McGill

Report of the

Academic Policy Committee D22-69

519th REPORT OF THE ACADEMIC POLICY COMMITTEE TO SENATE
on the APC meeting held on April 13th, 2023 and May 4th, 2023.

I. TO BE APPROVED BY SENATE

(A) NEW TEACHING PROGRAMS REQUIRING SENATE APPROVAL

Faculty of Engineering
Certificate in Global Engineering (60-67 cr.) – *appendix A*

At a meeting on April 13th, 2023, APC reviewed and approved a new Certificate in Global Engineering. In fall 2020, the Faculty of Engineering proposed a new Joint B.Eng. in Global Engineering program to be offered with CentraleSupélec in France. As the new Joint B.Eng. program requires Quebec Ministry approval, and the CentraleSupélec plans to admit students in the fall of 2023, this Certificate is being proposed as an option in the event that the Ministry does not approve the new Joint B.Eng. Once students have completed their two years at CentraleSupélec, they will attend McGill to complete the two years of studies in either the Certificate or Joint B.Eng. program. If the Ministry approves the Joint B.Eng. program in time for the 202509 term, then students will enter the Joint B.Eng. program and the Certificate program will not be needed and, therefore, it will be retired immediately. Students accepted into the Joint B.Eng. program starting their first 2 years in France are informed that as of fall 2023, only the Certificate program will be available at McGill until final Ministry approval is obtained for the Joint B.Eng. program; students not interested in the Certificate program will then be given the choice to complete one of the B.Eng. programs currently offered by the Faculty of Engineering at McGill University. A request for a minimum GPA to be added to the admissions requirements will be completed before Senate approval.

Be it resolved that Senate approve the creation of the proposed Certificate in Global Engineering (60-67 cr.).

Graduate and Postdoctoral Studies
Faculty of Medicine and Health Sciences
Ph.D. in Cancer Sciences (0 cr.) – *appendix B*

On April 13th, 2023, APC reviewed and approved the new interdisciplinary Ph.D. in Cancer Sciences. The program proposal is in response to student need for a graduate program in this discipline that will focus on cohort building that allows interaction amongst students in the same cohort. The creation of interdisciplinary programs is a government priority, and this program is the only interdisciplinary Cancer Sciences Ph.D. program in all of Canada.

Be it resolved that Senate approve the creation of the proposed Ph.D. in Cancer Sciences (0 cr.).

Schulich School of Music
Post-Graduate Artist Diploma in Performance (30 cr.) – *appendix C*

On April 13th, 2023, APC reviewed and approved the new Post-Graduate Artist Diploma in Performance. This new program is proposed with a designation of "third cycle". This offering will be on par with the Université de Montréal and other French Quebec universities that offer such programs with this designation. This will align the School's offering with that of the

Université de Montréal, which will better position their recruitment, especially of international students.

Be it resolved that Senate approve the creation of the proposed Post-Graduate Artist Diploma in Performance (30 cr.).

(B) ACADEMIC PERFORMANCE ISSUES / POLICIES / GOVERNANCE/AWARDS - *none*

(C) CREATION OF NEW UNITS / NAME CHANGES / REPORTING CHANGES - *none*

(D) CHANGES IN DEGREE DESIGNATION – *none*

(E) INTER-UNIVERSITY PARTNERSHIPS – *none*

(F) OTHER – *none*

II. TO BE ENDORSED BY SENATE / PRESENTED TO SENATE FOR DISCUSSION – *none*

III. APPROVED BY APC IN THE NAME OF SENATE

(A) DEFINITIONS – *none*

(B) STUDENT EXCHANGE PARTNERSHIPS / CONTRACTS / INTERUNIVERSITY PARTNERSHIPS

Office of the Deputy Provost (Student Life and Learning)

On May 4th, 2023, APC revised and approved a proposal to create a new university-wide Student Exchange Partnership with the Autonomous University of Madrid, Spain.

(C) OTHER – *none*

IV. FOR THE INFORMATION OF SENATE

I. ACADEMIC UNIT REVIEWS – *none*

II. APPROVAL OF COURSES AND TEACHING PROGRAMS

1. Programs

a) APC Approvals (new options/concentrations and major revisions to existing programs)

i. New Programs
Faculty of Science
B.Sc.; Major in Computer Science; Artificial Intelligence (63-68 cr.)
At a meeting on May 4th, 2023, APC reviewed and approved a proposal to create a new concentration in Artificial Intelligence under the existing B.Sc.; Major in Computer Science.

ii. Major Revisions of Existing Programs

Approved by SCTP on March 9th, 2023 and approved by APC on April 13th, 2023

Graduate and Postdoctoral Studies

Interfaculty Studies

M.Sc. in Biological and Biomedical Engineering (45 cr.)

Approved by SCTP on April 20th, 2023 and approved by APC on May 4th, 2023

Graduate and Postdoctoral Studies

Faculty of Engineering

M.Eng. in Electrical Engineering; Non-Thesis (45 cr.)

b) APC Subcommittee on Courses and Teaching Programs (SCTP) Approvals
(Summary Reports: http://www.mcgill.ca/sctp/documents/)

i. Moderate and Minor Program Revisions

Approved by SCTP on February 16th, 2023; reported to APC on April 13th, 2023

Faculty of Arts

B.A.; Minor Concentration in Hispanic Studies (18 cr.)
B.A.; Minor Concentration in History (18 cr.)
B.A.; Minor Concentration in Russian (18 cr.)

Graduate and Postdoctoral Studies

Faculty of Arts and Law

Joint Master of Social Work; Non-Thesis & B.C.L/J.D. (132 cr.)

Faculty of Engineering

M.U.P.; Non-Thesis - Transportation Planning (60 cr.)
M.U.P.; Non-Thesis - Urban Development and Urban Design (60 cr.)
M.U.P.; Non-Thesis (60 cr.)

Desautels Faculty of Management

M.M. in Manufacturing Management; Non-Thesis (56 cr.)

Faculty of Medicine and Health Sciences

M.Sc. in Family Medicine; Medical Education (45 cr.)

Desautels Faculty of Management

B.Com.; Major in Business Analytics (69 cr.)
B.Com.; Major in Information Technology Management (69 cr.)
B.Com.; Major in Retail Management (69 cr.)
B.Com.; Concentration in Business Analytics (15 cr.)
B.Com.; Concentration in Operations Management (15 cr.)
B.Com.; Minor in Management (For Non-Management Students) (18 cr.)
B.Com.; Honours in Investment Management (84 cr.)
B.Com.; Major in Accounting (69 cr.)
B.Com.; Major in Economics for Management Students (66 cr.)
B.Com.; Major in Finance (69 cr.)
B.Com.; Major in International Management (81-87 cr.)
B.Com.; Major in Mathematics and Statistics for Management (69-72 cr.)
B.Com.; Major in Managing for Sustainability (69 cr.)
B.Com.; Major in Marketing (69 cr.)
B.Com.; Major in Organizational Behaviour and Human Resources (69 cr.)
B.Com.; Major in Strategic Management (69 cr.)

Faculty of Science

B.Sc.; Major in Psychology (54 cr.)
B.Sc.; Minor in Psychology (24 cr.)

B.Sc.; Major in Mathematics and Computer Science (72 cr.)
B.Sc.; Major in Atmospheric Science and Physics (66-67 cr.)
B.Sc.; Major in Statistics (54-57 cr.)

Approved by SCTP on March 9th, 2023; reported to APC on April 13th, 2023
Faculty of Arts
B.A.; Honours in Canadian Studies (54 cr.)
B.A.; Joint Honours – Canadian Studies Component (36 cr.)
B.A.; Supplementary Minor Concentration in Statistics (18 cr.)
B.A.; Major Concentration in Statistics (36 cr.)

Faculty of Engineering
B.Eng.; Minor in Environmental Engineering (21-22 cr.)
B.Eng.; Minor in Mining Engineering (23-25 cr.)

Graduate and Postdoctoral Studies
School of Continuing Studies
Graduate Certificate in Financial Analysis (15 cr.)
Graduate Certificate in Financial Technology (15 cr.)
Graduate Certificate in Accounting (30 cr.)
Faculty of Medicine and Health Sciences
Ph.D. in Biostatistics (0 cr.)
Schulich School of Music
M.Mus. in Performance; Orchestral Instruments, Guitar (45 cr.)
Faculty of Science
Ph.D. in Mathematics and Statistics (0 cr.)

Schulich School of Music
B.Mus.; Major in Composition (124 cr.)

Approved by SCTP on March 9th, 2023; reported to APC on April 13th, 2023
Graduate and Postdoctoral Studies
Faculty of Medicine and Health Sciences
M.Sc.(Applied) in Nursing; Non-Thesis – Global Health Direct Entry (61 cr.)

