419h REPORT OF THE ACADEMIC POLICY COMMITTEE TO SENATE

on APC meetings held on 18th March and 8th April 2010

I. TO BE APPROVED BY SENATE

(A) NEW TEACHING PROGRAMS REQUIRING SENATE APPROVAL (approvals of new minors and options added to existing programs and major revisions to programs are reported in Section IV.A.1.a. for information)

CENTRE FOR CONTINUING EDUCATION

Certificate in Finance – APPENDIX A

At a meeting on 18th March 2010, APC reviewed a proposal from the Centre for Continuing Education for the creation of a Certificate in Finance. The proposed Certificate will prepare students for dealing with the challenges that community, business and financial institutions face regarding changing marketplace, government legislation and demands of the global economy. It will provide them with the necessary academic knowledge, skills and training to work in the business and financial sector. Graduates of this program may embark on careers as financial advisors, personal banking officers, insurance agents, budget assistants, claim adjustors, lending officers, and others. The Faculty of Management is supportive of the proposed Certificate. Submission to CREPUQ's *Commission d'évaluation des projets de programmes (CEP)* for evaluation and to the Ministry of Education, Leisure and Sport (MELS) for approval is not required.

APC therefore recommends that Senate approve the following resolution:

Be it resolved that Senate approve the proposed Certificate in Finance.

Diploma in Finance – APPENDIX B

At a meeting on 18th March 2010, APC reviewed a proposal from the Centre for Continuing Education for the creation of a Diploma in Finance. Graduates of the proposed Diploma program may embark on careers as bank analysts, corporate finance analysts, budget analysts, loan officers, research associates, sales and trading associates. The Faculty of Management is supportive of the proposed Diploma. Submission to CREPUQ's *Commission d'évaluation des projets de programmes (CEP)* for evaluation and to the Ministry of Education, Leisure and Sport (MELS) for approval is not required.

APC therefore recommends that Senate approve the following resolution:

Be it resolved that Senate approve the proposed Diploma in Finance.

Diploma in Supply Chain and Operations Management – APPENDIX C

At a meeting on 18th March 2010, APC reviewed a proposal from the Centre for Continuing Education for the creation of a Certificate in Supply Chain and Operations Management. The proposed program responds to the need for highly specialized and qualified employees who can handle the operational tasks associated with supplying and delivering goods and services to customers. The program will provide in-depth understanding of global operations and an ability to implement up-to-date technologies to help their companies adapt to ever demanding global, environmental and operational challenges. The Faculty of Management is supportive of the proposed Diploma. Submission to CREPUQ's *Commission d'évaluation des projets de programmes (CEP)* for evaluation and to the Ministry of Education, Leisure and Sport (MELS) for approval is not required.

APC therefore recommends that Senate approve the following resolution:

Be it resolved that Senate approve the proposed Diploma in Supply Chain and Operations Management.

(B) Academic Performance Issues / Policies / Governance/Awards

None.

(C) Creation of New Units / Name Changes / Reporting Changes

1) Faculty of Engineering

a) McGill Institute for Aerospace Engineering / *Institut de génie aérospatial de McGill* – APPENDIX D

At a meeting of 18th March 2010, APC reviewed a proposal for the creation of a McGill Institute for Aerospace Engineering. The mandate of the proposed MIAE is to promote research and teaching in the area of aerospace engineering. The proposed Institute will increase McGill's visibility in the field, provide a first point of contact between the aerospace sector and researchers at McGill, and act as a focal point for the development of McGill's activity in aerospace engineering and as a vehicle for coordinating and facilitating projects and internships. Institutes that were created at Concordia University, Ecole de Technologie Supérieure (ETS), Ryerson University and Ecole Polytechnique de Montréal, under the umbrella of the Montreal Aerospace Institute (MAI), have been very successful with respect to facilitating access to industry for work term experience for students and matching research interests with industry interests. A McGill Institute for Aerospace Engineering will increase students' opportunities for projects and employment prospects and will enable industry to have access to high-quality students. It will allow the creation of a computer laboratory for aerospace projects that would be available to other students outside the summer session. The proposed Institute is also expected to encourage more research and facilitate the expansion of graduate studies,

APC therefore recommends that Senate approve the following resolution:

Be it resolved that Senate approve the proposal for the creation of a McGill Institute for Aerospace Engineering / Institut de génie aérospatial de McGill and so recommend to the Board of Governors.

b) Institute for Sustainability in Engineering and Design (ISEAD) / *Institut de Durabilité en Ingénierie et Conception (IDIC)* - APPENDIX E

At a meeting on 8th April 2010, APC reviewed a proposal for the creation of an Institute for Sustainability in Engineering and Design (ISEAD). The proposed Institute will seek to embed and promote a culture of sustainability in all programs within the Faculty of Engineering and work with all accredited engineering programs at McGill. The Institute's Board will include one member from the School of Environment and one member from the Department of Bioresource Engineering. The Institute is expected to become a central focus for teaching and research in sustainability in engineering and design at McGill. It will help to forge and strengthen links with experts within and outside McGill. It will be engaged in curriculum development, the organization of educational activities such as conferences, seminars, workshops, and interaction with industrial partners. It aims to become a leading centre for teaching, training and research in the principles and practices of sustainability in engineering, design and technology development.

APC therefore recommends that Senate approve the following resolution:

Be it resolved that Senate approve the proposal for the creation of an Institute for Sustainability in Engineering and Design (ISEAD) / Institut de Durabilité en Ingénierie et Conception (IDIC) and so recommend to the Board of Governors.

2) Faculty of Arts

Name change for the Department of History to "Department of History and Classical Studies" – APPENDIX F

At a meeting on 8th April 2010, APC reviewed a proposal to change the name of the Department of History to "Department of History and Classical Studies". Following the dissolution of the Department of Classics in 1994, Classical Studies has been engaged in a process of systematic rebuilding within the Department of History. The proposed change of name acknowledges the high level of integration of Classicists within the Department and a common desire to increase the recognition, presence, and visibility of Classical Studies in the Department and at McGill University,

APC therefore recommends that Senate approve the following resolution:

Be it resolved that Senate approve the proposal to change the name of the Department of History to "Department of History and Classical Studies" and so recommend to the Board of Governors.

(D) CHANGES IN DEGREE DESIGNATION

Faculty of Medicine

At a meeting on 4th February 2010, the Subcommittee on Courses and Teaching Programs (SCTP) of the Academic Policy Committee approved a proposal to change the degree designations of the undergraduate programs offered by the School of Physical and Occupational Therapy from "B.Sc. (Occupational Therapy)" and "B.Sc. (Physical Therapy)" to "B.Sc. (Rehabilitation Science)

A Notice of Motion to amend the University Statutes is submitted to Senate separately.

(E) INTER-UNIVERSITY PARTNERSHIPS

None.

