**FACULTY OF SCIENCE**
**ACADEMIC COMMITTEE**

Minutes of the meeting held on 25 February 2020 at 3:00 p.m. in Arts Council Room, Arts 160.

**PRESENT:** Vice-Dean David Stephens, Associate Dean (Academic) Axel Hundemer, Director (Advising Services) Nicole Allard; Professors Amy Blum, Huy Bui, Maxime Denis, Ben Forest, Paul François, Abigail Gerhold, Greg Marczynski, Timothy Merlis, Johanna Neslehova, Ana Nyzhnyk, Gillian O'Driscoll, Jeanne Paquette, Kathy Roulet, Clark Verbrugge, Natalie Waters; Emily Dinunzio, Thea Lee, Andrew Nguyen; Josie D'Amico.

**REGRETS:** Professors Barbara Hales, Tamara Western, Julia Morales-Aguirre, Samantha Pritchard, Keerth Raveendra, Juliann Wray.

**motion carried.**

2. **Minutes of 21 January 2020**                                    **AC-19-56**

   **Prof. Gerhold moved,** seconded by Prof. Forest, that the Minutes be approved.

   **The motion carried.**

3. **Business Arising from the Minutes**

   There was no business arising from the Minutes.

4. **Master of Arts and Science in Complex Problem Solving - New**    **AC-19-78**
   - Executive Summary & Program Outline                              **AC-19-78A**

   Vice-Dean Stephens introduced a new Master of Arts and Science (Non-Thesis) degree which was originally discussed at the Academic Committee meeting of 21 January 2020, for information only. The M.A.Sc. degree program was developed jointly with the Faculties of Arts and of Science, and its focus is on Complex Problem Solving.

   Associate Dean Hundemer informed members that at the last Faculty of Science meeting on 18 February 2020, the Faculty passed a motion that the Academic Committee would be the decision-making body for the M.A.Sc. program and courses. The reason for changing the sequence of the approval process is mainly due to the meeting schedules of the various committees.

   *New Courses*
   ARSC 601          Proseminar 1: Comparative Methods          **AC-19-79**
                     3 credits
   ARSC 602          Proseminar 2: Evolution of Knowledge       **AC-19-**

| ARSC 604 | Data and Analytics for Decision Making 2<br>3 credits | **AC-19-82** |
| ARSC 605 | Project 1: Approaching Complex Topics<br>3 credits | **AC-19-83** |
| ARSC 606 | Project 2: Research Proposal<br>3 credits | **AC-19-84** |
| ARSC 607 | Project 3: Research Project<br>12 credits | **AC-19-85** |
| ARSC 608 | Proseminar 3: Professional & Leadership Skills | **AC-19-86** |

In response to a member, Vice-Dean Stephens said that it was too early in the process to identify specific instructors to deliver these courses; however, there have been discussions in the Departments of Geography, Mathematics & Statistics, and the School of Computer Science, as well as in the Faculty of Arts. Associate Dean Nilson said that other models that are being discussed would be to appoint several teaching fellows who have intersectional disciplines and would complement the existing expertise at McGill.

Replying to a member's questions, Vice-Dean Stephens responded that the program development began in Spring/Summer 2019 after the announcement of the McCall McBain initiative, although he was unaware of the relation between the program and the donation at that time. However, due to the success of the B.A. & Sc. degree, he said there was a notion in both Faculties that there should be a similar degree at the graduate level. Associate Dean Hundemer said that the McCall McBain donors were not involved in any way in the creation of the M.A.Sc. and that the program was developed strictly by McGill. Also, admission to the program is open to all students. Associate Dean Nilson said the McCall McBain donation was a catalyst for the development of the M.A.Sc. program to explore issues that lie at the intersection of Arts and Science and that benefit from contributions from both Arts and Science. Another member said that the proposed M.A.Sc. program looks very much like a graduate-level program in Arts and Science, like the existing B.A. & Sc. degree at the undergraduate level, which is very interesting and successful.

Associate Dean Nilson, in response to a member, said that additional tutorial sessions for students with diverse backgrounds will be made available, and that part of the background would be accommodated at the admissions stage. Also, incoming students with a mixed Arts/Science background would be targeted first.

Associate Dean Hundemer **moved**, seconded by Director Allard, that the above eight courses be adopted.

**The motion carried.**

## Master of Arts and Science in Complex Problem Solving        AC-19-78

There was a lengthy discussion about the M.A.Sc., and the following issues were raised: (i) the lack of prerequisites for the Complementary courses, (ii) that many Arts courses are not offered every year and this may be challenging in a 12-month program, (iii) whether students were consulted in choosing the courses, (iv) what is the goal of the program, (v) who will be on the admissions committee, (vi) that there were more Arts courses than Science courses, (vii) that climate change was mentioned in the program rationale but there are no courses in climate change in the proposal, (viii) that not all Science students would be suitable candidates for the M.A.Sc. because the program seems to be aimed at students with an Arts background only, (ix) that some science background will be needed to be able to solve problems in multidimensional thinking, (x) that a quantitative statistics course and an AI-learning course should be included in the

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Prof. Gerhold explained that BIOL 514 and PSYC 514 were double-prefix courses and were identical in content, title, etc.  After reviewing the course material, it was decided

Prof. Verbrugge **moved**, seconded by Prof. Forest, that the course be adopted.

**The motion carried.**

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|---|---|---|
| COMP 551 | Applied Machine Learning | **AC-19-67** |
| | Changes in restrictions | |
| | 4 credits | |

Prof. Verbrugge explained that the current course COMP 551 is heavily populated and is taken by Computer Science undergraduates and graduate students, as well as by students in different majors. The intent is to introduce a new course, COMP 451, for undergraduate students only, with a focus more on theories rather than applications. The instructor of the above course elaborated on the content of the courses.

Prof. Verbrugge **moved**, seconded by Prof. Forest, that COMP 451 be adopted and that the changes to COMP 551 be approved.

**The motion carried.**

*New Course*

| | | |
|---|---|---|
| COMP 579 | Reinforcement Learning | **AC-19-66** |
| | 4 credits | |

Prof. Verbrugge said that COMP 579 has been offered as a topics course for several years, and has been successful. The School of Computer Science would now like to make it an official course.

Prof. Verbrugge **moved**, seconded by Prof. François, that the course be adopted.

**The motion carried.**

Following a cyclical review, Prof. Verbrugge explained that the Thesis and Non-Thesis M.Sc. in Computer Science are course-credit-heavy, and not aligned with other Computer Science programs in Canada, as well as some of the M.Sc. programs in the Faculty. The changes involve the removal of courses that are no longer relevant, and the

Prof. Verbrugge **moved**, seconded by Prof. Neslehova, that the changes be approved with the above recommendations.

**The motion carried.**

**10.** <u>**Geography**</u>
*New Course*
GEOG 333              Introduction to Programming for the Spatial
                            Sciences                                                                      **AC-19-72**
                            3 credits

Prof. Forest described the content and focus of the new course, GEOG 333. The course has been taught as a topics course by a new instructor in the Department of Geography.

A member pointed out that GEOG 201 is listed as a prerequisite for GEOG 333, but it

Prof. Forest **moved**, seconded by Prof. Clark, that the changes be approved.