Approved by SCTP on April 6th, 2023 and reported to APC on May 4th, 2023
Faculty of Arts
B.A.; Honours in Gender, Sexuality, Feminist and Social Justice Studies (57 cr.)
B.A.; Joint Honours – Gender, Sexuality, Feminist and Social Justice Studies Component – (36 cr.)
B.A.; Major Concentration in Gender, Sexuality, Feminist and Social Justice Studies (36 cr.)
B.A.; Minor Concentration in Gender, Sexuality, Feminist and Social Justice Studies (18 cr.)

Faculty of Engineering
B.Eng.; Honours in Mechanical Engineering (142 cr.)

Graduate and Postdoctoral Studies
School of Continuing Studies
Graduate Certificate in Dynamic Supply Networks (15 cr.)
Graduate Certificate in Integrated Supply Networks (15 cr.)

Faculty of Education
M.A. in Teaching and Learning; Non-Thesis – English Language Arts (60 cr.)

M.A. in Teaching and Learning; Non-Thesis – Mathematics (60 cr.)
M.A. in Teaching and Learning; Non-Thesis – Science and Technology (60 cr.)
M.A. in Teaching and Learning; Non-Thesis – Social Sciences (60 cr.)
M.A. in Teaching and Learning; Non-Thesis – English or French Second Language (60 cr.)

Desautels Faculty of Management
B.Com.; Honours Investment Management (84 cr.)

Approved by SCTP on April 20th, 2023 and reported to APC on May 4th, 2023
Faculty of Arts
B.A.; Honours in Statistics (60-63 cr.)
B.A.; Foundation Year Program – French (30 cr.)
B.A., Foundation Year Program – General (30 cr.)
B.A. & Sc.; Joint Honours – Canadian Studies Component (36 cr.)

School of Continuing Studies
Certificate in Computers and Information Technology (30 cr.)

Graduate and Postdoctoral Studies
Faculty of Medicine and Health Sciences
M.Sc.(Applied) in Physical Therapy; Non-Thesis (61-62 cr.)

Faculty of Science
B.Sc.; Honours in Statistics (60-63 cr.)
B.Sc.; Honours in Physics (78-81 cr.)
B.Sc.; Honours in Mathematics and Physics (81-84 cr.)
B.Sc.; Honours in Physics; Biological Physics (81-82 cr.)
B.Sc.; Honours in Physics and Chemistry (80-83 cr.)
B.Sc.; Major in Physics (60-63 cr.)
B.Sc.; Major in Physics; Biological Physics (81-82 cr.)

ii. Program Retirements
Approved by SCTP on February 16th, 2023; reported to APC on April 13th, 2023
Desautels Faculty of Management
B.Com.; Major Concentration in Mathematics for Management Students (72 cr.)
B.Com.; Major in Organizational Behaviour (66 cr.)
B.Com.; Major in Labour-Management Relations and Human Resources (66 cr.)
B.Com.; Honours in Economics (69 cr.)
B.Com.; Joint Honours in Economics and Accounting (81 cr.)
B.Com.; Joint Honours in Economics and Finance (81 cr.)
B.Com.; Minor in Finance (For Non-Management Students) (18 cr.)
B.Com.; Minor in Operations Management (For Non-Management Students) (18 cr.)
B.Com.; Minor in Marketing (For Non-Management Students) (18 cr.)

Approved by SCTP on March 9th, 2023; reported to APC on April 13th, 2023
Graduate and Postdoctoral Studies
School of Continuing Studies
Diploma in Professional Practice in Finance (30 cr.)
Diploma in Accounting (30 cr.)
Faculty of Medicine and Health Sciences
M.Eng. in Biological and Biomedical Engineering (45 cr.).

Approved by SCTP on March 23rd, 2023; reported to APC on May 4th, 2023
Graduate and Postdoctoral Studies
Faculty of Medicine and Health Sciences
M.Sc.(Applied) in Nurse Practitioner; Non-Thesis – Neonatalogy (45 cr.)
M.Sc.(Applied) in Nursing; Non-Thesis – Global Health (45 cr.)

Approved by SCTP on April 6th, 2023 and reported to APC on May 4th, 2023
Graduate and Postdoctoral Studies
School of Continuing Studies
Diploma in Supply Chain and Operations Management (30 cr.)

Approved by SCTP on April 20th, 2023 and reported to APC on May 4th, 2023
Faculty of Arts
B.A.; Honours Probability and Statistics (60-63 cr.)
B.A.; Freshman Program – French (30 cr.)
B.A.; Freshman Program – General (30 cr.)

School of Continuing Studies
Certificate in Proficiency in Written English; Workplace Communication (48 CEUs)
Certificate in Proficiency in Written French; Workplace Communication (48 CEUs)
Professional Development Certificate in English for Social Services (20 CEUs)

Faculty of Science
B.Sc.; Honours Probability and Statistics (60-63 cr.)

2. Courses

a) **New Courses**

Reported as having been approved by SCTP on February 16th, 2023: 9
Faculty of Arts: 3
Desautels Faculty of Management: 2
Faculty of Medicine and Health Sciences: 1
Faculty of Science: 3

Reported as having been approved by SCTP on March 9th, 2023: 37
Faculty of Agricultural and Environmental Sciences: 1
Faculty of Arts: 2
School of Continuing Studies: 9
Faculty of Medicine and Health Sciences: 14
Schulich School of Music: 7
Faculty of Science: 4

Reported as having been approved by SCTP on March 23rd, 2023: 2
Faculty of Arts: 1
School of Continuing Studies: 1

Reported as having been approved by SCTP on April 6th, 2023:18
Faculty of Arts: 3
School of Continuing Studies: 8
Faculty of Education: 4
Faculty of Engineering: 3

Reported as having been approved by SCTP on April 20th, 2023: 10
Desautels Faculty of Management: 1
Faculty of Medicine and Health Sciences: 5
Faculty of Science: 4

b) **Course Revisions**
Reported as having been approved by SCTP on February 16th, 2023: 38
Faculty of Arts: 17
Faculty of Engineering: 4
Desautels Faculty of Management: 3
Schulich School of Music: 5
Faculty of Science: 9

Reported as having been approved by SCTP on March 9th, 2023: 37
Faculty of Arts: 6
School of Continuing Studies: 10
Faculty of Education: 2
Faculty of Engineering: 10
Faculty of Medicine and Health Sciences: 5
Faculty of Science: 4

Reported as having been approved by SCTP on April 6th, 2023:49
Faculty of Arts: 2
School of Continuing Studies: 4
Faculty of Education: 5
Faculty of Engineering: 37
Desautels Faculty of Management: 1

Reported as having been approved by SCTP on April 20th, 2023: 16
School of Continuing Studies: 10
Faculty of Medicine and Health Sciences: 4
Faculty of Science: 2

c) **Course Retirements**
Reported as having been approved by SCTP on February 16th, 2023: 8
Faculty of Arts: 4
Desautels Faculty of Management: 4

Reported as having been approved by SCTP on March 9th, 2023: 8
Faculty of Arts: 1
School of Continuing Studies: 5
Faculty of Medicine and Health Sciences: 1
Faculty of Science: 1

Reported as having been approved by SCTP on March 23rd, 2023: 1
Desautels Faculty of Management: 1

Reported as having been approved by SCTP on April 6th, 2023: 6
School of Continuing Studies: 4
Faculty of Education: 1
Faculty of Engineering: 1

Reported as having been approved by SCTP on April 20th, 2023: 135
Faculty of Arts: 1
School of Continuing Studies: 130
Faculty of Science: 4

III. OTHER

i. Subcommittee on Teaching and Learning

Revised guidelines – University-wide teaching awards

On April 13th, 2023, APC approved revised guidelines to the University-wide teaching awards. The revisions to the Principal's Prize for Excellence in Teaching were logistical, while the revisions to the Lifetime Achievement Award for Leadership in Learning were to emphasize leadership rather than teaching.

ii. Faculty of Medicine and Health Sciences

Restructuring of the Department of Medicine

At a meeting on May 4th, 2023, APC reviewed and approved a proposal from the Faculty of Medicine to create new divisions and split existing divisions under the Department of Medicine to administratively regroup clinicians per specialty.

