

FACULTY OF SCIENCE
In-person Meeting of Faculty
24 January 2023
Robert Vogel Council Room (L232), Leacock Building

DOCUMENTS: S-22-15, S-22-16

Dean Lennox called the meeting to order at 3:00 p.m., and welcomed members to the fifth Faculty of Science meeting of the 2022-2023 academic year.

1. Adoption of Agenda

In Item # 6, there will be two Reports: (i) Science Undergraduate Society (SUS) Report and (ii) Dana-Kaye Matthews, SSMU, Special Researcher, Mental Health Initiatives

Prof. Blanchette **moved**, seconded by Prof. Fabry, that the amended Agenda be approved.

The motion carried.

2. Minutes of 6 December 2022 S-22-15

Prof. Fabry **moved**, seconded by Prof. Roulet, that the Minutes be approved.

The motion carried.

3. Business Arising from the Minutes

There was no business arising from the Minutes.

4. Report of Committee

- Academic Committee **S-22-16**

Associate Dean (Academic) Axel Hundemer described the following proposals approved at the Academic Committee meeting held on Tuesday, 10 January 2023.

1. Mathematics and Statistics

New Course:

MATH 527 D1/D2	Statistical Data Science Practicum	<u>S-22-173</u>
	6 credits	

MATH 527 is a two-semester course offering a unique experience to upper-level students in the B.A. and B.Sc. degrees. The course fills an important gap in the undergraduate and graduate Mathematics and Statistics programs. It will allow students to learn how to put their theoretical skills into practice and develop their teamwork and communication skills, which are crucial to students' future professional success.

Associate Dean Hundemer **moved**, seconded by Prof. Blanchette, that the course be adopted.

The motion carried.

Course Revisions:

MATH 335	Groups, Tilings, and Algorithms	<u>AC-22-172</u>
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3 credits

Changes: Course title, course description, prerequisites

MATH 335 was taught only once before, Winter of 2006. The course content was modified, making it more accessible and interesting to a broader group of students. The change in the title reflects the course content.

Associate Dean Hundemer **moved**, seconded by Prof. Fabry, that the changes be approved.

The motion carried.

Program changes:	B.Sc. Major Statistics	AC-22-176
	B.Sc. Liberal Program – Core Science Component	AC-22-177
	B.Sc. Joint Major Statistics and Computer Science	AC-22-178

The newly approved MATH 527 course (above) has been added as a Complementary course to the above three programs. In addition, specific research/communications-related courses have been restricted to ensure that students take other courses from the Complementary list.

Associate Dean Hundemer **moved**, seconded by Prof. Crepeau, that the changes be approved.

The motion carried.

Graduate Course & Program Revisions:

MATH 701	Ph.D. Qualifying Examination	AC-22-175
	3 credits	
	Changes: course title	

Course Retirement:

MATH 700	Ph.D. Comprehensive Exam Part A	AC-22-174
	3 credits	

Program changes:	Ph.D. Mathematics and Statistics	AC-22-179
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The changes to MATH 701, MATH 700, and the Ph.D. Program in Mathematics and Statistics were due to GPS updated guidelines for comprehensive exams. The revised guidelines state that comprehensive examinations must not re-examine graduate course content completed at McGill. As a result, MATH 700 has been retired, and MATH 701 has been renamed. The Ph.D. program has been modified to specify that the choice of Complementary courses requires approval by the student's advisory committee. These courses should be completed before the end of the Ph.D. 3. Also, permission is required from the Graduate Program Director if choosing more than the maximum number of Complementary credits outside the Department.

Associate Dean Hundemer **moved**, seconded by Prof. Crepeau, that the changes be approved.

The motion carried.

