FACULTY OF SCIENCE
ACADEMIC COMMITTEE

Minutes of the meeting held on 21 November 2023 at 3:00 p.m. by Zoom Videoconferencing.

DOCUMENTS: AC-23-32, AC-23-47 to AC-23-51, AC-23-53 to AC-23-92

In the absence of Vice-Dean David Stephens, Associate Dean (Academic) Axel Hundemer called the meeting to order at 3 p.m. and welcomed members to the third Academic Committee meeting of the 2023-2024 academic year.

1. Adoption of Agenda

Prof. Dufour **moved**, seconded by Prof. Haggard, that the Agenda be adopted.

The motion carried.

2. Minutes of 24 October 2023 **AC-23-32**

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

The motion carried.

3. Business Arising from the Minutes

There was no business arising from the Minutes.

4. Mathematics & Statistics
New Course:

MATH 206	Applied Calculus and Linear Algebra 3 credits	**AC-23-47**

Prof. Kelome introduced a new course, MATH 206, designed for students enrolling in the upcoming B.A. Major Concentration in Data Science. Instead of requiring students to complete two distinct courses in linear algebra and multivariate calculus, MATH 206 aims to equip them with essential mathematical tools considered vital for pursuing more advanced courses within the Major Concentration.

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

The motion carried.

New Course:

MATH 209	Fundamentals of Statistical Modeling and Inference 3 credits	**AC-23-48**

Prof. Kelome provided an overview of the proposed course, MATH 209. This course serves as a comprehensive introduction to the fundamental concepts of statistical modeling and inference, made accessible at a relatively early mathematical level through the integration of computing. The focus will be on the informed application of these concepts to real data problems. The course is specifically motivated by and designed, in part, for students intending to enroll in the forthcoming B.A. Major Concentration in Data Science. Additionally, it is structured to offer statistics majors and minors an early

exposure to fundamentals beyond an introductory course, preparing them for a deeper exploration of the mathematical aspects of these topics in subsequent courses.

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

The motion carried.

New Course:

MATH 510	Quantitative Risk Management 4 credits	**AC-23-49**

Prof. Kelome explained that the new course, MATH 510, primarily designed for senior undergraduate students majoring in Mathematics and Statistics, introduces quantitative risk management starting with basic probability and statistics. Emphasizing applications in actuarial science and finance, it enhances the major mathematics curriculum, especially for students pursuing careers in industry or graduate studies in these fields. Interested students can explore specialized topics in greater depth, and the course aligns with offerings at other institutions.

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

The motion carried.

MATH 462	Machine Learning Changes: title, description, prerequisites, restrictions 3 credits	**AC-23-50**

Prof. Kelome explained that the revisions to MATH 462 were necessary because the course, originally taught at an honours level, was not attracting enough students. The revisions aim to allow students in the major and minor programs to enroll in the course and use it as a complementary option to fulfill their program requirements. Consequently, adjustments to the title, description, and prerequisites were deemed necessary.

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

The motion carried.

5. Psychology

New Course:

PSYC 339	Introduction to Applied Psychology 3 credits	**AC-23-51**

Prof. Bartz introduced a new course, PSYC 339, focusing on Applied Psychology. This course aims to address the absence of a dedicated offering providing a comprehensive overview of various applied psychological disciplines at McGill. While topics related to Applied Psychology are briefly covered in other courses, PSYC 339 aims to fill this gap and broaden students' perspectives on career development pathways within psychology.

Prof. Bartz **moved**, seconded by student representative Taylor, that the course be adopted.

The motion carried.

6. Physics

PHYS 459D1/D2	Research Thesis Changes: title, description, restrictions	**AC-23-92**

6 credits

Prof. Haggard said that PHYS 459D1/D2 has been modified to make it available to both Majors and Honours students. Consequently, updates have been made to the course title, description, and restrictions.

Prof. Haggard **moved**, seconded by Prof. Moser, that the changes be approved.

The motion carried.

B.Sc. and B. Engineering Program Changes:

- B.Sc. Major in Physics and Geophysics **AC-23-53**

Prof. Haggard explained that changes to the Major in Physics and Geophysics focus on the complementary courses list. These modifications include removing a course that is no longer offered, introducing new course options, and updating the title of a course.

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

The motion carried.

- B.Eng. Minor in Physics **AC-23-54**

Prof. Haggard said that the only change to the B.Eng. Minor in Physics is to update the program description for the new calendar platform, Course Catalogue, replacing the eCalendar for the 2024-2025 academic year.

Prof. Haggard **moved**, seconded by Prof. Denis, that the changes be approved.

The motion carried.

