

University of Waterloo
SENATE UNDERGRADUATE COUNCIL
Notice of Meeting

DATE: Tuesday 10 May 2022
TIME: 12:30 p.m. – 2:30 p.m.
PLACE: Teams – See meeting invitation or contact the secretary

Open Session

Item	Action
1. Declarations of Conflict of Interest - Excerpt from Senate Bylaw 1*	Information
2. Approval of the 12 April 2022 Minutes* and Business Arising	UGC
3. Curricular Items for Approval & Information	
a. Engineering*	UGC
b. Mathematics*	UGC
c. Science*	3 SEN-R, rest UGC
d. Co-operative Education*	UGC
4. Other Business	
5. Next Meeting: Tuesday 14 June 2022, 12:30 to 2:30 p.m. via Teams	

*material attached/to be distributed**

“SEN-C” to be recommended to Senate for approval (consent agenda)

“SEN-R” to be recommended to Senate for approval (regular agenda)

“UGC” to be approved on behalf of Senate & sent to Senate for information

4 May 2022

Tim Weber-Kraljevski
Associate University Secretary

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 12 April 2022 Meeting
[in agenda order]

Present: Monica Barra, Antonia Cass, Benoit Charbonneau, Victoria Chu, Zinnia Chung, Martin Cooke, Daniel Davison, Vivian Dayeh, David DeVidi, Leeann Ferries, Carol Ann MacGregor, Vincent Macri, Kristiina Montero, Catherine Newell Kelly (acting Chair), Jeremy Pittman, Tim Weber-Krajlevski (secretary), Richard Wikkerink, Stephanie Ye-Mowe

Resources/Guests: Blair Clarence, Jennifer Coghlin, Danielle Jeanneault, Amanda McKenzie, Tanya Missere-Mihas, Carrie Morlson, Toni Serafini, Bruno Tremblay

Regrets: Veronica Austen, Brendon Larson

Organization of Meeting: Catherine Newell Kelly took the chair, and Tim Weber-Krajlevski acted as secretary. The secretary advised that a quorum was present. The chair noted that item 3.f. was withdrawn from the agenda. The agenda was approved without formal motion.

1. DECLARATIONS OF CONFLICTS OF INTEREST

MacGregor declared a conflict of interest for item 4.a and the chair indicated that MacGregor would be asked to temporarily withdraw from the meeting during the discussion and vote of the approval of the Human Sciences Final Assessment Report.

2. APPROVAL OF THE 15 FEBRUARY 2022 MINUTES AND BUSINESS ARISING

The minutes were approved without formal motion. There was no business arising from the minutes.

3. CURRICULAR ITEMS FOR APPROVAL & INFORMATION

Arts. Following an overview of new courses, there was a motion to approve these items on behalf of Senate. Cooke, Ferries. Carried with friendly amendment to remove approval of new course CHINA 180R on pp. 6 and 7 of the agenda package from the motion. Cooke spoke to course changes. Discussion included: the rationale for cross-listing BLKST 244 as ENGL 244. There was a motion to approve the course changes on behalf of Senate. Cooke and Charbonneau. Carried with friendly amendment to remove the approval of the changes to ENGL 109, ENGL 119, ENGL 129R, and ENGL 210E on pp. 25, 26, and 27 of the agenda package from the motion. Cooke spoke to the inactivation of AFM 211, AFM 344, ENGL 310C, and CHINA 200R. There was a motion to approve the inactivation of the courses on behalf of Senate. Cooke and Barra. Carried. Cooke took members through the new academic plan proposals for Honours English – Creative and Professional Writing and Four-Year General English – Creative and Professional Writing. In response to a question, members heard that the Registrar’s Office will be introducing guiding principles and other large-scale changes with the new software which will reduce repetition within the calendar. There was a motion to recommend that Senate approve the new academic plans as presented. Cooke, Barra. Carried. Cooke spoke to minor plan modifications. There was a motion to approve the minor plan modifications on behalf of Senate as presented. Cooke, Ferries. Carried.

Health. Ferries took member through the course changes. There was a motion to approve the course changes on behalf of Senate. Ferries, Barra. Carried. Ferries spoke on the inactivation of the Accelerated Master's Program in the School of Public Health Sciences, and noted that it had also been brought forward to Senate Graduate & Research Council for approval. Discussion included the need of clear benefits for accelerated options. There was a motion to recommend that Senate approve the inactivation of the academic plan Ferries, Barra. Carried. [Note: The inactivation of the Accelerated Master's Program in the School of Public Health Sciences had already been approved by Senate Graduate & Research Council who had presented it as information to Senate on 18 April 2022 Senate. Therefore, the recommendation was not sent to Senate, and instead the removal of the program from

the Undergraduate Studies Academic Calendar was sent to Senate as information.]

Mathematics. Charbonneau provided an overview of new course AMATH 362. There was a motion to approve the new course on behalf of Senate. Charbonneau, Barra. Carried. Charbonneau took members through the course changes and minor academic plan modifications for the Combinatorics & Optimization minor and the Mathematics/FARM plan requirements. There was a motion to approve the course changes and minor academic plan modifications on behalf of Senate. Charbonneau, Barra. Carried.

Science. Barra spoke to the need to correct the effective date for previous approved Pharmacy course changes and inactivation of courses. There was a motion to approve the correction of the effective date on behalf of Senate. Barra, Charbonneau. Carried.

Renison University College. Montero provided an overview of course changes, with the exception of changes to ENGL 129R as the changes had been removed from Faculty of Arts' course changes motion. There was a motion to approve the course changes for SWREN 411R on behalf of Senate. Montero, Barra. Carried.

Sustainability and Financial Management. Cooke presented a minor plan change on behalf of the Faculty of Arts and the Faculty of Environment. There was a motion to approve the minor plan change on behalf of Senate. Cooke, Barra. Carried.

4. ACADEMIC PROGRAM REVIEWS

FAR – Human Sciences. MacGregor provided an overview of some challenges and weakness found in the review, as well as the actions taken in response to the review's recommendations, highlighting: the appointment of an interim program director; the commitment to review and reconsider all current course offerings; the commitment to change the name of the program; and the commitment of future board consultation. MacGregor indicated that the future of the program will be considered as part of St. Jarome's University process of developing a new academic plan, and all options are being considered including cancelling the program. Discussion included: the importance of considering all options.

PR English Language Studies. Montero spoke to the two-year progress report, highlighting: the loss of a faculty position and staffing issues; the credit status being removed from the EMLS graduate courses; and the newly established Undergraduate Communication Outcomes (UCO) Group. Discussion included: the needs EMLS students; and encouraging broader collegial support and discussions across campus.

PR English Language Institute. Tanya Missere-Mihas joined the meeting. Missere-Mihas spoke to the two-year progress report, highlighting: an overview of the BASE and EFAS; the pivot to online; concerns with the diversity of student; and concerns with recent low number of students. Discussion included: EFAS's ability to recruit students; and student and course who are outside of Quest. Missere-Mihas left the meeting.

PR Italian Studies. Bruno Trembly joined the meeting. Trembly spoke to the two-year progress report, highlighting: the hiring of a tenure-track faculty member; online course offerings; the new Diploma in Italian Language; and collaborative projects with Italian Studies at the School of Languages and Literatures, University of Guelph. Discussion included: the possibility of MOUs between UW departments and departments at other institutions, and the use of informal arrangement. Trembly left the meeting.

PR General and Honours Science. Barra spoke to the two-year progress report, highlighting: the increased outreach initiatives, initiatives introduced to develop a community of learners and to manage student experience. It was noted that a signed version of the progress report was available and would be submitted to Senate.

MacGregor withdrew from the meeting. There was a motion to approve the Final Assessment Report for Human Sciences on behalf of Senate. Cooke, Charbonneau. Carried. MacGregor rejoined the meeting and Montero

withdrew from the meeting. There was a motion to approve the two-year progress report for English Language Studies on behalf of Senate. Barra, Ferries. Carried. Montero returned to the meeting. There was a motion to approve the two-year progress report for English Language Institute on behalf of Senate. Charbonneau, Cooke. Carried. There was a motion to approve the two-year progress report for Italian Studies on behalf of Senate. Barra, Ferries. Carried. Barra withdrew from the meeting. There was a motion to approve the two-year progress report for General and Honours Science on behalf of Senate. Ferries, Charbonneau. Carried. Barra returned to the meeting.

5. OTHER BUSINESS.

In response to a question, members heard explanations for how each of the faculties address the situation of students illness from COVID-19 during final examination period, with it noted that the calendar states accommodations due to illness for final examinations are not automatic and it is up to instructors to determine. It was also noted that the calendar indicates that any unresolved disputes between will be decided by the appropriate associate dean and that students have the ability to submit a grievance under Policy 70. Concerns were raised and discussion occurred around the following topics: differences in approaches between faculties and between instructors; the impact of deferred examinations, particularly for international students; the risk of current practices incentivising students to come on campus while ill; timeframes for grievances; and students' awareness of the thresholds to be eligible for deferred examinations. There was a motion for council to urge the President and/or Senate to, for the duration of the Winter 2022 term, immediately require instructors to accommodate any students who self-declare illness on Quest or are supposed to self-isolate according to Ontario guidelines, when those students have a reasonable chance of passing the course; and that such accommodations must account for the realities students face regarding visa, employment, and feasibility issues. Macri, motion not seconded. Failed.

The chair thanked members of council whose terms were ending as of 30 April 2022 for their service.

6. NEXT MEETING

The next meeting is Tuesday 15 February 2022 12:30 – 2:30 p.m. via Teams.

