

**FACULTY OF SCIENCE
ACADEMIC COMMITTEE**

Minutes of the meeting held on 24 September 2019 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, Oliver Coomes (in place of Ben Forest), Maxime Denis, Abigail Gerhold, Barbara Hales, Greg Marczynski, Timothy Merlis, Johanna Neslehova, Ana Nyzhnyk, Gillian O'Driscoll, Jeanne Paquette, Tamara Western, Kathy Roulet, Clark Verbrugge; Keerth Raveendra, Andrew Nguyen, Dylan Wong, Julia Morales-Aguirre; Natalie Waters; Faye Hughes, Josie D'Amico.

REGRETS: Prof. Paul François; Emily Dinunzio, Samantha Pritchard, Juliann Wray.

DOCUMENTS: AC-18-133, AC-19-1 to AC-19-10

Vice-Dean Stephens welcomed members to the first Academic Committee meeting of the 2019-2020 academic year and called the meeting to order at 3:00 p.m. He asked members to introduce themselves.

(1) Adoption of Agenda

Prof. Western **moved**, seconded by Prof. Denis, that the Agenda be adopted.

The motion carried.

(2) Minutes of 23 April 2019

Prof. Blum **moved**, seconded by Prof. Verbrugge, that the Minutes be approved.

The motion carried.

(3) Business Arising from the Minutes

There was no business arising from the Minutes.

(4) Office of Science Education (OSE)

FSCI 396	Res Proj: Sci Teaching & Learning Changes in restrictions 3 credits	AC-19-1
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New Course: FSCI 397	Res Sci Teaching and Learning 2 3 credits	AC-19-2
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New Course: FSCI 398D1/D2	Res Sci Teaching and Learning 3 6 credits	AC-19-3
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Prof. Western explained the changes in restrictions to FSCI 396 and introduced the new courses, FSCI 397 (one term) and FSCI 398D1/D2 (two consecutive terms).

FSCI 396 is in line with other Science -396 elective undergraduate research courses, and the focus of the course is to do a research project in Science and Teaching and Learning. FSCI 396 was first offered in January 2019 and then in Summer, and now in Fall 2019. The purpose of revising the restrictions were: (i) to open the course up to students in the B.A. & Sc. degree, in addition to B.Sc. students, and (ii) to include the approval of the course coordinator, instead of the Associate Dean.

Prof. Western said that there has been a demand from students and professors for follow-up courses, hence the creation of two sister courses, FSCI 397 (3 credits) and FSCI 398D1/D2 (six credits). She added that, according to the regulations of -396 courses, students cannot be supervised by the same instructor for two -396 Science courses. FSCI 397 will give students the opportunity to continue the project or have a second follow-up project with the same instructor. In addition, a six-credit course, FSCI 398D1/D2, is being proposed for students wishing to undertake a research project course spanning two semesters.

There was some discussion concerning a two-term six-credit undergraduate research course versus two three-credit undergraduate research courses, and the option of offering students maximal flexibility.

Prof. Western **moved**, seconded by Prof. Denis, that the revisions to FSCI 396 be approved, and that the courses FSCI 397 and FSCI 397D1/D2 be adopted.

The motion carried.

(5) **Physics**

PHYS 447

Applications of Quantum Mech.
Changes in restriction, prerequisites
3 credits

AC-19-4

Associate Dean Hundemer said the modifications in restrictions and prerequisites were being updated because the restriction, PHYS 436, and the prerequisite, PHYS 446, have been renumbered to PHYS 447 and PHYS 346, respectively. The new restriction should read, "Not open to students who are taking or have taken PHYS 457."

Associate Dean Hundemer **moved**, seconded by Prof. Denis, that the revisions be approved.

The motion carried.

(6) **Biochemistry/Microbiology & Immunology/Physiology**

Program Revision:

- Interdepartmental Honours Program in Immunology

AC-19-5

Associate Dean Hundemer explained that a newly approved writing course, MIMM 301 (one credit, Scientific Communication & Skills), was being added as a

U2 Required course to the above program, resulting in an increase in the total program credits from 75 credits to 76.

Associate Dean Hundemer **moved**, seconded by Prof. Denis, that the revisions be approved.

The motion carried.

(7) Atmospheric & Oceanic Sciences

Option to be **Retired**:

- M.Sc. in Atmospheric & Oceanic Sciences; Environment

AC-19-6

Prof. Merlis explained that the Environment Option in the M.Sc. in Atmospheric & Oceanic Sciences program was being retired because the program requires students to take a number of courses in the Department, which leaves minimal time for students to take courses in the Environment Option. Instead, the Department is proposing an Environment Option in the Ph.D. in Atmospheric & Oceanic Sciences program (discussed below).

Prof. Merlis **moved**, seconded by Prof. Western, that the retirement of the Environment Option be approved.

The motion carried.

New Option:

- Ph.D. in Atmospheric & Oceanic Sciences; Environment

AC-19-7

Prof. Merlis introduced the Environment Option for the Ph.D. in Atmospheric & Oceanic Sciences. He said that since the Ph.D. program allows more time and more in-depth research, and given that some students have expressed interest in the Option, the Department would like to offer it in the Ph.D. program.

Director Allard suggested that the advising note in the program description be clarified to read: "This option is not available to students entering at the Ph.D. 1 level, but can be chosen in subsequent years."

Prof. Merlis **moved**, seconded by Prof. Gerhold, that the Environment Option for the Ph.D. in Atmospheric & Oceanic Sciences be adopted with the above minor change.