2. Bieler School of Environment

Course Revisions:

ENVR 380	Topics in Environment 1	AC-22-158
	3 credits	

	Changes: course restrictions	
ENVR 401	Environmental Research 3 credits Changes: course restrictions	AC-22-159
ENVR 480	Topics in Environment 2 3 credits Changes: course restrictions	AC-22-160
ENVR 485	Readings in Environment 1 3 credits Changes: course description, course restrictions	AC-22-161
ENVR 490	Independent Study in Environment 3 credits Changes: course description, course restrictions	AC-22-162
ENVR 491	Independent Project in Environment 3 credits Changes: course Description, course restrictions	AC-22-163
ENVR 585	Readings in Environment 2 3 credits Changes: course description	AC-22-164

The reference to the MSE (formerly known as McGill School of Environment) in the above courses (except for ENVR 401) has been replaced with “ENVR” to reflect the newly renamed Bieler School of Environment. A program was removed from the restrictions in ENVR 401 because the course was no longer part of the program. The remaining changes are housekeeping in nature.

Associate Dean Hundemer **moved**, seconded by Prof. Fabry, that the changes be approved.

The motion carried.

3. Geography

Course Revisions:

GEOG 303	Health Geography 3 credits Changes: prerequisites	AC-22-165
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A prerequisite for GEOG 303 has been added to provide students with more background material.

Associate Dean Hundemer **moved**, seconded by Prof. Roulet, that the changes be approved.

The motion carried.

4. Computer Science

New Course:

COMP 511	Network Science	AC-22-166
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4 credits

The new course, COMP 511, represented the formalization of a currently existing Topics course related to AI, Machine Learning, and Data Science which has been offered since 2019. COMP 511 will be included as a Complementary course in the new Artificial Intelligence Option to be discussed later during the current meeting.

Associate Dean Hundemer **moved**, seconded by Prof. Blanchette, that the course be adopted.

The motion carried.

New Course:

COMP 532 Propositional Proof Complexity
4 credits

[AC-22-168](#)

The proposed new course, COMP 532, has been offered three times as a Topics course to students, mainly in Computer Science, and Mathematics and Statistics. COMP 532 is unique in the School's curriculum, and the topic is one of the main research areas of the instructor, blending topics in discrete math, complexity theory, and logic.

Associate Dean Hundemer **moved**, seconded by Prof. Blanchette, that the course be adopted.

The motion carried.

New Course:

COMP 545 Natural Language Understanding with Deep Learning
4 credits

[AC-22-169](#)

COMP 545 has been taught several times as a Topics course, and there was a lot of interest from students. The course will be cross-listed with LING 545 and taught by an instructor jointly appointed by the School of Computer Science and the Department of Linguistics. COMP 545 is intended to introduce cutting-edge ideas in computational semantics and natural language understanding.

Associate Dean Hundemer **moved**, seconded by Prof. Blanchette, that the course be adopted.

The motion carried.

New Option:

- B.Sc. Major Computer Science – Artificial Intelligence Option

[AC-22-171](#)

The School of Computer Science has created a new Option named Artificial Intelligence for the B.Sc. Major Program in Computer Science. AI is a growing field, and the demand for AI courses is very high. There has been an increase in the number of professors specializing in AI-related topics in the School of Computer Science. Other top universities in Canada (e.g., the University of Toronto, Queens University, etc.) offer AI specializations/concentrations.

Associate Dean Hundemer **moved**, seconded by Prof. Blanchette, that the Option be adopted.

The motion carried.

6. Pharmacology

New Course:

PHAR 590 Advanced Research Methods in Pharmacology [AC-22-189](#)
3 credits

PHAR 590 is a new advanced laboratory course lacking in the Pharmacology undergraduate and graduate curriculum. For some years, many students have asked for increased research experience, and PHAR 590 will fill the gap.

Associate Dean Hundemer **moved**, seconded by Prof. Perepichka, that the course be adopted.

The motion carried.

7. **Dean's Multidisciplinary Undergraduate Research List (DMURL)** [AC-22-190](#) (for information only)

Associate Dean Hundemer described the Dean's Multidisciplinary Undergraduate Research List and said that on an annual basis, the list is updated by Mr. Victor Chisholm from the Science Office for Undergraduate Student Advising (SOUSA). At the Academic Committee meeting on 15 February 2022, members approved the inclusion of research project courses with instructional research methods (hybrid courses) to be eligible for the DMURL since these were predominantly research projects.

