

**FACULTY OF SCIENCE
ACADEMIC COMMITTEE**

Minutes of the meeting held on 10 January 2023 at 3:00 p.m. by Zoom Videoconferencing.

DOCUMENTS: AC-22-157 to 169, AC-22-171 to 179, AC-22-180 to 186, AC-22-189, AC-22-190

Associate Dean Axel Hundemer called the meeting to order at 3 p.m. and welcomed members to the fourth meeting of the Academic Committee.

1. Adoption of Agenda

PHAR 590 is a new course to be considered after Item # 9, Physics proposals.

Associate Dean Hundemer **moved**, seconded by Mr. Barry, that the amended Agenda be approved.

The motion carried.

2. Minutes of 22 November, 2022

AC-22-186

Associate Dean Hundemer **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. Dean's Multidisciplinary Undergraduate Research List (DMURL)

AC-22-190

On behalf of Victor Chisholm, Associate Dean Hundemer reminded members that the Dean's Multidisciplinary Undergraduate Research List recognizes students who have completed at least nine credits of graded research-based courses in at least two different units, and who have a minimum GPA of 3.00 on these courses. If these requirements are met, the mention "Dean's Multidisciplinary Undergraduate Research List" will be recorded on the student's transcript at graduation.

The DMURL is reviewed annually to check whether any courses should be added or deleted to ensure that the list of courses is up to date. At the Academic Committee meeting on 15 February 2022, members discussed and approved the inclusion of research project courses with instructional research methods (hybrid courses) to be eligible for the DMURL since these were mainly research projects.

The following courses were proposed 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) |

Associate Dean Hundemer **moved**, seconded by Prof. Forest, that the above courses be included in the DMURL.

The motion carried.

Members should contact Victor Chisholm or Associate Dean (Academic) Hundemer if departments have additional courses or if there are similar hybrid courses that should be added to the DMURL.

5. Mathematics and Statistics

New Course:

| | | |
|----------------|---|------------------|
| MATH 527 D1/D2 | Statistical Data Science Practicum 6 credits | AC-22-173 |
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The Director of Computational and Data Systems Initiative (CDSI), Prof. Eric Kolaczyk presented the new course, MATH 527D1/D2, which he developed and successfully ran a similar course at Boston University. A two-semester course will offer a unique experience to upper-level students in the B.A. and B.Sc. degree and fill an important gap in the undergraduate and graduate 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. In the A.Stat. accreditation programs, the course would count toward the communications module.

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

The motion carried.

Course Revisions:

| | | |
|----------|--|------------------|
| MATH 335 | Groups, Tilings, and Algorithms 3 credits Changes: Course title, course description, prerequisites | AC-22-172 |
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Prof. Kelome explained that MATH 335 was taught to seven students in the Winter of 2006. The proposed 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.

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| 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 |

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

Graduate Course & Program Revisions:

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

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| MATH 700 | Ph.D. Comprehensive Exam Part A 3 credits | AC-22-174 |
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Prof. Jérôme Vétois, Graduate Program Director, introduced the changes to MATH 701, MATH 700, and the Ph.D. Program in Mathematics and Statistics. In the Fall 2022, the Office of Graduate and Postdoctoral Studies updated the guidelines for comprehensive exams. The revised guidelines clearly state that comprehensive examinations must not re-examine graduate course content completed at McGill. Due to this new policy, MATH 700 (Ph.D. Comprehensive Exam Part A) will no longer be a doctoral requirement and will be retired. The course title for MATH 701 has been changed to best describe the type of course. Changes to the Ph.D. program include a statement: (i) that the student's Advisory Committee must approve the Complementary courses; (ii) all Complementary courses must be completed before the end of Ph.D. 3; and (iii) choosing more than a number of Complementary credits outside the Department requires approval by the Graduate Program Director.

Prof. Vétois **moved**, seconded by Prof. Dufour, that the above changes be approved.

The motion carried.

6. Bieler School of Environment

Course Revisions:

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| ENVR 380 | Topics in Environment 1 3 credits Changes: course restrictions | AC-22-158 |
| 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 |

Ms. Roulet explained that, with the exception of ENVR 401, the reference to the MSE (formerly known as McGill School of Environment) in the above courses has been replaced with "ENVR" to reflect the newly renamed Bieler School of Environment. The remaining changes are housekeeping in nature.

Ms. Roulet **moved**, seconded by Prof. Pereg-Barnea, that the above changes be approved.

The motion carried.

7. Geography

Course Revisions:

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|----------|---|------------------|
| GEOG 303 | Health Geography 3 credits Changes: prerequisites | AC-22-165 |
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Prof. Forest said that a prerequisite for GEOG 303 has been added to provide students with more background material.

Prof. Forest **moved**, seconded by Ms. Roulet, that the change be approved.

The motion carried.

8. Computer Science

New Course:

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| COMP 511 | Network Science 4 credits | AC-22-166 |
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Prof. Guo said that the new course represented the formalization of a currently existing Topics course related to AI, Machine Learning, and Data Science that 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.