20 April 2022

Tim Weber-Kraljevski
Associate University Secretary

April 12, 2022

TO: Rebecca Wickens, Associate University Secretary, Secretariat

FROM: Dan Davison, Associate Dean, Undergraduate Studies, Faculty of Engineering

SUBJECT: Items for Approval at April 12, 2022 Senate Undergraduate Council

ALL CURRICULUM CHANGES ARE EFFECTIVE SEPTEMBER 2023 UNLESS OTHERWISE NOTED.

1. **New Courses**
2. **Course Changes** *[For Approval]*
 - 2.1. School of Architecture (ARCH342)
 - 2.2. Conrad School of Entrepreneurship and Business (BET412)
3. **Course In-activations** *[For Approval]*
 - 3.1. Complementary Students Elective (GENE412)
4. **Academic Plans (Minor Modifications)** *[For Approval]*
 - 4.1. Architectural Engineering
 - 4.2. School of Architecture
 - 4.3. Management Engineering
 - 4.4. Management Science Option
 - 4.5. CSE List
5. **Other**
 - 5.1. Temporary Calendar Deviations due to the Pandemic *[For Information]*

COURSE CHANGES (for approval)

Architecture - School of

Current Catalog Information

ARCH 342 (1.00) LEC, TUT Modernisms: Local and Global

This course examines the cultural, architectural, urban, and environmental history of those complex movements designated as "modernism". Through selected works, projects and texts, this course studies the changing social, industrial, aesthetic, and ecological ambitions of these movements, critically reviewing their development and examining forms of acceptance and resistance to the "modern project". Through the examination of selected Canadian and international artistic, cultural, architectural, and landscape works, this course questions the technological, political, and social ideologies that continue to inform our buildings and cities as well as our relation to the earth and environment. Using a thematic approach to address the complexity of modernization, modernism, and modernity, this course presents issues related to habitat, health, craft, economy, and labour; histories of displacement, global narratives, resistance movements, and processes of emancipation and decolonization.

[Offered: W]

No Special Consent Required

Requisites : Prereq: ARCH 247

Effective 01-SEP-2023

Requisite Change : Prereq: ARCH 248

Rationale : Replacing ARCH 247 prerequisite (inactivated Sep-1-2015) with ARCH 248.

Conrad School of Entrepreneurship and Business

Current Catalog Information

BET 412 (0.50) PRJ Advanced Topics in Entrepreneurship

This course will be taken by students in the corporate entrepreneurship track of the Entrepreneurship Minor, and approved by the program co-ordinator in order to meet the experiential component requirements in the minor with special projects as assigned.

[Note: Not open to engineering students. Offered: F,W,S]

Instructor Consent Required

Requisites : Prereq: Enrolled in Entrepreneurship Minor

Effective 01-SEP-2023

Description Change: This course will be taken by students in the corporate entrepreneurship track of the Entrepreneurship Minor, and approved by the program co-ordinator in order to meet the experiential component requirements in the minor with special projects as assigned. [Offered: F,W,S]

Rationale : The description is updated removing the note, not open to engineering students. The entrepreneurship minor is now open to engineering students.

Civil and Environmental Engineering

Current Catalog Information

AE 300 (1.00) LEC, PRJ, STU, TUT Architectural Engineering Studio

Comprehensive design project of building or bridge in collaboration with the School of Architecture. Integration of structure, systems, and architecture explored with case studies. Preparation of construction drawings and specifications. [Offered: S]

No Special Consent Required

Requisites :

Prereq: AE 225; Level at least 3A Architectural Engineering

Effective 01-SEP-2023

Title Change:

Architectural Engineering Studio 1

Description Change:

Comprehensive mid-sized community building design project(s) in collaboration with the School of Architecture. Integration of structure, systems, and architecture explored with case studies. Preparation of construction drawings and specifications. [Offered: S]

Rationale :

The 3rd and 4th year studio courses are reorganized to give students two integrative studio projects in 3A and 3B leading up to the 4A/4B capstone project. The reorganization moves the group capstone project to the end of the curriculum (where it should logically be), and moves the individual design project out of 4B. With the experience we have acquired teaching Architectural studio courses over the last three years, we believe this cannot be practically and effectively delivered with the high student-professor ratios we currently have.
[Short title: Architectural Eng Studio 1]

Current Catalog Information

AE 325 (0.50) LEC, PRJ Project 1 Studio

Students undertake a group architectural engineering design project over two terms of their program. The purpose of the project is to demonstrate students' abilities to practise in their chosen area of expertise, using knowledge gained from their academic and employment experiences. Projects integrate all relevant aspects (e.g., structure, constructability, mechanical and enclosure) within appropriate defined social, economic, environmental, political, and technical constraints. [Offered: W]

No Special Consent Required

Requisites :

Prereq: AE 300; Level at least 3B Architectural Engineering

Effective 01-SEP-2023

Title Change:

Architectural Engineering Studio 2

Description Change:

Comprehensive large multi-storey building design project(s) in collaboration with the School of Architecture. Integration of structure, systems, and architecture explored with case studies. Preparation of construction drawings and specifications. [Offered: W]

Rationale :

The 3rd and 4th year studio courses are reorganized to give students two integrative studio projects in 3A and 3B leading up to the 4A/4B capstone project. The reorganization moves the group capstone project to the end of

the curriculum (where it should logically be), and moves the individual design project out of 4B. With the experience we have acquired teaching Architectural studio courses over the last three years, we believe this cannot be practically and effectively delivered with the high student-professor ratios we currently have.
[Short title: Architectural Eng Studio 2]

Current Catalog Information

AE 400 (0.50) PRJ Project 2 Studio
Completion of the project defined and initiated in AE 325. Complete oral presentation, written and graphics deliverables. [Offered: S]
No Special Consent Required
Requisites : Prereq: AE 325; Level at least 4A Architectural Engineering

Effective 01-SEP-2023

Title Change: Project Studio 1
Description Change: Students undertake a group architectural engineering design project over two terms of their program. The purpose of the project is to demonstrate students' abilities to practice in their chosen area of expertise, using knowledge gained from their academic and employment experiences. Projects integrate all relevant aspects (e.g., structure, constructability, mechanical and enclosure) within appropriate defined social, economic, environmental, political, and technical constraints. Project management and sustainability considerations will be emphasized. [Offered: S]
Rationale : The 3rd and 4th year studio courses are reorganized to give students two integrative studio projects in 3A and 3B leading up to the 4A/4B capstone project. The reorganization moves the group capstone project to the end of the curriculum (where it should logically be), and moves the individual design project out of 4B. With the experience we have acquired teaching Architectural studio courses over the last three years, we believe this cannot be practically and effectively delivered with the high student-professor ratios we currently have.
[Short title: Project Studio 1]

Current Catalog Information

AE 425 (0.50) PRJ Project 3 Studio
A comprehensive individual design project of building, bridge, tower, etc. with a defined focus on a specific building system: mechanical, structural, enclosure, architectural. Research of precedents and the state of technology will be part of this. Complete oral presentation, written report, and graphics deliverables. [Offered: W]
No Special Consent Required
Requisites : Prereq: AE 400; 4B Architectural Engineering

Effective 01-SEP-2023

Title Change: Project Studio 2
Description Change: Completion of the detailed technical design for the project defined and initiated in AE 400. Complete oral presentation, written and graphics

deliverables.

[Offered: W]

Rationale :

The 3rd and 4th year studio courses are reorganized to give students two integrative studio projects in 3A and 3B leading up to the 4A/4B capstone project. The reorganization moves the group capstone project to the end of the curriculum (where it should logically be), and moves the individual design project out of 4B. With the experience we have acquired teaching Architectural studio courses over the last three years, we believe this cannot be practically and effectively delivered with the high student-professor ratios we currently have.

[Short title: Project Studio 2]

Philosophy

Current Catalog Information

PHIL 315 (0.50) LEC Ethics and the Engineering Profession

An analysis from the standpoint of philosophical ethics of moral issues arising in professional engineering practice. Issues include the social responsibility of engineers, conflict of interest and obligation, morally acceptable levels of risk, and moral implications of technology.

No Special Consent Required

Requisites :

Prereq: Level at least 2A

Cross-listed as:

GENE 412

Effective 01-SEP-2023

Rationale :

The Registrar's Office did an audit on courses not taught in the last five years. GENE 412 is being inactivated (uncross-listed). Students who need an Ethics course now take PD 22. PHIL 315 is not being inactivated.

End of Report

4. Academic Plans (Minor Modifications)

4.1. Architectural Engineering

Rationale:

Course title and description (AE 300 Architectural Engineering Studio, AE 325 Project 1 Studio, AE 400 Project 2 Studio, AE 425 Project 3 Studio)

Reorganize the 3rd and 4th year studio courses to provide two “integrative” studio projects in 3A and 3B leading up to the 4A/4B “capstone” project. This change will move the group capstone project to the end of the program (where it should logically be), and it will remove the individual design project in 4B.

Architectural Engineering

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Term 3A (Spring)

- [AE 279](#) Energy and the Environment
- [AE 300](#) Architectural Engineering Studio **1**
- [AE 303](#) Structural Analysis
- [AE 353](#) Soil Mechanics and Foundations
- [AE 377](#) Structural Timber Design
- [AE 398](#) Seminar
- [WKRPT 300](#) Work-term Report

Term 3B (Winter)

- [AE 310](#) Introduction to Structural Design
- [AE 325](#) ~~Project 1~~ **Architectural Engineering** Studio **2**
- [AE 392](#) Economics and Life Cycle Analysis (List B-Engineering Economics CSE)
- [AE 399](#) Seminar
- [CIVE 507](#) Building Science and Technology
- [CSE 3](#) or [TE 1](#) Approved Complementary Studies Elective or Technical Elective
- [WKRPT 400](#) Work-term Report

Note: Elective must be a Technical Elective (TE) if Complementary Studies Elective (CSE) is selected in a previous term, and vice versa.