The Academic Committee approved the following courses to be added to the DMURL:

FSCI 444	Barbados Research Project (6 credits)*
PATH 396	Undergraduate Research Project in Pathology (3 credits)
PSYC 351	Research Methods in Social Psychology (3 credits)
PSYC 352	Cognitive Psychology Laboratory (3 credits)
PSYC 353	Laboratory in Human Perception (3 credits)
PSYC 415	Electroencephalography (EEG) Laboratory in Psychology (3 credits)

*FSCI 444 is part of the Barbados Field Study Semester

Members should contact either Victor Chisholm or Associate Dean (Academic) Hundemer if departments have additional courses that may qualify for the DMURL. The list is also available online <https://www.mcgill.ca/science/research/undergraduate-research/dmurl>

Dean Lennox thanked Associate Dean Hundemer for the Report of the Academic Committee.

5. **Dean's Business**

- Announcements

(i) **Bill 96**

Dean Lennox informed members that discussions are underway by the University Senior Administration on the interpretation and implementation of Bill 96, particularly the McGill working environment. At a future Faculty meeting, there will be a question-and-answer session concerning the implementation of Bill 96.

(ii) **New Staff Members in the Faculty of Science**

Dean Lennox welcomed the following new staff members who have joined the Faculty of Science in January 2023.

Grace Kiser

Grace has been appointed as Communications Officer in the Faculty of Science, replacing Fergus Grieve. Grace will be responsible for overseeing all aspects of the Faculty's communication strategies to promote the Faculty. Grace has over a decade of experience in strategic and scientific communications. More recently, Grace worked as a Communications Manager at the EU Joint Programme on Neurodegenerative Disease Research (JPND) and prior to that, she was a Content Researcher and Editor at Element AI, a company specialized in artificial intelligence. Grace completed a Master's degree in Social and Political Sciences, and a Bachelor of Arts in Political Science.

Contact information: grace.kiser@mcgill.ca

Francesca Alonso

Francesca has been appointed as the interim Administrative Assistant in the Dean's Office, replacing Demi Mintzas during her developmental assignment. Francesca will support the Dean and the Director of Administration and Operations with all administrative affairs including scheduling, planning, communications, and client relations. In the past few years, Francesca held several administrative support roles and more recently, she worked as the Assistant to the Director General at a private college. She completed a Bachelor of Arts in Modern Languages at Concordia University.

Contact information: secdean.science@mcgill.ca

Andrew Gangai

Andrew has been appointed as a Research Infrastructure Officer. Andrew will work closely with Marilena Cafaro, Associate Director of Building Infrastructure to manage and develop projects in the Faculty of Science related to research infrastructure and teaching laboratories. As the project lead for the Faculty, he will collaborate with our research departments on space planning, relocations, renovations or new constructions of research infrastructure. Andrew started out his career in municipal urban planning and inspections before working in project management. Having worked on various construction projects at McGill University several years ago, Andrew returns to us with experience from his latest position as Project Manager at the English Montreal School Board. He holds a DEC in Architectural Technology and Bachelor of Arts in Urban Studies.

Contact information: andrew.gangai@mcgill.ca

Yasmine Nouhi

Yasmine joined the Faculty as Senior Advisor of Operations and Priorities. Yasmine will be responsible for providing assistance with strategic planning and problem-solving to the Director of Administration and Dean on initiatives and projects by leading the day-to-day execution, helping to implement change, and facilitating the decision-making process. Yasmine brings over several years of professional experience, having built a career directing projects and implementing process improvement strategies. In her most recent position at CellCarta Biosciences Inc., she worked as the Director of Project Management. Yasmine holds a Graduate Certificate of Health Services Management, a Master of Science in System's Biology, and a Bachelor of Science in Molecular Biology with a Biochemistry Major.

Contact information: yasaman.nouhi@mcgill.ca

(iii) Kudos

On behalf of the Faculty of Science, Dean Lennox congratulated the following award winners for their outstanding achievements.