7. Atmospheric & Oceanic Sciences

ATOC 182 Introduction to Oceanic Sciences **AC-23-55**
Changes: description, restrictions, suppl. Calendar info
3 credits

Prof. Dufour said that the proposed description revisions for ATOC 182 were to align with the current course content. Additionally, three course restrictions have been removed as these courses are no longer offered.

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

The motion carried.

ATOC 214 Introduction: Physics of the Atmosphere **AC-23-56**
Change in course description
3 credits

Prof. Dufour mentioned that the course description for ATOC 182 has undergone revision to accurately reflect the present course content.

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

The motion carried.

ATOC 215 Oceans, Weather and Climate **AC-23-57**
Changes: description, prerequisites
3 credits

Prof. Dufour explained that the course description was outdated, necessitating an updated description that accurately reflects the current content. Additionally, the prerequisite (ATOC 214) is being removed as it is deemed unnecessary before taking ATOC 215.

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

The motion carried.

ATOC 312 Rotating Fluid Dynamics **AC-23-58**
Changes: description and restriction
3 credits

Prof. Dufour said that the course description was being revised to align it with the current course content. Furthermore, the course restriction (ATOC 412) has been updated and replaced with a newer version, ATOC 512.

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

The motion carried.

ATOC 512 Atmospheric and Oceanic Dynamics **AC-23-59**
Change in course description
3 credits

Prof. Dufour mentioned that the existing course description is outdated, and the proposed description has been revised to accurately represent the current content.

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

The motion carried.

ATOC 513 Waves and Stability **AC-23-60**
Change in course description
3 credits

Prof. Dufour noted that the course description no longer aligns with the current content, prompting a revision to accurately reflect the current content of the course.

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

The motion carried.

ATOC 521 Cloud Physics **AC-23-61**
Changes: description and restrictions
3 credits

Prof. Dufour mentioned that the course description is outdated and needs revision to reflect the current content of the course. The course restriction (ATOC 621) has been removed as it is no longer necessary.

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

The motion carried.

ATOC 531 Dynamics of Current Climates **AC-23-62**
Change in course description
3 credits

Prof. Dufour noted that the course description needs updating to align with the current content of the course.

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

The motion carried.

ATOC 557 Research Methods: Atmospheric and Oceanic Science **AC-23-63**
Change in course description
3 credits

Prof. Dufour mentioned that the course description needs updating to accurately mirror the current course content.

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

The motion carried.

ATOC 568 Ocean Physics **AC-23-64**
Changes: description and restrictions
3 credits

Prof. Dufour said the proposed revision to the course description has been updated reflecting the current content of the course. Furthermore, ATOC 568, which was previously restricted to graduate students and U3 Honours students only, will now be open to both Majors and Honours students.

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

The motion carried.

ATOC 751/751D1/D2 Seminar: Atmosphere and Ocean **AC-23-65**
Changes: title and description
1 credit

Prof. Dufour said the course description was updated to bring it in line with the current course content. Also, the title, which retained elements from the Department's past focus on Meteorology, has also been revised to better align with the present course content.

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

The motion carried.

8. Earth & Planetary Sciences
Course Revisions:

EPSC 355 Sedimentary Geology **AC-23-66**
Changes: prerequisites and restrictions
3 credits

Prof. Paquette clarified that the restriction (EPSC 455) has been eliminated as it is no longer required. The inclusion of GEOG 272 and EPSC 240 as prerequisites, along with the removal of the previous prerequisite course, EPSC 212, enhances the accessibility of the course to a wider range of students who have a sufficient background for the subject.

Prof. Paquette **moved**, seconded by Prof. Moser, that the changes be approved.

The motion carried.

EPSC 425 — Sediments to Sequences — **AC-23-67**
Changes: description and prerequisites
3 credits

Prof. Paquette said that the instructor revised the course description and adjusted its prerequisites to enhance accessibility for students with a pertinent background.

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

The motion carried.

EPSC 510 — Climate and Geodynamics — **AC-23-68**
Changes: title and description
3 credits

Prof. Paquette explained that the revised course title and updated description better reflect the focus of the course material.

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

The motion carried.

EPSC 547 — Modelling Geochemical Processes — **AC-23-69**
Change in course description
3 credits

Prof. Paquette said that the course description has been modified to better capture the wider range of topics that students engage with in the course.

Prof. Paquette **moved**, seconded by Prof. Guo, that the changes be approved.

The motion carried.

