI300: Basic Principles of Medicine I	X LB, Q/T, EXM		X LB, EXM					X LB	X Q/T, EXM			X EXM			X LB, Q/T, EXM
3/B Courses at SGU	MEDSCI350: Basic Principles of Medicine II	X A&P, LB, Q/T, EXM		X LB, Q/T, EXM		X A&P, LB			X LB, EXM	X LB, EXM			X Q/T, EXM			X A&P, LB, Q/T, EXM
4A Courses at SGU	MEDSCI400: Principles of Clinical Medicine 1		X A&P, LB, A	X A&P, LB, A, EXM	X A&P, LB, A	X A&P, LB, A							X EXM	X A&P, LB, A	X A&P, LB	X A&P, LB, A, EXM
	MEDSCI420: Basic Principles of Medicine III	X Q/T, EXM		X EXM		X Q/T, EXM				X Q/T, EXM			X Q/T, EXM	X Q/T, EXM		

		UDLEs					Communication Skills Autonomy & Professional Capacity	Depth & Breadth Knowledge of Methodologies Communication Skills Experiential Learning	Application of Knowledge Awareness of Limits of Knowledge	Application of Knowledge Awareness of Limits of Knowledge	Knowledge of Methodologies Application of Knowledge	Knowledge of Methodologies Application of Knowledge Experiential Learning	Autonomy & Professional Capacity Diversity	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Awareness of Limits of Knowledge Diversity
Year/ Term		Program Objective					PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with	Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
4/B Courses at SGU	MEDSCI450: Principles of Clinical Medicine 2		X A&P, LB, F, PRES	X A&P, LB, F, A, PRES, EXM	X A&P, LB, F	X A&P, LB, F		X LB, F, A, EXM				X F, A, PRES, EXM		X F, A, PRES, EXM	X F, A, PRES, EXM

Assessment Methods:
Assignments/ arguments/policy briefs (A)
Exams (EXM)
Field (F)
Online Engagement (ONLN)
Presentations (PRES)
Quizzes/Tests (Q/T)
Research/data interpretation/synthesis/visualization (RSCH)
Technical reports/plans (RPT)

Appendix B – Program Maps

6YR Track									
	5YR Track								
				Doctor of Medicine (SGU)					
Bachelor or Medical Sciences (UW)									
Delivered at the University of Waterloo (*content/assessments provided by SGU)				Delivered at St. George's University					
1A Term (Fall) 13 weeks	1B Term (Winter) 13 weeks	2A Term (Fall) 13 weeks	*2B Term (Winter) 16 weeks	3A Term (Fall) 17 weeks	3B Term (Winter) 18 weeks	4A Term (Fall) 24 weeks	4B Term (Winter) 18 weeks	YR 3 42 weeks Core Rotations	YR 4 38 weeks Sub-Internships and Electives
CHEM 120: General Chemistry 1 Equivalent: CHEM 122 (SGU)	CHEM 123: General Chemistry 2 Equivalent: CHEM 124 (SGU)	CHEM 237: Introductory Biochemistry	MEDSCI 270: Biochemistry Equivalent: CHEM 450 (SGU)	MEDSCI 300: Basic Principles of Medicine I 17 credits Foundation to Medicine (6 weeks) Musculoskeletal System (4 weeks) Cardiovascular, Pulmonary and Renal Systems (7 weeks)	MEDSCI 350: Basic Principles of Medicine II 17 credits Endocrinology and Reproduction (3 weeks) Digestion and Metabolism (5 weeks) Nervous System and Behavioral Sciences (10 weeks)	MEDSCI 420: Basic Principles of Medicine III 8 credits over 6 weeks	MEDSCI 450: Principles of Clinical Medicine 2 19 credits	Internal Medicine 12 weeks	Family Medicine 4-6 weeks
CHEM 120L: General Chemistry Laboratory 1 Equivalent: CHEM 123 (SGU)	CHEM 123L: General Chemistry Laboratory 2 Equivalent: CHEM 125 (SGU)	CHEM 266: Basic Organic Chemistry 1 Equivalent: CHEM 222 (SGU)	MEDSCI 280: Introduction to Psychopathology Equivalent: PSYC 411 (SGU)			MEDSCI 400: Principles of Clinical Medicine 1 21 credits over 18 weeks		Surgery 12 weeks	Subinternship (Psychiatry, OB/GYN, Internal Medicine, Pediatrics, or Surgery)
PSYCH 101: Introductory Psychology Equivalent: PHYC 201 (SGU)	KIN 146: Introduction to Human Nutrition Equivalent: NUTR 201 (SGU)	CHEM 266L: Organic Chemistry Laboratory Equivalent: CHEM 223 (SGU)	MEDSCI 203: Communication for Health Professions II Equivalent: PCLN 303 (SGU)					Pediatrics 6 weeks	Medicine Elective 4 weeks
PHYS 105: Introduction to Physics for the Health Care Professions (new) Equivalent: PHYS 200 (SGU)	HLTH 204: Quantitative Approaches to Health Science Equivalent: MATH 220 (SGU)	MEDSCI 202: Communication for Health Professions I Equivalent: PCLN 302 (SGU)	MEDSCI 260: Human Anatomy Equivalent: BIOL 460 (SGU)					Obstetrics/Gynecology 6 weeks	Additional Electives 24-26 weeks
HLTH 101: Introduction to Health 1 Equivalent: PUBH 302 (SGU)	HLTH 107: Sociology of Activity, Health, and Well-Being Equivalent: URC	BIOL 240: Fundamentals of Microbiology Equivalent: BIOL 401 (SGU)	MEDSCI 250: Physiology Equivalent: BIOL 441 (SGU)					Psychiatry 6 weeks	
BIOL 130: Introductory Cell Biology	BIOL 201: Human Anatomy Equivalent: BIOL 101 (SGU)	BIOL 240L: Fundamental Microbiology Lab	MEDSCI 290: Molecular Biology Equivalent: BIOL 321 (SGU)						
BIOL 130L: Cell Biology Laboratory	BIOL 239: Genetics Equivalent: BIOL 320 (SGU)	BIOL 273: Principles of Human Physiology Equivalent: BIOL 202 (SGU)							
		MEDSCI 200: Learning Strategies for Preprofessional Programs (11 wks) Equivalencies: PCLN 301 (SGU)							

Chemistry	Physics	Psychology	Health Sciences	Biology	Student Success Office	Medicine (SGU)

6YR Track

<table>
<tr><td colspan="10">6YR Track</td></tr>
<tr><td colspan="4"></td><td colspan="6">Doctor of Medicine (SGU)</td></tr>
<tr><td colspan="8">Bachelor or Medical Sciences (UW)</td><td colspan="2"></td></tr>
<tr><td colspan="4">Delivered at the University of Waterloo (*content/assessments provided by SGU)</td><td colspan="6">Delivered at St. George’s University</td></tr>
<tr><td>1A Term (Fall)
13 weeks</td><td>1B Term (Winter)
13 weeks</td><td>2A Term (Fall)
13 weeks</td><td>*2B Term (Winter)
16 weeks</td><td>3A Term (Fall)
17 weeks</td><td>3B Term (Winter)
18 weeks</td><td>4A Term (Fall)
24 weeks</td><td>4B Term (Winter)
18 weeks</td><td>YR 3
42 weeks
Core Rotations</td><td>YR 4
38 weeks
Sub-Internships and Electives</td></tr>
<tr><td>CHEM 120: General Chemistry 1
Equivalent: CHEM 122 (SGU)</td><td>CHEM 123: General Chemistry 2
Equivalent: CHEM 124 (SGU)</td><td>CHEM 237: Introductory Biochemistry</td><td>MEDSCI 270: Biochemistry
Equivalent: CHEM 450 (SGU)</td><td rowspan="8">MEDSCI 300: Basic Principles of Medicine I
17 credits

