

**FACULTY OF SCIENCE
Meeting of Faculty
Tuesday, 23 October 2018
Leacock Council Room - L232**

ATTENDANCE: As recorded in the Faculty Appendix Book

DOCUMENTS: S-18-4, S-18-5 to S-18-14

Dean Lennox called the meeting to order at 3:00 p.m., and welcomed members to the second Faculty of Science meeting of the year.

(1) Adoption of Agenda

Under Item #6, Dean's Business, a brief overview of the new RVH Project will be presented by Dean Lennox.

Prof. Gyakum **moved**, seconded by Prof. Lydon, that the amended Agenda be approved.

The motion carried.

(2) Candidates for Degrees

Director (Advising Services) Nicole Allard

- a) Bachelor of Arts and Science
- b) Bachelor of Science

S-18-5

S-18-6

Director Allard said that there were 17 candidates for the B.A. & Sc. and 78 for the B.Sc. These numbers were very similar to those of the previous year.

Director Allard **moved**, seconded by Mr. Barry, that the candidates for the B.A. & Sc. and the B.Sc. be approved for their respective degrees.

The motion carried.

- c) Diploma in Environment
- d) Diploma in Meteorology

S-18-7

S-18-8

Director Allard said there were no students graduating with either diploma.

Director Allard thanked departmental and Faculty advisors for their hard work in putting together the degree lists.

Director Allard further **moved**, seconded by Prof. Lydon, that the Dean be given discretionary power to make such changes as would be necessary to prevent injustice.

The motion carried.

(3) Minutes of 11 September 2018

S-18-4

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

The motion carried.

(4) Business Arising from the Minutes

There was no business arising from the Minutes.

(5) **Reports of Committees**

a) Academic Committee

S-18-9

The following proposals were approved at the Academic Committee meeting held on 25 September 2018:

I. Internship & Field Studies Office

- New Internship Length Requirement

AC-18-1

Associate Dean Hundemer said that the proposal is to reduce the number of required weeks to 12 (from 14) to bring it in line with industry practices.

Associate Dean Hundemer **moved**, seconded by Ms. Verzani, that the length requirement for the internship be changed to 12 weeks.

The motion carried.

II. Course Revisions

(1) Psychology

PSYC 541

Multilevel Modelling
Change in prerequisites
3 credits

AC-18-2

An additional prerequisite, PSYC 536, Correlational Techniques, was included to better prepare undergraduates for PSYC 541.

Associate Dean Hundemer **moved**, seconded by Ms. Verzani, that the change be approved.

The motion carried.

(2) Chemistry

CHEM 429 (from CHEM 319)

Chem of Energy, Storage & Util
Changes: number [from CHEM-319],
prerequisites, restrictions
3 credits

AC-18-5

The reason for the proposal to renumber CHEM 319 to CHEM 429 is to reflect the new material covered in the course that will be better suited mainly for U3 students. Also, to attract students from different disciplines, another prerequisite has been added.

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

The motion carried.

(3) Computer Science

COMP 669/COMP 669D1/D2

CSE Seminar
Course Retirement

AC-18-3

- Associated Program Retirement

M.Sc. in Computer Science (Thesis); Computational Science &
Engineering Option

AC-18-4

Since COMP 669 has not been offered for a number of years for students in the M.Sc. in Computer Science; Computational Science & Engineering Option (CSE), both COMP 669 and the CSE Option is being retired.

Associate Dean Hundemer **moved**, seconded by Prof. Panangaden, that the above course and program retirements be approved.

The motion carried.

Associate Dean Hundemer added that currently there is one student registered in the M.Sc. in Mathematics & Statistics; CSE Option.

b) Committee on Student Standing

S-18-10

Director Allard described the role of the Committee on Student Standing (CSS). One request to change a grade of "C" in BIOL 202 to a grade of "S" (S/U option) was submitted to CSS; the request was not approved.

(6) Dean's Business

a) Announcement:

Congratulations to **Professor Sidney Trudeau** from the Department of Mathematics & Statistics for winning the Principal's Prize for Excellence in Teaching in the Faculty Lecturer category. The prize will be awarded at the 2018 Fall Convocation.

b) Overview of the Royal Victoria Project: Presentation by Dean Lennox

Dean Lennox said that the Faculty of Science is a lead faculty on the RVH project in terms of occupancy and design. In May 2018, the Québec government agreed that McGill take ownership of the core of the RVH site for the purpose of developing the Academic Plan that McGill had presented in December 2016. McGill will receive \$37M for the design and blueprints, and the project will cost roughly \$650M. The planning stages will take approximately 1.5 to 2 years for completion. Subsequently, the physical development target date will be 1 July 2019, with seven years required to complete the project, and then six months to one year for moving.