II. PRESENTED TO SENATE FOR DISCUSSION

None.

III. APPROVED IN THE NAME OF SENATE

(A) DEFINITIONS

None.

(B) STUDENT EXCHANGE AGREEMENTS / CONTRACTS (approved by APC)

1) Student exchange agreement with St. Petersburg State University, Graduate School of Management, St. Petersburg, Russia, and the McGill University Desautels Faculty of Management

At a meeting on 8th April 2010, APC reviewed and approved a proposal for a Student Exchange Agreement with St. Petersburg State University, Graduate School of Management, in St. Petersburg, Russia, and the McGill University Desautels Faculty of Management. The Faculty is satisfied that the Exchange Agreement will be well-received and actively pursued by McGill students. The Agreement will complement the exchange of MBA students through the Partnership in International Management (PIM) network, of which both McGill and St. Petersburg State University are members. St Petersburg State University (known as the Leningrad State University during the Soviet era) is a Russian federal state-owned higher education institution based in St. Petersburg and one of the oldest, largest and most prestigious universities in Russia. It is considered the second best university in Russia after Moscow State University. The Graduate School of Management is a semi-autonomous unit of the University. It became a part of the "National Priority Projects (NPP) in Education" in 2005, with a mission to develop into a world-class business school in Russia by 2015, and to support a national goal of sustainable economic growth and rapid integration in the global economy.

2) Visiting Student Agreement with the University of the Sacred Heart, Tokyo, Japan

At a meeting on 8th April 2010, APC reviewed and approved a proposal for a Visiting Student Agreement with the University of the Sacred Heart, Tokyo, Japan. Given that McGill's male population would have been excluded from a student exchange agreement with the University of the Sacred Heart and that the University is not a peer, research-intensive university, a visiting agreement provides a more suitable arrangement. The University of the Sacred Heart has been sending students to the Summer English Program offered through the Centre for Continuing Education since 2006. It is expected that this Agreement will further solidify the University's future participation in that program,. Mutually advantageous, the agreement will see the visiting students paying tuition and other related fees to McGill University, yet students will be treated in the same manner as exchange students. The University of the Sacred Heart is a small but well-known private university, established in 1916. It became a university in 1948 and is one of the oldest women's universities in Japan. Amongst its graduates are the Empress Michiko and Sadako Ogato who has played a prominent role as UN High Commissionner for Refugees.

(C) OTHER ISSUES

None.

IV. FOR THE INFORMATION OF SENATE

(A) APPROVAL OF COURSES AND TEACHING PROGRAMS

1. Programs

a) **APC approvals** (new options/concentrations added to existing programs and major revisions to programs)

i. New concentrations/options within existing programs

Faculty of Science

B.Sc. Minor in Natural History

At a meeting on 8th April 2010, APC reviewed and approved a proposal for a "B.Sc.; Minor in Natural History". This proposal reflects a renewed interest in natural history as it bridges the gap between our understanding of the Earth and the conservation of the natural environment. Natural history provides a framework for educating students about the history of the Earth and the diversity of life. The program will be based in and administered by McGill's Redpath Museum, which conducts natural history research and teaching, based on extensive collections. The aim of the Minor in Natural History is to help students gain a broader knowledge of the natural world, so that they will acquire the tools and vocabulary that will help them make connections and comparisons. The B.Sc. Minor in Natural History proposes the exploration of the natural world via specimen-based studies, object-orientated investigations and field studies. Scientific cohesion for the minor is provided by the Redpath Museum"s REDM 400 course that teaches students about the scientific contributions of natural history museums and the nature of the specimen-based science carried out in such museums. Complementary course lists are drawn from a variety of disciplines to emphasize breadth and integration with the inclusion of specimen- or object-based courses and field courses in Zoology (List A), Botany (List B) and Earth and Environmental Sciences (List C). To ensure breadth, students are required to choose courses (3 credits and no more than 9 credits) from among those three lists, and at least 3 credits from a fourth list, List D Field Courses. No more than 3 credits from any one list may be at the 200 level, and students may take up to a maximum of 9 credits outside the Faculties of Arts and Sciences. It is expected that the Minor in Natural History will appeal principally to students in the Department of Biology, Natural Resource Sciences, Atmosphere and Oceanic Sciences, Earth and Planetary Sciences, Geography and Plant Science, or to students in other majors who want to extend the breadth of their understanding of the natural world.

ii. Major revisions of existing programs

None.

b) APC Subcommittee on Courses and Teaching Programs (SCTP) approvals

Summary reports from the APC Subcommittee on Courses and Teaching Programs (SCTP) to APC are posted on the non-restricted section of the APC website http://www.mcgill.ca/apc/sctpreports/ .

SCTP approved the following on 14th January, 4th and 18th February, and 4th March 2010

i. Moderate and Minor Program Revisions:

Faculty of Agricultural and Environmental Sciences
SCTP meeting on 4th February 2010:
- B.Sc. (Ag.Env.Sc.); Specialization in Professional Agrology (21-24 cr.)
- B.Sc. (Ag.Env.Sc.): Major in Agricultural Economics (90 cr.)

Faculty of Arts
SCTP meeting on 14th January 2010:
- B.A.; Scriptures and Interpretations; Major (36 cr.)
- M.S.W.; Non-Thesis (45 cr.)
- M.A.; Linguistics; Non-Thesis (45 cr.)
- B.A.; Latin American and Caribbean Studies; Major Concentration (36 cr.)
- B.A.; Latin American and Caribbean Studies; Honours (60 cr.)
- B.A.; Langue et litt. françaises; Traduction; Minor Concentration (18 cr.)
- B.A.; Langue et litt. françaises ; Etudes et pratiques littéraires; Minor Concentration (18 cr.)
- B.A.; Langue et litt. françaises; Langue françaises ; Minor Concentration (18 cr.)

Centre for Continuing Education
SCTP meeting on 4th March 2010:
- Certificate; Supply Chain Management & Logistics (30 cr.)
- Diploma; Human Resources Management (30 cr.)
- Diploma; Internet Business Technology Management (30 cr.)
- Diploma; Entrepreneurship (30 cr.)
- Diploma; Management; General (30 cr.)
- Diploma; Management; Health Care (30 cr.)
- Diploma; Management; International Business (30 cr.)
- Graduate Certificate; Accounting Practice (15 cr.)
- Graduate Certificate; Entrepreneurship (15 cr.)
- Graduate Certificate; Health Care (15 cr.)
- Graduate Certificate; Human Resources Management (15 cr.)
- Graduate Certificate; International Business (15 cr.)
- Graduate Certificate; Internet Business (15 cr.)

Faculty of Dentistry
SCTP meeting on 4th March 2010:
- M.Sc.; Dental Sciences; Non-Thesis (45 cr.)