Foundation to Medicine (6 weeks)
Musculoskeletal System (4 weeks)
Cardiovascular, Pulmonary and Renal Systems (7 weeks)</td><td rowspan="8">MEDSCI 350: Basic Principles of Medicine II
17 credits

Endocrinology and Reproduction (3 weeks)
Digestion and Metabolism (5 weeks)
Nervous System and Behavioral Sciences (10 weeks)</td><td>MEDSCI 420: Basic Principles of Medicine III
8 credits over 6 weeks</td><td rowspan="8">MEDSCI 450: Principles of Clinical Medicine 2
19 credits</td><td>Internal Medicine
12 weeks</td><td>Family Medicine
4-6 weeks</td></tr>
<tr><td>CHEM 120L: General Chemistry Laboratory 1
Equivalent: CHEM 123 (SGU)</td><td>CHEM 123L: General Chemistry Laboratory 2
Equivalent: CHEM 125 (SGU)</td><td>CHEM 266: Basic Organic Chemistry 1
Equivalent: CHEM 222 (SGU)</td><td>MEDSCI 280: Introduction to Psychopathology
Equivalent: PSYC 411 (SGU)</td><td rowspan="7">MEDSCI 400: Principles of Clinical Medicine 1
21 credits over 18 weeks</td><td>Surgery
12 weeks</td><td>Subinternship (Psychiatry, OB/GYN, Internal Medicine, Pediatrics, or Surgery)</td></tr>
<tr><td>PSYCH 101: Introductory Psychology
Equivalent: PHYC 201 (SGU)</td><td>KIN 146: Introduction to Human Nutrition
Equivalent: NUTR 201 (SGU)</td><td>CHEM 266L: Organic Chemistry Laboratory
Equivalent: CHEM 223 (SGU)</td><td>MEDSCI 203: Communication for Health Professions II
Equivalent: PCLN 303 (SGU)</td><td>Pediatrics
6 weeks</td><td>Medicine Elective
4 weeks</td></tr>
<tr><td>PHYS 105: Introduction to Physics for the Health Care Professions (new)
Equivalent: PHYS 200 (SGU)</td><td>HLTH 204: Quantitative Approaches to Health Science
Equivalent: MATH 220 (SGU)</td><td>MEDSCI 202: Communication for Health Professions I
Equivalent: PCLN 302 (SGU)</td><td>MEDSCI 260: Human Anatomy
Equivalent: BIOL 460 (SGU)</td><td>Obstetrics/Gynecology
6 weeks</td><td>Additional Electives
24-26 weeks</td></tr>
<tr><td>HLTH 101: Introduction to Health 1
Equivalent: PUBH 302 (SGU)</td><td>HLTH 107: Sociology of Activity, Health, and Well-Being</td><td>BIOL 240: Fundamentals of Microbiology
Equivalent: BIOL 401 (SGU)</td><td>MEDSCI 250: Physiology
Equivalent: BIOL 441 (SGU)</td><td>Psychiatry
6 weeks</td><td rowspan="3"></td></tr>
<tr><td>BIOL 130: Introductory Cell Biology</td><td>BIOL 201: Human Anatomy
Equivalent: BIOL 101 (SGU)</td><td>BIOL 240L: Fundamental Microbiology Lab</td><td>MEDSCI 290: Molecular Biology
Equivalent: BIOL 321 (SGU)</td><td rowspan="2"></td></tr>
<tr><td>BIOL 130L: Cell Biology Laboratory</td><td>BIOL 239: Genetics
Equivalent: BIOL 320 (SGU)</td><td>BIOL 273: Principles of Human Physiology
Equivalent: BIOL 202 (SGU)</td><td rowspan="2"></td></tr>
<tr><td></td><td></td><td>MEDSCI 200: Learning Strategies for Preprofessional Programs (11 wks)
Equivalencies: PCLN 301 (SGU)</td><td></td><td></td><td></td></tr>
<tr><td colspan="4">Bachelor or Medical Sciences (UW)</td><td colspan="4">Shared Curriculum between two credentials</td><td colspan="2">Doctor of Medicine (SGU)</td></tr>
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5YR Track

<table>
<tr><td colspan="8">5YR Track</td></tr>
<tr><td colspan="2"></td><td colspan="6">Doctor of Medicine (SGU)</td></tr>
<tr><td colspan="5">Bachelor or Medical Sciences (UW)</td><td colspan="3"></td></tr>
<tr><td colspan="2">Delivered at the University of Waterloo
(*content/assessments provided by SGU)</td><td colspan="6">Delivered at St. George’s University</td></tr>
<tr><td>2A Term (Fall)
13 weeks</td><td>*2B Term (Winter)
16 weeks</td><td>3A Term (Fall)
17 weeks</td><td>3B Term (Winter)
18 weeks</td><td>4A Term (Fall)
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42 weeks
Core Rotations</td><td>YR 4
38 weeks
Sub-Internships and Electives</td></tr>
<tr><td>CHEM 237: Introductory Biochemistry</td><td>MEDSCI 270: Biochemistry
Equivalent: CHEM 450 (SGU)</td><td rowspan="9">MEDSCI 300: Basic Principles of Medicine I
17 credits

Foundation to Medicine (6 weeks)
Musculoskeletal System (4 weeks)
Cardiovascular, Pulmonary and Renal Systems (7 weeks)</td><td rowspan="9">MEDSCI 350: Basic Principles of Medicine II
17 credits

Endocrinology and Reproduction (3 weeks)
Digestion and Metabolism (5 weeks)
Nervous System and Behavioral Sciences (10 weeks)</td><td>MEDSCI 420: Basic Principles of Medicine III
8 credits over 6 weeks</td><td rowspan="9">MEDSCI 450: Principles of Clinical Medicine 2
19 credits</td><td>Internal Medicine
12 weeks</td><td>Family Medicine
4-6 weeks</td></tr>
<tr><td>CHEM 266: Basic Organic Chemistry 1
Equivalent: CHEM 222 (SGU)</td><td>MEDSCI 280: Introduction to Psychopathology
Equivalent: PSYC 411 (SGU)</td><td rowspan="8">MEDSCI 400: Principles of Clinical Medicine 1
21 credits over 18 weeks</td><td>Surgery
12 weeks</td><td>Subinternship (Psychiatry, OB/GYN, Internal Medicine, Pediatrics, or Surgery)</td></tr>
<tr><td>CHEM 266L: Organic Chemistry Laboratory
Equivalent: CHEM 223 (SGU)</td><td>MEDSCI 203: Communication for Health Professions II
Equivalent: PCLN 303 (SGU)</td><td>Pediatrics
6 weeks</td><td>Medicine Elective
4 weeks</td></tr>
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Equivalent: PCLN 302 (SGU)</td><td>MEDSCI 260: Human Anatomy
Equivalent: BIOL 460 (SGU)</td><td>Obstetrics/Gynecology
6 weeks</td><td>Additional Electives
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Equivalencies: PCLN 301 (SGU)</td></tr>
<tr><td colspan="2">Bachelor or Medical Sciences (UW)</td><td colspan="4">Shared Curriculum between two credentials</td><td colspan="2">Doctor of Medicine (SGU)</td></tr>
</table>

Appendix C – Residency and Practicing Pathways for Canadians

To return to Canada to practice medicine after graduating from SGU School of Medicine (SoM), Canadian students have two main pathways, the Canadian Residency Pathway (CaRMS) and the United States (U.S.) Residency Pathway through the National Resident Matching Program (NRMP).

CaRMS

Canadians and Canadian permanent residents (PRs) can apply to the Canadian Residency Matching Service (CaRMS) after graduating from SGU and participate in the Canadian Match process. There are a few key points to consider:

- The CaRMS timeline overlaps with the U.S. National Residency Match Program (NRMP), and the number of spots available for International Medical Graduates (IMGs) in Canada is limited[10].
- If a student matches to a residency position in Canada, they are automatically withdrawn from the U.S. match.