The Academic Plan (December 2016) was the result of approximately one year of consultation at McGill. The Québec government's restrictions were that: (i) the RVH site not be another health and clinical science site, as the MUHC Glen site is presently, and that (ii) the architectural heritage rules be respected. In terms of space capacity, the new site is equivalent to two Stewart Biology Buildings or four Otto Maass Buildings.

McGill is a world-class teaching and research university, with a particular focus on sustainability science research in the Faculty of Science and the Faculty of Engineering. The application of science to public policy, through the Max Bell School of Public Policy, is a very important link to sustainability science research. Under the leadership of Prof. Tim Moore the Trottier Institute for Science and Public Policy (TISPP) has expressed the relationship between sustainability sciences and public policy. Many of the research fellows in the TISPP have been involved with sustainability science research. McGill is dedicated to sustainability and it is a very important facet in the planning of the RVH site.

What does this mean for the Faculty of Science? The RVH project was divided into two phases, 1A and 1B. Presently, Phase 1B is not funded, but McGill will be planning for it. For Phase 1A, two themes have been selected within sustainability sciences and these involve:

(i) Molecular/Materials Systems (Chemistry, Physics, Electrical-, Mechanical-, Chemical-, Computer-, Mining & Materials Engineering)

(ii) Earth Systems (Geography, Earth and Planetary Sciences, Atmospheric and Oceanic Sciences, Civil-, Mechanical-, Chemical-, Mining-Materials Engineering)

Dean Lennox emphasized that it was extremely important that planning for space released for the above research groups should take place simultaneously while planning for space in the RVH.

The RVH space for the Max Bell School of Public Policy will be very modest in that it will be entirely shared space to be used for discussions and offices for professors and graduate students.

In terms of space and occupancy at the RVH site, the following six principles/criteria for participants' occupancy were applied:

- **Promote flexibility and innovation** in bringing people together to teach, learn, create knowledge, advance skills and tackle new research challenges to find better ways of translating knowledge for the greatest social impact
- **Encourage internal collaboration** within and among disciplines at McGill
- **Advance external collaboration** with partners to enhance experiential learning and research that benefits society
- **Stimulate multidisciplinary research and learning** while maintaining strong connections with disciplines and faculties
- **Promote the use of shared discovery and service hubs** to promote further collaboration and cost containment
- **Build strategic capability and capacity** in established areas of research and learning strength, where McGill can have the greatest impact on local and global society

Dean Lennox went over the following nomenclature for the new RVH site:

- **Discovery Centres/Hubs** – Shared facilities housing state-of-the-art equipment, technical and support personnel, and work spaces.
- **Shared and common spaces** – Library, study spaces, active learning classrooms, and a broad range of “collision spaces” — including informal venues such as cafés and lounges where people can meet, interact, and create.

Dean Lennox stressed that the new RVH site will be totally integrated with research and teaching and learning, and that there would be no 600-seat classroom. The RVH will include dry/computational teaching/research laboratories, flexible classrooms, active learning rooms, shared-function meeting rooms, lecture rooms, flat-floor classrooms, tiered seating auditorium, shared facilities with state-of-the-art equipment, library, and offices for principal investigators, visiting faculty, graduate students, support staff, along with a lounge and coffee shop.

Dean Lennox concluded by saying that at future Faculty meetings, there would be further discussions on the RVH Project. He also invited student members to contact the Chairs/Directors of their department if they have any ideas.

Dean Lennox answered members' questions.

c) Dean's Multidisciplinary Undergraduate Research List (DMURL)

S-18-11

Director Allard said that the DMURL provides recognition for students who have completed at least 9 credits of graded research-based courses in at least two different units, and who have a minimum GPA of 3.00 on these courses. She said that six B.Sc. students and one B.A. & Sc. student would be graduating with this honour. Director Allard said it was remarkable that out of the seven students, three students completed 12 credits of independent research courses, and one student completed 15 credits.

