

**FACULTY OF SCIENCE  
Meeting of Faculty  
23 February 2021 at 3:00 p.m.  
Held via Zoom Conference Application**

**ATTENDANCE:** As recorded in the Faculty Appendix Book

**DOCUMENTS:** **S-20-15 to S-20-22**

In the absence of Dean Lennox, Vice-Dean Stephens called the meeting to order at 3:00 p.m., and welcomed members to the sixth Faculty of Science meeting of the 2020-2021 academic year.

**1. ADOPTION OF AGENDA**

Prof. Forest **moved**, seconded by Ms. Mircescu, that the Agenda be adopted.

**The motion carried.**

**2. MINUTES OF 12 JANUARY 2021**

S-20-15

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

**The motion carried.**

**3. BUSINESS ARISING FROM THE MINUTES**

There was no business arising from the Minutes.

**4. CANDIDATES FOR DEGREES**

**a) Bachelor of Arts and Science**

S-20-16

**b) Bachelor of Science**

S-20-17

Associate Dean Mittermaier said there were 24 students graduating with the B.A. & Sc. degree, and 188 students graduating with the B.Sc. degree. It was interesting to note that this was the largest Fall cohort of B.Sc. graduands since 1998. He added that the SGPA cut-offs for both the Dean's Honour List (top 10%) and for Distinction (top 25%, but below the top 10%) would be set prior to the May 2021 graduation.

Associate Dean Mittermaier **moved**, seconded by Mr. Barry, that the above degree lists be recommended to the Senate Steering Committee for the Bachelor of Arts and Science degree, and for the Bachelor of Science degree.

**The motion carried.**

Associate Dean Mittermaier thanked departmental and Faculty advisors for their hard work in putting together the degree lists.

**c) Diploma in Environment**

S-20-18

**d) Diploma in Meteorology**

S-20-19

Associate Dean Mittermaier said that there were no students graduating with the Diplomas in Environment and Meteorology.

Associate Dean Mittermaier further **moved**, seconded by Mr. Barry, that the Dean be given discretionary power to make such changes as would be necessary to prevent injustice.

**The motion carried.**

**5. REPORT OF COMMITTEE**

**- Academic Committee Meeting**

**S-20-20**

Associate Dean (Academic) Axel Hundemer introduced and described the following proposals that were approved at the Academic Committee meetings on Tuesday, 19 January 2021, and Tuesday, 16 February 2021.

**I. MEETING OF 19 JANUARY 2021**

**1) PHYSICS**

Course Revision:

PHYS 434

Optics

Changes: description, supplementary Calendar info.

3 credits

[AC-20-22](#)

To provide a hands-on experience to an existing lecture course, a three-hour laboratory component has been added to PHYS 434. Also, the course description has been updated accordingly.

Associate Dean Hundemer **moved**, seconded by Ms. Mircescu, that the changes be approved.

**The motion carried.**

Program Revisions:

- Honours in Physics
- Honours in Mathematics & Physics
- Honours in Physics & Chemistry
- Honours in Physics & Computer Science
- Major in Physics & Geophysics

[AC-20-23](#)

[AC-20-24](#)

[AC-20-25](#)

[AC-20-26](#)

[AC-20-27](#)

The above program revisions included previously approved new courses to the list of Complementary courses, research courses to the Honours in Mathematics & Physics, and the Honours in Physics and Chemistry, to align with other joint programs.

Associate Dean Hundemer **moved**, seconded by Prof. Forest, that the above program changes be approved.

**The motion carried.**

**2) COMPUTER SCIENCE**

New Course:

COMP 549

Brain-Inspired Artificial Intelligence

3 credits

[AC-20-28](#)

New Course:

COMP 565

Machine Learning in Genomics and Healthcare

4 credits

[AC-20-29](#)

New Course:

COMP 588

Probabilistic Graphical Models

[AC-20-30](#)

4 credits

Three new Complementary courses (above) in Artificial Intelligence were being proposed to be included in the M.Sc. (Thesis and Non-Thesis) and Ph.D. Programs in Computer Science. Both COMP 549 and COMP 565 have previously been taught as topics courses, and were now being presented for adoption as regular courses. In regard to COMP 588, there is no course at McGill focussing specifically on the topic.

Axel Hundemer **moved**, seconded by Prof. Western, that the above three courses be adopted.

**The motion carried.**

3) **CHEMISTRY**

New Course:

CHEM 542	Advanced Nucleic Acid Chemistry	<a href="#"><u>AC-20-31</u></a>
	3 credits	

Presently, an advanced course in nucleic acid chemistry is not offered in any department at McGill, hence CHEM 542 represents the formalization of a currently existing topics course taught by a new faculty member.