To be eligible to apply for Canadian residency programs, Canadian citizens and PRs must

- Complete the licensing exams
    - Medical Council of Canada Qualifying Exam Part 1 (MCCQE1), and
    - National Assessment Collaboration Objective Structured Clinical Examination (NAC OSCE).
- Apply for Canadian Residency through
    - CaRMS, decisions are based on exam results and application materials.

Pathway to Canada

Canadian residency typically takes three to five years, depending on the specialty. After completing residency, graduates can apply for licensing through the medical regulatory authority (MRA) for the province they want to practice. For instance, graduates apply to the College of Physicians and Surgeons of Ontario (CPSO) to practice in Ontario.

U.S. Residency Pathway - NRMP

For SGU graduates following the U.S. pathway through the NRMP, the steps to return to Canada and practice medicine are as follows:

- Complete U.S. Licensing Exams,
    - USMLE Step 1 (during medical school), and
    - USMLE Step 2 CK (during medical school).

[10] This means that while students can apply to both the Canadian and U.S. matches, most SGU Canadian students end up matching in the U.S. due to more opportunities available. In recent years, the CaRMS match took place after the NRMP, meaning Canadian students who matched in U.S. residencies were automatically withdrawn from the CaRMS process. However, CaRMS has now moved back to being a week before the NRMP, which allows Canadian students to apply to both programs. If they match in Canada, they are automatically withdrawn from the U.S. match. That said, the majority of SGU Canadian graduates successfully match in U.S. residencies. Over the past five years, 94 per cent of Canadian graduates from SGU have secured U.S. residency positions (Average of 2020, 2021, 2022, 2023, and 2024 residency placement rates. Residency placement rate is defined as the total number of Canadian students/graduates who obtained a U.S. residency divided by the total number of Canadian students/graduates who applied to a U.S. residency program in a given year as of October 2024).

    - The Occupational English Test (OET) (as part of the application process).
- Apply for U.S. Residency
    - Through the National Residency Matching Program (NRMP) based on their exam results and application materials.

Residency in the U.S. typically takes three to five years, depending on the specialty. During this time graduates must complete USMLE Step 3 to proceed with their residency. For those who match in the U.S. and complete residency training there, Canadian graduates can pursue licensing in Canada through the reciprocity of training agreement between the U.S. and Canada.

After completing U.S. residency, graduates have three pathways to practice medicine in Canada.

- Sit the Royal College exams if they wish to further specialize.
- Match directly into a subspecialty for the Postgraduate Year Four (PGY4) entry residency training programs, if applicable.
- Apply for certification through the College of Family Physicians of Canada.

If a graduate is board-certified in the U.S. after completing their residency, they can apply for independent licensure in Canada. There are streamlined pathways for U.S. trained (board certified) physicians.

- Verify credentials through Physiciansapply.ca (Medical Council of Canada).
- Apply for licensure through the provincial College of Physicians and Surgeons (e.g., College of Physicians and Surgeons of Ontario).

If a graduate is not board-certified in the U.S. after completing their residency, they will be required to

- Verify credentials through Physicinsapply.ca (Medical Council of Canada).
- Pass the Medical Council of Canada Qualifying Exams Part 1 and 2.
- Pass the National Assessment Collaboration Objective Structured Clinical Examination (NAC OSCE).
- Apply for licensure through the MRA for the province they want to practice.

Unmatched

For those who remain unmatched in either the CaRMS or NRMP processes, SGU has several support systems in place. The Office of Career Guidance (OCG) provides immediate outreach to any student who remains unmatched, offering guidance and support to explore other options. The Supplemental Offer and Acceptance Program (SOAP) provides a uniform process for programs to offer unfilled positions to eligible unmatched or partially matched applicants (during Match week). This offers additional opportunities for residency placement.

Graduates can leverage the SGU network for potential opportunities outside of the formal match programs. For those who do not match in the current year, SGU encourage students to build their residency resumes through clinical research placements within our extensive clinical network. Additionally, SGU offers tuition-free programs such as the Master of Public Health (MPH) and Master of Science (MSc) which can enhance their candidacy for future residency matches. Students who are unmatched in the first year may have another opportunity to enter the match in subsequent years, both in Canada and the U.S..

SUC Curriculum Subcommittee - 2025-05 - Regular Agenda- Faculty of Science

Meeting Information

Agenda Page Title
SUC Curriculum Subcommittee - 2025-05 - Regular Agenda- Faculty of Science

Career Level
Undergraduate

Faculty/Unit
Science

Date
05/20/2025

Time

Location

Summary

Motion:

To approve a new Honours Bachelor of Medical Sciences (BMSci) pathway to medicine program, in partnership with St. George's University (SGU) in Grenada, the new MEDSCI courses for the BMSci program that will deliver SGU course content, and the progression rules for the BMSci program on the "Science- Averages and Academic Standings" regulation page.

Summary

The Faculty of Science (Science) at the University of Waterloo (UW), in an exclusive North American partnership with St. George's University (SGU) in Grenada, West Indies, will provide students an educational pathway to medical training, and a Doctorate of Medicine (M.D.) in this unique undergraduate degree program. This partnership agreement between SGU and UW aligns with the success of an existing partnership agreement between SGU and Northumbria University (NU) in the United Kingdom (UK). The objective of the UW agreement is to diversify medical pathways for students, generate accelerated pathways out of high school, and create a pool of skilled medical professionals to address the demands within the Canadian health care system.

BMSci is a full-cost recovery co-matriculation undergraduate program. This program provides students with two unique opportunities, an entry from high school into a 6-year path, or an entry with first year credits into a 5-year path. In the 6-year path, students complete two years of preclinical studies at UW and four years of clinical training at SGU. In the 5-year path, students who meet pre-requisite admission requirements complete only the second of the two years at UW, followed by four years of clinical training at SGU. The courses taken during the first two years of the M.D. program at SGU will count towards degree requirements of both the BMSci and M.D. degrees.

There are currently 24 UW graduates enrolled in the M.D. program at SGU. While this is an 8-year path for these students, the proposed program would provide an accelerated pathway for students, requiring only six years to obtain an M.D. from high school. Since 2019 there have been 42 Ontario high school students that have chosen to proceed through the 6-year path at SGU.

Over the past 40 years, SGU has conferred M.D. degrees on approximately 2,400 Canadian students, where 203 chose Canadian residencies after their degree. Of these residents, 125 physicians have practiced in Ontario to date. To return to Canada to practice medicine after graduating from SGU School of Medicine, Canadian students have two main pathways, the Canadian Residency Pathway (CaRMS) and the United States (U.S.) Residency Pathway through the National Resident Matching Program (NRMP).

With the implementation of this new proposed program and agreement with SGU, it is expected that SGU enrolment of Ontario as well as Canadian students could grow, in alignment with North American students' preference to remain closer to home for the first two years of post-secondary education. The BMSci program is also an attractive alternative for a student demographic interested in an international educational pathway to practice medicine, including an interest in accessing U.S. residencies. The proposed program, with rigorous educational requirements and a shorter duration, will support Canada's efforts to recruit qualified medical professionals.