Faculty of Education
SCTP meeting on 14th January 2010:
- B.Ed.; Secondary (120 cr.)
- B.Ed.; Kindergarten and Elementary (120 cr.)
- B.Ed.; Teaching English as a Second Language (121 cr.)
- Ph.D.; educational Studies
- Ph.D.; Educational Studies; Language Acquistion
- Ph.D.; Educational Studies; Gender and Women's Studies
- Certificate; Education for First Nations and Inuit (60 cr.)
- M.A.; Counselling Psychology; Non-Thesis – Professional/Internship (60 cr.)
- M.A.; Counselling Psychology; Non-Thesis – Project (45 cr.)
- M.Ed.; Educational Psychology; Non-Thesis (48 cr.)
- Ph.D.; Educational Psychology
- Ph.D.; Counselling Psychology

SCTP meeting on 18th February 2010:
- M.A.; Educational Psychology; Thesis (48 or 78 cr.)

Faculty of Engineering
SCTP meeting on 14th January 2010:
- B.Eng.; Electrical Engineering; Major (109-110 cr.)
- B.Eng.; Electrical Engineering; Honours (109-110 cr.)
- Environmental Engineering; Minor (21-22 cr.)
- B.Eng; Mechanical Engineering; Aeronautical Engineering; Concentration in Major and Honours (15 cr.)

SCTP meeting on 4th March 2010:
- M.Arch.; Architectural History & Theory; Non-Thesis (45 cr.)
- M. Arch.; Cultural Mediations and Technology; Non-Thesis (45 cr.)
- M.Arch.; Urban Design and Housing; Non-Thesis (45 cr.)

Faculty of Medicine
SCTP meeting on 4th February 2010:
- M.Sc.; Biology; Thesis (47 cr.)
- M.Sc.; Biochemistry; Thesis (90 cr.)
- Ph.D.; Biochemistry; Chemical Biology
- B.Sc. (Rehabilitation Science); Occupational Therapy (90 cr.)
- B.Sc. (Rehabilitation Science); Physical Therapy (90 cr.)

Schulich School of Music
SCTP meeting on 18th February 2010:
- Master of Music; Performance; Jazz Performance; Non-Thesis (45 cr.)

Faculty of Religious Studies
SCTP meeting on 18th February 2010
- Bachelor of Theology (90 cr.)
- Ph.D.; Religious Studies

Faculty of Science
SCTP meeting on 14th January 2010:
- B.Sc.; Biochemistry; Major (67 cr.)
- B.Sc.; Biochemistry; Honours (76 cr.)

SCTP meeting on 18th February 2010:
- B.A.& Sc.: Cognitive Science; Interfaculty (54 cr.)
- B.A.& Sc.; Cognitive Science; Honours (60 cr.)
- B.Sc.; Pharmacology; Minor (24 cr.)
- B.Sc.: Pharmacology; Major (65 cr.)
- B.Sc.; Pharmacology; Honours (74 cr.)
- B.Sc.; Software Engineering; Major (60-63 cr.)
- B.Sc.; Software Engineering; Liberal Core Science Component (48-49 cr.)

ii. Program Retirements:

Faculty of Arts
SCTP meeting on 14th January 2010:
- M.A.; Political Science; Neotropical Environment; Thesis (45 cr.)
- M.A.; Political Science; Neotropical Environment; Non-Thesis (45 cr.)

Schulich School of Music
SCTP meeting on 4th March 2010:
- B.Mus.; Designated Major (125 cr.)
- B.Mus.; Performance; Church Music; Major (137 cr.)
- B.Mus.; Performance; Keyboard Studies; Major (134-136 cr.)
- B.Mus.; Composition; Honours (136 cr.)
- B.Mus.; Music History;Honours (129 cr.)
- B.Mus. Theory; Honours (131 cr.)
- B.Mus.; Early Music Performance; Honours (135 cr.)
- B.Mus.; Performance; Honours (137 cr.)

2. Courses

a) New Courses: 79

Faculty of Arts: 13
Centre for Continuing Education: 48
Faculty of Dentistry: 6
Faculty of Education: 1
Faculty of Engineering: 1
Faculty of Medicine: 4
Schulich School of Music: 1
Faculty of Science: 5

b) Course Revisions: 120

Faculty of Agricultural and Environmental Sciences; 4
Faculty of Arts: 34
Centre for Continuing Education: 2
Faculty of Dentistry: 1
Faculty of Education: 9
Faculty of Engineering: 47
Faculty of Medicine: 11
Schulich School of Music: 3
Faculty of Religious Studies: 3
Faculty of Science: 6

c) Course Retirements: 18

Faculty of Arts: 9
Faculty of Education: 1
Faculty of Engineering: 3
Faculty of Science: 5

(B) Other

None.

Compiled by Helen M.C. Richard, 2010-04-22

McGill

APC APPENDIX A

APPENDIX A

New Program/Major or Minor/Concentration Proposal Form

(07/2004)

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

Certificate

1.1 Major (Legacy= Subject)(30-char. max.)

Finance

1.2 Concentration (Legacy = Concentration/Option) If applicable to Majors only (30 char. max.)

1.3 Minor (with Concentration, if Applicable) (30 char. max.)

2.0 Administering Faculty/Unit

Centre for Continuing Education

Offering Faculty/Department

CCE/Career and Management Studies

3.0 Effective Term of Implementation
(Ex. Sept. 2004 = 200409)
Term

201009

4.0 Rationale for new proposal

The business and financial community is constantly being challenged by a changing marketplace, government legislation and the demands of the global economy. To respond to these challenges in the community, businesses and financial institutions need competent and highly educated professionals. This multidisciplinary program will provide graduates with the academic knowledge, skills and training to work in the business and financial sector. This program will assist in developing a student's ability to not only understand key finance, risk management and insurance issues but also to analyze and interpret what is occurring in the financial sector.

5.0 Program Information
Please check appropriate box(es)

5.1 Program Type

- Bachelor's Program
- Master's
- M.Sc. (Applied) Program
- Dual Degree/Concurrent Program
- [X] Certificate
- Diploma
- Graduate Certificate
- Graduate Diploma
- Ph.D. Program
- Doctorate Program (Other than Ph.D.)
- Private Program
- Off-Campus Program
- Distance Education Program (By Correspondence)
- 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 Ed (Non-Credit)
- Collegial
- Masters & Grad Dips & Certs
- Doctorate
- Post-Graduate Medicine/Dentistry
- Graduate Qualifying
- Postdoctoral Fellows

6.0 Total Credits

30

7.0 Consultation with

Related Units	Yes [X]	No
Financial Consult	Yes	No

Attach list of consultations. Management

8.0 Program Description (Maximum 150 words)

The Certificate in Finance Program is designed to provide students with a solid knowledge base in finance and prepare them for a variety of careers in finance. Courses will emphasize practical applications of financial concepts in preparation for a wide range of entry level jobs in finance. Classic and modern concepts are presented and analyzed in the context of contemporary events, taking into consideration the latest developments in financial markets and institutions. Students choose one specialization from the seven streams offered. Streams are designed to give students the option to learn about traditional finance areas, such as corporate finance and mutual funds, specialized areas, such as insurance, risk management, personal finance or treasury finance; and newly emerging fields, such as sustainable investments and sustainable financial management. Depending on the stream chosen, graduates may embark on careers such as financial advisors, personal banking officers, insurance agents, budget assistants, claim adjustors, lending officers, and many others.