D22-69 Appendix A

New Program/Concentration Proposal Form

(2019)

1.0 Degree Title
Please specify the two degrees for concurrent degree programs

Certificate

2.0 Administering Faculty or GPS

Faculty of Engineering

1.1 Major (Subject/Discipline) (30-char. max.)

Global Engineering

Offering Faculty & Department

Faculty of Engineering / Dean's Office

1.2 Concentration (Option) (30 char. max.)

3.0 Effective Term of Implementation
(Ex. Sept. 2019 or 201909)
Term

202309

1.3 Complete Program Title (info from boxes 1.0+1.1+1.2+5.2)

Certificate in Global Engineering

4.0 Rationale and Admission Requirements for New Program/Concentration

Students must have completed two years at CentraleSupélec in France in the B.Eng. in Global Engineering, obtaining a CGPA equivalent to 2.0 at McGill, before entering this program."
See attached document

5.0 Program Information
Indicate an "x" as appropriate

5.1 **Program Type**

- Bachelor's Program
- Master's
- M.Sc.(Applied) Program
- Dual Degree/Concurrent Program
- X Certificate
- Diploma
- Graduate Certificate
- Graduate Diploma
- Professional Development Cert
- Ph.D. Program
- Doctorate Program
- (Other than Ph.D.)
- Self-Funded/Private Program
- Off-Campus Program
- Distance Education Program
- Other (Please specify)

5.2 **Category**

- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours Component (HC)
- Internship/Co-op
- Thesis (T)
- Non-Thesis (N)
- Other
- Please specify

5.3 **Level**

- X Undergraduate
- Dentistry/Law/Medicine
- Continuing Studies (Non-Credit)
- Collegial
- Masters & Grad Dips & Certs
- Doctorate
- Post-Graduate Medicine/Dentistry
- Graduate Qualifying

5.4 **Requires Centrally-Funded Resources**

Yes __ No _X_

6.0 Total Credits or CEUs (if latter, indicate "CEUs" in box)

60-67

7.0 Consultation with

Related Units	Yes	**No X**
Financial Consult	Yes	**No X**

Attach list of consultations.

4.0 Rationale and Admission Requirements for the Proposed

Certificate in Global Engineering

McGill will hopefully be offering a new, joint, undergraduate Engineering program entitled the "B.Eng. in Global Engineering" with a top French university ("Grande École") called CentraleSupélec. In the first two years of this program, students study in France / at CentraleSupélec, whereas students in the latter two years study in Canada / at McGill. The program was approved by the McGill Senate two years ago (on January 20, 2021). It has also been approved in France, and resources are in place at CentraleSupélec to launch it. Given the high priority this program has in CentraleSupélec's strategic plan, combined with the fact that the program's first two years take place in France, a joint McGill-CentraleSupélec decision was made to launch the program in September 2023, even though ministerial approval of the program in Quebec remains pending. Note, however, that a decision regarding its approval should be received before the arrival of the first cohort of students at McGill, in September 2025. Although approval of this novel program is expected, it is nevertheless incumbent on McGill to formulate a "back-up plan" in the (hopefully unlikely) event that the program does not receive ministerial approval. The present certificate is the key element of this plan. Specifically, upon arriving at McGill in September 2025, if the B.Eng. in Global Engineering program is not approved, students will enter the proposed Certificate in Global Engineering. Upon completion of the program requirements, students would graduate with a B.Eng. in Global Engineering from CentraleSupélec, and a Certificate in Global Engineering from McGill (as opposed to receiving a Bachelor's degree from both CentraleSupélec and McGill, should this program be approved by the Ministry). Note that i) the Certificate does not require ministerial approval, ii) the curriculum in the certificate is identical to the curriculum in the latter two years of the program approved by the McGill Senate, and iii) applicants who are currently applying to the B.Eng. in Global Engineering program at CentraleSupélec are being clearly informed of this plan and possible outcomes, which will also be reiterated in their letter of acceptance.

In the event that the Ministry approves McGill's proposal for the B.Eng. in Global Engineering before fall 2025, the present Certificate program will not be offered and will be retired (i.e. the Certificate will only be offered if the B.Eng. in Global Engineering program is not in place at McGill by the fall 2025 term). If students are registered in the Certificate program and the B.Eng. in Global Engineering is subsequently approved and open for registration, students will be transferred into the B.Eng. in Global Engineering program and complete that program. At this time, the Certificate will be immediately retired.

8.0 Program Description (Maximum 150 words)

The Certificate in Global Engineering is designed to provide students with additional courses, developing a combination of technical skills in science and engineering, and professional skills in the humanities and business/management. Having a strong foundation in mathematics and all three principal scientific disciplines (physics, chemistry and biology) in their first two years at CentraleSupélec, students will then enter the certificate program at McGill and obtain specialized engineering training in one of nine streams (Breadth, Biological, Chemical, Civil, Data Science, Electrical, Entrepreneurship, Materials and Mechanical). Having studied in an international setting (two years at CentraleSupélec in France, and two years at McGill University in Canada) will furthermore help train students to solve complex scientific/engineering problems that can be undertaken in interdisciplinary teams, within global settings.

There is no direct admission to this program. Students must have completed two years at CentraleSupélec in France in the B.Eng. in Global Engineering prior to enrollment in this certificate.

9.0 List of proposed new Program/Concentration

If new concentration (option) of existing program, a program layout (list of all courses) of existing program **must** be attached.

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit Weight under the headings of: Required Courses, Complementary Courses, Elective Courses)

Certificate in Global Engineering (60-67 credits)
Program credit weight: 60-67 credits

Required Non-Departmental Courses
9 credits

INTG 201 Integrated Management Essentials 1 (3)
INTG 202 Integrated Management Essentials 2 (3)
WCOM 206 Communication in Engineering (3)

Required Faculty of Engineering Courses
4 credits
FACC 200 Industrial Practicum 1 (0)
FACC 250 Responsibilities of the Professional Engineer (0)
FACC 300 Engineering Economy (3)
FACC 400 Engineering Professional Practice (1)

Complementary Courses (47-54 credits)

Global Engineering Technical Complementary Courses
38-45 credits

Upon their arrival at McGill in the third year, each student will take 38-45 credits in one of nine streams: 1) Breadth, 2) Biological, 3) Chemical, 4) Civil, 5) Data Science, 6) Electrical, 7) Entrepreneurship, 8) Materials, and 9) Mechanical. The choice of stream will have been determined in advance, at the end of their second year of studies at CentraleSupélec. All streams have (stream-specific) core courses. Some streams have stream-specific technical complementaries and/or sustainability complementaries.

Attach extra page(s) as needed

9.0 List of proposed new Program/Concentration (cont.)

Stream 1: Breadth (41-44 credits)
41-44 credits (13 courses) must be taken, chosen as follows:

26 credits (8 courses) from List A
9-11 credits (3 courses) from List B
6-7 credits (2 courses) from List C

List A: Breadth Core
26 credits

BIEN 310 Introduction to Biomolecular Engineering (3)
CHEE 231 Data Analysis and Design of Experiments (3)
CIVE 207 Solid Mechanics (4)
ECSE 206 Introduction to Signals and Systems (3)
FACC 463D1 Engineering Design Project (3)
FACC 463D2 Engineering Design Project (3)
MECH 220 Mechanics 2 (4)
MECH 309 Numerical Methods in Mechanical Engineering (3)

List B: Breadth Technical Complementaries
9-11 credits

CHEE 370 Elements of Biotechnology (3)
ECSE 308 Introduction to Communication Systems and Networks (4)
ECSE 353 Electromagnetic Fields and Waves (3)
MIME 260 Materials Science and Engineering (3)*
MIME 261 Structure of Materials (3)*
MIME 356 Heat, Mass and Fluid Flow (4)
*If chosen, students may select either MIME 260 or MIME 261

List C: Breadth Sustainability Complementaries
6-7 credits

SEAD 500 Foundations of Sustainability for Engineering and Design (3)
SEAD 510 Energy Analysis (4)
SEAD 515 Climate Change Adaptation and Engineering Infrastructure (3)
SEAD 550 Decision-Making for Sustainability in Engineering and Design (3)

Stream 2: Biological (38-39 credits)
38-39 credits (13 courses) must be taken, chosen as follows:

32 credits (11 courses) from List A
6-7 credits (2 courses) from List B

List A: Biological Core
32 credits

BIEN 200 Introduction to Bioengineering (2)
BIEN 210 Electrical and Optical Properties of Biological Systems (3)
BIEN 290 Bioengineering Measurement Laboratory (3)
BIEN 310 Introduction to Biomolecular Engineering (3)
BIEN 314 Transport Phenomena in Biological Systems 1 (3)
BIEN 330 Tissue Engineering and Regenerative Medicine (3)
BIEN 340 Transport Phenomena in Biological Systems 2 (3)
BIEN 360 Physical Chemistry in Bioengineering (3)
BIEN 410 Computational Methods in Biomolecular Engineering (3)
BIEN 470D1 Bioengineering Design Project (3)
BIEN 470D2 Bioengineering Design Project (3)