d) B.Sc. Global Designation

S-18-12

Director Allard said that the B.Sc. Global was a designation 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. For the Fall 2018 graduation ceremony, there is one candidate who would graduate with the B.Sc. Global designation. Director Allard added that there are probably more students who could be eligible for the B.Sc. Global designation, but that perhaps students have not been informed that they need to apply for the B.Sc. Global designation. Dean Lennox suggested that departmental advisors would be excellent resources to inform students about this designation.

e) Enrolment

S-18-13

Associate Dean Hundemer presented the final report on enrolment statistics for Fall 2018. This year, the plan was to slightly reduce the number of new admissions. However, for the B.Sc. degree, there was instead a 3.3% increase in new admissions compared to Fall 2017. The Provost's target for new admissions this year (1,250 students) was slightly lower than last year; however, there was a 3.3% increase in new admissions instead. A particular concern is that the new admissions are unevenly spread: while there is a 4% decrease in U1 admissions compared to Fall 2017, there is a 14.3% increase in U0 admissions. However, due to a decrease of 12.1% in U0 Engineering admissions, the combined Science and Engineering U0 admissions increased by a more manageable 3.2%. There is nonetheless a concern with regards to the next academic year where the Faculty of Science will experience a drastic increase in its U1 student population.

B.Sc. U1 students apply to one of the following program groups:

- Biological, Biomedical and Life Sciences (BBL group)
- Bio-Physical-Computational Sciences (*the BPC group is new as of Fall 2018*)
- Physical, Earth, Math and CS (PEMC group)
- Neuroscience (NEUR group)

Most students come into the BBL and PEMC groups. For Fall 2018, there was an 11.4% decrease in the BBL group, while there was a 28.6% increase in the PEMC group, which was likely due to the increased interest in Computer Science. In the past, the BBL group was the largest, and it is important to keep a close eye on the figure. For the PEMC group, the long-term goal was to increase it by approximately 40%.

Total Science U0 enrolments increased by 15.1% and the total enrolment has increased by 4.4% due to cumulative increases over the years.

U0 enrolments in the Faculties of Arts and of Engineering decreased by 0.2% and 12.1% respectively. Combined U0 enrolments in Science and Engineering increased by 3.2%. It is important to keep a close watch on the Engineering numbers since an increase has an impact on the Faculty of Science.

Associate Dean Hundemer went over the admissions R-Score cut-off levels for 2018-2019. The minimum R-Score cut-off levels in Fall 2018 increased in the BBL and PEMC program groups compared to Fall 2017 due to a change in the way the R-Score is calculated. The average R-Score cut-offs for newly admitted students in the BBL and PEMC groups for Fall 2018 were 33.3 and 33.5 respectively. The minimum R-Score cut-offs for Arts and Engineering is lower.

Concerning total enrolment over the previous years, the enrolment in 2012 was very high, and then there was a considerable decrease in Fall 2014 and 2015. However, in Fall 2018, the enrolment (4,576) is higher than it was in 2012. To be considered in future years is whether to maintain the current enrolment level or to reduce it.

Total enrolment for the B.A. & Sc. has decreased since Fall 2015, but remained stable this year. The total enrolment is 527 for Fall 2018. For U0 and U1 years, enrolment has increased by 29% and 16% respectively. Because of the decline in enrolment in recent years, enrolment numbers in U2 and U3 have decreased. The Provost's target for new admissions was 150 students, and the enrolment is 153 for Fall 2018.

McGill Science students are admitted from CEGEPs, Canadian high schools, Ontario high schools, U.S. high schools, and overseas high schools. The table below gives a breakdown of the sources of students admitted in the BBL and PEMC groups.

Science Admissions by Student Source		
	BBL	PEMC
CEGEP	28.60%	30.60%
Canadian HS	18.80%	15.50%
Ontario HS	21.30%	14.10%
US High	10.70%	8.20%
Overseas HS	20.40%	30.6%

Associate Dean Hundemer pointed out the differences in the numbers of overseas high school students and Ontario high school students registering in the BBL group versus the PEMC group. He said he would run the numbers again in Fall 2019.

In reply to a question about who determines the desirable ratio between the BBL and the PEMC groups, Dean Lennox said that this is due to former Associate Dean (Academic) Laurie Hendren's analysis into BBL and PEMC enrolment numbers.

In response to a question about the percentage of the CEGEP students referred to in the table above whose mother tongue is French, Associate Dean Hundemer said he would look into the data and bring it back to a future meeting.

Dean Lennox thanked both Associate Dean Hundemer and Associate Dean Western for their informative presentation.