9.0 List of proposed program for the New Program/Major or Minor/Concentration.

If new concentration (option) of existing Major/Minor (program), please attach a program layout (list of all courses) of existing Major/Minor.

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

Required courses (15 credits)

CEC2 532	Business Economics	3 credits
CFIN 300	Fundamentals of Financial Markets and Institutions	3 credits
CMSC 221	Applied Quantitative Methods	3 credits
MGCR 211	Introduction to Financial Accounting	3 credits
MGCR 341	Finance 1	3 credits

Complementary courses (15 credits from one of the following Streams)

Corporate Finance Stream

ACCT 354	Financial Statement Analysis	3 credits
CFIN 310	Short-Term Financial Management	3 credits
CFIN 401	Sustainable Finance and the Firm	3 credits
CFIN 402	Business Valuation and Project Finance	3 credits
CFIN 403	Mergers and Acquisitions	3 credits

Investments, Portfolio Management and Mutual Funds Finance Stream

CFIN 305	Investor Behaviour	3 credits
CFIN 410	Investments and Portfolio Management	3 credits
CFIN 420	Mutual Funds	3 credits
FINE 448	Financial Derivatives	3 credits
FINE 451	Fixed-Income Analysis	3 credits

Personal Finance Stream

CFIN 200	Retirement Planning	3 credits
CFIN 350	Alternative Investments	3 credits
CFIN 400	Real Estate Finance	3 credits
CFIN 410	Investments and Portfolio Management	3 credits
CFIN 420	Mutual Funds	3 credits

Risk and Capital Stream

CFIN 421	Assets Liability Management	3 credits
CPDV 400	Risk and Capital for Banks 1	3 credits
CPDV 402	Risk and Capital for Banks 2	3 credits
FINE 451	Fixed Income Analysis	3 credits
FINE 448	Financial Derivatives	3 credits

Attach extra page(s) as needed

PROJ.10.19

9.0 List of proposed program for the New Program/Major or Minor/Concentration.

If new concentration (option) of existing Major/Minor (program), please attach a program layout (list of all courses) of existing Major/Minor.

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

Short-Term Risk Management Stream

ACCT 354	Financial Statement Analysis	3 credits
CFIN 310	Short-Term Financial Management	3 credits
CFIN 421	Asset Liability Management	3 credits
FINE 448	Financial Derivative	3 credits
FINE 451	Fixed Income Analysis	3 credits

Sustainable Finance Stream

ACCT 354	Financial Statement Analysis	3 credits
CFIN 350	Alternative Investments	3 credits
CFIN 401	Sustainable Finance and the Firm	3 credits
CFIN 402	Business Valuation and Project Finance	3 credits
CFIN 410	Investments and Portfolio Management	3 credits

Insurance and Risk Management Stream

CPDV 301	Risk Management	3 credits
CPDV 302	Risk Control	3 credits
CPDV 303	Risk Financing	3 credits
CPDV 305	General Insurance1	3 credits
CPDV 306	General Insurance 2	3 credits

Attach extra page(s) as needed

PROJ. 10.19

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Janice McGraw		22/02/10
Curric/Acad Committee	Alfred Jaeger		22/02/10
Faculty 1	Judith Potter		22/02/10
Faculty 2	Sergei Sarkissian		2010-02-22
Faculty 3	SCTP APPROVED		
SCTP			MARCH 4/10
GS			
APPC	Helen M.C. RICHARD	Helen M.C. Richard	18th March 2010
Senate			

Submitted by

Name	Carmen Sicilia
Phone	514-398-5894
Email	carmen.sicilia@mcgill.ca
Submission Date	

To be completed by ARR:

CIP Code

APPENDIX B

McGill

New Program/Major or Minor/Concentration Proposal Form

APC APPENDIX B

(07/2004)

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

Diploma

1.1 Major (Legacy= Subject)(30-char. max.)

Finance

1.2 Concentration (Legacy = Concentration/Option)
If applicable to Majors only (30 char. max.)

1.3 Minor (with Concentration, if Applicable) (30 char. max.)

2.0 Administering Faculty/Unit

Centre for Continuing Education

Offering Faculty/Department

CCE/Career and Management Studies

3.0 Effective Term of Implementation
(Ex. Sept. 2004 = 200409)
Term

201009

4.0 Rationale for new proposal

The Diploma in Finance addresses the current and future needs of the changing marketplace, government legislation and the demands of the global economy. This multidisciplinary program is designed to provide effectively and critically the academic knowledge, tools and skills to assist graduates in the financial sector.

5.0 Program Information
Please check appropriate box(es)

5.1 Program Type
- Bachelor's Program
- Master's
- M.Sc. (Applied) Program
- Dual Degree/Concurrent Program
- Certificate
- X Diploma
- Graduate Certificate
- Graduate Diploma
- Ph.D. Program
- Doctorate Program (Other than Ph.D.)
- Private Program
- Off-Campus Program
- Distance Education Program (By Correspondence)
- 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
- Undergraduate
- Dentistry/Law/Medicine
- Continuing Ed (Non-Credit)
- Collegial
- Masters & Grad Dips & Certs
- Doctorate
- Post-Graduate Medicine/Dentistry
- Graduate Qualifying
- Postdoctoral Fellows

6.0 Total Credits

30

7.0 Consultation with
Related Units Yes ☒ No
Financial Consult Yes No
Attach list of consultations. Management

PROJ. 10.35

8.0 Program Description (Maximum 150 words)

The Diploma is designed to provide students with the necessary tools to embark on careers in Finance. Students choose one specialization from the five streams offered that will provide them with advanced knowledge of finance, with an emphasis on practical applications of financial concepts. The streams allow students the option to learn about traditional finance areas, such as corporate finance, investment banking and portfolio management; specialized areas, such as risk management, financial planning or treasury finance; and emerging fields, such as sustainable investments and sustainable financial management. Graduates may embark on careers as bank analysts, corporate finance analysts, budget analysts, loan officers, research associates, sales and trading associates.

9.0 List of proposed program for the New Program/Major or Minor/Concentration.

If new concentration (option) of existing Major/Minor (program), please attach a program layout (list of all courses) of existing Major/Minor.