Other Business

Attachment(s)

Course Proposals

Course Proposal Details

New Courses

New MEDSCI courses- Open to students in the new Bachelor of Medical Sciences (BMSci) program only:

- MEDSCI 200, 202- Year two courses (2A BMSci), with SGU content, taught at UW
- MEDSCI 203, 250, 260, 270, 280, 290- Year two courses (2B BMSci), with SGU content (mirror term), running 16 weeks at UW
- MEDSCI 300, 350, Year three courses (3A, 3B BMSci)/ Year one Doctor of Medicine courses, taught at SGU (co-matriculation)
- MEDSCI 400, 420, 450- Year four courses(4A, 4B, 4C BMSci)/Year two Doctor of Medicine courses, taught at SGU (co-matriculation)

Table 1: Determination of Course Weights- MEDSCI

(based on SGU credits)

MEDSCI	SGU credits	weeks	Assigned UW unit weight
200	1	12	0.25
202	2	12	0.5
203	3	16	0.5
250	4	16	0.5
260	4	16	0.5
270	4	16	0.5
280	3	16	0.5
290	4	16	0.5
300	17	17	2.5
350	17	18	2.5
400	21	18	3.0
420	8	6	1.0
450	19	18	2.5

General Guidelines to determine unit weights*

SGU credits	UW units
0-1 credit	0.25 units
2-4 credits	0.5 units
5-8 credits	1.0 unit
9-12 credits	1.5 units
13-16 credits	2.0 units
17-20 credits	2.5 units
21-24 credits	3.0 units

*Using 4 credits to 0.5 unit as a rough guide, rounding up to higher credit

Courses: Retire

No proposals have been added.

Courses: New

Code	Title	Type	Workflow Step
MEDSCI 200	Learning Strategies for Pre-Professional Programs	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 202	Communication for Health Professions 1	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 203	Communication for Health Professions 2	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 250	Human Physiology	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 260	Human Anatomy	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 270	Biochemistry	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 280	Introduction to Psychopathology	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 290	Molecular Biology	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 300	Basic Principles of Medicine 1	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 350	Basic Principles of Medicine 2	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 400	Principles of Clinical Medicine 1	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 420	Basic Principles of Medicine 3	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review
MEDSCI 450	Principles of Clinical Medicine 2	Course	SUC Subcommittee, SUC Curricular Subcommittee | Under Review

Courses: Changes

No proposals have been added.

Programs & Plans Proposals

Programs & Plans Proposal Details

Major Modification

New Honours Bachelor of Medical Sciences (BMSci)

Programs & Plans: Retire

No proposals have been added.

Programs & Plans: Major Modifications

Code	Title	Type	Workflow Step
H-Medical Sciences	Medical Sciences (Bachelor of Medical Sciences - Honours)	Program	SUC Subcommittee, SUC Curricular Subcommittee | Under Review

Programs & Plans: Minor Modifications

No proposals have been added.

Regulations Proposals

Regulations Proposal Details

Changes

UG-SCI-Averages and Academic Standings

This page is modified to include progression information for the new BMSci program.

As students in the SGU M.D. program can complete their pre-clinical courses at either SGU, Northumbria (NU) or UW, it is necessary to establish equivalencies through grade conversions.

The SGU/UW grade conversion is achieved using the grade of 70 per cent at SGU representing a passing (satisfactory) minimum and aligning this with 60 per cent grade at UW, also representing a minimum satisfactory (C category) grade. The following will be used to interconvert between SGU and UW percentages:

UW% = 1.33 * SGU% - 33.3

where UW represents the percentage grade reported by a UW course and on a UW transcript, and where SGU per cent represents the percentage grade reported by a SGU course and is recorded on a SGU transcript.

SGU will set the progression and promotion requirements for students. Students receive this information in their manuals upon acceptance to SGU.

The minimum mark that students UW/SGU M.D. pathway must obtain in every course in terms 1A-2A is 70 per cent at SGU, converting to 60 per cent at UW. The term average requirements is set as an SGU grade point of 3.2 (~83 per cent). This corresponds to 77 per cent at UW.

Regulations: Retire

No proposals have been added.

Regulations: New

No proposals have been added.

Regulations: Changes

Code	Title	Type	Workflow Step
UG-SCI-Averages and Academic Standings	Science: Averages and Academic Standings	Policy	SUC Subcommittee, SUC Curricular Subcommittee | Under Review

MEDSCI 200
Learning Strategies for Pre-Professional Programs

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
As part of the Faculty of Science partnership with St. George's University (SGU) for the new Honours Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D.), MEDSCI 200 is delivered in the 2A term, as an opportunity for students to gain and apply various learning strategies. This 0.25 credit course will be taught by a UW instructor with content provided by SGU. (See H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultations with St. George's University, Grenada have taken place. See H-Medical Sciences program proposal for consultations and supportive documentation.

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
200

Course Level
200

Title
Learning Strategies for Pre-Professional Programs

Abbreviated Title
Pre-Profess Learn Strategies

Description
This is a skills development course through which students in a pre-professional program will find creative and constructive ways to gain and apply knowledge in learning situations. Students will develop a commitment to learning in a more personalized, efficient, and effective way. Significant attention will be given to study strategies and how to best place these strategies into practice in their course of study. Class sessions will provide opportunities for students to gain exposure to various learning strategies and for students to share their experiences, successes, and concerns with other students. Students will gain exposure to various learning techniques. Students will be exposed to levels of learning, types of studying, time management and planning, active review, memory, note-taking strategies, group study, and methods of developing critical-thinking skills.

Units
0.25

Undergraduate Communication Requirement Identifier
No

Components
LectureTutorial

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 202
Communication for Health Professions 1

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
Communication skills are critical in health professions. A set of two communication courses (MEDSCI 202 and MEDSCI 203) are included as part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D). These courses are in addition to HEALTH 107 which is the UCR course for the program.

MEDSCI 202 is delivered in the 2A term, followed by MEDSCI 203 in 2B. The content of both courses is provided by SGU and, taught at UWaterloo. Both courses prepare students for communication requirements in their university course work, but also in their future professional careers. See H- Medical Sciences program proposal for full background, rationale and associated supporting documents.

Consultations
Consultations with St. George's University, Grenada have taken place. (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
202

Course Level
200

Title
Communication for Health Professions 1

Abbreviated Title
Health Professions 1 Comm

Description

Practicing professionals need to be able to read, understand, and evaluate research studies. They need to be able to critically evaluate research data and to determine whether research methods and arguments are sound and valid. They need to be able to summarize, paraphrase, and synthesize published work, with appropriate documentation, to support their own professional decisions, claims and arguments. This course is designed to support students in developing these skills.

Units

0.50

Undergraduate Communication Requirement Identifier

No

Components

LectureTutorialTest Slot

Primary Component

Lecture

Grading Information

Standard Course Grading

Yes

Cross-Listing Information

Is this course cross-listed?

No

Repeatable Courses

Can this course be repeated for credit?

No

Enrolment Rules

Consent to Add

No consent required

Consent to Drop

No consent required

Prerequisites

- Enrolled in H-Medical Sciences

Corequisites

No Rules

Antirequisites

No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path

Committee approvals

Faculty/AFIW Path(s) for Workflow

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 203
Communication for Health Professions 2

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand ▲
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
Communication skills are critical in health professions. A set of two communication courses (MEDSCI 202 and MEDSCI 203) are included as part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D). These courses are in addition to HEALTH 107, which is the UCR course for the program.

MEDSCI 203 is delivered in the 2B term. Preceding the delivery of MEDSCI 203 is MEDSCI 202 in 2A. The content of both courses is provided by SGU and taught at UWaterloo. Both courses prepare students for communication requirements in their university course work, but also in their future professional careers. See H- Medical Sciences program proposal for full background, rationale and associated supporting documents.

Consultations
Consultations with St. George's University, Grenada have taken place. (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
203

Course Level
200

Title
Communication for Health Professions 2

Abbreviated Title
Health Professions 2 Comm

Description
This course aims to train students of the health professions to write clearly and effectively, to identify and correct punctuation and grammatical errors, and to write in style and registers that are appropriate for academic and professional contexts. Students will analyze several writing tasks commonly required in the health professions in order to identify and then apply the principles contributing to effectively performing these tasks. A process approach will be taken.