Term 4A (Spring)

- [AE 400](#) Project **2** Studio **1**
- [AE 491](#) Engineering Law and Ethics (List D-Other CSE)

- [AE 498](#) Seminar
- TE 2 Approved Technical Elective
- TE 3 Approved Technical Elective
- TE 4 Approved Technical Elective

Term 4B (Winter)

- [AE 425](#) Project ~~3~~ Studio 2
- [AE 499](#) Seminar
- [CSE 6](#) Approved Complementary Studies Elective
- TE 5 Approved Technical Elective
- TE 6 Approved Technical Elective
- TE 7 Approved Technical Elective
- TE 8 Approved Technical Elective

Architectural Engineering

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Term 3A (Spring)

- [AE 279](#) Energy and the Environment
- [AE 300](#) Architectural Engineering Studio 1
- [AE 303](#) Structural Analysis
- [AE 353](#) Soil Mechanics and Foundations
- [AE 377](#) Structural Timber Design
- [AE 398](#) Seminar
- WKRPT 300 Work-term Report
-

Term 3B (Winter)

- [AE 310](#) Introduction to Structural Design
- [AE 325](#) Architectural Engineering Studio 2
- [AE 392](#) Economics and Life Cycle Analysis (List B-Engineering Economics CSE)
- [AE 399](#) Seminar
- [CIVE 507](#) Building Science and Technology
- [CSE 3](#) or [TE 1](#) Approved Complementary Studies Elective or Technical Elective
- [WKRPT 400](#) Work-term Report

Note: Elective must be a Technical Elective (TE) if Complementary Studies Elective (CSE) is selected in a previous term, and vice versa.

Term 4A (Spring)

- [AE 400](#) Project Studio 1
- [AE 491](#) Engineering Law and Ethics (List D-Other CSE)
- [AE 498](#) Seminar
- TE 2 Approved Technical Elective
- TE 3 Approved Technical Elective

- TE 4 Approved Technical Elective

Term 4B (Winter)

- [AE 425](#) Project Studio 2
- [AE 499](#) Seminar
- [CSE 6](#) Approved Complementary Studies Elective
- TE 5 Approved Technical Elective
- TE 6 Approved Technical Elective
- TE 7 Approved Technical Elective
- TE 8 Approved Technical Elective

4.2. School of Architecture

Rationale:

Updates to the Passing Requirements and Standing page in the Calendar

We are eliminating conflicting information between what is stated in the Passing Requirements and Standing page and what is stated in the Faculty of Engineering Academic Decisions page; students are now referred to the Academic Standings page. We also clarify that students are normally expected to complete at least six of their eight academic terms at a University of Waterloo campus; that is, there is a limit on the number of terms permitted to be taken on exchange or letter of permission.

Passing Requirements and Standing

In order to proceed unconditionally from one [term](#) to the next in the Bachelor of Architectural Studies (BAS), Honours, students must satisfy each of the following requirements:

1. Maintain a minimum cumulative overall average of 70% (calculated at the end of each term).
2. Pass the studio course.
3. Not fail more than 0.50 units or equivalent (excluding studio) in any single term.

Note: The standard minimum passing grade in each ARCH course is 50% with the following exceptions: the minimum passing grade is 60% for all studio courses ([ARCH 192](#), [ARCH 193](#), [ARCH 292](#), [ARCH 293](#), [ARCH 392](#), [ARCH 393](#), [ARCH 492](#), and [ARCH 493](#)). Grades below the specified passing grade result in a course failure.

The School of Architecture reserves the right to recommend exceptional academic decisions for students who require exceptional consideration, the Examinations and Promotions Committee will be guided by the following:

- Students who satisfy at least two of the above passing requirements, 1, 2, and 3, in a given term may be permitted to continue conditionally in the academic program as outlined in [Notes 1-5 in Academic Decisions](#).
- Promotions decisions for students who satisfy only one of the passing requirements in any given term will be made on an individual basis by the Examinations and Promotions Committee.
- Students who satisfy one or none of the above requirements in a given term will normally receive the decision Required to Withdraw ([defined in Academic Decisions](#)).
- No supplemental examinations are given by the School of Architecture.
- ~~If a student receives a Required to Withdraw or a May Not Proceed decision, they must withdraw from the Bachelor of Architectural Studies program for two academic terms.~~
- ~~Generally, students wishing to graduate with a Bachelor of Architectural Studies must spend a minimum of two years, including their final year, in residence (full-time on campus). In this case the 4A Rome term qualifies as the program is offered within the University of Waterloo. This does not preclude special studies approved in advance. Architecture students who choose to undertake alternate studies to the Waterloo 4B term may not graduate with a BAS degree because of the residence requirements. must complete a minimum of six academic terms, of the eight required for the BAS degree, at a University of Waterloo campus, including the 4B term. This does not preclude special studies approved in advance.~~

4.3. Management Engineering

Rationale:

Add PSYCH 207 to Natural Science Elective list.

We would like to add PSYCH 207 to our Natural Science Elective list, as it may be of interest to students who have already completed PSYCH 101. Approval from the Associate Chair, Undergraduate in the Psychology department was given for the possibility of more students taking this course.

Management Engineering



Natural Science Electives

Two courses from this list of natural science courses:

- [BIOL 110](#), [BIOL 120](#), [BIOL 130](#), [BIOL 150](#), [BIOL 165](#), [BIOL 211](#), [BIOL 239](#), [BIOL 240](#), [BIOL 273](#)
- [CHE 161](#)
- [CHEM 262](#)
- [EARTH 121](#), [EARTH 122](#), [EARTH 123](#), [EARTH 221](#)
- [ENVS 200](#)
- [PHYS 124](#), [PHYS 175](#), [PHYS 233](#), [PHYS 275](#)
- [PSYCH 207](#), [PSYCH 261](#)
- [SCI 238](#), [SCI 250](#)

Professional Development Courses

Professional development (PD) courses are required as described in the BAsC and BSE Specific Degree Requirements section on [Work Terms](#). Management Engineering students are also required to take [PD 11](#) Processes for Technical Report Writing and [PD 22](#) Professionalism and Ethics in Engineering Practice. These courses replace two of the PD electives such that for Management Engineering students, [PD 11](#) and [PD 22](#) are additional core PD courses, and the number of PD electives required is reduced by two. Management Engineering students are automatically enrolled in the required core PD courses, [PD 11](#) and [PD 22](#), but must enrol in the elective.

4.4. Management Science Option

Rationale:

Adding CS 480, ECE 457B and SYDE 522 as alternatives to MSCI 446 to align with the calendar description of the course.

MSCI 442: adding a spring term offering for consistency with the course description

Management Sciences Option

The Management Sciences Option is not available to Management Engineering students.

Legend

Key	Description
F,W,S	F=fall term, W=winter term, S=spring term
A,B,C,D	These courses count toward Complementary Studies Requirements for Engineering Students : A- Impact, B- Engineering Economics, C- Humanities and Social Sciences, D- Other.
†	These courses may count towards technical elective (or technical breadth elective) requirements. Engineering students should consult the academic advisor in their home department for specific rules that apply to their academic plan.

Requirements

The Option consists of six courses, including two required courses (or their equivalents) and four elective courses (or equivalents).

- The two required courses and equivalents are:
 - [MSCI 211](#)^C Organizational Behaviour (F,W,S) or [MSCI 311](#)^C Organizational Design and Technology (F,W,S); ~~may be replaced by~~ [or PSYCH 238 Organizational Psychology](#)
 - [MSCI 331](#)[†] Introduction to Optimization (F,W,S); ~~may be replaced by~~ [or one of BME 411, CHE 521, CIVE 332, CO 250, ENVE 335, or SYDE 411](#)
- Four of the following elective courses or equivalents:
 - [MSCI 211](#)^C Organizational Behaviour (F,W,S); ~~may be replaced by~~ [or PSYCH 238 Organizational Psychology](#)
 - [MSCI 261](#)^B Engineering Economics: Financial Management for Engineers (F,W,S); ~~may be replaced by~~ [or one of AE 392, BME 364, CIVE 392, ENVE 392, GEOE 392, or SYDE 262](#)
 - [MSCI 263](#)^C Managerial Economics (S); ~~may be replaced by~~ [or ECON 201 Microeconomic Theory for Business and Policy](#)
 - [MSCI 311](#)^C Organizational Design and Technology (F,W,S)
 - [MSCI 332](#)[†] Deterministic Optimization Models and Methods (F)
 - [MSCI 411](#)^C Leadership and Influence (S); ~~may be replaced by~~ [or BET 450 Leadership](#)
 - [MSCI 422](#)^A Economic Impact of Technological Change and Entrepreneurship (F)
 - [MSCI 431](#)[†] Stochastic Models and Methods (W)
 - [MSCI 432](#)[†] Production and Service Operations Management (F,W)
 - [MSCI 433](#)[†] Applications of Management Engineering (W)
 - [MSCI 435](#)[†] Advanced Optimization Techniques (W)
 - [MSCI 442](#)^A Impact of Information Systems on Organizations and Society (W)

- [MSCI 446](#)[†] Introduction to Machine Learning (W); **or one of CS 480, ECE 457B, or SYDE 522**
- [MSCI 452](#)[†] Decision Making Under Uncertainty (S)



4.5 Complementary Studies Electives

Rationale:

GENE 412 has not been taught since 2014 and is being inactivated. Consequently, the cross-listing of PHIL 315 with GENE 412 is being removed. Note that PHIL 315 is not being inactivated. Engineering students who need an Ethics course can still take PHIL 315 among other options.