9.0 List of proposed new Program/Concentration (cont.)

List B: Biological Technical Complementaries
6-7 credits

BIEN 320 Molecular, Cellular, and Tissue Biomechanics (3)
BIEN 350 Biosignals, Systems and Control (4)
BIEN 390 Bioengineering Laboratory (3)
BIEN 420 Biodevices Design for Diagnostics and Screening (3)
BIEN 462 Engineering Principles in Physiological Systems (3)
BIEN 510 Engineered Nanomaterials for Biomedical Applications (3)
BIEN 530 Imaging and Bioanalytical Instrumentation (3)
BIEN 540 Information Storage and Processing in Biological Systems (3)
BIEN 550 Biomolecular Devices (3)
BIEN 560 Design of Biosensors (3)
BIEN 570 Active Mechanics in Biology (3)
BIEN 590 Cell Culture Engineering (3)
BREE 327 Bio-Environmental Engineering (3)
BREE 403 Biological Material Properties (3)
BREE 420 Engineering for Sustainability (3)
BREE 518 Ecological Engineering (3)
BREE 522 Bio-Based Polymers (3)
CHEE 370 Elements of Biotechnology (3)
CHEE 563 Biofluids and Cardiovascular Mechanics (3)*
MECH 547 Mechanics of Biological Materials (3)
MECH 563 Biofluids and Cardiovascular Mechanics (3)*
PHYS 534 Nanoscience and Nanotechnology (3)
* If chosen, students may select either CHEE 563 or MECH 563

Stream 3: Chemical (41 credits)

CHEE 200 Chemical Engineering Principles 1 (3)
CHEE 204 Chemical Engineering Principles 2 (3)
CHEE 291 Instrumentation and Measurement 1 (4)
CHEE 314 Fluid Mechanics (3)
CHEE 315 Heat and Mass Transfer (3)
CHEE 351 Separation Processes (3)
CHEE 380 Materials Science (3)
CHEE 390 Computational Methods in Chemical Engineering (3)
CHEE 423 Chemical Reaction Engineering (3)
CHEE 453 Process Design (4)
CHEM 234 Topics in Organic Chemistry (3)
FACC 463D1 Engineering Design Project (3)
FACC 463D2 Engineering Design Project (3)

Stream 4: Civil (45 credits)
45 credits (13 courses) must be taken, chosen as follows:

39 credits (11 courses) from List A
6 credits (2 courses) from List B

List A: Civil Core
39 credits

CIVE 202 Construction Materials (4)
CIVE 207 Solid Mechanics (4)
CIVE 225 Environmental Engineering (4)
CIVE 311 Geotechnical Mechanics (4)
CIVE 317 Structural Engineering 1 (3)
CIVE 319 Transportation Engineering (3)
CIVE 320 Numerical Methods (4)
CIVE 327 Fluid Mechanics and Hydraulics (4)
FACC 463D1 Engineering Design Project (3)
FACC 463D2 Engineering Design Project (3)
MECH 289 Design Graphics (3)

9.0 List of proposed new Program/Concentration (cont.)

List B: Civil Technical Complementaries
6 credits

CIVE 206 Dynamics (3)
CIVE 302 Probabilistic Systems (3)
CIVE 318 Structural Engineering 2 (3)
CIVE 416 Geotechnical Engineering (3)

Stream 5: Data Science (39-40 credits)

COMP 251 Algorithms and Data Structures (3)
COMP 302 Programming Languages and Paradigms (3)
COMP 360 Algorithm Design (3)
COMP 421 Database Systems (3)
COMP 551 Applied Machine Learning (4)*
ECSE 223 Model-Based Programming (3)
ECSE 321 Introduction to Software Engineering (3)
ECSE 343 Numerical Methods in Engineering (3)
ECSE 458D1 Capstone Design Project (3)
ECSE 458D2 Capstone Design Project (3)
ECSE 507 Optimization and Optimal Control (3)**
ECSE 509 Probability and Random Signals 2 (3)
ECSE 526 Artificial Intelligence (3)*
ECSE 551 Machine Learning for Engineers (4)*
MATH 240 Discrete Structures (3)
MECH 559 Engineering Systems Optimization (3)**
MECH 579 Multidisciplinary Design Optimization (3)**
* If chosen, students may select only one of COMP 551, ECSE 526 or ECSE 551
** If chosen, students may select only one of ECSE 507, MECH 559 or MECH 579

Stream 6: Electrical (43 credits)
43 credits (13 courses) must be taken, chosen as follows:

37 credits (11 courses) from List A
6 credits (2 courses) from List B

List A: Electrical Core
37 credits

ECSE 206 Introduction to Signals and Systems (3)
ECSE 210 Electric Circuits 2 (3)
ECSE 222 Digital Logic (3)
ECSE 307 Linear Systems and Control (4)
ECSE 308 Introduction to Communication Systems and Networks (4)
ECSE 324 Computer Organization (4)
ECSE 331 Electronics (4)
ECSE 343 Numerical Methods in Engineering (3)
ECSE 353 Electromagnetic Fields and Waves (3)
ECSE 458D1 Capstone Design Project (3)
ECSE 458D2 Capstone Design Project (3)

List B: Electrical Technical Complementaries
6 credits

COMP 417 Introduction Robotics and Intelligent Systems (3)
ECSE 211 Design Principles and Methods (3)
MECH 412 System Dynamics and Control (3)
MECH 572 Mechanics and Control of Robotic Manipulators (3)
MECH 573 Mechanics of Robotic Systems (3)
MIME 262 Properties of Materials in Electrical Engineering (3)

9.0 List of proposed new Program/Concentration (cont.)

Stream 7: Entrepreneurship (43 credits)
43 credits (13 courses) must be taken, chosen as follows:

40 credits (12 courses) from List A
3 credits (1 courses) from List B

List A: Entrepreneurship Core
40 credits

BIEN 310 Introduction to Biomolecular Engineering (3)
CHEE 231 Data Analysis and Design of Experiments (3)
CIVE 207 Solid Mechanics (4)
ECSE 206 Introduction to Signals and Systems (3)
ECSE 308 Introduction to Communication Systems and Networks (4)
FACC 500 Technology Business Plan Design (3)
FACC 501 Technology Business Plan Project (3)
MECH 220 Mechanics 2 (4)
MECH 309 Numerical Methods in Mechanical Engineering (3)
MGPO 362 Fundamentals of Entrepreneurship (3)
MIME 260 Materials Science and Engineering (3)*
MIME 261 Structure of Materials (3)*
MIME 356 Heat, Mass and Fluid Flow (4)
* If chosen, students may select MIME 260 or MIME 261

List B: Entrepreneurship Technical Complementaries
3 credits

BUSA 465 Technological Entrepreneurship (3)
LAWG 570 Innovation for Non-Law Students (3)
MGPO 364 Entrepreneurship in Practice (3)
MGPO 438 Social Entrepreneurship and Innovation (3)
ORGB 321 Leadership (3)

Stream 8: Materials (43 credits)
43 credits (14 courses) must be taken, chosen as follows:

37 credits (12 courses) from List A
6 credits (2 courses) from List B

List A: Materials Core
37 credits

FACC 463D1 Engineering Design Project (3)
FACC 463D2 Engineering Design Project (3)
MECH 290 Design Graphics for Mechanical Engineering (3)
MIME 261 Structure of Materials (3)
MIME 317 Analytical and Characterization Techniques (3)
MIME 345 Applications of Polymers (3)
MIME 350 Extractive Metallurgical Engineering (3)
MIME 352 Hydrochemical Processing (3)
MIME 356 Heat, Mass and Fluid Flow (4)
MIME 360 Phase Transformations: Solids (3)
MIME 362 Mechanical Properties (3)
MIME 473 Introduction to Computational Materials Design (3)

List B: Materials Technical Complementaries
6 credits

MIME 311 Modelling and Automatic Control (3)
MIME 455 Advanced Process Engineering (3)
MIME 465 Metallic and Ceramic Powders Processing (3)
MIME 467 Electronic Properties of Materials (3)
MIME 470 Engineering Biomaterials (3)

9.0 List of proposed new Program/Concentration (cont.)

Stream 9: Mechanical (41-43 credits)
41-43 credits (13 courses) must be taken, chosen as follows:

35 credits (11 courses) from List A
6-8 credits (2 courses) from List B

List A: Mechanical Core
35 credits

CIVE 207 Solid Mechanics (4)
ECSE 206 Introduction to Signals and Systems (3)
MECH 220 Mechanics 2 (4)
MECH 262 Statistics and Measurement Laboratory (3)
MECH 290 Design Graphics for Mechanical Engineering (3)
MECH 292 Design 1: Conceptual Design (3)
MECH 309 Numerical Methods in Mechanical Engineering (3)
MECH 331 Fluid Mechanics 1 (3)
MECH 463D1 Design 3: Mechanical Engineering Project (3)
MECH 463D2 Design 3: Mechanical Engineering Project (3)
MIME 260 Materials Science and Engineering (3)