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

Note: There is one external prerequisite course to the program, CMSC 101 College Algebra and Functions, which must be taken prior to taking certain required courses in this program. Students who wish to apply for advanced standing for prerequisite courses must complete an Advanced Standing form at the time of admission or they may take an Exemption by Examination test.

Required courses (15 credits)

CACC 521	Accounting for Finance	3 credits
CEC2 532	Business Economics	3 credits
CFIN 500	Financial Markets and Institutions	3 credits
CFIN 512	Corporate Finance	3 credits
CMS2 521	Applied Management Statistics	3 credits

Complementary courses (15 credits from one of the following Streams)

Investment Banking Stream

CFIN 507	Analysis of Financial Statements	3 credits
CFIN 525	Treasury Management	3 credits
CFIN 552	Firm Valuation	3 credits
CFIN 553	Corporate Mergers and Acquisitions	3 credits
CFIN 562	Finance and Sustainable Enterprise	3 credits

Treasury-Finance and Risk Management Stream

CFIN 528	Strategic Asset and Liability Management	3 credits
CFIN 507	Analysis of Financial Statements	3 credits
CFIN 525	Treasury Management	3 credits
CFIN 550	Analysis of Fixed-Income Securities	3 credits
CFIN 595	Derivatives and Risk Management Tools	3 credits

Portfolio Management Stream

CFIN 515	Behavioural Finance	3 credits
CFIN 530	Investment Analysis	3 credits
CFIN 550	Analysis of Fixed-Income Securities	3 credits
CFIN 560	Mutual Funds Finance	3 credits
CFIN 595	Derivatives and Risk Management Tools	3 credits

Attach extra page(s) as needed

9.0 List of proposed program for the New Program/Major or Minor/Concentration.

If new concentration (option) of existing Major/Minor (program), please attach a program layout (list of all courses) of existing Major/Minor.

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

Financial Planning Services Stream

CCLW 511	Law 1	3 credits
CCTX 511	Taxation 1	3 credits
CFIN 501	Retirement, Estate and Tax Planning	3 credits
CFIN 530	Investment Analysis	3 credits
CMR2 590	Topics in Marketing	3 credits
CPD2 505	Risk Management and Insurance	3 credits

Sustainable Investment and Financial Management Stream

CFIN 507	Analysis of Financial Statements	3 credits
CFIN 530	Investment Analysis	3 credits
CFIN 552	Firm Valuation	3 credits
CFIN 561	Sustainable Investments	3 credits
CFIN 562	Finance and Sustainable Enterprise	3 credits

Attach extra page(s) as needed

PROJ. 10.35

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Janice McGraw		22/02/10
Curric/Acad Committee	Alfred Jaeger		22/02/10
Faculty 1	Judith Potter		22/02/10
Faculty 2	Secei [illegible]		2010-02-22
Faculty 3			
SCTP	SCTP APPROVED		MARCH 4/10
GS			
APPC	Helen MC RICHARD	Helen Mc Richard	18th March 2010
Senate			

Submitted by

Name	Carmen Sicilia
Phone	514-398-5894
Email	carmen.sicilia@mcgill.ca
Submission Date	

To be completed by ARR:

CIP Code

McGill

New Program/Major or Minor/Concentration Proposal Form

APC APPENDIX C

(07/2004)

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

Diploma

1.1 Major (Legacy= Subject)(30-char. max.)

Supply Chain and Operations Management

1.2 Concentration (Legacy = Concentration/Option) If applicable to Majors only (30 char. max.)

1.3 Minor (with Concentration, if Applicable) (30 char. max.)

2.0 Administering Faculty/Unit

Centre for Continuing Education

Offering Faculty/Department

CCE/Career and Management Studies

3.0 Effective Term of Implementation
(Ex. Sept. 2004 = 200409)
Term

201009

4.0 Rationale for new proposal

There is a growing demand for highly specialized and qualified employees in the supply chain domain. The Diploma in Supply Chain and Operations Management program prepares students to handle the operational tasks associated with supplying and delivering goods and services to customers. Upon completing the program, the students will acquire an in-depth understanding of global operations and an ability to implement up to date technologies to help their companies adapt to ever demanding global, environmental and operational challenges, thus allowing them to aim at higher level management positions.

5.0 Program Information
Please check appropriate box(es)

5.1 Program Type

- Bachelor's Program
- Master's
- M.Sc. (Applied) Program
- Dual Degree/Concurrent Program
- Certificate
- [X] Diploma
- Graduate Certificate
- Graduate Diploma
- Ph.D. Program
- Doctorate Program (Other than Ph.D.)
- Private Program
- Off-Campus Program
- Distance Education Program (By Correspondence)
- 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

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

6.0 Total Credits

30

7.0 Consultation with

Related Units	Yes [X]	No
Financial Consult	Yes	No

Attach list of consultations. Management

PROJ. 10.50

8.0 Program Description (Maximum 150 words)

The core program offers high level tools of analysis for acquiring an in-depth understanding of supply chain operations. It offers students opportunities to specialize in areas such as quality management, lean manufacturing, service operations and project management. The program contents are included in the body of knowledge of a Green Belt and Project Management Institute.

9.0 List of proposed program for the New Program/Major or Minor/Concentration.

If new concentration (option) of existing Major/Minor (program), please attach a program layout (list of all courses) of existing Major/Minor.

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

Note: There is one external prerequisite course to the program, CMSC 101 College Algebra and Functions, which must be taken prior to taking certain required courses in this program. Students who wish to apply for advanced standing for prerequisite courses must complete an Advanced Standing form at the time of admission or they may take an Exemption by Examination test.

Required courses: **(30 credits)**

CGM2 510	Project Management: Tools and Techniques	3 credits
CMS2 505	Quantitative Analysis Tools in Decision Making	3 credits
CMS2 515	Operations Management	3 credits
CMS2 524	Management of Service Operations	3 credits
CMS2 525	Supply Chain Management	3 credits
CMS2 530	Simulation Analysis and Modeling	3 credits
CMS2 531	Re-engineering and Integration of Business Systems	3 credits
CMS2 532	Lean Operations Systems	3 credits
CMS2 540	Six-Sigma Quality Management	3 credits
CMS2 550	Supply Chain Field Project	3 credits

Attach extra page(s) as needed

PROJ. 10.50

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Saibal Rav		23/2/10
Curric/Acad Committee	Alfred Jaeger		22/2/10
Faculty 1	Judith Potter		22/02/10
Faculty 2	Saibal Ray		23/2/10
Faculty 3			
SCTP	SCTP APPROVED		MARCH 4/10
GS			
APPC	Helen M.C. RICHARD	Helen M C Richard	18th March 2010
Senate			

Submitted by

Name	Carmen Sicilia
Phone	514-398-5894
Email	carmen.sicilia@mcgill.ca
Submission Date	

To be completed by ARR:

CIP Code

McGill Faculty of Engineering

Proposal to create a McGill Institute for Aerospace Engineering

We propose a new McGill institute, entitled the 'McGill Institute for Aerospace Engineering' (MIAE). The institute will have the mandate to promote and lead research and teaching in the area of aerospace engineering. The institute will be centred in the Faculty of Engineering and will report to the Dean of Engineering.