Complementary Studies Requirements for Engineering Students



List C – Humanities and Social Sciences Courses

Course scheduling is an evolving process at the University of Waterloo and it is difficult to ensure access to all possible Complementary Studies courses. One of the steps taken to improve students' chances of having access to their Complementary Studies courses for those terms that have a Complementary Studies course requirement, is that course components (lectures, tutorials, or labs) of core engineering courses will not be scheduled during specified time slots. Currently, these slots are Monday, Wednesday, and Friday from 11:30 a.m. to 12:30 p.m., as well as evening time slots on Monday or Tuesday from 7 p.m. to 10 p.m.

The following humanities and social sciences courses are permissible. In general, all literature and civilization courses in language departments are approved as humanities and social sciences courses.

Anthropology: All [ANTH](#)

Architectural Engineering: [AE 101](#)

Arts: [ARTS 490](#) (Topic title: Global Engagement Seminar)

Business Entrepreneurship and Technology: [BET 100](#), [BET 300](#), [BET 320](#), [BET 340](#), [BET 350](#), [BET 400](#), [BET 430](#), [BET 450](#), [BET 460](#), [BET 580](#)

Classical Studies: All [CLAS](#)

East Asian Studies: [EASIA 100R](#)

Economics: All [ECON](#), except [ECON 211](#), [ECON 221](#), [ECON 311](#), [ECON 371](#), [ECON 412](#), [ECON 421](#), [ECON 422](#), [ECON 471](#)

English: All [ENGL](#), except [ENGL 109](#), [ENGL 119](#), [ENGL 129R](#), [ENGL 140R](#), [ENGL 210E](#), [ENGL 210F](#)

Environment: [ENVS 195](#), [ENVS 205](#)

Fine Arts (FINE): see home department associate chair

French Studies: [FR 296](#), [FR 297](#)

Gender and Social Justice: All [GSJ](#), except [GSJ 371](#) (may be acceptable at the discretion of the associate chair when a course outline is shown)

General Engineering: [GENE 22C](#) (Topics taken on exchange by Engineering students), [GENE 412](#)

Geography and Environmental Management: [GEOG 101](#), [GEOG 202](#), [GEOG 203](#), [GEOG 368](#)

Gerontology: [GERON 201](#)

History: All [HIST](#), except HIST 400-level courses

Human Resources Management: All [HRM](#)

Human Sciences: [HUMSC 101](#), [HUMSC 102](#)

International Studies: [INTST 101](#)

Kinesiology: [KIN 352](#), [KIN 354](#)

Knowledge Integration: [INTEG 120](#), [INTEG 210](#), [INTEG 220](#), [INTEG 221](#), [INTEG 251](#)
Legal Studies: [LS 101](#), [LS 202](#)
Management Sciences: [MSCI 211](#), [MSCI 263](#), [MSCI 311](#), [MSCI 411](#)
Music: [MUSIC 140](#), [MUSIC 253](#), [MUSIC 256](#), [MUSIC 334](#), [MUSIC 355](#), [MUSIC 363](#)
Peace and Conflict Studies: All [PACS](#)
Philosophy: All [PHIL](#), except [PHIL 145](#), [PHIL 200J](#), [PHIL 216](#), [PHIL 240](#), [PHIL 256](#), [PHIL 257](#), [PHIL 441](#)
Planning: [PLAN 100](#)
Political Science: All [PSCI](#), except [PSCI 314](#), [PSCI 315](#)
Psychology: All [PSYCH](#), except [PSYCH 207](#), [PSYCH 256](#), [PSYCH 261](#), [PSYCH 291](#), [PSYCH 292](#), [PSYCH 306](#), [PSYCH 307](#), [PSYCH 312](#), [PSYCH 317](#), [PSYCH 391](#); PSYCH 400-level courses need approval of the Department of Psychology
Public Health Sciences: [HLTH 320](#)
Recreation and Leisure Studies: [REC 230](#), [REC 425](#)
Religious Studies: All [RS](#)
Sexuality, Marriage, and Family Studies: All [SMF](#)
Social Development Studies: All [SDS](#), except [SDS 150R](#), [SDS 250R](#), [SDS 251R](#), [SDS 350R](#), [SDS 398R](#), [SDS 399R](#)
Social Work: All [SOCWK](#), except [SOCWK 390A](#), [SOCWK 390B](#), [SOCWK 398R](#), [SOCWK 399R](#)
Society, Technology and Values: All [STV](#)
Sociology: All [SOC](#), except [SOC 221](#), [SOC 280](#), [SOC 322](#), [SOC 498](#), [SOC 499A](#), [SOC 499B](#)
Studies in Islam: [SI 121R](#), [SI 132R](#), [SI 221R](#), [SI 230R](#), [SI 231R](#), [SI 315R](#)
Theatre and Performance: [THPERF 100](#), [THPERF 200](#)

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4. Other

4.1. Temporary Calendar Deviations due to the Pandemic

Background:

The following tables summarize all temporary Calendar deviations that programs made in S2021, F2021 and co-op graduation requirements to deal with conditions caused by the COVID-19 pandemic. The Faculty and University want an official record of the changes that are significant enough that they impact what is written in the calendar.

S2021 FINAL LIST OF CALENDAR DEVIATIONS AFFECTING PROGRAMS IN FACULTY OF ENGINEERING

Plan	S2021 Calendar Deviations
Architectural Engineering	No deviations
Architecture	ARCH293: field trip was cancelled ARCH492: moved from 4A (F2020) to 4B (S2021) ARCH449: moved from 4A (F2020) to 4B (S2021) ARCH428: moved from 4A (F2020) to 4B (S2021) ARCH493: moved from 4B (S2021) to 4A (F2020) ARCH473: moved from 4B (S2021) to 4A (F2020)
Biomedical Engineering	No deviations
Chemical Engineering	WKRPT200/300/400: Students may submit a reflective report in place of a technical report
Civil Engineering	No deviations
Electrical Engineering and Computer Engineering	WKRPT200/300/400: Students may submit a reflective report in place of a technical report
Environmental Engineering	No deviations
Geological Engineering	No deviations
Management Engineering	No deviations
Mechanical Engineering	ME436: labs were cancelled
Mechatronics Engineering	No deviations
Nanotechnology Engineering	<ul style="list-style-type: none"> - NE250 (work-term report): Allow students to submit a reflective report instead of a technical report, and code the course as DRNA. - Removal of the 6th CSE for the class that entered in 2018/2019, to reduce workload and to align with requirements in other cohorts.
Software Engineering	<ul style="list-style-type: none"> - Allowed 2B students to drop the core course CS348, although it will have to be made up in a future term (i.e., elective reduced-load rules apply).
Systems Design Engineering	No deviations

F2021 FINAL LIST OF CALENDAR DEVIATIONS AFFECTING PROGRAMS IN FACULTY OF ENGINEERING

Plan	F2021 Calendar Deviations
Architectural Engineering	No deviations
Architecture	ARCH492: moved from 4A (F2021) to 4B (S2022) ARCH449: moved from 4A (F2021) to 4B (S2022) ARCH428: moved from 4A (F2021) to 4B (S2022) ARCH493: moved from 4B (S2022) to 4A (F2021) ARCH473: moved from 4B (S2022) to 4A (F2021)
Biomedical Engineering	No deviations
Chemical Engineering	WKRPT200/300/400: Students may submit a reflective report in lieu of a technical report
Civil Engineering	No deviations
Electrical Engineering and Computer Engineering	WKRPT201/301/401: Students may submit a reflective report in place of a technical report
Environmental Engineering	No deviations
Geological Engineering	No deviations
Management Engineering	No deviations
Mechanical Engineering	No deviations
Mechatronics Engineering	No deviations
Nanotechnology Engineering	NE350: Students may submit a reflective report in place of a technical report. (Note that the 3B cohort taking NE350 has already passed a technical report requirement, in NE250.) NE450: This work-term report is being moved to W2022 Complementary studies elective: The CSE scheduled for this term is being removed as a graduation requirement. Communication requirement: The communication course may be taken as an online course, despite what is stated in the calendar.
Software Engineering	No deviations
Systems Design Engineering	No deviations

Deviations to the co-op graduation requirements

The following pandemic-related calendar co-op graduation requirements deviation is presented for approval by SUC.

Statement:

“The minimum number of work terms required by Architecture and all Engineering programs was reduced by one (from 5 to 4) for any student who, as a result of the pandemic, was not able to obtain a co-op credit in S2020, F2020, W2021, and/or S2021.”

May 2022

SENATE UNDERGRADUATE COUNCIL
Submission by the Faculty of Mathematics

1. New Courses
 - 1.1. CO 432, CO 486
2. Course Changes
 - 2.1. CO 372, CO 480, MATHBUS 371
3. Corrective motion to previous SUC submission
4. Addition of online offerings:
 - 4.1. MATH 237, MATH 239
 - 4.2. MATH 114, MATH 227
 - 4.3. MATH 124
5. Academic Plan Changes - Minor Modifications
 - 5.1. Mathematical Optimization/Business Specialization
 - 5.2. Math/Business Administration
 - 5.3. Math/Information Technology Management
 - 5.4. Mathematics/FARM Plan, Mathematics/Information Technology Management Plan, and Mathematics/Business Administration Plan
 - 5.5. Mathematical Studies-Business Specialization
 - 5.6. Joint Actuarial Science
 - 5.7. Actuarial Science Minor

NEW COURSES (for approval)

Combinatorics & Optimization

Effective 01-SEP-2023

CO 432 (0.50) LEC Information Theory & Applications

Basics of information theory; Shannon entropy, KL divergence, and mutual information; basic properties of entropic quantities; chain rule, Pinsker's Inequality, Data Processing Inequality; compression; Channel Coding Theorem; error-correction; applications to combinatorics, optimization, cryptography, and computer science.