List B: Mechanical Technical Complementaries
6-8 credits

COMP 417 Introduction Robotics and Intelligent Systems (3)
ECSE 307 Linear Systems and Control (4)
ECSE 461 Electric Machinery (3)
MECH 314 Dynamics of Mechanisms (3)
MECH 315 Mechanics 3 (4)
MECH 321 Mechanics of Deformable Solids (3)
MECH 341 Thermodynamics 2 (3)
MECH 346 Heat Transfer (3)
MECH 360 Principles of Manufacturing (3)
MECH 383 Applied Electronics and Instrumentation (3)
MECH 393 Design 2: Machine Element Design (3)
MECH 412 System Dynamics and Control (3)
MECH 572 Mechanics and Control of Robotic Manipulators (3)
MECH 573 Mechanics of Robotic Systems (3)

Complementary Studies
9 credits

Group A – Impact of Technology on Society
3 credits from the following:
ANTH 212 Anthropology of Development (3)
BTEC 502 Biotechnology Ethics and Society (3)
ECON 225 Economics of the Environment (3)
ECON 347 Economics of Climate Change (3)
ENVR 201 Society, Environment and Sustainability (3)
GEOG 200 Geographical Perspectives: World Environmental Problems (3)
GEOG 203 Environmental Systems (3)
GEOG 205 Global Change: Past, Present and Future (3)
GEOG 302 Environmental Management 1 (3)
MGPO 440 Strategies for Sustainability (3)*
PHIL 343 Biomedical Ethics (3)
RELG 270 Religious Ethics and the Environment (3)
SOCI 235 Technology and Society (3)
SOCI 312 Sociology of Work and Industry (3)
URBP 201 Planning the 21st Century City (3)

* Note: Management courses have limited enrolment and registration dates. See Important Dates at http://www.mcgill.ca/importantdates.

9.0 List of proposed new Program/Concentration (cont.)

Group B – Humanities and Social Sciences, Management Studies and Law
6 credits at the 200 level or higher from the following departments:

Anthropology (ANTH)
Economics (any 200- or 300-level course excluding ECON 227 and ECON 337)
History (HIST)
Philosophy (excluding PHIL 210 and PHIL 310)
Political Science (POLI)
Psychology (excluding PSYC 204 and PSYC 305, but including PSYC 100)
Religious Studies (RELG) (excluding courses that principally impart language skills, such as Sanskrit, Tibetan, Tamil, New Testament Greek, and Biblical Hebrew)**
School of Social Work (SWRK)
Sociology (excluding SOCI 350)

OR from the following courses:

ARCH 528 History of Housing (3)
BUSA 465 Technological Entrepreneurship (3) *
CLAS 203 Greek Mythology (3)
ENVR 203 Knowledge, Ethics and Environment (3)
ENVR 400 Environmental Thought (3)
FACC 220 Law for Architects and Engineers (3)
FACC 500 Technology Business Plan Design (3)
FACC 501 Technology Business Plan Project (3)
HISP 225 Hispanic Civilization 1 (3)
HISP 226 Hispanic Civilization 2 (3)
INDR 294 Introduction to Labour-Management Relations (3)*
MATH 338 History and Philosophy of Mathematics (3)
MGCR 222 Introduction to Organizational Behaviour (3)*
MGCR 352 Principles of Marketing (3)*
ORGB 321 Leadership (3)*
ORGB 423 Human Resources Management (3)*

* Note: Management courses have limited enrolment and registration dates. See Important Dates at http://www.mcgill.ca/importantdates.

**If you are uncertain whether or not a course principally imparts language skills, please see an adviser in the McGill Engineering Student Centre (Frank Dawson Adams Building, Room 22) or email an adviser.

Note regarding language courses: Language courses are not accepted to satisfy the Complementary Studies Group B requirement.

10.0 Approvals

Routing Sequence	Name	Signature	Meeting Date
Department	Laurent Mydlarski	Laurent Mydlarski 2023.02.02 11:31:43 -05'00'	
Curric/Acad Committee	Roni Khazaka	See next page	Jan 25, 2023
Faculty 1	Roni Khazaka		Feb 14, 2023
Faculty 2			
Faculty 3			
CGPS			
SCTP			
APC			
Senate			

Submitted by		
Name		To be completed by ES:
Phone		CIP Code
Email		
Submission Date		

REMINDERS:
*Box 5.4 – Must be completed; see section 6.5.4 within the New Program Guidelines at: https://www.mcgill.ca/sctp/guidelines.
**All new program proposals must be accompanied by a 2-3 page support document.

10.0 Approvals

Routing Sequence	Name	Signature	Meeting Date
Department	Laurent Mydlarski		
Curric/Acad Committee	Roni Khazaka	Roni Khazaka	Jan 25, 2023
Faculty 1	Roni Khazaka	Roni Khazaka	Feb 14, 2023
Faculty 2			
Faculty 3			
CGPS			
SCTP	Cindy Smith, SCTP Secretary		March 9, 2023
APC		APC approved	April 13, 2023
Senate			

Submitted by

Name	
Phone	
Email	
Submission Date	

To be completed by ES:

CIP Code

REMINDERS:
*Box 5.4 – Must be completed; see section 6.5.4 within the New Program Guidelines at: https://www.mcgill.ca/sctp/guidelines.
**All new program proposals must be accompanied by a 2-3 page support document.

APC APPENDIX B [23-APC-04-21]

McGill

New Program/Concentration Proposal Form

(2019)

1.0 Degree Title
Please specify the two degrees for concurrent degree programs

Ph.D.

2.0 Administering Faculty or GPS

Graduate and Postdoctoral Studies

1.1 Major (Subject/Discipline) (30-char. max.)

Cancer Sciences

Offering Faculty & Department

FMHS/Goodman Cancer Institute

1.2 Concentration (Option) (30 char. max.)

3.0 Effective Term of Implementation
(Ex. Sept. 2019 or 201909)
Term

202409

1.3 Complete Program Title (info from boxes 1.0+1.1+1.2+5.2)

Ph.D. in Cancer Sciences

4.0 Rationale and Admission Requirements for New Program/Concentration

Rationale: The Interdisciplinary Program in Cancer Sciences (Ph.D.) is designed to be disease- and patient-centric, reflecting the expressed desire of students for graduate training in cancer research that reflects the human component of the disease. Historically, training in the biomedical and fundamental sciences, informatics, engineering, medicine, epidemiology, and patient care occurred mainly in silos, with little opportunity for integration. This innovative program will train the next generation of leading cancer scientists across all pillars of cancer research, providing a solid foundation in fundamental aspects of cancer biology, "omics" analysis, treatment, and patient care. Admission Requirements: Applicants are required to have a Master's degree in fields related to biomedical sciences (e.g. anatomy and cell biology, biology, biochemistry, genetics, microbiology and immunology, molecular biology, pharmacology and physiology, medicine, nursing, kinesiology, physical and occupational therapy), with a minimum cumulative GPA of 3.5/4.0 on the McGill scale, as well as a B.Sc. GPA of 3.5/4.0 on the McGill scale. Exceptional candidates may be considered for direct Ph.D. entry with B.Sc. GPA of 3.7/4.0 and a strong research experience with publication record and/or highly competitive awards.

5.0 Program Information
Indicate an "x" as appropriate

5.1 **Program Type**

- Bachelor's Program
- Master's
- M.Sc.(Applied) Program
- Dual Degree/Concurrent Program
- Certificate
- Diploma
- Graduate Certificate
- Graduate Diploma
- Professional Development Cert
- **X** Ph.D. Program
- Doctorate Program (Other than Ph.D.)
- Self-Funded/Private Program
- Off-Campus Program
- Distance Education Program
- Other (Please specify)

5.2 **Category**

- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours Component (HC)
- Internship/Co-op
- **X** Thesis (T)
- Non-Thesis (N)
- Other
- Please specify

5.3 **Level**

- Undergraduate
- Dentistry/Law/Medicine
- Continuing Studies (Non-Credit)
- Collegial
- Masters & Grad Dips & Certs
- **X** Doctorate
- Post-Graduate Medicine/Dentistry
- Graduate Qualifying

5.4 **Requires Centrally-Funded Resources**

Yes **X** No

6.0 Total Credits or CEUs (if latter, indicate "CEUs" in box)

0

7.0 Consultation with

Related Units	**X** Yes	No
Financial Consult	**X** Yes	No

Attach list of consultations. (attached)

8.0 Program Description (Maximum 150 words)

The Ph.D. in Cancer Sciences focuses on cancer as a disease and the breadth of cancer research across disciplines. This program includes a solid foundation in fundamental aspects of cancer biology, “omics” analyses, treatments, and patient care.

9.0 List of proposed new Program/Concentration

If new concentration (option) of existing program, a program layout (list of all courses) of existing program **must** be attached.