Units
0.50

Undergraduate Communication Requirement Identifier
No

Components
LectureTutorialTest Slot

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 250
Human Physiology

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand
Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program. (See H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
250

Course Level
200

Title
Human Physiology

Abbreviated Title
Human Physiol

Description

This course is designed to provide a fundamental basis for understanding human physiology pertinent to clinical medicine. The course uses a variety of instructional approaches to facilitate learning using lectures, quizzes, interactive multiple choice question sessions, and small group clinical discussions. Course topics teaching the essential elements, concepts, and organ systems in human physiology are delivered consecutively, grouped as follows: Cell and Tissue Physiology: Homeostasis, Excitable tissue, and Introduction to Nervous System; Neurophysiology, Autonomic Nervous, and Cardiovascular Systems; Gastrointestinal and Pulmonary Systems; and, Endocrine and Renal Systems.

Units
0.50

Undergraduate Communication Requirement Identifier
No

Components
LectureLaboratoryTutorialTest Slot

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites

- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 260
Human Anatomy

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
260

Course Level
200

Title
Human Anatomy

Abbreviated Title
Human Anatomy

Description

This course presents a systematic approach to the study of the human body. The course has been developed to provide students with a basic foundation in the anatomical sciences. The anatomical sciences include human gross anatomy, developmental anatomy, histology and cell biology. The course begins with an introduction to anatomical terminology and imaging, cellular organization, and the basic tissues. The course continues with an extensive study of the eleven major systems of the human body: integumentary system, skeletal system, muscular system, cardiovascular system, lymphatic system, respiratory system, digestive system, urinary system, male and female reproductive systems, nervous system, and endocrine system. The course is composed of lecture, laboratory, small group, and online activities.

Units
0.50

Undergraduate Communication Requirement Identifier
No

Components
LectureTutorialLaboratoryTest Slot

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites

- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 270
Biochemistry

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
270

Course Level
200

Title
Biochemistry

Abbreviated Title
Biochemistry

Description

Living organisms are construed principally from macromolecules, i.e., proteins, lipids etc. In addition, certain proteins (enzymes) catalyze most of the reactions occurring within cells. This course is designed to deal with the structure and function of proteins (including enzymes, cofactors, and antibodies), carbohydrates, nucleic acids (DNA and RNA), and lipids (including membranes structure). All cells require a continual supply of energy in the form of adenosine triphosphate (ATP). This course begins by describing the structure and significance of ATP and explains how ATP is synthesized. The key process of the TCA cycle, oxidative phosphorylation, glycolysis, and fatty acid degradation will all be described. The course will also explain how macromolecules such as carbohydrates and lipids are synthesized from simpler precursors.

Units
0.50

Undergraduate Communication Requirement Identifier
No

Components
LectureTutorialTest Slot

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites

- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 280
Introduction to Psychopathology

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
280

Course Level
200

Title
Introduction to Psychopathology

Abbreviated Title
Intro Psychopathology

Description
This course is designed to provide a fundamental basis for understanding psychopathology. It reviews the major psychiatric disorders as defined in the DSM-5. The salient diagnostic features of the mental disorders are highlighted. Major theories of the etiology of mental illness are reviewed, and neurobiological correlates of abnormal behaviour are emphasized when possible. Both psychotherapeutic and biological treatment options and outcome measures for mental illness are covered. Clinical cases and clinical videos illustrating psychopathology are utilized to enhance learning.

Units
0.50

Undergraduate Communication Requirement Identifier
No

Components
LectureTutorialTest Slot

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 290
Molecular Biology

Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

expand

Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career

Undergraduate

Important!

Quest Course ID

Effective Term and Year

Fall 2026

Offering Number

Proposal Details

Proposal Type

New

Academic Unit Approval

01/20/2025

Rationale for New Course

This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations

Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty

Faculty of Science

Academic Unit

Dean of Science Office

Subject Code

MEDSCI

Number

290

Course Level

200

Title

Molecular Biology

Abbreviated Title

Molecular Biology

Description

This course is designed to help students develop an understanding of the molecular mechanisms that biological organisms use to store and preserve genetic information, the means by which they use that information to create functional biological structures, and the techniques that are commonly used to manipulate and study these processes in the laboratory.

Units
0.50

Undergraduate Communication Requirement Identifier
No

Components
LectureTutorialLaboratoryTest Slot

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 300
Basic Principles of Medicine 1

Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand

Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career

Undergraduate

Important!

Quest Course ID

Effective Term and Year

Fall 2026

Offering Number

Proposal Details

Proposal Type

New

Academic Unit Approval

01/20/2025

Rationale for New Course

As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 300, delivered in 17 weeks in 3A, is composed of several modules addressing the body's fundamental systems. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus.

Consultations

Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty

Faculty of Science

Academic Unit

Dean of Science Office

Subject Code

MEDSCI

Number

300

Course Level

300

Title

Basic Principles of Medicine 1

Abbreviated Title

Medicine Basic Princ 1

Description

This 17-week course is the first course of the Doctor of Medicine (MD) program of St. George's University School of Medicine, Grenada. It is part one of an organ-system based curriculum for the first academic year of the program, taught in three consecutive modules as follows: Foundation to Medicine (6 weeks), Musculoskeletal System (4 weeks), and Cardiovascular, Pulmonary, and Renal Systems (7 weeks).

Units
2.50

Undergraduate Communication Requirement Identifier
No

Components
Lecture

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 350
Basic Principles of Medicine 2

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 350, delivered in 18 weeks in 3B, is composed of several modules addressing the body's endocrinology and reproductive systems. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation)..

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
350

Course Level
300

Title
Basic Principles of Medicine 2

Abbreviated Title
Medicine Basic Princ 2

Description
This 18-week course is the second course of the Doctor of Medicine (MD) program of St. George's University School of Medicine, Grenada. It is part two of an organ-system based curriculum for the first academic year of the program, taught in three consecutive modules as follows: Endocrine and Reproductive Systems (3 weeks), Digestive Systems and Metabolism (4.3 weeks), and Nervous System and Behavioural Science (10.7 weeks).

Units
2.50

Undergraduate Communication Requirement Identifier
No

Components
Lecture

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 400
Principles of Clinical Medicine 1

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand

Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval

Rationale for New Course
As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 400, delivered in the first 18 weeks of a 24-week 4A, is composed of several modules addressing the body's systems for clinical medicine. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
400

Course Level
400

Title
Principles of Clinical Medicine 1

Abbreviated Title
Clinical Medicine Princ 1

Description
This 18-week course is the fourth course of the Doctor of Medicine (MD) program of St George's University School of Medicine, Grenada. It is a systems-based curriculum for the second academic year of the program, taught in four consecutive modules: Foundations to Clinical Medicine (4 weeks), Cardiovascular and Renal Systems (4 weeks), Respiratory and Hematopoietic Systems (4 weeks), and Digestive, Endocrine, and Reproductive Systems (6 weeks).

Units
3.00

Undergraduate Communication Requirement Identifier
No

Components
Lecture

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 420
Basic Principles of Medicine 3

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career
Undergraduate

Important!

Quest Course ID

Effective Term and Year
Fall 2026

Offering Number

Proposal Details

Proposal Type
New

Academic Unit Approval
01/20/2025

Rationale for New Course
As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 420, delivered in the last 6 weeks of a 24-week 4A, is composed of several modules addressing the ethics/professionalism, medical jurisprudence, immunology and microbiology and public health. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations
Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Subject Code
MEDSCI

Number
420

Course Level
400

Title
Basic Principles of Medicine 3

Abbreviated Title
Medicine Basic Princ 3

Description
This 6-week course is the third course of the Doctor of Medicine (MD) program of St George's University School of Medicine, Grenada. The core aim of this course is to equip physicians with the knowledge and skills to understand fundamental principles inherent to a future understanding and diagnosis of microbial infections; the ability to devise and utilize strategies that improve the health of entire communities and populations and help reduce health inequities among population groups; and the capacity to uphold standards of ethics and professionalism expected across North America. The course is sub-structured into four thematic areas: ethics, professionalism, and medical jurisprudence; basics of immunology and microbiology; public health assessment tools; and culture and societal issues/physician-patient relations.