Requisites : Prerequisites: MATH 239 or 249; CO 250 or 255; STAT 230 or 240; Level at least 3A

Rationale : Although it was originally developed as a mathematical theory of communication, information theory has found a growing number of applications in seemingly unrelated domains such as combinatorics, optimization, cryptography, and computer science. These topics are heavily represented within C&O. Creation of this undergraduate course fills the corresponding gap in our undergraduate calendar and provides our students access to this important topic. [Short title: Info Theory & Applications]

Effective 01-SEP-2023

CO 486 (0.50) LEC Topics in Quantum Information

The primary objective is to study current work in specific areas of quantum information. Course content may vary from term to term.

Requisites : Instructor consent required.

Rationale : Quantum information processing is a broad field, and touches upon a number of areas, including computation, communication, and cryptography. This course is devoted to the in-depth study of topics that go beyond the scope of our introductory course CO 481, Introduction to Quantum Information Processing. As the actual material covered each term may vary, prerequisites may change based on topics, and an interview with the instructor is a better mechanism to determine preparedness. [Short title: Topics: Quantum Information]

COURSE CHANGES (for approval)

Current Catalog Information

CO 372 (0.50) LAB, LEC Portfolio Optimization Models

Computational optimization methodologies underlying portfolio problems in finance.
Computational linear algebra, determining derivatives, quadratic, and nonlinear

optimization. The efficient frontier problem. Applications of optimization in finance such as volatility surface determination and global minimization for value-at-risk.

[Offered: F,W]

No Special Consent Required

Requisites :

Prereq: (AFM 272/ACTSC 291 or ACTSC 371 or BUS 393W or ECON 371) and (CO 227 with a grade of at least 70% or CO 250 or CO 255 or CO 352). Antireq: CO 370 taken prior to winter 2004

Effective 01-SEP-2023

Requisite Change :

Prereq: One of AFM 272/ACTSC 291, ACTSC 371, [ACTSC 372](#), BUS 393W, ECON 371; CO 227 with a grade of at least 70% or One of CO 250, CO 255, CO 352.

Antireq: CO 370 taken prior to winter 2004

Rationale :

ACTSC 371 will be discontinued in the Fall 2023 calendar year, with W23 being the last planned offering. A large part of CO 372 enrolment consists of FARM students, for whom CO 372 is a required class. FARM students normally take ACTSC 371 in order to satisfy the corresponding CO 372 prerequisite (prior to 2022, ACTSC 371 was a required class for FARM). We propose to allow ACTSC 372 in place of ACTSC 371. For FARM students in 2022 or later, ACTSC 372 is a required class in their program, so this change provides FARM students with uninterrupted access to CO 372. We have checked with and obtained approval from the FARM program director for this change.

Current Catalog Information

CO 480 (0.50) LEC History of Mathematics

An in-depth examination of the origins of mathematics, beginning with examples of Babylonian mathematics. Topics may include Pythagorean triples, solution of equations, estimation of pi, duplication of the cube, trisection of an angle, the Fibonacci sequence, the origins of calculus. [Note: Offered in the spring term of odd years.]

No Special Consent Required

Requisites :

Prereq: MATH 135 or 145, 106 or 136 or 146, 138 or 148; Level at least 3A

Effective 01-SEP-2023

Requisite Change :

Prereq: One of [ECE 108](#), MATH 135, or MATH 145; One of MATH 106, [114](#), [115](#), 136, or 146; MATH [118](#), [119](#), [128](#), 138, or 148; Level at least 3A.

Rationale :

Add ECE 108, MATH 114 or 115, Math 118 or 119 or 128 to the prereq list. These changes would make it easier for non-math students to take CO 480.

Dean of Mathematics

Current Catalog Information

MATBUS 371 (0.50) LEC, TST, TUT Introduction to Corporate Finance

Time value of money. Loans, debts, and mortgages. Basic stock valuation. Bonds. Cash flow analysis. Capital budgeting. CAPM. Options and corporate finance.

No Special Consent Required

Requisites :

Prereq: [AFM 101](#), [ECON 101](#); one of [MATH 128](#) or [138](#) or [148](#); one of [STAT 220](#) or [230](#) or [240](#). Antireq: [ACTSC 221](#), [231](#), [371](#), [ECON 371](#), [AFM 272](#), [273](#), [BUS 283W](#)

Effective 01-SEP-2023

Description Change:

Cash flow analysis. Cost of capital, investment decision rules, capital budgeting, depreciation. CAPM. Description and valuation of financial instruments including stocks, swaps, options, and bonds.

Requisite Change :

Prereq: ACTSC 221 or ACTSC 231. Coreq: STAT 231 or 241

Antireq: AFM 272/ACTSC 291, AFM 273, 274, AFM 275/AFM 372/ACTSC 391, BUS 283W, ECON 371, ACTSC 371, ACTSC 372.

Rationale :

With the restructuring of ACTSC 371 and ACTSC 372 (antireq to MATBUS 371), MATBUS 371 is needed to equip the Math/Business Administration students with corporate finance knowledge and skills. However, we are finding extremely few students registering for the current MATBUS 371 because they have completed ACTSC 221 or 231. Since ACTSC 221 (or 231) is a very popular math elective for Math/Bus students, it makes sense to remove the time value of money component from MATBUS 371, add additional financial derivative tools and make ACTSC 221 (or 231) a prereq.

End of Report

3 Corrective Motion to previous SUC Submission

At the 15 February 2022 Senate Undergraduate Council (SUC), prerequisite changes for CS 230, CS 231, CS 234, CS 330, and CS 335 were passed to add the following phrase: “(CS114 with at least 60%; CS115 *and* CS 135).” The word *and* was inserted by mistake when expanding CS 115/135. The correct expansion should have been CS 115 *or* CS 135 given that CS 115 and CS 135 are antirequisites.

Effective 1 Sept 2023, in the prerequisites of CS 230, CS 231, CS 234, CS 330, and CS 335, one should replace “(CS114 with at least 60%; CS115 *and* CS 135)” with “(CS114 with at least 60%; CS115 *or* CS 135).”

4 Addition of online offerings:

4.1. Effective as early as possible (1 September 2023 or later for calendar purposes), to add an online offering to **MATH 237** and **MATH 239**. The MATH core course (MATH 135,136,137,138,235) already have on-line offerings, as do STAT 230,231 and CS 115,116. To complete the core, we need to add MATH 237 and 239. MATH 237 has an on-line course already built, and the MATH 239 development has started. For the calendar, this would mean the authorization to add the attribute “Also offered online” when ready to offer the courses online.

4.2. Effective as early as possible (probably 1 September 2023 for calendar purposes), add an online offering to **MATH 114** and **MATH 227**. The Science math service courses MATH 127, 128, and 228 already exist online. Adding MATH 227 online would complete the Calculus sequence. MATH 106 and 225 are offered online, and we wish to have an online offering of the main Science Linear Algebra course, MATH 114, as well. MATH 114 is currently offered in Fall terms and Winter terms, with high enrolment of 200 to 300 students in Fall terms (up to Fall 2020, but now Physics students no longer take it, so expect 80 to 100 students), and MATH 227 in Fall to ~150 students. For the calendar, this would mean the authorization to add the attribute “Also offered online” when ready to offer the courses online.

4.3. Effective as early as possible (probably 1 September 2023 for calendar purposes), add an online offering to **MATH 124**. We are currently working on a project to create digital assets for MATH 124 to support the regular in-person offering. Although we don’t have immediate plans for an on-line offering, once those assets are created, the course will be ready to be offered online. By providing approval, we will be able to provide such an offering with shorter notice, especially in non-fall terms when it is currently not offered. MATH 124 is currently offered in Fall terms to ~250 students. For the calendar, this would mean the authorization to add the attribute “Also offered online” when ready to offer the course online.

5 Academic Plan Changes – Minor Modifications

5.1 Mathematical Optimization/Business Specialization

Background and Rationale: Effective 1 September 2023, replace ACTSC 371 with ACTSC 231 in the Mathematical Optimization/Business Specialization plan. ACTSC 371 will be discontinued in the Fall 2023 calendar year, with the last planned offering in Winter 2023. ACTSC 231 is the best available substitute for ACTSC 371. (The alternative of ACTSC 372, for instance, would effectively also add ACTSC 231 as an extra required class given the prerequisite chain.)

(<https://ugradcalendar.uwaterloo.ca/page/MATH-Mathematical-Optimization1>)

5.2 Math/Business Administration

Background and Rationale: Effective 1 September 2023, add a requirement of one of ACTSC 221 (Introductory Financial Mathematics) or ACTSC 231 (Introductory Financial Mathematics) to the Math/Business Administration degree requirements, and, to keep the number of units the same, reduce the number of additional math courses from four to three. Currently, most Math/Business Administration students take ACTSC 221 or 231 as one of this set of four courses. With redesigning MATBUS 371, we require the students in this plan to complete ACTSC 221 or ACTSC 231 as a prerequisite for MATBUS 371.