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit Weight under the headings of: Required Courses, Complementary Courses, Elective Courses)

Ph.D. in Cancer Sciences (0 Credit)
Required Courses (4 credits)
CANC 621D1/D2 Seminars in Cancer Sciences (4 credits)
CANC 701 Ph.D. Comprehensive Examination (0 credits)

Complementary Courses (10 credits)
6 credits from the following:
EXMD 635D1 Experimental/Clinical Oncology (3 credits)*
EXMD 635D2 Experimental/Clinical Oncology (3 credits)*
ONCO 610D1 Fundamentals of Oncology and Cancer Research (3 credits)*
ONCO 610D2 Fundamentals of Oncology and Cancer Research (3 credits)*
*Choose either EXMD 635D1/D2 or ONCO 610D1/D2.

4 credits from the following:
BIOC 600 Advanced Strategies in Genetics and Genomics (3 credits)
BIOC 603 Genomics and Gene Expression (3 credits)
BIOC 605 Protein Biology and Proteomics (3 credits)
BMDE 507 Formulation and Delivery of Biotherapeutics (3 credits)
BMDE 653 Patents in Biomedical Engineering (3 credits)
BMDE 655 Biomedical Clinical Trials-Medical Devices (3 credits)
CANC 601 Patient Engagement in Cancer Research (1 credit)
CANC 602 Epidemiology of Cancer (1 credit)
CANC 603 Mouse Models in Cancer (1 credit)
CANC 604 Cancer Genomics Data Analyses (1 credit)
CANC 605 Cancer Caregiving: Psychosocial Issues (1 credit)
CANC 606 Tumour Microenvironment (1 credit)
CANC 607 Cancer Immunotherapies (1 credit)
CANC 608 Oncometabolism (1 credit)
EPIB 507 Biostats for Health Sciences (3 credits)
EPIB 521 Regression Analysis for Health Sciences (3 credits)
EPIB 635 Clinical Trials (3 credits)
EPIB 671 Cancer Epidemiology and Prevention (3 credits)
EXMD 504 Biology of Cancer (3 credits)
EXMD 602 Techniques in Molecular Genetics (3 credits)
EXMD 607 Molecular Control of Cell Growth (3 credits)
EXMD 608 Molecular Embryology (3 credits)
EXMD 614 Environmental Carcinogenesis (3 credits)
EXMD 617 Workshop in Clinical Trials 1 (1 credit)
EXMD 618 Workshop in Clinical Trials 2 (1 credit)

…/continued next page

Attach extra page(s) as needed

Ph.D. in Cancer Sciences (0 Credit)

Complementary Courses [continued]
EMMD 619 Workshop in Clinical Trials 3 (1 credits)
EXMD 647 Epigenetics and Cancer (3 credits)
EXSU 500 Artificial Intelligence in Medicine (3 credits)
EXSU 505 Trends in Precision Oncology (3 credits)
EXSU 606 Statistics for Surgical Research (3 credits)
HGEN 676 Lab course in Genomics (3 credits)
HGEN 677 Statistical Concepts in Genetic and Genomic Analysis (3 credits)
HGEN 679 Cancer Genetics: Precision Oncology (3 credits)
HGEN 690 Inherited Cancer Syndromes (3 credits)
HGEN 693 Using Bioinformatics Resources (3 credits)
NUR2 515 Applied Statistics for Nursing (3 credits)
NUR2 783 Psychosocial Oncology Research (3 credits)
ONCO 611 Proteomics for Precision Medicine (3 credits)
ONCO 615 Principles and Practices of Clinical Trials (3 credits)
ONCO 620 Best Practices in Biomedical Research (3 credits)
ONCO 625 Quality Improvement Principles and Methods (3 credits)
ONCO 635 Qualitative and Psychosocial Health Research (3 credits)
ONCO 645 Seminars in Global Oncology (3 credits)
PATH 652 Molecular Biology of Disease (3 credits)
PHAR 508 Drug Discovery and Development 3 (3 credits)
PHGY 513 Translational Immunology (3 credits)
POTH 637 Cancer Rehabilitation (3 credits)

10.0 Approvals

Routing Sequence	Name	Signature	Meeting Date
Department	Goodman Cancer Institute : Dr. Morag Park		Jan 9, 2023
Curric/Acad Committee	Dr. Melissa Vollrath		Jan 23rd, 2023
Faculty 1			
Faculty 2			
Faculty 3			
CGPS		CGPS Meeting	02/13/2023
SCTP	Cindy Smith, SCTP Secretary		March 9, 2023
APC			
Senate			

Submitted by

Name	Rosanne Seguin
Phone	
Email	Rosanne.seguin@mcgill.ca
Submission Date	November 21 2022

To be completed by ES:

CIP Code

REMINDERS:
*Box 5.4 – Must be completed; see section 6.5.4 within the New Program Guidelines at: https://www.mcgill.ca/sctp/guidelines.
**All new program proposals must be accompanied by a 2-3 page support document.

Proposal for Ph.D. in Cancer Sciences Program

1. Introduction: Program Identification:
Program Title: Cancer Sciences (CANC)
Degree Title: Ph.D. (with thesis, 0 credit)
Faculty: FMHS/GPS

We propose an innovative interdepartmental and interdisciplinary Ph.D. program in Cancer Sciences, designed to train the next generation of leading cancer scientists across all pillars of cancer research. Historically, training in the biomedical and fundamental sciences, informatics, engineering, medicine, epidemiology, and patient care occurred mainly in silos, with little opportunity for integration. Now, these disciplines are rapidly evolving and converging, and it is accepted that incorporating approaches from these diverse fields of study is necessary to advance cancer research. This program will foster strong scientific and social ties among the student cohort and the wider cancer research community through interdisciplinary training and research activities, providing a solid foundation in fundamental aspects of cancer biology, "omics" analysis, treatment, and patient care. Students will gain a variety of cancer research competencies, selecting from cancer-centric interdisciplinary courses featuring active engagement and collaborative approaches. By consulting with stakeholders across the Faculty of Medicine and Health Sciences (FMHS), we have designed the program to provide students with a comprehensive understanding of cancer, including the breadth of cancer research and how integration of disciplines can advance the field.

2. **Rationale for the Program**

2.1. Academic significance:

Cancer is a group of complex diseases. The future of cancer care will focus on four pillars: Prevention through better understanding of the causes of cancer, improved early detection, precision medicine, and alleviating physical and psychosocial symptoms. Students from diverse fields and backgrounds will enter the program, necessitating a shared foundation in cancer sciences through cornerstone courses (EXMD 635D1/D2 or ONCO 610D1/D2) covering the cellular, molecular and genetic mechanisms of cancer, animal- and patient-derived cancer models, "-omics" approaches to studying cancer, cancer therapeutics, cancer epidemiology, cancer prevention, improving patient care and psychosocial health. The Seminars in Cancer Sciences course (CANC 621D1/D2) will feature faculty-guided discussions of high-impact research articles and seminars from internationally renowned scientists, initially focused on individual disciplines, but progressing to cover interdisciplinary approaches and discoveries. At the end of the second year, the students will take a qualifying exam where they will present and answer questions on their proposed thesis research as well as an interdisciplinary topic in cancer science outside their thesis research specialization, under the tutelage of a faculty mentor who is not their supervisor. The remainder of the curriculum will provide the flexibility to create individualized programs, selecting from complementary courses, including specialized 1-credit courses (each 15 hours including lectures and a hands-on or project component), beginning in the second year. This will provide time for students to gain experience and understanding of their thesis research material.

Cancer research is pursued widely across and beyond the McGill campus, making it challenging for trainees to support each other. The program's non-credit mandatory activities will build a cohort identity among graduate students, facilitating cohesion and teamwork and fostering a feeling of unity and belonging. They will include Cohort Training Days, 3-day events in September and January each year with two days dedicated primarily to first year trainees and the third to a writing practicum open to all trainees (details in Appendix A). These events will expose trainees to all aspects of cancer through interactions with clinicians, basic and clinician-scientists, patient care professionals and patients, providing perspective on how research impacts on patients and

giving the current view of the frontiers and major challenges. Another non-credit activity, the annual Interdisciplinary Cancer Research Day, will provide opportunities for trainees to present their research to their peers and the wider cancer research community.

2.2. Strategic position of the program at McGill:

Cancer research on the McGill campus and at affiliated institutes is geographically dispersed, with major sites including the Goodman Cancer Institute (GCI), the Lady Davis Institute (LDI)/Segal Cancer Centre and the Research Institute of the McGill University Health Centre (RI-MUHC). While the Gerald Bronfman Department of Oncology offers a graduate diploma in oncology, there is currently no thesis-based MSc or PhD program specifically dedicated to cancer sciences at McGill. Instead, students enroll in departments and divisions with their own specialized training paths, including Biochemistry, Anatomy and Cell Biology, Biology, Physiology, Pathology, Pharmacology and Therapeutics, Human Genetics, Microbiology and Immunology, Biological and Biomedical Engineering, Experimental Medicine, Experimental Surgery, Epidemiology, Biostatistics, Occupational Health, and the Ingram School of Nursing. This new program will create a dedicated community of cancer research trainees from across these units, with training focused on cancer sciences and provide opportunities to collaborate and explore common interests.