Dean Lennox offered his appreciation to former Associate Dean (Academic) Laurie Hendren for her immense contribution while serving the Faculty of Science. He added that the Faculty of Science is now sought out by other faculties for information on enrolment.

(7) Reports of Director & Associate Deans

- a) Director (Advising Services) Nicole Allard
- b) Associate Dean (Academic) Axel Hundemer

There were no reports from Director Allard and Associate Dean Hundemer for the current meeting.

- c) Associate Dean (Education) Tamara Western

S-18-14

(i) Tomlinson Education Award for Change (TEACH)

Associate Dean Western introduced a new undergraduate award named the Tomlinson Education Award for Change (TEACH), which mirrors the existing Tomlinson Engagement Award for Mentoring (TEAM). The TEACH comes with a small stipend for undergraduate students doing work involved with course design, course improvement, course evaluation, testing and designing new activities that could be used in new courses, and the efficacy of the courses. Similar to TEAM mentors, TEACH students will be eligible to receive a stipend

of \$300 for approximately 25 hours of work per semester. Interested professors could apply for the Winter 2019 semester.

(ii) Beyond Grading: Effective Assessment Strategies for Better Learning - 7 December 2018

Associate Dean Western informed members that TLS will be holding a one-day symposium, Beyond Grading: Effective Assessment Strategies for Better Learning, scheduled for 7 December 2018 in the New Residence Hall from 9:00 a.m. to 3:30 p.m. Professors and students will be participating in panel and round-table discussions. She encouraged members to attend this symposium.

- d) Associate Dean (Graduate Education) Laura Nilson
- e) Associate Dean (Research) John Stix

There were no reports from Associate Deans Nilson and Stix for the current meeting.

(8) Report on Actions of Senate

- Senate Meeting of 12 September 2018: Report was prepared by Senator David Stephens, and read by Associate Dean Hundemer

The meeting began with congratulations to the Chair, Principal Fortier, for her recent appointment as an Officer of the Order of Canada.

Prior to the main agenda, memorial tributes were presented for Professor Emerita Virginia Douglas and Librarian Emerita Anastassia Khouri-Frankman.

In her comments, the Chair commented on the success of Orientation Week, and then addressed the subject of the recent diplomatic incident involving Saudi Arabia and Canada which originally led to the recall of Saudi Arabian students, although there has now been a reversal of the decision. The Chair commented on University rankings, and then discussed the new Bachelor of Education First Nations and Inuit Education program to be given in the Mohawk community of Kahnawake, which now has an enrolment of thirty students.

Senate heard that the report of the *Task Force on Inclusion and Respect in Campus Life* has been read by all the members of the senior administration over the summer; broader discussions and consultations are being planned. Finally, it was noted that the Centraide campaign will be launched on October 4.

The report of the Steering Committee in part dealt with a review of the motion (from Senator Mikkelson) on the topic of divestment from fossil fuel. The Committee had discussed the motion thoroughly at its April and May meetings, and came to an agreement that the whole of Senate should express its view on the following question via a motion:

Given the division of responsibility set for the Board of Governors and the Senate by the Statutes, does Senate, in the context of its academic mandate, think it necessary or desirable to express an opinion on a matter that has been considered by the Board in line with its authority and based on processes and mechanisms that it has established?

The motion was debated and eventually amended by Senate at the request of Senator Gold. The amended version, making specific reference to the divestment motion, was voted on and adopted.

Senate then debated the divestment motion, which was ultimately amended on the intervention of Senator Geitmann to read

Be it resolved that Senate informs the Board of Governors, through the Principal, that it favours, in principle, a move to divest the endowment from all companies

whose primary business is the extraction, distribution, and/or sale of fossil fuels; and from all mutual funds that invest in such companies.

The amended motion was voted on and adopted.

Senate approved the report of the Senate Nominating Committee presented by Provost Manfredi, and then received the Annual Report on the Policy on Harassment, Sexual Harassment and Discrimination Prohibited by Law and the Annual Report of the Joint Board-Senate Committee on Equity presented by Associate Provost Campbell. Finally, Senate received the Annual Report of the Committee on Student Services which was presented by Interim Deputy Provost Labeau.

Senate adjourned at 16.22 pm.

(9) Members' Question Period

There were no members' questions.

(10) Other Business

There being no other business, Ms. Verzani **moved**, seconded by Prof. Lydon, that the meeting be adjourned at 4:45 p.m.

The motion carried.

Next Meeting: 13 November 2018