Units
1.00

Undergraduate Communication Requirement Identifier
No

Components
Lecture

Primary Component
Lecture

Grading Information

Standard Course Grading
Yes

Cross-Listing Information

Is this course cross-listed?
No

Repeatable Courses

Can this course be repeated for credit?
No

Enrolment Rules

Consent to Add
No consent required

Consent to Drop
No consent required

Prerequisites
- Enrolled in H-Medical Sciences

Corequisites
No Rules

Antirequisites
No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 450
Principles of Clinical Medicine 2

Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

expand

Waiting for Approval | Approval Delegate(s)

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date & Career

Career

Undergraduate

Important!

Quest Course ID

Effective Term and Year

Fall 2026

Offering Number

Proposal Details

Proposal Type

New

Academic Unit Approval

01/20/2025

Rationale for New Course

As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 450, delivered in 18 weeks in 4B, is composed of several modules that focus on the integration of multidisciplinary approaches to clinical scenarios that aid the students in preparation for their examinations and clinical years. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations

Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty

Faculty of Science

Academic Unit

Dean of Science Office

Subject Code

MEDSCI

Number

450

Course Level

400

Title

Principles of Clinical Medicine 2

Abbreviated Title

Clinical Medicine Princ 2

Description

This 18-week course is the fifth of the Doctor of Medicine (MD) program at the St George's University School of Medicine, Grenada, in the second academic year of the program, taught in four consecutive modules. The first module completes the teaching of the basic science content allowing a smooth transition to the remaining modules that focus on the integration of multidisciplinary approaches to clinical scenarios that aid the students in preparation for their examinations and clinical years: Muscle, Nerve, and Infections (6 weeks), Cariology, Pulmonary, Renal, and Hematology (4 weeks), Gastroenterology, Obstetrics, Endocrine, and Reproductive (4 weeks), Dermatology, Neurology, Psychiatry, and Rheumatology (4weeks).

Units

2.50

Undergraduate Communication Requirement Identifier

No

Components

Lecture

Primary Component

Lecture

Grading Information

Standard Course Grading

Yes

Cross-Listing Information

Is this course cross-listed?

No

Repeatable Courses

Can this course be repeated for credit?

No

Enrolment Rules

Consent to Add

No consent required

Consent to Drop

No consent required

Prerequisites

- Enrolled in H-Medical Sciences

Corequisites

No Rules

Antirequisites

No Rules

Course Notes

Fee Statement

Notes

Workflow Information

Workflow Path

Committee approvals

Faculty/AFIW Path(s) for Workflow

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

H-Medical Sciences
Medical Sciences (Bachelor of Medical Sciences - Honours)

Under Review | Fall 2026

Proposal Information

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee
Waiting for Approval | Approval Delegate(s)

expand

- Tim Weber-Kraljevski
- Mike Grivicic
- Diana Goncalves
- Kuali - Arts
- Kuali - Env
- Melanie Figueiredo
- Kuali - Math
- Kuali - Eng
- Kuali - Hlth
- Ashley Day
- Kuali - Science

Effective Date and Career

Career
Undergraduate

Important!

Effective Term and Year
Fall 2026

Proposal Details

Proposal Type
New

Academic Unit Approval
02/03/2025

Quality Assurance Designation
Major Modification

Major Modification Categories
Create a brand new program

Recruitment Materials
Yes

Co-operative System of Study and Requirements
Not Applicable

Creating or Changing Invalid Combinations
Yes

Invalid Combinations Consultations
The BMSci is a rigorous academic program that does not permit for minors, options or other credentials.

Rationale and Background for New Program/Plan

The Faculty of Science (Science) at the University of Waterloo (UW), in partnership with St. George's University (SGU) in Grenada, West Indies, has created a unique full cost-recovery co-matriculation undergraduate regular degree program. The objective of this program is to diversify medical pathways for students, generate accelerated pathways out of high school, and create a pool of skilled medical professionals to address the demands within the Canadian health care system.

This program provides students with two unique opportunities, an entry from high school into a 6-year path, or an entry with first year credits into a 5-year path. In the 6-year path, students complete two years of preclinical studies at UW and four years of clinical training at SGU. In the 5-year path, students who meet pre-requisite admission requirements complete only the second of the two years at UW, followed by four years of clinical training at SGU. The courses taken during the first two years of the M.D. program at SGU will count towards degree requirements of both the BMSci and M.D. degrees.

With the implementation of this new proposed program and agreement with SGU, it is expected that SGU enrolment of Ontario as well as Canadian students could grow, in alignment with North American students' preference to remain closer to home for the first two years of post-secondary education. The BMSci program is also an attractive alternative for a student demographic interested in an international educational pathway to practice medicine, including an interest in accessing U.S. residencies. The proposed program, with rigorous educational requirements and a shorter duration, will support Canada's efforts to recruit qualified medical professionals. Currently there are no other North American institutions with a similar partnership agreement with an international medical school.

The proposed program is administered fully on-campus (UW and SGU) with a proposed launch of Fall 2026 and a first-year intake of up to 100 students, with a projected enrolment of 25 students for each of the 6-year and 5-year tracks (a minimum student number of 10 for each track, below which the program will not be offered). The proposed program aligns the learning outcomes between UW, SGU and Northumbria University (NU). The curriculum was designed by applying long standing analytical practices of metrics and assessments that drive the success of students and graduates in medical education.

The tuition fee for Fall 2026 is projected to be $47,904 USD for the academic year, converting to ~ $70K CAD. A portion of the gross revenue from the tuition fee is allocated to UW to account for the human resource costs of administering the proposed program. These will be additional administrative and academic supports to promote student success in the program. This will include a dedicated advisor at the UW, after hours support, an advisor at SGU and cohort building activities, access to a peer mentorship program, and interaction with SGU alumni and physicians.

Administratively, the UW benefits from the success of existing collaborative practices, processes and procedures that puts at the center the specific needs of this student demographic. Student success drives the collaborative model between SGU and the institutional partnerships (NU and UW). As a result of the partnership agreement between SGU and NU, UW will share/ access resource intensive administrative processes such as Registration and Admission, Marketing and Recruitment, and residency placement. The services through the Office of Career Guidance at SGU begin in the second year of the M.D. program (before clinical rotations) and continue after students graduate and enter residency. As per the partnership agreement, Canadian students have access to comprehensive resources for those aiming to return to Canada for residency, including a Canadian Residency Mentor who provides coaching on navigating the recruitment process.

The postsecondary credits students earn in the proposed program could be transferred to other science-related programs because there is considerable overlap in course requirements between the BMSci and other programs at UW. Students who choose not to continue in the proposed program, or who have failed to meet progression requirements will have the opportunity to transfer the course credits for entry to several existing Science programs. At this time, students will be reassessed to determine whether they meet the entry requirements for their chosen program at UW.

Consultations (Departmental)

Science Associate Chairs notified of new program via email (L. Deakin) January 21, 2025; Feb 4, 2025- support obtained from the departments for Biology, Chemistry, and Physics courses included in the BMSci program (Jan 25 through Feb 4).

Jan 16, 2025 support from Faculties and departments offering HLTH 101, 204, HEALTH 107, KIN 146 and PSYCH 101 supporting these courses in the program for 2026 start term (email reply from L. Deakin, ADU Health, ADU Arts).

Consults with Registrar's office regarding 16 week term 2B (email J. Coghlin, Jan 31, 2025).