Appendix A

Proposal to create a McGill Institute for Aerospace Engineering (MIAE)

Rationale

Montreal is the world's 4th largest centre of aerospace manufacturing and is one of the only areas in the world where an entire aircraft can be assembled from locally manufactured components. Aerospace is Quebec's leading export industry (over $10B in annual shipments), with major equipment manufacturers that include Bombardier, Pratt & Whitney, Rolls Royce, CAE, together with many smaller companies and also with the presence of the Canadian Space Agency (CSA). This sector currently employs over 22,000 technical personnel in the Montreal region.

The Faculty of Engineering at McGill University has identified aerospace as a strategic education and research focus. More than 30 professors within the Faculty have research programs that are related to aerospace, covering a wide range of topics that include aeronautics, composite materials, avionics and manufacturing. The undergraduate curriculum has many aerospace specific courses; and at the graduate level McGill offers a Masters in Aerospace Engineering in addition to the research carried out for M.Eng. and Ph.D. degrees. In order to unite and coordinate these efforts, and in order to ensure that McGill can fully play its part in the Montreal, Canadian and international aerospace sector, we propose the creation of a McGill Institute for Aerospace Engineering (MIAE).

The MIAE will seek to grow research and teaching in aerospace at McGill. It will strengthen existing ties with the aerospace sector and forge new links. By providing a first point of contact between the aerospace sector and researchers at McGill it will enable new collaborations and increase the visibility of McGill in this field. It will also act as an important vehicle to facilitate projects and internships in the aerospace sector for undergraduate and graduate students at McGill. The MIAE will also coordinate seminars and workshops, research funding proposals and curriculum development. Although the primary location of activity will be based in the Faculty of Engineering, researchers from other faculties at McGill who are conducting research that is relevant to aerospace engineering will also be invited to join.

Mandate

The mandate of the McGill Institute for Aerospace Engineering will be to promote and lead research and teaching in the area of aerospace engineering and to provide a common home for aerospace engineering researchers and students. It will:

- Plan and implement activities that will bring together the researchers in this field both inside and outside the Faculty of Engineering
- Raise the profile of McGill as a centre of excellence for research and teaching in aerospace engineering and ensure that industrial partners are aware of the range of expertise available
- Enrich the aerospace engineering experience for McGill undergraduates
- Enable students seeking a career in aerospace to obtain industrial experience and contacts in the industry via stages, industrially sponsored projects and training activities
- Bring the technological issues of the industry to the attention of McGill researchers
- Establish, develop and maintain contacts between the Faculty of Engineering and industry researchers, engineers and coordinating organizations

Activities that are initially planned in support of this mandate include the following:

Undergraduate research projects: Organization of summer stages in the aerospace industry will be one of the main activities for the Institute. The students will undertake paid research projects proposed by the industry, during the summer, each with a duration of between 500 and 700 hours. Within the Montreal aerospace sector participation in these projects is increasingly becoming a pre-requisite for future employment in the industry.

Creation of a computer laboratory for aerospace projects: A location in which undergraduate students can conduct their industrial projects is essential, and will be funded with the help of an MDEIE grant. Since the students will be engaged in projects during the summer, the space will be available for other undergraduates during the rest of the school year.

Coordination of industrial projects for aerospace Masters students: The MIAE will act as a clearing house for link interested graduate students with aerospace researchers and project managers.

Participation in seminars, training workshops on aerospace topics: The students will participate in training courses organized and offered by organizations such as the Montreal Aerospace Institute (MAI).

Coordination of research contracts and development of research opportunities: The MIAE will act as a single point of contact for relevant funding agencies and will coordinate large proposals.

Overarching Research Theme

The Institute will promote collaborative research on aerospace engineering themes. These themes, long recognized as the main areas of concern for the Aerospace Industry, include:

- Acoustics
- Avionics, Electronics, Control and Communications
- Materials and Structures
- Diagnostics, Prognostics and Health Monitoring
- Environmental: Fuels, Icing
- Lean: Supply Chain Optimization
- Manufacturing
- MDO: Multidisciplinary Optimization, Simulation
- Product Lifecycle Management

Governance

The MIAE Director will be appointed for a three-year, renewable term, and will report to the Dean of Engineering. An Advisory Committee will be formed to provide feedback and input to the Director, and to inform its operations. Members of the advisory committee will include representatives of Montreal aerospace industry who have an interest in highly qualified personnel (HQP), research and development and international researchers who are recognized for their pioneering role in the field. The bye-laws will be created by the Advisory Committee.

Membership

A list of Professors who have indicated that they wish to become members of the MIAE is given in Appendix A.

Staffing

The institute will initially be directed by Prof. Stephen Yue, the Lorne Trottier Chair in Aerospace Engineering. The **MIAE Director** will be responsible for planning and developing the educational and research activities of the institute. Implementation of these activities will be responsibility of an **Executive Manager**. This will be a senior person who has significant industrial experience and who is able to create links between academia, industry, government agencies and foundations; develop the business plan of the institute; manage the financial aspects of the program; and assist in fundraising and revenue generation for the institute. Finally, a **Coordinator** will be required for the clerical and administrative tasks of the institute.

Rationale for name

"Aerospace engineering", which is a well recognised and ubiquitous name, clearly defines the main focus of the activities of the Institute. There are many aerospace engineering programs offered in the major universities, including the Masters in Aerospace Engineering at McGill. The overarching research topics are rooted in engineering, and cover the interests of virtually all the Engineering departments. The mandate of the MIAE covers research and education and therefore falls into the McGill definition of "Institute". Finally, the intention is for the MIAE to become one of the Institutes of the Montreal Aerospace Institute in order to gain the immediate benefits that the other member institutes enjoy (see below), the main ones being industrial experience for undergraduate students and research opportunities with industry.