Program Changes:
- Honours in Geology — **AC-23-70**
- Major in Geology — **AC-23-71**

Prof. Paquette explained that the above programs are being updated to integrate relevant courses from the Department of Geography, reflecting the professional role of geoscientists and fostering collaborations between departments. Complementary courses are reorganized to prioritize essential subjects, ensuring alignment with the knowledge requirements for geoscientist professional registration in Canadian provinces.

Prof. Paquette **moved**, seconded by Prof. Dent, that the changes be approved.

The motion carried.

9. Earth System Science
Course Revisions:

ESYS 200 Earth-System Interactions **AC-23-72**
Changes: title and description
3 credits

Prof. Paquette said that the updated title now accurately describes the course content, aligning with the revised course description provided by the instructor.

Prof. Paquette **moved**, seconded by Prof. Denis, that the changes be approved.

The motion carried.

ESYS 300 Earth Data Analysis **AC-23-73**
Changes: title and description
3 credits

Prof. Paquette mentioned that the revised title and course description more accurately represent the course content.

Prof. Paquette **moved**, seconded by Prof. Denis, that the changes be approved.

The motion carried.

ESYS 301 Earth System Modelling **AC-23-74**
Change in course description
3 credits

Prof. Paquette said the instructor modified the course description to better align with the actual course content.

The motion carried.

ESYS 500 Collaborative Research Project **AC-23-75**
Changes: title and description
3 credits

Prof. Paquette said the revised title and course description more accurately convey the content of the course.

The motion carried.

10. Bieler School of Environment

- B.A.&Sc. Interfaculty Program in Environment **AC-23-76**

Ms. Roulet explained that the above program has been updated with the removal of retired or infrequently offered courses and the inclusion of new courses for program enhancement. Additionally, program requirements have been reorganized for clarity, grouping all required and complementary courses together. Furthermore, the revised program description emphasizes the removal of implied learning outcomes and provides a more detailed explanation of the program.

Ms. Roulet **moved**, seconded by Prof. Guo, that the program changes be approved.

The motion carried.

Associate Dean Hundemer expressed appreciation for the clear and organized format used in presenting the program changes to the B.A.&Sc. Interfaculty Program in Environment. Associate Dean Hundemer suggested that other members consider using a similar format, such as presenting changes on a separate page, to enhance understanding.

11. Anatomy & Cell Biology

Program Changes:

- Honours in Anatomy & Cell Biology **AC-23-77**
- Major in Anatomy & Cell Biology **AC-23-78**
- Liberal – Core Science Component in Anatomy & Cell Biology **AC-23-79**

Prof. Stiver explained that the above program changes were primarily housekeeping in nature. This includes the removal of the link related to course exemptions and eliminating the notation about ANAT 261. Prof. Stiver pointed out that since most students enter directly into the U1 year with advanced standing, the note only caused confusion among students.

Prof. Stiver **moved**, seconded by Prof. Haggard, that the changes be approved.

The motion carried.

12. Computer Science

Course Retirements:

COMP 364	Computer Tools for Life Sciences 3 credits	**AC-23-80**

Prof. Guo explained that COMP 364 is no longer offered, with many departments replacing it with COMP 202 and/or COMP 204. COMP 202 and 204 are similar, but COMP 204 emphasizes life science applications. COMP 204 has a co-requisite, BIOL 112, which is less stringent than the BIOL 200 prerequisite for COMP 364. Therefore, any student eligible for COMP 364 can also take COMP 204.

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

The motion carried.

COMP 652	Machine Learning 4 credits	**AC-23-81**

Prof. Guo said that COMP 652 is being retired, and it has been replaced by COMP 551 along with other specialized machine learning courses.

Prof. Guo **moved**, seconded by Prof. Moser, that the course retirement be approved.

The motion carried.

COMP 655	Distributed Simulation 4 credits	**AC-23-82**

Prof. Guo mentioned that COMP 655 was previously taught by a former instructor, and there are no plans within the School of Computer Science to offer it again.

Prof. Guo **moved**, seconded by Prof. Denis, that the course retirement be approved.

The motion carried.

COMP 667	Software Fault Tolerance 4 credits	AC-23-83

Prof. Guo explained that COMP 667 is being retired because the content of the course is considered outdated.

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

The motion carried.

13. Chemistry

Program Changes:

- Honours in Chemistry	AC-23-84
- Honours in Chemistry; Bio-Organic	AC-23-85
- Honours in Chemistry; Biophysical Chemistry	AC-23-86
- Major in Chemistry	AC-23-87
- Major in Chemistry; Bio-Organic	AC-23-88
- Major in Chemistry; Biophysical Chemistry	AC-23-89

Prof. Szuchmacher Blum explained that the changes in the above programs (AC-23-84 to AC-23-89) were all very similar. These changes include the acceptance of both PHYS 101/102 and PHYS 131/142 as pre-program prerequisites, a preference for BIOL 112 over BIOL 111, two replacement courses recently approved for CHEM 212 and CHEM 222, removal of the note regarding CHEM 222's CEGEP equivalent, and the retirement of CHEM 115.