Supporting Documentation

General Program/Plan Information

Faculty
Faculty of Science

Academic Unit
Dean of Science Office

Field of Study
Medical Sciences

Faculty
Faculty of Science

Undergraduate Credential Type
Major

Program Type
Honours

Degree
Bachelor of Medical Sciences

Program/Plan Name
Medical Sciences (Bachelor of Medical Sciences - Honours)

Systems of Study
Regular

Online Degree/Diploma

Admissions

Admissions Entry Point
Direct Entry

Admission Requirements: Minimum Requirements

Academic Criteria

For direct entry from high school, an Ontario Secondary School Diploma (OSSD) with an overall average of about 90 per cent with a strong science performance, are the typical requirements for entry to SGU pre-clinical programs. The students admitted into the BMSci program will have met SGU admission requirements.

Once SGU completes an assessment of the potential students' credentials and have deemed they meet the admission requirements, they are provided with a link to an Ontario Universities' Application Centre (OUAC) application specific to this program. The OUAC application fee will be waived. The OUAC application to UW will enable the standard new student processes to take place. Once the potential UW student accepts the offer from the university, they are added to the Student Information System/Student Records (Quest) and receive identical communication and services afforded any student. At this stage they are considered a standard UW student with all the rights and privileges of a first-year student which means they have access to all the resources, amenities, benefits, services on-campus, and guaranteed access to housing in residence.

Non-Academic Criteria

SGU also undertakes a holistic admission process where students are examined for personal characteristics such as motivation for medicine, empathy and compassion, communication skills, critical thinking and curiosity, resilience, and teamwork. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

Requirements Information

Invalid Combinations
No

Average Requirement
Yes

Minimum Average(s) Required

- A minimum 60.0% (UW) grade in all courses (see Academic Standing rules).

Notes

- UW grades earned in 1A though 2A are provided to SGU to be converted for determination of progression.
- SGU grades terms 2B though 4C, providing transcripts to UW for conversion to UW equivalent grades for the student transcript.
- Progression rules are based on SGU requirements and converted to UW grades (see Academic Standing Rules).

Graduation Requirements

Unit Requirements

- Complete a total of 24.0 units.

Full-Time Terms

- Have full-time enrolment in years one through four.

Undergraduate Communication Requirement (UCR)

Students are required to complete one course to meet the Undergraduate Communication Requirement: HEALTH 107

Notes

1. Successful completion of the UCR will result in a communication milestone on the student record.
2. Students transferring to another faculty should note that additional courses may be required to satisfy the other faculty's UCR.
3. Normally, transfer credits cannot be used to satisfy the UCR.

Co-operative Education Program Requirements

Required Courses (Term by Term)

1A Term

- Complete all of the following
  - Complete all the following:
    - BIOL130 - Introductory Cell Biology (0.50)
    - BIOL130L - Cell Biology Laboratory (0.25)
    - CHEM120 - General Chemistry 1 (0.50)
    - CHEM120L - General Chemistry Laboratory 1 (0.25)
    - HLTH101 - Introduction to Health 1 (0.50)
    - PHYS105 - Introduction to Physics for Health Care Professions (0.50)
  - Complete 1 of the following:
    - PSYCH101 - Introductory Psychology (0.50)
    - PSYCH101R - Introductory Psychology (0.50)

1B Term

- Complete all the following:
  - BIOL201 - Human Anatomy (0.50)
  - BIOL239 - Genetics (0.50)
  - CHEM123 - General Chemistry 2 (0.50)
  - CHEM123L - General Chemistry Laboratory 2 (0.25)
  - HEALTH107 - Sociology of Activity, Health, and Well-Being (0.50)
  - HLTH204 - Quantitative Approaches to Health Science (0.50)
  - KIN146 - Introduction to Human Nutrition (0.50)

2A Term

- Complete all the following:
  - BIOL240 - Fundamentals of Microbiology (0.50)
  - BIOL240L - Microbiology Laboratory (0.25)
  - BIOL273 - Principles of Human Physiology 1 (0.50)
  - CHEM237 - Introductory Biochemistry (0.50)
  - CHEM266 - Basic Organic Chemistry 1 (0.50)
  - CHEM266L - Organic Chemistry Laboratory (0.25)
  - MEDSCI200 - Learning Strategies for Pre-Professional Programs (0.25)
  - MEDSCI202 - Communication for Health Professions 1 (0.50)

2B Term

- Complete all the following:
  - MEDSCI203 - Communication for Health Professions 2 (0.50)
  - MEDSCI250 - Human Physiology (0.50)
  - MEDSCI260 - Human Anatomy (0.50)
  - MEDSCI270 - Biochemistry (0.50)
  - MEDSCI280 - Introduction to Psychopathology (0.50)
  - MEDSCI290 - Molecular Biology (0.50)

3A Term

- Complete all the following:
  - MEDSCI300 - Basic Principles of Medicine 1 (2.50)

3B Term

- Complete all the following:
  - MEDSCI350 - Basic Principles of Medicine 2 (2.50)

4A Term

- Complete all the following:
  - MEDSCI420 - Basic Principles of Medicine 3 (1.00)

4B Term

- Complete all the following:
  - MEDSCI400 - Principles of Clinical Medicine 1 (3.00)

4C Term

- Complete all the following:

- MEDSCI450 - Principles of Clinical Medicine 2 (2.50)

Course Lists

Required Courses

No Rules

Are there cross-listed courses listed in requirements?
Yes

Cross-Listings Options
All cross-listings to be displayed

Additional Constraints

- Students are required to take courses in person/on campus.
- The BMSci program cannot be combined with any other major, minor, or option designation except as described in the invalid credential combinations.

Notes

- See list of academic advisors.
- Years One and Two are completed at the University of Waterloo.
- Years Three and Four are completed at the St. George's University, School of Medicine, Grenada.

Specializations

Specializations for this Major
No

Workflow Information

Workflow Path
Committee approvals

Faculty/AFIW Path(s) for Workflow
Faculty of Science

Senate Workflow
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Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

UG-SCI-Averages and Academic Standings
Science: Averages and Academic Standings

Under Review | Fall 2026

Proposal Information

Status
Active

Workflow Status
In Progress

SUC Subcommittee, SUC Curricular Subcommittee expand
Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski
Mike Grivicic
Diana Goncalves
Kuali - Arts
Kuali - Env
Melanie Figueiredo
Kuali - Math
Kuali - Eng
Kuali - Hlth
Ashley Day
Kuali - Science

Changes

- Regulation Details
- Effective Term and Year
- Description
- participants
- Admin Notes

Show All

Effective Date & Career

Career
Undergraduate

IMPORTANT!

Proposed
Effective Term and Year
Fall 2026

Existing
Effective Term and Year
Fall 2023

Proposal Details

Proposal Type
Change

Rationale and Background
A new Bachelor of Medical Sciences (BMSci) program will have it's own unique progression information, which is included on this page.

Supporting Documentation

General Regulation Information

Type of Regulation
Faculty-specific

Faculty
Faculty of Science

Regulation Grouping
Regulations for Faculty of Science Students

Regulation Page Name
Science: Averages and Academic Standings

Proposed

Description

academic standings (Bachelor of Science, Bachelor of Science and Financial Management, Bachelor of Medical Sciences, Doctor of Optometry, Doctor of Pharmacy), readmission following a failed standing, non-degree term

Existing

Description

academic standings (Bachelor of Science, Doctor of Optometry, Doctor of Pharmacy), readmission following a failed standing, non-degree term

Regulation Details

Proposed

Regulation Details

This page presents academic standing information for the degrees of Bachelor of Science, Bachelor of Science and Financial Management, Bachelor of Medical Sciences, Doctor of Optometry, and Doctor of Pharmacy.