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

**The motion carried.**

Course Revisions:

CHEM 367	Instrumental Analysis 1	<a href="#"><u>AC-20-32</u></a>
	Change in description	
	3 credits	

CHEM 367 will be taught by a new instructor, and the change in description better reflected the course content as taught.

Axel Hundemer **moved**, seconded by Prof. Western, that the changes be approved.

**The motion carried.**

CHEM 603	Principles and Applications of Materials Characterization	<a href="#"><u>AC-20-33</u></a>
	Changes: credit weight (from 5 credits to 3), title, description	

The reduction in credit weight was necessary because the workload in CHEM 603 was no different than any other 3-credit courses at the 600-level in the Department. Additionally, the course title and description were revised to better fit the current course content.

Axel Hundemer **moved**, seconded by Prof. Western, that the changes be approved.

**The motion carried.**

4) **GEOGRAPHY**

New Course:

GEOG 314	Geospatial Analysis	<a href="#"><u>AC-20-34</u></a>
	3 credits	

New Course:

GEOG 414                      Advanced Geospatial Analysis                      [AC-20-35](#)  
3 credits

Course Retirement:  
GEOG 306                      Raster Geo-Information Science                      [AC-20-36](#)  
3 credits

Course Retirement:  
GEOG 307                      Socioeconomics Applications of GIS                      [AC-20-37](#)  
3 credits

Two new courses were being created for the Minor Program and the Minor Concentration in GIS and Remote Sensing for the B.A. and B.Sc. degrees (below). GEOG 314, an intermediate level course in GIS, and GEOG 414, a more advanced course, will replace two existing courses (GEOG 306, GEOG 307) that were both at the intermediate level.

Axel Hundemer **moved**, seconded by Prof. Roulet, that the above new courses (GEOG 314, GEOG 414) and course retirements (GEOG 306, GEOG 307) be approved.

**The motion carried.**

Course Revisions:  
GEOG 308                      Remote Sensing for Earth Observation                      [AC-20-38](#)  
Changes: title, corequisite  
3 credits

GEOG 384                      Principles of Geospatial Web                      [AC-20-39](#)  
Change in prerequisites  
3 credits

GEOG 506                      Advanced Geographic Science                      [AC-20-40](#)  
Changes in prerequisites  
3 credits

As part of the overall updating of the GIS and Remote Sensing Minor and Minor Concentration, the above course changes were required.

Axel Hundemer **moved**, seconded by Prof. Roulet, that the above changes be approved.

**The motion carried.**

Program Revisions:  
- B.Sc. Minor in GIS and Remote Sensing                      [AC-20-41](#)

The program changes were to take account of the above new course, course changes, and course retirements as well as other factors.

Axel Hundemer **moved**, seconded by Prof. Roulet, that the above changes be approved.

**The motion carried.**

For Information Only:  
- B.A. Minor Concentration in GIS and Remote Sensing

The above B.A. Minor Concentration in GIS and Remote Sensing was for information only, and was to be approved by the Faculty of Arts.

## II. MEETING OF 16 FEBRUARY 2021

### 1. CHEMISTRY

#### Course Revisions:

CHEM 332	Biological Chemistry Change in prerequisite 3 credits	<a href="#"><u>AC-20-44</u></a>
CHEM 334	Advanced Materials Changes: description, prerequisites 3 credits	<a href="#"><u>AC-20-45</u></a>
CHEM 345	Introduction to Quantum Chemistry Change in prerequisite	<a href="#"><u>AC-20-46</u></a>
CHEM 223	Introductory Physical Chemistry 1 Course retirement 2 credits	<a href="#"><u>AC-20-47</u></a>
CHEM 243	Introductory Physical Chemistry 2 Course retirement 2 credits	<a href="#"><u>AC-20-48</u></a>
CHEM 283	Physical Chemistry Laboratory Course retirement 2 credits	<a href="#"><u>AC-20-49</u></a>
CHEM 493	Advanced Physical Chemistry Laboratory Changes: description, prerequisites, restrictions 2 credits	<a href="#"><u>AC-20-50</u></a>
CHEM 555	Magnetic Resonance Spectroscopy Changes: title, description 3 credits	<a href="#"><u>AC-20-51</u></a>

The above changes were basically housekeeping in nature: retirement of courses no longer offered; change in title and description to better fit the courses as currently taught; as well as updating the prerequisites and restrictions.

Axel Hundemer **moved**, seconded by Prof. Perepichka, that the above changes be approved.