- Prof. Karine Auclair (Chemistry) received the 2023 Clara Benson Award from the Chemical Institute of Canada

- Prof. Christian Genest (Mathematics and Statistics) was awarded the 2023 CRM-Fields-PIMS Prize by The Centre de recherches mathématiques (CRM), the Fields Institute and the Pacific Institute for the Mathematical Sciences (PIMS)
- Prof. Charles Gale (Physics) was awarded the 2022 CAP Medal for Lifetime Achievement in Physics by the Canadian Association of Physicists
- Prof. Daryl Haggard (Physics) was awarded the 2022 CAP Herzberg Medal by the Canadian Association of Physicists
- Prof. Martin Robillard (Computer Science) was named a Distinguished Member of the Association for Computing Machinery (ACM)
- Prof. Andrew Gonzalez (Biology), Prof. Victoria Kaspi (Physics), Prof. Andrew Hendry (Biology), Prof. Bernhard Lehner (Geography), Prof. Graham MacDonald (Geography), Prof. Nahum Sonenberg (Biochemistry), and Prof. Jennifer Sunday (Biology) were made Clarivate Analytics' Highly Cited Researchers 2022 list.
- Prof. Natalya Gomez (Earth & Planetary Sciences) earned the International Union of Geodesy and Geophysics Early Career Scientist Award
- Prof. Blake Richards (Computer Science) won NSERC's Arthur B. McDonald Fellowship
- Prof. Tomislav Friščić (Chemistry) won NSERC's John C. Polanyi Award
- Canadian Hydrogen Intensity Mapping Experiment (CHIME) team won NSERC's Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering
- Prof. Alfonso Mucci (Earth & Planetary Sciences) was elected Fellow of the American Geophysical Union
- Prof. Victoria Kaspi (Physics) received World Cultural Council's Albert Einstein World Award for Science
- Prof. Daryl Haggard (Physics) and Prof. Graham Bell (Biology) received the Royal Society of Canada medals
- Prof. Ehab Abouheif (Biology), Prof. Joel Kamnitzer (Mathematics & Statistics) and Prof. Doina Precup (Computer Science) were elected Fellows of the Royal Society of Canada
- Prof. Nicolas Cowan (Physics and Earth & Planetary Sciences) joined the Royal Society of Canada's College of New Scholars, Artists and Scientists
- Prof. Anna Weinberg (Psychology) was awarded the 2022 Early Career Impact Award from the Federation of Associations in Behavioral and Brain Sciences

6. Science Undergraduate Society (SUS) Report

(i) Joy Zhang, the SUS President reported on the following activities:

Planning is underway for the SUS election season, which is early this year, and the SUS Electoral Calendar will be finalized at the upcoming Legislative meeting. The SUS is also

preparing for a General Assembly on 22 February 2023 to bring some more student concerns to the forefront of policies. The Equity Commissioner will be providing training for departmental executives who could not attend the training during the 2022 Fall semester. Science Games happened earlier this month and was very successful, the first since 2020!

Regarding projects, a survey on Student Interest in Indigenous Support Initiatives is being circulated across the Faculty, and continuing to develop a plan for the financial overhaul and centralized banking, starting with amending the SUS Financial By-laws.

The SUS will continue to plan the annual formal SUS Gala on 17 February 2023. The Vice-President (External) continues to run the student bar, After Hours, bi-weekly. The Graduation Ball is being planned alongside the Arts Undergraduate Society. The SUS (Sustainability) and the SUS (Internal) Portfolios are also planning a cultural day alongside SSMU.

Dean Lennox thanked the SUS President, Joy Zhang, for the report.

(ii) Dana-Kaye Matthews, SSMU, Special Researcher, Mental Health Initiatives

Dean Lennox introduced Dana-Kaye Matthews, a special researcher for the Student Society of McGill University (SSMU) on Academic and Classroom Policy.

Dana-Kaye Matthews gave a PowerPoint presentation on academic wellness, classrooms, and academic policy. During the 2021-2022 academic year, SSMU issued a report on Academic Wellness. Her mandate is to collect information for the different undergraduate faculties and help achieve some of the goals in the Strategic Plan. The central theme should challenge the notion that academic rigour and wellness are necessarily diametrically opposing forces. One of the pathways that SSMU recognized as part of McGill's Mission Statement is "offering the best possible education" and looking at how faculty can promote academic wellness within the classrooms. What does that mean for professors, and how is that implemented? The aim is to get a snapshot of what that looks like for the different undergraduate faculties. She has developed a survey that can be distributed to faculty, after which the data will be collected and synthesized, and then she will draft a report. The point of the report is not for recommendations or any evaluation of what is going on; it will simply be a snapshot. The survey will be sent to all instructors, and the deadline to complete the survey is 28 February 2023.