The program will align extremely well with the FMHS Education Strategic Plan (2018). Rather than focusing solely on technology, themes or mechanisms, it is designed to be disease- and patient-centric, reflecting the expressed desire of students for graduate training in cancer research that reflects the human component of the disease. The program will encourage the integration of clinical knowledge with fundamental and curiosity-driven research, fostering a flow of ideas and knowledge, with the goal of improving cancer treatment and patient care. These initiatives will contribute to realizing the FMHS strategic goals of advancing evidence-based, learner-centred approaches (*Goal 1: Teach*), including through extensive consultation with trainees. The program will also be vital to supporting the development of a collaborative, interdisciplinary and interprofessional educational environment at McGill (*Goal 2: Learn*).

2.3. Strategic position of the program within Quebec/Canada/International contexts:

In Quebec, Université Laval, Université de Sherbrooke, Université de Montréal and McGill University have thriving cancer research centers linked with their respective medical schools. However, none have a Ph.D. program in cancer science research. Examples of cancer science and cancer biology graduate programs offered in Canada, the U.S., and Europe are shown below.

University	**Program/Degree (s) offered**	**Description**
CANADA		
University of British Columbia	Interdisciplinary Oncology Program (M.Sc./ Ph.D)	2 core courses/electives specific to thesis research
Western University	Interdisciplinary Medicine (M.Sc. no thesis)	Lab rotations, clinical, basic science and community engaged learning
Queen's University	Multidisciplinary Graduate Program in Cancer Research (M.Sc. / Ph.D.)	Student research thesis is cancer focused, but not a centralized program.
University of Alberta	Cancer Sciences Specialization (M.Sc./ Ph.D.)	Not interdisciplinary Cancer biology focus
University of Calgary	Medical Sciences (M.Sc./ Ph.D.)	Not interdisciplinary Specialization in cancer biology
Memorial University of Newfoundland	Cancer Development and Research (M.Sc. / Ph.D.)	Training in cancer research or developmental biology
USA		
Memorial Sloan Kettering Cancer Center (NY)	Cancer Biology (Ph.D.)	Interdisciplinary cancer biology with elective clinical apprenticeship
Stanford University (CA)	Cancer Biology (Ph.D.)	Not interdisciplinary
Cold Spring Harbor (NY)	Cancer Biology (Ph.D.)	Not interdisciplinary
EUROPE		

Karolinska Institute (Sweden)	Tumor Biology and Oncology (doctorate)	Clinical and translational cancer research (starting Spring 2024)
University of Glasgow (Scotland)	Cancer Sciences (Ph.D.)	Cancer biology, translational and clinical research
German Research Center Heidelberg (DKFZ)	Interdisciplinary Program (Ph.D.)	Basic, computational, epidemiological, and translational cancer research

Given the overall paucity of thesis-based graduate programs in interdisciplinary cancer sciences, the high demand, and the growth of interdisciplinary cancer research, the proposed program will position Quebec and Canada at the forefront of training future leaders in cancer science.

2.4. Market study for the initiative:

Many students are interested in developing their understanding of the total scope of cancer research, but the breadth of interdisciplinary research can be challenging and overwhelming. The program is designed to overcome these challenges by covering different discipline foundations, supporting curiosity-driven exploration of cancer research and leveraging students' diverse research backgrounds as a source of strength, encouraging them to collaborate and share ideas. Trainees completing the program will have acquired competencies allowing them to pursue careers in academic teaching and research, policy and administration in government, healthcare, and non-profit organizations, as well as positions in the pharmaceutical and biotechnology industries. The global cancer market is expected to grow to $500 billion by 2030, with accompanying demand for graduates with interdisciplinary training. Our program will position trainees to take advantage of these opportunities.

3. **Program Overview**

3.1. Structure and Admission:

Students will pursue cancer research theses in a broad range of disciplines but will come together in the fundamental (EXMD 635D1/D2 or ONCO 610D1/D2) and cornerstone (CANC 621D1/D2) courses. They will perform original scholarly research, write and orally defend a thesis, and complete pre-defined competencies in methodology, academic knowledge of their research fields and professional skills. Students are encouraged to continue to learn throughout their degree and will have access to complementary courses in years 2-4.

Proposed Timetable of Courses for each Year in Program:

Calendar Years (Ph.D. Yr based on students entering with Master's.)	Year 1 (Ph.D. Yr 2)	Year 2 (Ph.D. Yr 3)	Year 3 (Ph.D. Yr 4)	Year 4 (Ph.D. Yr 5)	Year 5 (Ph.D. Yr 6)
Fundamental Course: EXMD635D1/D2 **or** ONCO610D1/D2					
CANC621D1/D2: Seminars in Cancer Sciences					
CANC 701 Comprehensive Exam (by end Year 2)					
Complementary 3 credit course selection					
Complementary 1 credit course(s) selection					
Thesis Research					
Interdepartmental Cancer Seminars (non credit)					
Cohort Training Days (Sept and Jan) (non credit)					
Interdisciplinary Cancer Sciences Research Day (non credit)					

Admission: Applicants are required to have a Master's degree in fields related to biomedical science with a minimum cumulative GPA of 3.5/4.0 on the McGill scale. Exceptional candidates may be considered for direct Ph.D. entry with B.Sc. GPA of 3.7/4.0 and a strong research experience with publication record and/or highly competitive awards.

Application Documents:

Applicants will provide their most recent curriculum vitae, a 1000-word personal statement describing their educational and professional background, and their motivation for applying, as well as two letters of reference from individuals with whom they interacted on an academic or

professional level, and all transcripts from their post-secondary education. If the applicant has identified a potential thesis supervisor, they must also include a letter from them.

Appendix A: Mandatory Academic Activities (non-credit)

1. Cohort Training Days

The Training Days will provide a structured platform to introduce basic, yet critical, skills that are important across all streams of cancer sciences. Training Days will take place twice per year, in September and January, each spread over 3 days (Monday-Wednesday). Two days will be dedicated primarily to first year trainees, while the third day will be an open *Writing Practicum* where trainees from all years are encouraged to participate.

The two Training Days will be built as combinations of 5 types of blocks:
1- Introductory short courses on key cancer topics: interdisciplinary scientific engagement, highlights of recent scientific advances
2- Research management: experimental design, planning with timelines, milestones and contingencies, ethics, basic statistics
3- Communication skillsets: poster presentations, scientific communication to lay audiences
4- Clinicians, researcher, patient and patient family testimonies.
5- Team building and networking: team-based problem solving, EDI, leadership skills, engagement with committees and community, career management including cv preparation

The *Writing Practicum* will cover topics including how to write:

- a research scholarship application
- a scientific abstract for congress/conference
- a scientific paper
- a thesis proposal
- a thesis

2. Interdisciplinary Cancer Sciences Research Days

Interdisciplinary Cancer Sciences Research Day (to take place in May) will be a required activity for all students enrolled in the Cancer Sciences Program. The objectives are to:

1- Reinforce the inter-disciplinary nature of cancer research/cancer care through presentations and group activities.
2- Provide an opportunity for new students to connect with and learn from students in the second year and beyond.
3- Provide second- and third-year students the opportunity to organize speaker sessions, and plan and lead a discussion group.
4- Provide an opportunity for students in the program to present their work either as a poster presentation or as a 10-minute oral presentation. *

*Students in the second year and above will submit an abstract to the Curriculum Committee. Members of the Curriculum Committee will review the abstracts and decide if the student will be invited to give an oral presentation or a poster presentation. The oral presentations should include different cancer research disciplines. The Fellowships and Awards committee members will vote on the best poster presentation and the best oral presentation.

Hosting of the Research Days will rotate annually between the Goodman Cancer Institute (GCI), the Research Institute of the McGill University Health Centre (RI-MUHC) and the Lady Davis Institute (LDI)/Segal Cancer Centre which will also support students in the programs to know the different sites involved in the program.

APC APPENDIX C [23-APC-04-21]

New Program/Concentration Proposal Form

(2019)

1.0 Degree Title
Please specify the two degrees for concurrent degree programs

Post-Graduate Artist Diploma

1.1 Major (Subject/Discipline) (30-char. max.)

Performance

1.2 Concentration (Option) (30 char. max.)

1.3 Complete Program Title (info from boxes 1.0+1.1+1.2+5.2)

Post-Graduate Artist Diploma in Performance

2.0 Administering Faculty or GPS

Graduate and Postdoctoral Studies

Offering Faculty & Department

Schulich School of Music

3.0 Effective Term of Implementation
(Ex. Sept. 2019 or 201909)
Term

202309

4.0 Rationale and Admission Requirements for New Program/Concentration

See attached document.