In response to a member who expressed concern about the high grade of the project being peer-reviewed, Prof. Guo explained the instructor's peer-reviewed process, that there had been no major issues in the past three years of teaching the course, and that the instructor is responsible for the final grade.

Prof. Guo **moved**, seconded by Prof. Dufour, that the course be adopted.

The motion carried.

At a future Academic Committee meeting, Associate Dean Hundemer commented that there should be a discussion about students assigning grades to their peers and whether there should be a limit on peer assessments to ensure everything runs smoothly.

New Course:

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| COMP 532 | Propositional Proof Complexity 4 credits | AC-22-168 |
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Prof. Guo said that the proposed new course, COMP 532, has been offered three times as a Topics course to students, mostly 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.

Prof. Guo **moved**, seconded by Prof. Pereg-Barnea, that the course be adopted.

The motion carried.

New Course:

COMP 545 Natural Language Understanding with Deep Learning **AC-22-169**
4 credits

Prof. Guo explained that COMP 545 has been taught three 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.

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

The motion carried.

New Option:

- B.Sc. Major Computer Science – Artificial Intelligence Option **AC-22-171**

Prof. Guo introduced 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. Other top universities in Canada (e.g., the University of Toronto, Queens University, etc.) offer AI specializations/concentrations.

Prof. Guo **moved**, seconded by Prof. Pereg-Barnea, that the new AI Option be adopted.

The motion carried.

9. Physics**Course Revisions:**

PHYS 359 Advanced Physics Laboratory **AC-22-180**
3 credits

Changes: course title, course description, corequisites,
Supplementary Calendar Information

PHYS 469 Advanced Experiments in Physics Laboratory **AC-22-182**
3 credits

Changes: course title, course description, prerequisites,
corequisites, restrictions, Supplementary Calendar Information

Course Retirement:

PHYS 439 Majors Laboratory in Modern Physics **AC-22-181**
3 credits

Prof. Pereg-Barnea said that PHYS 359 and PHYS 469 are the same courses. Students choose several experiments from an extensive list, and if students take both courses, they choose different experiments. PHYS 359 is not a prerequisite for PHYS 469, and students may take either one or both in any order. The course titles have been changed to indicate that both courses will be open to students in Major and Honours Programs and to reflect the course content better. In light of the changes in PHYS 359 and PHYS 469, PHYS 439 will be retired since it was only available to students in the Major program.

In reply to Associate Dean Hundemer about the different course levels of PHYS 359 and PHYS 469, given that these are basically identical courses, Prof. Pereg-Barnea said that

there was no reason for the different levels, except that in the Honours Program, there is room to take both courses. In response to another question concerning the revised course titles and whether there was an alternate title, Prof. Pereg-Barnea explained that differentiating them by 1 and 2 in the title would not be appropriate because students can take the courses in any order.

Prof. Pereg-Barnea **moved**, seconded by Prof. Denis, that the above changes be approved.

The motion carried.

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| Program changes: | B.Sc. Honours Physics | AC-22-183 |
| | B.Sc. Major Physics | AC-22-184 |
| | B.Sc. Joint Honours Mathematics and Physics | AC-22-185 |

Prof. Pereg-Barnea said the proposed revisions were made to increase the flexibility of the programs, and course lists had been updated with appropriate additions and removals. Furthermore, for the Honours Program in Physics and the Joint Honours Program in Mathematics and Physics, one of the requirements at graduation will be based on the CGPA of Required and Complementary courses and not on the individual grades of Required and Complementary courses.

Prof. Pereg-Barnea **moved**, seconded by Prof. Forest, that the above program changes be approved.

The motion carried.

10. Pharmacology

New Courses:

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| PHAR 590 | Advanced Research Methods in Pharmacology 3 credits | AC-22-189 |
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Prof. Hales presented PHAR 590, a new advanced laboratory course lacking in the Pharmacology curriculum. After surveying students at graduation over the years, many have asked for increased research experience, and PHAR 590 will give them a broad spectrum of research methods.

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

The motion carried.

11. Report of S.U.S. V.-P. (Academic)

AC-22-157

Asma Khamis, V.-P. Academic, presented the following report:

1. Happy New Year!
2. Career Networking Event with ASUS
 - a. Planned for late January-early February 2023
 - b. Recruiters from a variety of companies will give presentations about career pathways and opportunities specific to their company or organization, with the chance for students to ask questions and network afterwards
3. Academia Week
 - a. Second week of February 2023
 - b. A series of talks and workshops spanning topics in science, academic and career development skills, and more

4. Start of Semester
 - a. Add/drop, S/U, and other relevant information being disseminated to students so they can make informed decisions about their courses and schedules
5. Contact information
 - a. Email: academic@susmcgill.ca

12. Other Business

There being no further business, Prof. Denis **moved**, seconded by Prof. Sewall, that the meeting be adjourned at 4:35 p.m.

The motion carried.