Prof. Szuchmacher Blum **moved**, seconded by Prof. Denis, that the above changes be approved.

The motion carried.

- Liberal – Core Science Component in Chemistry – General Chemistry AC-23-90

Prof. Szuchmacher Blum said that the modifications to the Liberal Program – Core Science Component in Chemistry – General Chemistry closely align with the above program changes. The sole distinction lies in the removal of the general option list of courses. This adjustment aims to eliminate potential confusion among students, as they are required to take all specified courses.

Prof. Szuchmacher Blum **moved**, seconded by Prof. Dufour, that the changes be approved.

The motion carried.

14. Policy on Assessment of Student Learning (PASL) AC-23-91

Associate Dean Hundemer introduced the new Policy on Assessment of Student Learning (PASL), set to take effect in 2024. Associate Dean Hundemer emphasized that while most elements align with the old Policy, some aspects, particularly paragraph 5.5, might pose challenges. The Policy mandates detailed grading rubrics for all assessments, a departure from traditional practices in certain departments. Associate Dean Hundemer proposed a Faculty-standard rubric, pending finalization, as an alternative. Another notable point was the need for highly detailed course outlines, surpassing current norms, as outlined in paragraph 6.1. This level of specificity,

especially concerning assessment deadlines and structures, raised concerns about potential changes during the course.

Associate Dean Hundemer also highlighted that students have the option to request an impartial and competent re-read by a third party, designated by McGill University, for any assessment task, including homework assignments. Associate Hundemer expressed concerns about the practicality of such a broad scope, emphasizing that this provision might lead to unmanageable scenarios, particularly in large courses with numerous students. Associate Dean Hundemer also addressed the wording in paragraph 9.6, pointing out the lack of clarity regarding final exams and the need to adhere to scheduled examination dates. The interpretation of "final assessment" was discussed, with an inclination towards it referring to final exams, while also allowing flexibility for alternative assessments during the examination period.

Associate Dean Hundemer emphasized the importance of thorough discussion and informed decision-making, encouraging Faculty members to read the policy for a further discussion at the upcoming January meeting.

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

Yashar Aghazadeh Habashi, V.-P. Academic, presented the following report:

1. **Graduate and Professional Schools Fair**
   a. The event occurred on Monday, 6 November 2023, from 10 AM to 5 PM in the SSMU Ballroom.
   b. Approximately 600 students registered, with 450 in attendance.
   c. The fair featured 100+ representatives from 54 different programs.

2. **Academic Resources Committee**
   a. The committee members established an Instagram account to share diverse academic resource information at McGill.
      i. Content includes a syllabus repository, campus study spaces, and general information for upcoming final exams.

3. **BIOL 200 OSE SciLearn Peer Collab**
   a. Concerns were raised by students and OSE members about BIOL 200 tutorials held on Tuesday and Friday afternoons.
      i. Students expressed difficulty with mandatory in-person attendance for practice question answers.
         1. Given the course's large size (600+ students), scheduling conflicts were inevitable.
         2. Despite TA arguments, it is recommended that answers be posted on myCourses.
      ii. OSE expressed concerns that BIOL 200 has dominated the Peer Collab environment, particularly close to assessment dates.
         1. The implicit implementation of "contact hours" in the form of tutorials was noted, referencing a past NEWMAD discussion at an AC meeting.

4. **NTCs**
   a. A contentious issue between the SUS and its departments.
      i. NTCs generate significant income for departments (thousands of dollars per semester).
         1. This income is used for department events benefiting specific student bodies, raising concerns about inclusivity.
      ii. The cost of NTCs can pose a financial barrier, potentially hindering access to academic resources for some students. Specifically, in the case of PHAR 300:

a. The professor obtains NTCs from student editors, shaping exam questions from these documents.
b. Certain departmental councils (Biology, Biochemistry, and Physiology) collaborate with SAA to provide NTCs free of charge to students in the peer-note sharing program.

i. Collaboration with the SUS Equity Commissioner is underway to establish a bursary system for financially needy students, aiming to make NTCs universally accessible.

5. **Contact information**
   Email: academic@susmcgill.ca

16. Other Business

There being no further business, Prof. Guo **moved**, seconded by Prof. Haggard, that the meeting be adjourned at 5:03 p.m.

The motion carried.