Dean Lennox thanked Dana-Kaye Matthews for her informative presentation.

7. Science Equity and Climate Committee (SECC)

Associate Dean (Graduate Education) Laura Nilson informed members that the Science Equity and Climate Committee would meet on 25 January 2023, and she will report on that meeting at the Faculty meeting on 14 February.

1. McGill will launch a climate survey for graduate and undergraduate students. This is one of McGill's commitments under its EDI Strategic Plan. It is an important initiative to measure how McGill is doing regarding the learning climate provided to students.
2. Two updates on Indigenous Initiatives
 - (a) Geraldine King has recently joined McGill as an Assistant Professor in the Department of Integrated Studies in Education, and as the Senior Advisor on Indigenous Curriculum and Pedagogy in the Provost's Office of Indigenous Initiatives.
 - (b) The Associate Provost (Indigenous Initiatives), Celeste Pedri-Spade, is convening a working group to develop and implement a policy verifying claims to indigenous citizenship. This work stems from McGill's commitment to truth and reconciliation

(aligning with calls 44 and 52 of the Provost Task Force on Indigenous Studies and Indigenous Education). It aligns with a series of recent reports that show a rise in false or tenuous claims of indigenous identity in academia.

Dean Lennox thanked Associate Dean Nilson for her Report.

8. Provost's Action Plan to Address Anti-Black Racism (ABR)

Associate Dean Nilson gave the following Report:

(1) The new pilot project – The Faculty of Science Inclusive Teaching Initiative – is up and running this semester. This project is being run by Director Marcy Slapcoff and Dr. Diane Dechief from the Office of Science Education with support from TLS and the library. It is part of the Faculty's response to McGill's Action Plan to Address Anti-Black Racism (ABR Plan) and Strategic Equity, Diversity, and Inclusion Plan 2020-2025 (EDI Plan). It aligns with both plans' Student Experience pillar, and the goal articulated in the ABR Plan to "support the development of inclusive pedagogies and curricular approaches that foster the learning and development of our diverse community and a sense of belonging for all students, without interfering with the freedom of individual instructors to determine the content of their courses."

(2) Black History Month starts on 1 February 2023, and McGill's celebration is being sponsored by the Faculty of Education and kicks off with an opening celebration featuring keynote speaker Rinaldo Walcott, Professor and the Carl V. Granger Chair in Africana and American Studies at the University of Buffalo (SUNY).

Dean Lennox thanked Associate Dean for the above Report.

9. The New Vic Project Update

Since the court injunction, Dean Lennox said that the work in the exterior areas was on hold. McGill occupies only 15% of the entire site. It is anticipated to have more details about the ruling on the status of the injunction in February 2023.

10. Reports of Associate Deans

a) Associate Dean (Academic) Axel Hundemer

There was no report for the current meeting.

b) Associate Dean (Student Affairs) Anthony Mittermaier

Associate Dean Mittermaier drew members' attention to an email (16 January 2023) he sent to all instructors concerning ChatGPT and Academic Integrity. ChatGPT was only released in November 2022 and is a unique and sophisticated tool. Students can now ask ChatGPT for answers when taking remote exams. An important issue is how to evaluate a student's knowledge well. He said that after some testing with colleagues, one of the recommendations was for instructors to sign up for ChatGPT and test the questions for an online exam or a take-home assignment. It would be challenging to provide concrete evidence that ChatGPT was used to answer questions.