**The motion carried.**

### 2. COMPUTER SCIENCE

#### New Course:

COMP 345	From Natural Language to Data Science 3 credits	<a href="#"><u>AC-20-52</u></a>
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A new artificial intelligence-related course with an emphasis on natural language and processing. COMP 345 will be cross-listed with LING 345.

Axel Hundemer **moved**, seconded by Ms. Mircescu, that the course be adopted.

**The motion carried.**

Course Revisions: COMP 202	Foundations of Programming Changes in restrictions 3 credits	<a href="#"><u>AC-20-53</u></a>
COMP 204	Computer Programming for Life Sciences Changes: prerequisites, corequisites, restrictions, supplementary Calendar information 3 credits	<a href="#"><u>AC-20-54</u></a>
COMP 208	Computer Programming for Physical Sciences and Engineering Changes: prerequisites, corequisites, restrictions 3 credits	<a href="#"><u>AC-20-55</u></a>

In the above courses, GEOG 333 (Introduction to Programming for Spatial Sciences) has been added to the list of mutually exclusive courses in the restrictions. Also, the prerequisites and corequisites were updated, and the supplementary Calendar information was clarified

Axel Hundemer **moved**, seconded by Ms. Mircescu, that the above changes be approved.

**The motion carried.**

COMP 424	Artificial Intelligence Changes in restrictions 3 credits	<a href="#"><u>AC-20-56</u></a>
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The restriction was being added in reciprocity to the restriction added to ECSE 526.

Axel Hundemer **moved**, seconded by Prof. Western, that the above changes be approved.

**The motion carried.**

COMP 462	Computational Biology Methods Changes in restrictions 3 credits	<a href="#"><u>AC-20-57</u></a>
COMP 561	Computational Biology Methods and Research Changes in restrictions 4 credits	<a href="#"><u>AC-20-58</u></a>

The course restriction, COMP 562, has been removed in the above two courses since it has not been offered for many years, thus, enabling to use the course number for a new proposed course to be considered below.

Axel Hundemer **moved**, seconded by Prof. Western, that the above changes be approved.

**The motion carried.**

3. **COMPUTER SCIENCE & MATHEMATICS & STATISTICS**

New Double-Prefix Course COMP 562/MATH 562 Theory of Machine Learning	<a href="#"><u>AC-20-59/59A</u></a>
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4 credits

The new double-prefix course will be taught by a professor in the Department of Mathematics and Statistics, and a professor in the School of Computer Science. COMP 562/MATH 562 was a more theoretical aspect of machine learning and it was being proposed because it was not currently offered at McGill.

Axel Hundemer **moved**, seconded by Prof. Hurtubise, that the above changes be approved.

**The motion carried.**

4. **MATHEMATICS & STATISTICS**

New Course & Affected Programs

MATH 462 Honours Mathematics for Machine Learning  
3 credits

[AC-20-60](#)

MATH 462, a new course on the foundations of mathematics in machine learning, has been proposed by a new faculty member. The topics in the proposed course were not offered by the School of Computer Science however the course had been offered as a 500-level topics course which included a high enrollment from undergraduate students.

Axel Hundemer **moved**, seconded by Prof. Hurtubise, that the course be adopted.

**The motion carried.**

New Course:

MATH 558 Design of Experiments  
4 credits

[AC-20-61](#)

A new course in experimental design was being created to fill an important gap in the Department's statistics course offerings, and such a course was a mandatory requirement for the A.Stat. accreditation by the Statistical Society of Canada. MATH 558 will be taught by a new professor with expertise in experimental design.

Axel Hundemer **moved**, seconded by Ms. Mircescu, that the course be adopted.

**The motion carried.**

5. **EARTH & PLANETARY SCIENCES**

Course Revisions:

EPSC 548 Igneous Petrogenetic Mechanisms  
Change in course title  
3 credits

[AC-20-62](#)

The course title was being updated with the current nomenclature in the field of igneous petrology.

Axel Hundemer **moved**, seconded by Prof. McKenzie, that the change be approved.

**The motion carried.**

EPSC 542 Chemical Oceanography  
Course retirement  
3 credits

[AC-20-63](#)

The course instructor of EPSC 542 has retired, and the Department does not intend to hire a new professor in the area of chemical oceanography.

Axel Hundemer **moved**, seconded by Prof. McKenzie, that the change be approved.

**The motion carried.**

6. **PROGRAM REVISIONS:**

- Minor in Chemical Engineering

**AC-20-64**

The most substantial changes to the Minor in Chemical Engineering were the increase in the number of Required courses (from 6 to 18 credits), as a result of revising the undergraduate program in Chemical Engineering.