Survey of Similar Institutes

All the major universities in Canada, and particularly in the Montreal area, boast strong research and pedagogical activities in aerospace engineering. In order to focus these efforts and to identify and generate suitable HQP, the aerospace industry in Montreal formed the Montreal Aerospace Institute (MAI) several years ago. At present, there are four member institutes:

1. Concordia University - the Concordia Institute of Aerospace Design and Innovation (CIADI)
2. École de Technologie Supérieure (ÉTS) – the Institut de Conception et d'Innovation en Aérosptiale (ICIA)
3. Ryerson University – the Ryerson Institute for Aerospace Design and Innovation (RIADI)
4. École Polytechnique de Montréal – the Institut d'Innovation et de Conception en Aérospatiale de Polytechnique (IICAP)

The MAI seeks to ensure that its member institutes work together, that their objectives and approach are similar and that their activities are aligned with the needs of aerospace industry. Member institutes gain access to industry in terms of work term experience for undergraduates and graduates, and aerospace researchers are matched with industry interests. The existing institutes have been very successful and are greatly appreciated by the stakeholders (students, researchers, universities, industry, government). A very significant percentage of graduates that have participated in the institute activities and finished their degrees have been quickly hired by the industry. Also noteworthy is that the Institutes have been functioning with the support of the overheads paid by industry to the universities, and as such their cost to the parent institutions is minimal. The same funding model will be applied to the MIAE. Once the MIAE has been formally created it will automatically become part of the MAI.

Relationship with other organizations at McGill

It is expected that the MIAE will have interactions with the McGill Institute for Advanced Materials (MIAM), the Facility for Electron Microscopic Research (FEMR) and the Centre for Intelligent Machines (CIM). Advanced materials is a core interest for aerospace and many of the MIAM members are also engaged in aerospace research. MIAM has excellent characterization tools, which are of particular interest to the aerospace community. FEMR also has appropriate characterization tools for materials, and interactions will be inevitable. Aerospace includes "space" and the main involvement of the Canadian Space Agency with regard to global space activities resides in robotics. CIM already has strong interactions with the CSA, but MIAE can add an extra dimension, especially with regard to undergraduates entering the "space" industry. The McGill Faculties which could have direct interest in the MIAE are the Faculty of Science and the Desautels Faculty of Management.

Consultation reports are given in Appendix B.

Faculty Support

A motion to create the MIAE was presented to the Engineering Faculty Council on February 9th, 2010 and was passed unanimously.

Financial support

With regard to operating costs, the model, which is followed by all other MAI Institutes, is to use the overhead from industrial undergraduate projects given to the MIAE. The steady state projection with regard to the numbers of undergraduate projects running per year is between 40 and 50, each generating an overhead, which is sufficient for operations and outreach activities. Seed money for operating costs will be provided by the Lorne Trottier Chair holder and aerospace companies. In order to build the MIAE computer laboratory, an MDEIE grant will be applied for, with leverage from aerospace companies and McGill.

Appendix A

Anticipated Members

Marco Amabili

Jeffrey Bergthorson

Benoit Boulet

Mathieu Brochu

Luca Cortelezzi

Timothy Lee

Larry Lessard

Dan Mateescu

Luc Mongeau

Arun Misra

Siva Nadarajah

Meyer Nahon

David Plant

Inna Sharf

Vincent Thomson

Srikar Vengallatore

Proposal for the creation of a McGill Institute for Aerospace Engineering: Groups Canvassed

	Contact Person	Date Canvassed	Response
Montreal Aerospace Institute, MAI (represents the other Aerospace Institutes as well as most of the largest aerospace companies in Montreal)	Hany Moustapha, Chairman	August 2009	Described functions and operations of other Institutes. Confirmed that the MIAE would become part of the MAI when formally granted McGill Institute status.
Faculty Council (Faculty of Engineering)	Dean Christophe Pierre	December 2009 and February 2010	Motion proposed and accepted unanimously
Faculty of Science (McGill University)	Dean Martin Grant	February 2010	attached
Center for Intelligent Machines (CIM)	Prof. Benoit Boulet, Director	March 2010	attached
McGill Institute for Advanced Materials (MIAM)	Prof. Andrew Kirk, Director	March 2010	attached
The Facility for Electron Microscopy Research (FEMR)	Dr. Hojatallah Vali, Director	March 2010	attached
Institute for Air and Space Law	Dr. Paul Stephen Dempsey Director	February 2010	awaiting response
The Desautels Faculty of Management	Dean Peter Todd	March 2010	awaiting response

Proposal to create an Institute for Sustainability in Engineering and Design

Rationale

In the 21st century we face the challenge of sustainably meeting the coupled demands for quality of life and economic growth in the world. Engineers can and will play a key role in ensuring that the technologies that we adopt and the infrastructure that we use in the future will be sustainable in terms of energy, materials, water and production of waste. Such an approach is increasingly becoming mandated by law. In 2006 the Québec government passed "*La Loi sur le développement durable*", which incorporates sixteen principles of sustainable development. These include important concepts such as responsible production and consumption and internalization of the true costs of production and disposal within the pricing of all products (see Appendix A). Many jurisdictions around the world are introducing similar laws or will introduce them in the future, and engineers will be required to operate within their constraints and guidelines. Furthermore, the Ordre des Ingénieurs de Québec (OIQ) now explicitly requires that all those seeking to become professional engineers in Québec must demonstrate their familiarity with sustainable development (see Appendix B).

In order to promote this essential topic and to ensure that our students are properly prepared for the role that they will play once they graduate from McGill, we propose the establishment of an Institute for Sustainability in Engineering and Design (ISEAD). The Institute will be transformative in helping to harness and focus the many excellent but disparate teaching and research activities of the Faculty of Engineering in this field towards a common goal, a distinguished mission that will help ensure that the development of our advanced society is sustainable while improving the quality of life. It will seek to embed and promote a culture of sustainability within all of the programs of the Faculty of Engineering and will also engage with other accredited engineering programs at McGill. The Institute will become a central focus for teaching and research in engineering and design for sustainability in the Faculty of Engineering, and will grow over time to engage Faculties from across the University to bring together the breadth of expertise that is required to develop technical solutions to the problems of sustainability. It will also work to become internationally recognized and will play a leadership role in provincial and federal initiatives in this field. The Institute will lead in curriculum-development programs for undergraduate and graduate students, the organization of relevant educational activities such as conferences, seminars, workshops, summer research and industry programs for undergraduates, student scholarships and fellowships and interaction with industrial partners.

The field of engineering and design for sustainability is highly interdisciplinary, and we recognize that the challenge of creating a sustainable future is not simply an engineering problem but must be rooted in strong environmental, social and economic principles and scientific knowledge. The activities of the ISEAD will touch on all units of the Faculty and will help to forge and strengthen links with other experts, including both those outside the Faculty and outside McGill, who can contribute this broader expertise.

The activities of the ISEAD are designed to bring all those concerned by this topic together to realise the enormous benefits of collaboration and sharing of ideas, and will complement existing programs.