(<https://ugradcalendar.uwaterloo.ca/page/MATH-Mathematics-or-Bus-Admin-Degree-Requirements>)

5.3 Mathematics/Information Technology Management

Background and Rationale: Effective 1 September 2023, modify the Mathematics/Information Technology Management requirements to remove MATBUS 371 (Introduction to Corporate Finance) and instead require that students take either one of the earlier finance course ACTSC 221 (Introductory Financial Mathematics) or ACTSC 231 (Introductory Financial Mathematics).

(<https://ugradcalendar.uwaterloo.ca/page/MATH-Information-Techn-Mgt-Degree-Requirements>)

5.4. Mathematics/FARM Plan, Mathematics/Information Technology Management Plan, and Mathematics/Business Administration Plan

Effective Fall 2023, allow AFM 231 (Business Law) as an alternative to the requirement of COMM 231 (Commercial and Business Law for Mathematics Students) for students in:

- Math/FARM
- Math/ITM
- Math/Business Administration

This change will improve student schedules by offering more flexibility. The School of Accounting and Finance was consulted.

(<https://ugradcalendar.uwaterloo.ca/page/MATH-Math-or-Fin-Analysis-Risk-Mgt-Degree-Reqmnt>)(<https://ugradcalendar.uwaterloo.ca/page/MATH-Information-Techn-Mgt-Degree-Requirements>)(<https://ugradcalendar.uwaterloo.ca/page/MATH-Mathematics-or-Bus-Admin-Degree-Requirements>)

5.5 Mathematical Studies-Business Specialization

Background and Rationale: Effective 1 Sep 2023, remove ACTSC 371 from the choice of introductory finance list in the Mathematical Studies-Business Specialization Academic Plan as ACTSC 371 is being inactivated effective 1 Sep 2023.

(<https://ugradcalendar.uwaterloo.ca/page/MATH-MS-Business-Specialization>)

5.6 Joint Actuarial Science

Background and Rationale: Effective 1 September 2023, remove notes in the program requirement for Joint Actuarial Science plan indicating suitable and unsuitable substitutes for STAT 331. Given the course is no longer part of the plan requirement since the 2016-2017 academic calendar, the notes are useless and this housekeeping will simplify the calendar.

(<https://ugradcalendar.uwaterloo.ca/page/MATH-Joint-Actuarial-Science1>)

5.7 Actuarial Science Minor

Background and Rationale: Effective 1 September 2023, allow the substitution of BUS 393W for ACTSC 372 for students currently or previously enrolled in the BA/BMATH Double Degree for the degree requirement of the Actuarial Science Minor. The substitution of BUS 393W for ACTSC372 is allowed for double degree students in all the other ACTSC plans, and has been allowed in practice for the ACTSC minor students. This addition to the program description makes this possible substitution explicit.

(<https://ugradcalendar.uwaterloo.ca/page/MATH-Actuarial-Science-Minor>)

SCIENCE UNDERGRADUATE STUDIES COMMITTEE REPORT
FOR APRIL 2022 SUC

1 COURSE CHANGES

1.1 Aviation

1.2 Pharmacy

1.3 Physics

2 ACADEMIC PLAN CHANGES (Minor)

2.1 Invalid Credential Combinations in Physics

3 ACADEMIC PLAN INACTIVATIONS

3.1 Honours Chemistry, Biobased Specialization

1 COURSE CHANGES

1.1 Aviation

AVIA 101, 102, 203, 204, 205, 306, 307 and 408

1.2 Pharmacy

PHARM 375

1.3 Physics

PHYS 233, 360A, 360B, 437A, 437B, and 460A

COURSE CHANGES (for approval)

Interdisciplinary Studies

Current Catalog Information

AVIA 101 (0.75) FLT Professional Pilot Program Course 1

This course provides the required Preparatory Ground Instruction to prepare students for the air exercises to be completed during in-aircraft instruction that is conducted as part of the course. Students will complete flight training to the First Solo level and acquire approximately 20 hours of flight time. This course also includes the ground school required to prepare the student to write the Transport Canada Private Pilot Licence - Airplane examination. The course provides a solid base of the knowledge required to be a safe and proficient professional pilot.

No Special Consent Required

Requisites :

Prereq: Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change:

FLT, TUT

Rationale :

The Aviation Professional Pilot Program courses 1 to 8 have a flying component (FLT) at the Airport through the Waterloo Wellington Flight Centre (WWFC) and class component(s) at the University of Waterloo. The TUT is required for an on-campus meet. In past offerings the on-campus meet had been scheduled as a LAB; however, the scheduling office noted that since a secondary meet wasn't in the calendar they could no longer schedule it unless officially added. Listing it as a TUT better defines the meet type rather than LAB. This is a joint submission between Science and ENV.

Current Catalog Information

AVIA 102 (0.50) FLT Professional Pilot Program Course 2

This course is a continuation of AVIA 101 and provides the required Preparatory Ground Instruction to prepare students for the air exercises to be completed during in-aircraft instruction that is conducted as part of the course. Students will complete flight training to the Private Pilot Licence level and acquire approximately 45 hours of flight time in the semester to total 65 hours of flight time to-date.

No Special Consent Required

Requisites :

Prereq: AVIA 101; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change:

FLT, TUT

Rationale :

See rationale for AVIA 101.

Current Catalog Information

AVIA 203 (0.50) FLT Professional Pilot Program Course 3

This course is a continuation of AVIA 102 and provides the required Preparatory

Ground Instruction to prepare students for the air exercises to be completed during in-aircraft instruction that is conducted as part of the course. Students will complete flight training required to acquire the Night Rating and acquire additional cross-country Pilot-in-Command time to total approximately 85 hours flight time by the end of the course.

No Special Consent Required

Requisites : Prereq: AVIA 102; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change: FLT, TUT

Rationale : See rationale for AVIA 101.

Current Catalog Information

AVIA 204 (0.75) FLT Professional Pilot Program Course 4

This course continues from AVIA 203 and provides the required Preparatory Ground Instruction to prepare students for the air exercises to be completed during in-aircraft instruction that is conducted as part of the course. Students will complete a dual cross border flight to the United States as well as a dual flight into high density controlled airspace (CYYZ). Students also complete a check-out in a complex aircraft and acquire additional cross-country pilot-in-command time. Students will have acquired approximately 110 hours total flight time by the end of the course. This course also includes the ground school required to prepare the student to write the Transport Canada Commercial Pilot Licence - Airplane examination.

No Special Consent Required

Requisites : Prereq: AVIA 203; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change: FLT, TUT

Rationale : See rationale for AVIA 101.

Current Catalog Information

AVIA 205 (0.50) FLT Professional Pilot Program Course 5

This course continues from AVIA 204 and provides the required Preparatory Ground Instruction to prepare students for the air exercises to be completed during in-aircraft instruction that is conducted as part of the course. Students will complete a solo cross border flight to the United States as well as a dual flight into a grass field. Students also complete a check-out in a glass cockpit aircraft and work on acquiring cross-country Pilot-in-Command time. Preparation for the Commercial Pilot Flight Test is started during this course as well. The student will have acquired approximately 155 hours total flight time by the end of the course.

No Special Consent Required

Requisites : Prereq: AVIA 204; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change: FLT, TUT

Rationale : See rationale for AVIA 101.

Current Catalog Information

AVIA 306 (0.75) FLT Professional Pilot Program Course 6

This course continues from AVIA 205 and provides the required Preparatory Ground Instruction to prepare students for the air exercises to be completed during in-aircraft instruction that is conducted as part of the course. Students will complete the Commercial Pilot Flight Test early in the course and then complete the training for the Multi-Engine Class Rating. Students will have acquired approximately 175 hours total flight time by the end of the course. This course also includes ground school to prepare students to write the Transport Canada Instrument Rating examination.

No Special Consent Required

Requisites : Prereq: AVIA 205; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change: FLT, TUT

Rationale : See rationale for AVIA 101.

Current Catalog Information

AVIA 307 (0.75) FLT Professional Pilot Program Course 7

This course continues from AVIA 306 and focuses on exercises that apply knowledge of various considerations and procedures for flight in instrument meteorological conditions. Pairs of students will function as two-person flight crews during simulated IFR flights. Scenarios will enable students to recognize, avoid or manage situations that lead to incidents. Also included is a tour of the Toronto Area Control Centre. The flight portion focuses on acquiring cross-country Pilot-in-Command time to meet the requirements for the Instrument Rating. This course also includes ground school in preparation for students to write the Transport Canada IATRA examination and training in wilderness survival and First Aid skills.

No Special Consent Required

Requisites : Prereq: AVIA 306; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change: FLT, TUT

Rationale : See rationale for AVIA 101.

Current Catalog Information

AVIA 408 (0.50) FLT Professional Pilot Program Course 8

This course continues from AVIA 307 and completes the instruction toward the Group 1 Instrument Rating. Training will be conducted using a combination of Simulator, Single Engine aircraft, and Multi-engine aircraft. Flight in instrument meteorological conditions will be conducted whenever practicable. Any outstanding flight time requirements for the issue of the Commercial Pilot Licence will also be completed. This course completes the flight training.

No Special Consent Required

Requisites : Prereq: AVIA 307; Geography and Aviation, Science and Aviation plans

Effective 01-SEP-2023

Component Change: FLT, TUT

Rationale : See rationale for AVIA 101.