Associate Dean Hundemer **moved**, seconded by Ms. Mircescu, that the program changes be approved.

**The motion carried.**

6. **DEAN'S BUSINESS**

a) **Dean's Multidisciplinary Undergraduate Research List (DMURL)**

**S-20-21**

Associate Dean Mittermaier said that the DMURL recognizes students with at least 9 credits of graded research-based courses in at least two different units. A minimum GPA of 3.00 on these courses is required. The DMURL is added at graduation for B.Sc. and B.A. & Sc. students. There were five B.Sc. students and three B.A. & Sc. students on the DMURL.

b) **B.Sc. Global Designation**

**S-20-22**

Associate Dean Mittermaier said that the B.Sc. Global Designation was a distinction being given at graduation. Students must have at least three credits of a second language course, at least three credits of an independent research project course, plus a third component, chosen from various preselected options. There were three students to graduate with the B.Sc. Global Designation.

b) **Announcements**

There were no announcements.

7. **REPORTS OF ASSOCIATE DEANS**

a) Associate Dean (Academic) Axel Hundemer

Associate Dean Hundemer reported that the Québec government allocated funds to all Québec universities to award in-course and graduating students in the field of computer science in the Faculties of Arts, Engineering, and Science, for a period of five years. The goal of the funds was to increase interest in the area of computer science in Québec.

b) Associate Dean (Graduate Education) Laura Nilson

Associate Dean Nilson reported on the following two items related to graduate admissions:



In December 2020, the Faculty announced a special covid relief/stimulus funding initiative, that will provide supplemental funding to researchers who have been supporting their students from their research grants. One of our goals is to help take some of the risk out of taking on new students, and thus to help people maintain their research capacity.

The Faculty is asking units and supervisors to keep this extra funding in mind as they are making their admissions decisions for the upcoming semester.

Related note: Again this year and throughout the admissions cycle, ES and GPS will work together to provide regularly updated lists of self-identified Indigenous graduate applicants to graduate units. Their goal is to ensure that these files are reviewed and that reviewers are aware that these applicants are self-identified Indigenous.

- c) Associate Dean (Research) John Stix
- d) Associate Dean (Student Affairs) Anthony Mittermaier

There were no reports.

## 8. **SCIENCE UNDERGRADUATE SOCIETY (SUS) REPORT**

Ms. Sydney Merritt, President of the Science Undergraduate Society, gave the following report:

Science students are overwhelmingly excited about the news released this morning regarding in person activities for the Fall 2021 semester! The Executive Committee has been working tirelessly to run the online events.

To address the first-year students, SUS has been collaborating with a great team behind FRezCa and the First-Year Undergraduate Society to host an "Isolation Breaker" event (two weeks ago) and start the FUSS Study Groups again. Last semester, these study groups had about 300 first-year students sign up, and now "groups" will be assigned a TEAM TA as their "mentor". This semester, enrollment in the study groups is rolling, and there are already over 100 first-year students!

In terms of the Academic portfolio, virtual Academia Week was a success! All events were well attended, and particularly the following talks each had about 50 attendees: Darrion Nguyen of Lab Shenanigans talking about his life and work, a discussion by Dr. Ragsdale and Dr. Gold about the intersection of neuroscience and philosophy, a workshop explaining how to apply to undergraduate research awards, and a workshop on introductory coding.

The Mental Health Committee is continuing its biweekly support activities with some including "online pet therapy". The Environment Committee is hosting Green Week this week; activities including baking, virtual art, yoga classes, a case competition and a week long scavenger hunt. Like last semester, the Charity Week is scheduled for March 15-19, 2021, and all funds raised will go towards the Open Door Charity. Also, events from both the Mental Health and Environment Committees will take place during the same week.

Regarding social events, the Science Internal Committee (SIC) is also continuing its biweekly events--the most recent event was a "Just Dance" zoom class on Saturday.

Finally, the election process for next year's executive committee is underway, in preparation for the SUS next year!

On behalf of the Faculty, Vice-Dean Stephens thanked Ms. Merritt for the report on the activities of the SUS.

9. **SCIENCE EQUITY AND CLIMATE COMMITTEE – ASSOCIATE DEAN (GRADUATE EDUCATION) LAURA NILSON**

Associate Dean Nilson said that the SECC will be meeting on Thursday, 25 February 2021, and there will be a presentation from Bob Newton, a researcher at the Lamont-Doherty Earth Observatory at Columbia University in NYC. He was recommended by a committee member from the Department of Atmospheric & Oceanic Sciences. He will talk about a summer program that he runs that brings high school students, science teachers and undergraduates to their campus each summer for six weeks of field and laboratory research. While this program does not specifically target students from particular groups, it does tend to reach students from underserved communities who do not necessarily attend university. The committee is interested in hearing from this speaker because outreach is an important component of promoting equitable access to science.