Academic Standings - Bachelor of Science & Bachelor of Science and Financial Management

The Bachelor of Science (BSc) and Bachelor of Science and Financial Management (BScFM) operate under a unit-weight system in which student progress is measured by units successfully completed rather than by years. See Determination of Level and Term of Study in this Calendar for details.
At the end of each term, the Faculty of Science determines the academic standing for students in the Faculty. Grading Systems and Processes defined in this Calendar are used to make these evaluations. Academic standings are viewable in Quest.

Excellent, Good, or Satisfactory Standing

Students who meet, or exceed, the minimum academic requirements for their plan, will be in Excellent, Good, or Satisfactory academic standing, depending on their plan and their cumulative term and overall averages.

Assuming all other requirements are met, most majors in Science use the standings as follows:

- Excellent: minimum cumulative overall average greater than or equal to 80%
- Good: minimum cumulative overall average overall greater than or equal to 70% and less than 80%
- Satisfactory: minimum cumulative overall average greater than or equal to 60% and less than 70%

Students should consult individual Science academic programs and plans for exceptions.

Conditional Standing

Students with average(s) 1.5% below the minimum requirements for their plan may be placed in Conditional academic standing and are normally given only one additional term in which to attain a Satisfactory or better academic standing.

Students with a Conditional academic standing are strongly advised to meet with their academic advisor for plan-specific advice and the Science Student Success Officer to determine their best course of action and to discuss strategies to overcome barriers to academic success.
Students are not able to graduate while in Conditional academic standing.

Standings Requiring a Change in Major

Unsatisfactory - Eligible for Honours Science

Students whose minimum cumulative overall, major, or special major average does not qualify for Conditional standing, will be moved into Honours Science. In a future term, depending on minimum cumulative overall, major, or special major average, students may be eligible to resume their original honours plan. Readmission to a co-operative program is not guaranteed and depends on availability of space and academic averages. Students with averages below the requirements for Honours Science could receive an Unsatisfactory - Eligible for General Science Only academic standing.

Unsatisfactory - Eligible for General Science Only

When students in an honours plan do not qualify for Conditional standing or movement into Honours Science, they may be moved to General Science, depending on their averages. Students are deemed to be successful in their subsequent term if both the minimum cumulative Science and overall averages are at least 55%. In a future term, depending on minimum cumulative Science and overall averages, students may be eligible to resume their original honours plan or can continue in General Science. Readmission to a co-operative program normally does not occur.

Must Change Academic Plan

Students must change their academic plan if they exceed a plan-specific failure limit or have average(s) below plan requirements. In instances where the failure limit is exceeded, the plan will be changed to one outside the academic unit/discipline. Instances where average(s) are below the conditional threshold for plan minimums will trigger a change from the student's plan to another plan within the same academic unit/discipline.

Decision Deferred

A standing decision will be deferred when there is insufficient information for a decision to be made. A decision deferral will occur in instances where the student has:

- two or more incomplete (INC) grades
- an IP, MM, and/or UR grade
- insufficient numeric grades in their first term
- insufficient courses completed in their first conditional readmission term

Revised INC, IP, MM, and/or UR grades may lead to an updated academic standing and average calculation.

Decision Not Applicable

A standing decision will not be made in certain circumstances, e.g. a term with a petition decision, when there are no numeric grades (WDs, CR/NCRs), or when there is no program benchmark to compare progress such as post-degree studies.

Failed Standing for Students in 1A or 1B

Failed

Students in 1A or 1B will normally receive a Failed academic standing from the Faculty of Science under the following conditions:

- after failing a minimum of 1.5 units in a single academic term;
- after failing to achieve a minimum overall cumulative average of 55% and a minimum cumulative Science average of 55%; or
- if the Associate Dean, Undergraduate Studies judges that a student is unlikely to profit from further study.

Students receiving this standing have three options:

1. Foundation Term: Student will be moved to General Science and must follow a structured term of courses as determined by the Science Student Success Officer. The course load will be UNIV101 and either two science courses, or one science and one mathematics course, excluding SCI or SCBUS courses. Students must obtain a minimum grade of 60% in each lecture and lab. General requirements, principles, and outcomes can be found in the Foundation Term page of this Calendar.
2. Science Non-degree Term: Students who wish to pursue studies in another faculty must enrol in a Science non-degree term in preparation for the transfer.

3. Readmission Term: Students can apply for readmission after an absence of two consecutive academic terms (eight months).

Required to Withdraw - May Not Continue in Faculty

Students will normally receive a Required to Withdraw - May Not Continue in Faculty academic standing in the following situations:

- not meeting the conditions for readmission;
- not meeting the average requirements for the Foundation Term.

Failed Standing for Students in 2A or Above

Failed

Students will normally receive a Failed academic standing from the Faculty of Science in the following situations:

- after failing a minimum of 1.5 units in a single academic term;
- after failing to achieve a minimum overall cumulative average of 55% and a minimum cumulative Science average of 55%; or
- if the Associate Dean, Undergraduate Studies judges that a student is unlikely to profit from further study.

Students receiving this standing have two options:

1. Students who receive their first Failed academic standing may normally apply for readmission after an absence of two consecutive terms (eight months).
2. Students who are already enrolled in courses for the following term, when they receive this standing, can either withdraw or be moved to a Science non-degree term and allowed to finish that term. However, students who continue in a Science non-degree term will not be eligible to apply for readmission into any Science degree program in the future.

Required to Withdraw - May Not Continue in Faculty

Students will normally have a Required to Withdraw - May Not Continue in Faculty academic standing in the following situations:

- not meeting the conditions for readmission;
- after failing more than 5.0 cumulative units, regardless of the Science or overall averages;
- not meeting program/plan average requirements and/or failing 1.5 units or more, in any given term, following a previous Failed standing from the Faculty of Science.

Co-op Standing Rules

Students will be removed from their co-op program in the following situations:

- Two unemployed or failed work-term opportunities.
- Three missing or failed PD courses.
- Failure to successfully meet academic program requirements.
- Failure to successfully complete PD1 before the start of the second work term.
- Failure to successfully complete PD11 by the end of the second work term.

Readmission Following a Failed Standing

Students who have received a Failed academic standing must submit an Application for Undergraduate Readmission two months before the requested term of readmission.

Readmission Conditions

Students will be readmitted into General Science and must maintain a minimum cumulative average of 55% and a minimum cumulative Science average of 55%. This determination will be made based on a minimum of five lecture courses that must be taken within a maximum of two terms. Students must complete a minimum of two approved Science lecture courses, plus any related labs where applicable, each term. Successful completion of this term will result in clearing of failed and below-average course grades up to a maximum of 3.0 units. Cleared grades will be removed from averages but not removed from the student's academic record. When conditions are not met, students will receive a Required to Withdraw - May Not Continue in Faculty academic standing.

Science Non-Degree Term

Students are normally allowed to enrol in one Science non-degree term following a Failed or a Required to Withdraw - May Not Continue in Faculty academic standing. Students enrolled in such a term are ineligible to return to any Science degree program. Enrolment in a Science non-degree term is done in consultation with the appropriate academic advisor in the Science Undergraduate Office and an advisor from the faculty in which the student is anticipating admission.

Academic Standings - Bachelor of Medical Sciences

The factors considered for term-to-term progression, from 1A up to 2B include the term average and minimum course grades. Accumulative overall averages are not considered. Progression from 2B to 3A considers minimum course grades, minimum averages across 2A and 2B, minimum Science average across 2A and 2B (excludes communications and learning strategies courses), and minimum grades on each component of a comprehensive exam.

Progression From 1A up to 2B

To progress term by term from 1A up to 2B, student must meet course and term minimums.

Satisfactory

A student receives this standing, and can progress to the next term if,

- the student obtains a minimum 60% in each course, and,
- the student obtains a 77% term average.

May not Proceed

A student receives this standing if,

- one or more courses are below 60% and/or;
- the term average is below 77%.