End of Report

COURSE CHANGES (for approval)

Pharmacy - School of

Current Catalog Information

PHARM 375 (0.25) LEC, TUT Substance Abuse and Chemical Dependency

This course serves as an overview of addiction, chemical abuse, and chemical dependency and how pharmacists can impact those affected. Topics include prevention, identification, treatment options, clinical aspects of treatment, and an understanding of support systems available for those in recovery. [Offered: W,S,F]

No Special Consent Required

Requisites :

Prereq: PHARM 220, 221; Pharmacy students only

Effective 01-SEP-2023

Title Change:

Interprofessional Approaches to Substance Use and Misuse and Mental Health

Rationale :

The updated title reflects current interprofessional practice and best reflects the content offered by this course. The course was developed by the School of Social Work (SSW), who approves the title change, which will also be reflected in the SWK 610R course, that is typically held with PHARM 375. The short title is chosen to comply with new short title guidelines.

Physics & Astronomy

Current Catalog Information

PHYS 233 (0.50) LEC, TUT Introduction to Quantum Mechanics

Introduction to quantization, wave-particle duality and the uncertainty principle The Schrodinger equation and solvable examples. Topics will include stationary states of particle-in-a-box, harmonic oscillator, and the hydrogen atom. Quantization of angular momentum and spin. Introduction to approximation methods including time-independent perturbation theory. Modern applications of quantum mechanics.

[Offered: W]

No Special Consent Required

Requisites :

Prereq: One of PHYS 112, 125, 122, ECE 106; One of MATH 118 or 119, 128, 138, 148. Coreq: One of MATH 212, 228, AMATH 250, 251. Antireq: CHEM 356, NE 232, PHYS 234, ECE 405

Effective 01-SEP-2023

Requisite Change :

Prereq: One of PHYS 112, 122, 125, ECE 106; One of MATH 118, 119, 128, 138, 148. Coreq: One of MATH 211, 213, 228, AMATH 250, 251, ECE 205. Antireq: CHEM 356, NE 232, PHYS 234, ECE 405

Rationale :

PHYS 233 requires a differential equations corequisite. Software Engineering students are often interested in quantum physics and computing but they take MATH 213 as their differential equation course, therefore

MATH 213 is added to the corequisite options, so they can enroll in PHYS 233. MATH 211 and ECE 205 are also recognized to have relevant content appropriate to serve as a corequisite for PHYS 233, whereas MATH 212 is no longer deemed appropriate, therefore the former were added, and MATH 212 removed as optional corequisites. The request for these changes was made by Software Engineering.

Current Catalog Information

PHYS 360A (0.25) LAB Modern Physics Laboratory 1

Selected experiments in mechanics, optics, electronics, atomic, molecular, nuclear, and solid state physics. [Note: Students in programs joint with Physics should see department for enrolment access. Offered: F,W,S]

No Special Consent Required

Requisites : Prereq: One of MNS 201L, PHYS 260L, 270L; Honours Physics, Physics and Astronomy, or Materials and Nanosciences

Effective 01-SEP-2023

Description Change:

Selected experiments in mechanics, optics, electronics, acoustics, atomic, molecular, nuclear, and solid state physics. [Note: Students in programs joint with Physics should see department for enrolment access. Offered: F,W,S]

Requisite Change :

Prereq: One of MNS 201L, PHYS 260L, 270L; Honours Physics, Physics and Astronomy, Materials and Nanosciences or Mathematical Physics

Rationale :

The description is updated to reflect all topics covered in the lab and the prerequisite is updated to add Mathematical Physics to the program prerequisite. The pre-approved (Sept. 2019 SUC) addition of PHYS 267 as a pre-requisite for the same September 1, 2023 effective date, will be overridden with this proposed prerequisite.

Current Catalog Information

PHYS 360B (0.25) LAB Modern Physics Laboratory 2

Continuation of PHYS 360A. [Offered: F,W,S]

No Special Consent Required

Requisites : Prereq: PHYS 360A

Effective 01-SEP-2023

Requisite Change :

Prereq: PHYS 360A

Rationale :

The pre-approved (Sept. 2019 SUC) addition of PHYS 267 as a pre-requisite for the same September 1, 2023 effective date, will be overridden with this proposed prerequisite.

Current Catalog Information

PHYS 437A (0.50) PRJ Research Project

A research project in any area of Physics approved by the course co-ordinator(s). The student is required to present a summary of the project orally and to submit a written report in a style suitable for publication. Some projects, especially those with an experimental emphasis, will likely continue as 437B. In these cases, students will submit an interim written report, in addition to the oral presentation.

[Offered: F,W]

Department Consent Required

Requisites :

Prereq: Honours Physics, Chemical Physics, Mathematical Physics, Physics and Astronomy, Materials and Nanosciences or Life Physics students only

Effective 01-SEP-2023

Description Change:

A research project in any area of Physics approved by the course co-ordinator(s). [Note: Cumulative average must be 70% or higher; Offered: F,W,S]

Requisite Change :

Prereq: Level at least 4A Honours Physics, Chemical Physics, Mathematical Physics, Physics and Astronomy, Materials and Nanosciences, Life Physics, or Biological and Medical Physics students only

Rationale :

The description is updated to remove details of the project work and to include reference that students must have a cumulative average of 70% or higher. Students are enrolled via department consent and therefore cumulative averages can be reviewed as part of the enrolment process, allowing faculty some flexibility in taking on students that may not quite have a 70%, but otherwise qualify for a particular project. PHYS 437A will be offered all three terms, so spring is added to the description note. Requisites are updated to include a new plan that will be offered by the Department of Physics and Astronomy, Biological and Medical Physics.

Current Catalog Information

PHYS 437B (0.50) PRJ Research Project (Continued)

A continuation of the project undertaken in PHYS 437A. The student is required to present a summary of the project orally or by poster and to submit a written report in a style suitable for publication. [Offered: W]

Department Consent Required

Requisites :

Prereq: PHYS 437A

Effective 01-SEP-2023

Description Change:

A research project in any area of Physics approved by the course co-ordinator(s). This is often a continuation of the project started in PHYS 437A. [Note: Cumulative average must be 70% or higher; Offered: F,W,S]

Rationale :

The description is updated to remove details of the project work and to include reference that students must have a cumulative average of 70% or higher. Students are enrolled via department consent and therefore cumulative averages can be reviewed as part of the enrolment process, allowing faculty some flexibility in taking on students that may not quite have a 70%, but otherwise qualify for a particular project. PHYS 437A will be offered all three terms, so spring is added to the description note.

Current Catalog Information

PHYS 460A (0.25) LAB Advanced Laboratory 1

Selected advanced experiments in mechanics, optics, electronics, atomic, molecular, nuclear, and solid state physics. [Offered: F,W,S]

No Special Consent Required

Requisites :

Prereq: PHYS 360A

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Effective 01-SEP-2023

Description Change:

Selected advanced experiments in mechanics, optics, acoustics, electronics, atomic, molecular, nuclear, and condensed matter physics. [Offered: F,W,S]

Rationale :

The course description is updated to reflect all topics covered in the lab.

End of Report

2 ACADEMIC PLAN CHANGES (Minor)

2.1 Invalid Credential Combination in Physics

Motion: To formally add the Astrophysics minor – Physics minor combination to the [Invalid Credential Combination](#) list. An Astrophysics minor can't be awarded to a student pursuing a Physics minor and vice versa.

Effective Date: September 1, 2023

Background and Rationale: An Astrophysics minor can't be awarded to a student pursuing a Physics minor and vice versa. This has never been permitted because both minors are offered by the same department and overlap extensively. The motion will formalize this invalid credential combination.

3 ACADEMIC PLAN INACTIVATION

3.1 Honours Chemistry, Biobased Specialization

Effective Date: September 1, 2023

Background and Rationale: The Honours Chemistry, Biobased specialization was originally set up as part of a Joint Academic Exchange program with the University of Bordeaux. It first appeared in the 2015-16 Calendar. The specialization has had very few students – only 2 total. The Academic Collaboration Agreement expired on January 26, 2021. Thus, there is no need to have this specialization.

**OFFICE OF THE REGISTRAR REPORT TO
SENATE UNDERGRADUATE COUNCIL**
May 2022

- 1. ACADEMIC PLAN CHANGES (Minor Modifications)**
 - 1.1. Co-operative Education Requirements**

1. ACADEMIC PLAN CHANGES (Minor Modifications)

1.1. Co-operative Education Requirements

The Office of the Registrar is bringing this proposal forward on behalf of several faculties because the rationale for the changes is identical, and the Office of the Registrar gave permission to make the amendments to the published 2022-2023 Calendar (and retro-actively to 2018) in order to ensure students' official academic records are as accurate as can be. All faculties were told about this action plan in late 2021, with a goal of cleaning up the requirements at the May SUC (June Senate) meetings. Additional changes from faculties (or majors where applicable) that were unable to make the decisions within this time frame may come to a future meeting, however, the possibility of amendments to the published 2022-2023 academic calendar/changes retroactive cohorts would not be available – their focus would be on the next publication of the Calendar (2023-2024), but would be similarly retro-actively applied.

Effective date: September 1, 2022

The changes indicated below will be made to the published 2022-2023 Undergraduate Studies Academic Calendar. However, they are also being made retro-actively to the programs listed to impact the fall 2018, 2019, 2020, and 2021 cohorts (students graduating in 2023 or later). Although the changes will not be made to the 2018-2019, 2019-2020, 2020-2021, and 2021-2022 academic calendars, the changes will be made to the advisement templates in Quest.