McGill's Equity Team is piloting a workshop in three of the Science departments (Physics, Math and Computer Science) called Equity and Anti-Racism in Academic Life. The workshop has been developed in consultation with each of these units, and will be led by Angela Campbell (Associate Provost; Equity and Academic Policy) and Tynan Jarrett (Director; EDI). It will look at the place, role and purpose of equity and anti-racism in Departments and Faculties, and across McGill, with a focus on the differences between direct and systemic discrimination and how each might impact education. Through case studies, participants will discuss what successful integration of EDI practices could look like, and think about strategies for moving towards these goals. There is only one workshop, but it will be held four times before the end of this term.

10. **PROVOST'S ACTION PLAN TO ADDRESS ANTI-BLACK RACISM**

Associate Dean Nilson reported that the University recently announced the hiring of Antoine-Samuel Mauffette Alavo as the Black Student Affairs Liaison. You may recall that this position was created as part of the University's Action Plan to Address Anti-Black Racism.

Antoine-Samuel's role will be to connect with and support Black students across McGill at both the graduate and undergraduate levels, to ensure that their needs and interests are championed and communicated effectively to the University and addressed in a timely and effective manner. To this end, he will work closely with colleagues in various units and all Faculties.

As part of his role, Antoine-Samuel can refer individuals to resources aimed at supporting Black students and ensuring their success and wellness. Graduate students can book one-on-one appointments with him via email ([antoine-samuel.mauffettealavo@mcgill.ca](mailto:antoine-samuel.mauffettealavo@mcgill.ca)).

11. **THE NEW VIC PROJECT UPDATE**

Due to Dean Lennox's absence at the current meeting, an update on The New Vic Project will be presented at a future Faculty of Science meeting.

12. **REPORTS ON ACTIONS OF SENATE**

- Senate Meeting of 20 January 2021 - Senator Jeffrey McKenzie

Senator Eidelman (Dean of Medicine) presented a memorial tribute for Dr. Clifford Kirk Osterland and Senator Engle-Warnick (Acting Dean of Arts) presented a memorial tribute for Dr. Barbara Nichols.

In the Chair's Remarks, Principal Fortier discussed how the University is encouraging government to increase on-campus opportunities for students. Of relevance to the Faculty of Science, Principal Fortier met with Minister of Education McCann, asking for a clear signal of support for the New Vic project. She was informed that the project is being actively discussed, but did not receive specific information, such as a date for when such an announcement would happen.

Finally, Principal Fortier described various Kudos, including McGill Faculty winning 'Best of 2020' awards, including the Faculty of Science's Prof. Kaspi who received numerous mentions for her research with fast radio bursts.

Provost Manfredi provided the Report on Academic Policy Committee. Two motions were passed. First, the creation of a Joint B.Eng. in Global Engineering (120-128 cr.) in partnership with CentraleSupélec, France, and is a 2+2 type program. Second, changing the name of Civil Engineering and Applied Mechanics to Civil Engineering.

Vice-Provost Chris Buddle presented the Annual Report from the Senate Committee on Libraries. The Fiat Lux project continues, architects have been contracted. As a reminder, the project will include an extensive internal rebuild of the McLennan/Redpath Library and offsite book storage at MacDonald Campus. Further, the committee has had numerous discussions about Open Educational Resources.

Professor Ismail presented the Annual Report of the Advisory Council on the Charter of Students' Rights. The council did not meet during 2019-2020 academic year.

Senator Zorychta presented the Report of the Board of Governors to Senate. The Board of Governors approved Mr. John McCall MacBain as Chancellor starting July 1, 2021, for a 3-year term. Dean Robert Leckie was reappointed as Dean of Law School. The Board of Governors approved the name 'Redbirds' as the new name of the McGill Men's varsity sports teams.

Finally, the Board of Governors ratified a new Climate and Sustainability Strategy, that includes three long-term targets for McGill: (1) Achieve Carbon Neutrality by 2040 (2) Attain a Platinum Sustainability Rating by 2030, and (3) Become Zero-Waste by 2035.

The meeting was adjourned after 47 minutes!

**13. MEMBERS' QUESTION PERIOD**

There were no members' questions.

**14. OTHER BUSINESS**

There being no further business, Prof. Lydon **moved**, seconded by Ms. Mircescu, that the meeting be adjourned at 4:25 p.m.

**The motion carried.**