The motion carried.

(8) Minor Concentration in Education for Science Students

AC-19-8

Associate Dean Hundemer explained that, due to Quebec's secular school system, EDEC 261, Philosophy of Catholic Education (3 credits) was being removed from the Minor program because it is no longer required for teacher certification, and furthermore, the course has not been offered for a number of years. The total program credits remain the same.

Associate Dean Hundemer **moved**, seconded by Director Allard, that the change be approved.

The motion carried.

(9) **Faculty of Science Degree Designations**

- (i) Dean's Multidisciplinary Undergraduate List (DMURL)
- (ii) B.Sc. Global Designation

AC-19-9
AC-19-10

Vice-Dean Stephens introduced the DMURL and the B.Sc. Global designations, and said that he would like to have a general discussion at the current meeting. The background of the discussion is whether these designations are meaningful overall to the B.Sc. degree. Should these designations be modified, improved or perhaps retired? The discussion will be led by Associate Dean Hundemer.

DMURL

Associate Dean Hundemer said that the DMURL designation is awarded to students who have completed multidisciplinary undergraduate research. However, should there be a designation that rewards students for their excellence in research, or should only multidisciplinary research be recognized? One option to honour excellence in research would be that on a yearly basis, at the end of the Summer, departments would submit a list to the Faculty of their students who carried out the best research, and then a certain percentage of students would be recognized for their excellence in research. This would mean that departments would have to implement some kind of vetting processes for quality of research. For example, in the Department of Mathematics & Statistics, a poster competition is held at the end of the Summer where students give short presentations, and then students are adjudicated by departmental judges. This event worked very well for students in the Department of Mathematics & Statistics, and interest in student participation would be even higher if students knew that this would lead to recognition of one form or another.

Global

Associate Dean Hundemer said the Global designation requires students to take one language course, one research course, and at least one of the following elements:

Field Studies: Satisfactory completion of an approved Field Study Semester program or a minimum of 6 credits of approved field study courses. This includes any course that is designated as a field study course, is open to Science students, and involves a significant non-local element (an informal definition of "non-locality" is a field study that requires travelling and staying for a period of time outside of Montreal.

OR

Internship: Satisfactory completion of an Industrial Practicum or Internship Year in Science.

OR

Exchange or Independent Study Away: Satisfactory completion of at least one full-time semester at a university outside of Montreal that is either a McGill exchange partner or present on the List of Approved Host Universities for Independent Study Away.

OR

"Global" courses offered within Science or from other faculties: A minimum of 6 credits from McGill courses.

Associate Dean Hundemer expressed that the very flexible requirements of the Global designation do not send a clear message of what this designation represents to future employers or to graduate schools. The question is whether to redefine the Global designation or retire it completely. Associate Dean

Hundemer asked for members' opinions and suggestions for both the DMURL and the Global designations.

Prof. Western gave some background information on the creation of the B.Sc. Global designation. She said that this designation was meant for students who went beyond their departmental program and wished to broaden their horizon outside McGill, and most importantly, it was intended to be reasonably attainable for students who could not afford to do a semester away in the Arctic, etc.

Prof. Western explained that the DMURL was created when the Science -396 courses were introduced in order to give students the opportunity to do research outside their departmental program and be recognized by the DMURL. However, in practice, verification of multidisciplinary work is sometimes difficult because the process is semi-automated, and unless there is a question from a student, would she manually review the project in the biological departments, which were in her field. Unlike the physical sciences, in the life sciences it is easier to essentially carry out the same type of research with a different professor, and not necessarily be multidisciplinary.

Director Allard pointed out that there are now more resources (e.g., the Enhanced Educational Opportunities funding) for students to go on a semester/field study away, that were not available at the time the Global designation was created. She agreed that the qualifications for the Global should be redefined or that the designation should be retired. In regards to the DMURL, it would be great to recognize exceptional undergraduate research regardless of the student's GPA.

One member pointed out that with the McGill School of Population and Global Health, and with the many students involved with field studies in the different programs, it was very important to define "global" to the best extent possible, and not retire the designation, because it would be advantageous to students if "global" really meant something.

Another member said that it was important to ask what the purpose of the designations is, and whether students are motivated by these designations on their transcripts, and if they are, then there should be more rigorous requirements for these designations because in her experience as an advisor, students are more interested in the experience than the designations on their record.

Another issue with the DMURL is that it is difficult to attain because some programs in the B.A. & Sc. degrees are already multidisciplinary in scope.

Another point raised was that many students from the life sciences are doing projects in the physical sciences but the projects are not multidisciplinary; rather, the research they are carrying out is in their discipline. The question also came up as to whether these designations are meaningful to an employer if they are not beneficial to the students.

A further concern that was brought up was that having the departments select the best undergraduate research projects will force people to create some kind of grading on a curve, and most importantly, it will create a lot of undue stress among students.

The pros and cons of including NSERC/SURA recipients were briefly discussed.

Vice-Dean Stephens encouraged members to discuss the DMURL and Global designations in their departments. There is an opportunity to make changes as deemed appropriate because it is extremely important to make these designations meaningful. In a future meeting during the Fall 2019 term, these designations will be discussed further. Members could contact Associate Dean (Academic) Axel Hundemer for any questions or recommendations.

(10) **SUS REPORT**

There was no SUS Report for the current meeting.

(11) **OTHER BUSINESS**

There being no further business, Prof. Denis **moved**, seconded by Prof. Hales, that the meeting be adjourned at 4:10 p.m.

The motion carried.