Dean Lennox said that a working group that will include students will be set up to understand better the topic and how it is evolving. Students must be part of that discussion because it is about the integrity of every student's course participation that needs to be protected. He said it could be helpful to begin an ongoing thread about this tool in the development phase because it is completely turning aspects of educational assessment.

c) Associate Dean (Graduate Education) Laura Nilson

Associate Dean Nilson reported that this semester is the peak season for graduate admissions. McGill has rolled out a new online graduate admissions system, called Slate. Support for new Slate users is provided through regular training sessions. Support for Graduate Program Coordinators and Graduate Program Directors is available at the weekly GPS Virtual Drop-in Session with the Dean of Graduate and Postdoctoral Studies.

d) Associate Dean (Research) John Stix

In the absence of Associate Dean Stix, Victor Chisholm gave updated information about the Summer Undergraduate Research programs available in the Faculty of Science.

Main change - Tri-Agency USRA:

- **New SSHRC USRA & CIHR USRA programs; at this time, exclusively for students who self-identify as Black.** Because these programs are new, it will be important to encourage applications. The allocation *for all of McGill* is 5 CIHR USRA + 3 SSHRC USRA. The Canada-wide allocation derives indirectly from a tri-agency estimate of need for this program, so *it would be great if we can demonstrate strong demand.*
- **For NSERC USRA**, the news is that **NSERC will fund as many Black students as we put forth**: they have to meet eligibility requirements but do not count towards our quotas.
- **Indigenous students** have not counted toward our NSERC USRA quota for several years now, but this is now more explicit.
- It will therefore be important to encourage Black students to apply for NSERC/CIHR/SSHRC USRA, and Indigenous (and all) students to apply for NSERC USRA.
- NSERC is the lead agency for the tri-agency USRA programs.

Minor changes:

- The **professor's contribution for tri-agency USRA increases** – was minimum \$1800, **will be minimum \$2350**, so that the total value of a USRA matches increases in minimum wage.
- For both SURA and USRA, the Faculty is relaxing but not eliminating the guidelines that **recommend a remote backup plan when projects are in-person**, while continuing to recommend that “Plan A” be for in-person projects rather than remote projects.
- The **SURA** program is not otherwise changing.
- **For information, application deadlines:** SURA and NSERC USRA applications (to departments) will be due in mid- to late-February (varies a bit by department). CIHR & SSHRC USRA applications will be due (to Victor Chisholm) in late March (will receive CIHR/SSHRC applications, but selection will be at university level, since the size of the program is too small to assign quotas to faculties or departments).
- **Schull Yang International Experience Awards:** There are no major changes except to clarify that, unlike last year, proposals with international travel and in-person activities will favor remote or hybrid projects.

Websites, communications are currently being updated:

- **Webpages for USRA (NSERC/SSHRC/CIHR):**
 - The Facsci webpage for USRA is now updated to reflect the new programs. <https://www.mcgill.ca/science/research/undergraduate-research/nserc>
 - NSERC is the lead agency, so even for CIHR and SSHRC USRA, please use NSERC application webforms and refer to NSERC's webpage, https://www.nserc-crsng.gc.ca/Students-Etudiants/UG-PC/USRA-BRPC_eng.asp
- **Webpage for SURA** currently says 2022 and will be updated for 2023 soon. Webpage updates for Schull Yang to follow.
- **Notifications for professors and students** will then be sent to the administrative colleagues in departments.
- First People's House and the central Black Student Affairs Liaison will be asked for help promoting the tri-agency USRA programs to Black and Indigenous students.

For colleagues in the Faculty of Medicine and Health Sciences, for the tri-agency USRA programs, please refer to their webpage for USRA, <https://www.mcgill.ca/medhealthsci-gradstudies/funding-opportunities/undergraduate-students/nserc-usra> or to Victor Chisholm's administrative counterpart

For more information, members could contact Victor Chisholm (victor.chisholm@mcgill.ca)

Dean Lennox thanked Victor Chisholm for the above updates on the Summer Undergraduate Research programs.

11. **Report on Actions of Senate**

Senator Jeffrey McKenzie will report on the Senate Meeting, 7 December 2022, at the next Faculty meeting.

12. **Members' Question Period**

There were no members' questions.

13. **Other Business**

There being no other business, Director Slapcoff **moved**, seconded by Prof. Fabry, that the meeting be adjourned at 4:42 p.m.

The motion carried.