Background and rationale:

The academic plan changes outlined below are being made due to changes in the deliverables of PD courses. In 2018, WatPD partnered with the faculties of Health and Environment to deliver a pilot program that embedded a Major Reflective Report into two PD courses (PD 6: Problem-Solving and PD 8: Intercultural Skills). Students participating in the pilot courses completed a Major Reflective Report as the summative assignment in the PD course and simultaneously earned their work report credit; the Major Reflective Reports were fully embedded into the PD courses and not offered as add-on assessments, so they do not create additional work for the students. During the pandemic, select programs from the Faculty of Engineering also began to participate in the pilot courses. In Feb-March 2020, the pilot was deemed successful and a decision was made to embed Major Reflective Reports as the summative assignment in all PD courses. This work began during the pandemic and became a reality for the winter 2022 term – all PD courses now incorporate a Major Reflective Report as a course deliverable (note: PD 10's implementation is for spring 2022). There are two exceptions: PD 11 contains a major technical report and PD 1 will not have a major report, since it is not completed during a work term.

However, when the PD course deliverables changed, it meant that many faculties/academic plans no longer had a need to have students write, and thus review and grade, work-term reports, which are an academic requirement of the co-op program. The faculties were willing to take the work-term reflection and count it as a work-term report, essentially using the PD course's reflection report to fulfil two academic requirements simultaneously: 1) the completion of the PD course, and 2) towards the required work-term report. But for record-keeping purposes, since academic requirements still indicate students needed to complete work-term reports, work-term report courses (WKRPT) still needed to be added to the

student's record. As such, the student's official academic record isn't a true reflection of what a student is needing to complete.

The academic plan changes outlined below (primarily removing mention of work-term reports and associated courses) are intended to correct the academic record (to match the new actuality) for all existing undergraduate students following 2018-2021 academic requirements, as well as to update the requirements before the incoming 2022 class begins their studies. Any existing students outside of these years will be treated on a case-by-case basis. Because the changes will only be applied to the 2022-2023 Calendar, the faculties are responsible for communicating the changes to their existing students; communication plans are indicated below.

Due to the removal of the work term report requirements for the programs outlined above, as of fall 2022 term, students will no longer be charged the associated work-report marking fees.

Note: The Faculty of Arts previously pre-emptively removed WKRPT requirements in the 2021-2022 academic calendar.

1) Faculty of Environment

Date of Faculty Council: January 20, 2022

Academic programs impacted: Bachelor of Environmental Studies (BES), Bachelor of Science (BSc)

Additional faculty background: Existing students were emailed on January 25, 2022 and informed of the upcoming changes.

Calendar page: <http://ugradcalendar.uwaterloo.ca/page/ENV-Overview-of-Coop-Plan-Requirements>

~~To maintain satisfactory standing in~~ **earn the co-op designation at graduation for the Bachelor of Environmental Studies (BES) and Bachelor of Science (BSc) programs, in the Faculty of Environment** students must meet the following requirements:

1. A minimum of four ~~satisfactory~~ **credited** work terms.
2. A minimum of four [Professional Development \(PD\) courses](#).
PD 1 and PD 12 are mandatory. PD 1 must be taken prior to the first work term. PD 12 is taken during the first work term.

Students are encouraged to take subsequent Professional Development (PD) courses each work term until the requirement is met.

PD courses are graded with either a CR (Credit earned) or NCR (Failed, no credit granted). There are no numerical values associated with these grades, and therefore they will not be used in plan average calculations. The unit weighting for PD courses is not counted towards the total minimum unit degree requirements for any Faculty of Environment academic plan.

- ~~3. A minimum of four work term reports.
PD 12 requires the submission of a written report. Successful completion of PD 12 will be considered one of the four required work term reports. The remaining three work-~~

~~term reports are to be completed at the end of the second, third, and fourth work terms.~~

~~For the purposes of recording work reports, the course subject code WKRPT (Work-Term Report) will be added to the student's record in the appropriate work term. A successful work term report will be signified by a numerical grade which is not calculated into either the minimum cumulative overall or the minimum cumulative major averages. The unit weighting for WKRPT courses is not counted towards degree requirements for the BES and BSc, Faculty of Environment, academic plans.~~

2) Faculty of Health

Date of Faculty Council: January 28, 2022

Academic programs impacted: Bachelor of Arts (BA), Bachelor of Public Health (BPH), Bachelor of Science (BSc)

Additional faculty background: Existing students were emailed on March 4, 2022 and informed of the upcoming changes.

Calendar page: <https://ugradcalendar.uwaterloo.ca/page/HEA-Co-operative-Education-Requirements>

Eligibility

Students must be in an honours academic plan to be eligible for the co-operative (co-op) system of study.

To receive a co-op designation at the time of graduation, students in the Faculty of Health are required to successfully complete:

- a minimum of four **credited** work terms, **and**
- a minimum of four professional development (PD) online courses. ~~and~~
- ~~a minimum of four work term reports.~~

Students are given five work-term opportunities in which to complete these requirements throughout the normal study/work-term sequence.

These requirements are in addition to the rules that apply to all co-op students at the University of Waterloo.

Notes

1. The co-op program is only open to full-time students.
2. The co-op program is not open to students seeking to complete a second degree.

Requirements

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The schedule for completing the PD courses is as follows:

- PD 1: Career Fundamentals, ~~must~~ **should** be completed before the first work term.
- PD 12: Reflection and Learning in the Workplace, ~~must~~ **should** be completed during the first work term.
- Two additional PD courses of the student's choice should be completed during subsequent work terms.

Further information is available through the Professional Development Program.

~~Work-term Reports~~

~~Students must successfully complete a minimum of four work-term reports based on four approved and credited work terms. Students who do not successfully complete a work-term report at the appropriate time will be withdrawn from the co-op program. The schedule for completing work-term reports is as follows:~~

- ~~The successful completion of PD 12 will count for credit as the first work-term report. PD 12 is normally completed during the first work term, and it is meant to help prepare students for the completion of their work-term reports in subsequent work terms. Students may not submit subsequent work-term reports until PD 12 has been successfully completed.~~
- ~~WKRPT 200H: Health Work-term Report 2, is normally completed by the end of the second work term.~~
- ~~WKRPT 300H: Health Work-term Report 3, is normally completed by the end of the third work term.~~
- ~~WKRPT 400H: Health Work-term Report 4, is normally completed by the end of the fourth work term.~~

~~Information regarding work-report guidelines is available through the Faculty of Health's web page, co-op procedures.~~

~~Students must successfully complete a minimum of four work-term reports based on four approved and credited work terms. Students who do not successfully complete a work-term report at the appropriate time will be withdrawn from the co-op program. The schedule for completing work-term reports is as follows:~~

- ~~The successful completion of PD 12 will count for credit as the first work-term report. PD 12 is normally completed during the first work term, and it is meant to help prepare students for the completion of their work-term reports in subsequent work terms. Students may not submit subsequent work-term reports until PD 12 has been successfully completed.~~
- ~~WKRPT 200H: Health Work-term Report 2, is normally completed by the end of the second work term.~~
- ~~WKRPT 300H: Health Work-term Report 3, is normally completed by the end of the third work term.~~
- ~~WKRPT 400H: Health Work-term Report 4, is normally completed by the end of the fourth work term.~~

~~Information regarding work-report guidelines is available through the Faculty of Health's web page, co-op procedures~~

Co-op Standing Rules

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

- Failure to successfully meet academic program requirements, including minimum averages;
- Two unemployed or failed work term opportunities.;
- ~~Two failed work term reports (including PD 12).~~

Normally, students who are removed from co-op will not be re-admitted into the co-op program.

3) Faculty of Science

Date of Faculty Council: February 1, 2022

Academic programs impacted: Bachelor of Science (BSc)

Additional faculty background: Existing students were emailed on January 24, 2022 and informed of the upcoming changes and told that no submission of work-term report was required for spring 2022.

Calendar page: <http://ugradcalendar.uwaterloo.ca/page/SCI-Co-operative-Program-Requirements>

In order to be eligible to receive a co-op designation on the Bachelor of Science (BSc) degree, Faculty of Science students are required to successfully complete:

- a minimum of four work terms, and
- a minimum of four professional development (PD) online courses, and
- ~~a minimum of three work term reports (BSc Psychology students must complete four work term reports).~~

With the exception of Biotechnology/Chartered Professional Accountancy students who have four work-term opportunities, students are given five work-term opportunities in which to complete these requirements throughout the normal academic/work-term sequence.

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Work Terms

Information regarding work terms is available on the Co-operative Education website.

Students on a work term are limited to enrolment in one course (0.5 unit), unless they have written support from their employer to take two courses (1.0 unit). COOP, and PD, and ~~WKRPT~~ courses are not included in these limits.

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~~Work Term Reports~~

~~Students must successfully complete a minimum of three work term reports (BSc Psychology students must successfully complete four work term reports). PD 11, which is meant to help prepare students for the completion of subsequent work term reports, will count as the first required report. Work term reports two and three will be recorded on the transcript as WKRPT 200S and WKRPT 300S (for BSc Psychology students, work term report four will be recorded as WKRPT 400S).~~

~~Work term reports are normally completed according to the following schedule:~~

- ~~• Work term report two is normally completed by the end of the second work term and must be completed by the end of the third work term. Students who do not successfully complete their second work term report by the end of their third work term will be removed from the co-op program.~~
- ~~• Work term report three is normally completed by the end of the fourth work term but may be completed at the end of the fifth work term.~~
- ~~• BSc Psychology students must submit a work term report for each work term.~~

~~Information regarding work report guidelines and submission dates is available through the Faculty of Sciences' work report guidelines website.~~

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.
- ~~• Two failed work term reports (including PD 11).~~
- Failure to successfully meet academic program requirements.
- Failure to successfully complete PD 1 before the start of the second work term.
- Failure to successfully complete PD 11 by the end of the second work term.
- ~~• Failure to successfully complete the second work term report by the end of the third work term.~~