5.0 Program Information
Indicate an "x" as appropriate

5.1 **Program Type**

- Bachelor's Program
- Master's
- M.Sc.(Applied) Program
- Dual Degree/Concurrent Program
- Certificate
- Diploma
- Graduate Certificate
- Graduate Diploma
- Professional Development Cert
- Ph.D. Program
- Doctorate Program
- (Other than Ph.D.)
- Self-Funded/Private Program
- Off-Campus Program
- Distance Education Program
- **x** Other (Please specify)

Post-Graduate Artist Diploma

5.2 **Category**

- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours Component (HC)
- Internship/Co-op
- Thesis (T)
- Non-Thesis (N)
- Other
- Please specify

5.3 Level

- Undergraduate
- Dentistry/Law/Medicine
- Continuing Studies (Non-Credit)
- Collegial
- x Masters & Grad Dips & Certs
- Doctorate
- Post-Graduate Medicine/Dentistry
- Graduate Qualifying

5.4 Requires Centrally-Funded Resources

Yes___No_x_

6.0 Total Credits or CEUs (if latter, indicate "CEUs" in box)

30 credits

7.0 Consultation with

Related Units	Yes x	No
Financial Consult	Yes	x No

Attach list of consultations.

Rationale and Admission requirements

We are seeking approval for a third-cycle Post-Graduate Artist Diploma in Performance program. The Post-Graduate Artist Diploma in Performance provides a pathway for post-master's level students who do not wish to engage with the full academic breadth of DMus studies to focus on the creative side of their performance activities. The only other such program offered in Quebec, at the Université de Montréal, is set at the 3rd-cycle level and we believe that alignment with that program will better position our recruitment, especially of international students. We currently have two diploma programs, the Graduate Diploma in Performance (GDP) and the Graduate Artist Diploma in Performance (GAD). Admission to the GAD already requires an audition demonstrating performance level commensurate with doctoral-level expectations and we find that all students in the program in recent years hold a Master's degree. As a Master's degree (or an equivalent 2nd cycle degree from a conservatory) will be required for admission to this revised version of the program, setting it as a 3rd cycle diploma will provide acknowledgement of students' 2nd cycle credentials.

On the advice of GPS colleagues, we are proposing a name for the program that reflects its new status and renumbering the practical courses that are required in it. The program consists of practical courses (one-on-one tutorials, as in all performance programs), ensembles and performance projects. The one-on-one nature of performance instruction is such that the content of each course is unique to the stage of development of the performer and is developed in conversation between student and instructor. In this case, course content will be tailored to the artistic and technical level and goals of performers at the doctoral level. We will be retiring the current version of the program when students currently enrolled have graduated.

8.0 Program Description (Maximum 150 words)

The Post-Graduate Artist Diploma in Performance is a third-cycle, one-year post-Master's program that enables an intensive focus on the pursuit of performance goals at the highest level, through repertoire expansion and refinement of artistry, including intensive coaching, practice, and varied performance projects. Admission is by audition, with candidates having previously completed an M.Mus. or equivalent.

9.0 List of proposed new Program/Concentration

If new concentration (option) of existing program, a program layout (list of all courses) of existing program **must** be attached.

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit Weight under the headings of: Required Courses, Complementary Courses, Elective Courses)

Post-Graduate Artist Diploma in Performance (30 credits)

Required Courses (16 credits)
MUIN 715 Post-Graduate Artist Diploma Tutorial 1 (8 credits)
MUIN 716 Post-Graduate Artist Diploma Tutorial 2 (8 credits)

Complementary Courses (14 credits)

8 credits from the following:
MUPG 750 Post-Graduate Artist Diploma Performance Project 1 (4 credits)
MUPG 751 Post-Graduate Artist Diploma Performance Project 2 (4 credits)
MUPG 752 Post-Graduate Artist Diploma Performance Project 3 (8 credits)
MUPG 753 Post-Graduate Artist Diploma Interdisciplinary Project (4 credits)
MUPG 754 Post-Graduate Artist Diploma Concerto Performance (4 credits)

0-3 credits from:
MUSR 692 Music Production Workshop (3 credits)
*Needed of all instruments except Voice.

3-6 credits from the following:
Performance courses with Schulich School of Music approval from the following lists:

3-6 credits from any ensemble courses with the prefix MUEN at the 500 or 600 level
MUPG 571 Free Improvisation 1 (1 credit)
MUPG 572D1 Free Improvisation 2 (0.5 credits)
MUPG 572D2 Free Improvisation 2 (0.5 credits)

and the additional courses from the following list:

Voice

MUIN 610 Vocal Coaching 1 (1 credit)
MUIN 611 Vocal Coaching 2 (1 credit)

Piano

MUPG 670 Advanced Continuo 1 (2 credits) **
MUPG 671 Advanced Continuo 2 (2 credits) **
MUPG 687 Collaborative Piano Repertoire 1: Song (1 credit) ***
MUPG 688 Collaborative Piano Repertoire 2: Instrumental (1 credit) ***
MUPG 689 Collaborative Piano Rep.3: Orch. Reduction, Opera, Oratorio (1 credit) ***
** if not already taken
*** may be repeated with permission of the instructor

…/continued

Attach extra page(s) as needed

9.0 List of proposed new Program/Concentration

If new concentration (option) of existing program, a program layout (list of all courses) of existing program **must** be attached.

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit Weight under the headings of: Required Courses, Complementary Courses, Elective Courses)

Continued from page 2.

Chamber Music

MUIN 500 Practical Instruction 1 (1 credit)

Organ

MUPG 575D1 Organ Repertoire and Performance Practice (1.5 credits)
MUPG 575D2 Organ Repertoire and Performance Practice (1.5 credits)
MUPG 670 Advanced Continuo 1 (2 credits) **
MUPG 671 Advanced Continuo 2 (2 credits) **
One 3-credit seminar at the 500 or 600 level approved by the Department.

** if not already taken

Early Music

MUPG 670 Advanced Continuo 1 (2 credits) **
MUPG 671 Advanced Continuo 2 (2 credits) **
** if not already taken

10.0 Approvals

Routing Sequence	Name	Signature	Meeting Date
Department	Stéphane Lemelin		January 19, 2023
Curric/Acad Committee	Andrea Creech*		January 30, 2023
Faculty 1	Sean Ferguson		January 24, 2023
Faculty 2			
Faculty 3			
CGPS		CGPS Meeting	02-13-2023
SCTP	Cindy Smith, SCTP Secretary		March 9, 2023
APC			
Senate			

* reported to ACTP, following approval at Executive.

Submitted by

Name	Stéphane Lemelin	To be completed by ES:
Phone	514-398-4542	CIP Code
Email	Chair musicperformance@mcgill.ca	
Submission Date		

REMINDERS:
*Box 5.4 – Must be completed; see section 6.5.4 within the New Program Guidelines at: https://www.mcgill.ca/sctp/guidelines.
**All new program proposals must be accompanied by a 2-3 page support document.

McGill | Graduate and Postdoctoral Studies | Études supérieures et postdoctorales

James Administration Building, Room 400 | Pavillon James de l'administration, bureau 400 | Tel.: (514) 398-1224

MEMORANDUM

Date: Monday, February 13, 2023

Doc. #: CGPS-MM_2023.02.13

To: Chris Buddle, Chair of the APC Subcommittee on Courses and Teaching Programs (SCTP)

From: Josephine Nalbantoglu, Chair of Council of Graduate and Postdoctoral Studies (CGPS)

Subject: Offering third-cycle diplomas at McGill University

Purpose: ☒ For Information ☐ For Approval

Purpose	GPS is introducing third-cycle diploma offerings at the University.
Background	The Ministry of Education's GDEU coding system serves as a framework for university operations. As of 1982, the definition of a third-cycle program includes doctoral programs and 3rd cycle diplomas. A third-cycle diploma requires a master's degree for admission. To date, McGill has only offered doctoral programs as a 3rd cycle option. The Schulich School of Music has recently expressed their intent to offer a third-cycle diploma – the Post-Graduate Artist Diploma; Performance - that will be effective in Fall 2023. This would be similar to third-cycle diploma offerings at our peer institutions in the province, such as the Université de Montréal, where they offer the D.É.P.A. (Diplôme d'études professionnelles approfondies, which requires a Masters or equivalent). To align with other Quebec universities and the Ministry's educational framework, GPS will oversee the implementation of this Ministry-approved educational pathway at McGill University.
Prior consultations/Approvals:	GPS has reviewed the relevant Ministry framework with colleagues in Enrolment Services and Strategic Planning and Reporting. On February 13th 2023, CGPS voted to approve the introduction of third-cycle diploma offerings at McGill University. The 3rd cycle diploma proposed by the Schulich School of Music was also approved (see reference document).
Next steps:	SCTP to report to APC and then Senate for information.
Reference Document:	Please see the program proposal submitted and approved at the February 13th Council: CGPS-NP-PGArtDipP_R00A