More than 35 faculty members in the Faculty of Engineering are engaged in teaching and research that relates to sustainability. These include programs in renewable energy resources, green information technology (IT), water resources and treatment, life cycle engineering, sustainable supply chain management, sustainable transport, waste minimization, management and recycling, remanufacturing, urban infrastructure planning, sustainable materials, sustainable housing, construction and infrastructure, carbon capture and storage and many others. They are distributed across the seven separate units of the Faculty, and there is a strong need to create an institute that provides a common home for their efforts, and provides this important field at McGill Engineering the required external visibility with external constituents such as foundations, industry, and granting agencies. There are many others elsewhere at McGill, such as the Bioresource Engineering program in the Faculty of Agricultural and Environmental Sciences (FAES), who have a strong connection with the development and application of sustainable technologies and design and who will be invited to become members of the Institute (a section on potential partner units is included later in this document). Their participation will help to ensure that the activities of the Institute are informed and relevant. It is also anticipated that undergraduate and graduate students will be strongly motivated by the focus of the Institute to become involved in its activities.

Vision

The Institute for Sustainability in Engineering and Design will be the driving force behind McGill University's Faculty of Engineering's quest to become the world leading centre for teaching, training and research in the principles and practices of sustainability in engineering, design and technology development.

Mission

The vision will be achieved by:

- Embedding a culture of sustainability in engineering and design within the teaching and research programs of the Faculty, and working closely with other relevant programs to ensure an exchange of best practices and ideas.
- Welcoming industrial and government partners as members to ensure that our teaching and research programs meet the needs and wants of these important stakeholders
- Incorporating, in collaboration with the teaching units , the concepts of sustainability into existing undergraduate and graduate courses and programs
- Creating new courses and programs focused on sustainability principles and practices
- Developing and managing multi-disciplinary research and teaching projects

- Raising the profile of McGill as a centre of excellence for teaching and research and in engineering and design for sustainability

Activities that are initially planned in support of this mission include the following:

1. Revision of the Engineering curriculum (in collaboration with the existing academic units) to explicitly incorporate sustainability, including planning and introduction of new B.Eng. programs, minor programs and Master's programs.
2. Undergraduate design and research projects and industrial internships
3. A distinguished visiting speakers series in engineering and design for sustainability
4. A summer school in Engineering and Design for Sustainability, targeted at students (undergraduate and graduate) and also industry and government employees who wish to learn more about the topic
5. Seed funding for faculty-led education and research projects, for which all members of the ISEAD will be eligible
6. Master's and doctoral fellowships for students supervised by members of the ISEAD
7. Pro-active business development to seek new funding opportunities

Transformation of student programs

This new Institute will transform the Faculty into a pre-eminent location for training the engineers, architects and urban planners who will meet the needs of future generations in the development of sustainable technology and design. The transformation will be achieved in the following ways.

1. **Curriculum revisions:** The Institute will seek to embed a thread of sustainability into the existing accredited undergraduate programs within the Faculty of Engineering and will explore doing so with other accredited engineering programs across the university. This will go beyond a simple increase in the degree of coverage provided to relevant technology topics but will also provide the students with increased exposure to experts from outside the Faculty. Students will be introduced to the multidisciplinary economic, environmental, management, policy development, social psychology factors that must be incorporated into sustainable approaches to engineering and design. The Institute will forge partnerships with non-engineering departments in which this expertise resides and will identify experts from industry and governmental organizations who are willing to contribute to the program. This process will be inspired by initiatives such as that of the Association for the Advancement of Sustainability in Higher Education (AASHE) which has developed a sustainability education framework. Some existing programs within the Faculty already make explicit provision for education for sustainability, and through the Institute we will seek to share best practices and approaches.
2. **Design projects:** The Institute will promote and support the incorporation of sustainability engineering and design education in senior year design project courses. A number of student design teams in the Faculty of Engineering already engage in projects such as the development of clean vehicles and the solar

decathlon. The Institute will provide enhanced support for such teams and other student initiatives in this area.

3. **New courses:** New dedicated sustainable engineering courses will be developed; these will include a focus on the use of tools designed to address complex systems at relatively large scales (such as Life Cycle Analysis), and may also include new courses in topics such as renewable energy and other related themes.
4. **New programs:** The need for new accredited B.Eng. programs, such as a B.Eng. in Sustainability Engineering, will be evaluated. This process will include detailed consultation with employers, accreditation agencies, the Quebec government, potential students and other stakeholders in order to ensure that any new program is relevant and accreditable. Other approaches such as the creation of new minor programs will also be evaluated.
5. **Internships and undergraduate research:** The Institute will implement an undergraduate student internship program, whereby students are matched with company-specific projects offered by the industrial partner members. Students will work at the company site under the supervision of a company representative. The Institute will also coordinate undergraduate student research projects that relate to sustainability, partnering with professors, industry and organizations such as the McGill Office of Sustainability. This is intended to help provide increased exposure of undergraduate students to research, as mandated by University documents including the 2006 white paper *"Strengths and Aspirations: A white paper call to action regarding McGill University's future"* .and the Principal's Task Force on Student Life and Learning. As with the existing Faculty of Engineering Summer Undergraduate Research in Engineering program (SURE), students from outside the Faculty of Engineering will be invited/eligible to participate.
6. **Graduate programs:** Graduate programs that relate to sustainability will be reviewed and expanded. The existing Master's in Manufacturing Management (MMM) program, which is jointly taught between the Desautels Faculty of Management and the Faculty of Engineering, contains several relevant courses and the Master's in Environmental Engineering offers a number of courses on sustainability of the environment, which are also very relevant. There is significant potential for new master's programs in this field. New master's programs which build on the strengths of the Faculty of Engineering and of other units across the university in the field of engineering and design for sustainability will be planned and implemented. The institute will also work with unit curriculum committees to embed a thread of sustainability into existing 500 and 600 level graduate courses. In addition, the institute will collaborate with partners across the university in order to compile a list of relevant graduate courses that will help ensure that engineering and non-engineering students are able to advance their knowledge of the technological, environmental, economic, policy and social issues that intersect this topic.

Research Themes

In addition to possessing a strong student teaching and training focus, the Institute will also have a research component. The core research themes will be driven by large universal problems such as energy, climate change, resource scarcity, water and infrastructure degradation. By way of example, research will include the development of innovative technologies, design and planning approaches that lead to reduced use of materials, reduced waste, reduced impact on the environment, reduced use of non-renewable energy sources and the advancement of renewable energy resources. Particular research themes may include:

Renewable and clean energy: Integration of renewable energy sources into the grid, solar photovoltaic devices, biofuels, clean combustion processes, technological solutions for the production of hydrogen from biological sources, fuel cells, interaction of electric vehicles with the grid.

Sustainable manufacturing: Life cycle engineering, sustainable supply chain management, waste minimization, remanufacturing, with a particular focus on the Montreal aerospace industry, but also with strong links to many other sectors.

Water: Sustainable approaches to water resource engineering, water purification, wastewater treatment, protection of water quality, detection of water contaminants, impact of pollutants on water quality

Green IT: Design of low power communication and computing networks, data centre design and management, smart and adaptive power monitoring systems.

Design and construction of the built environment: Sustainable use of land and energy; sustainable infrastructure design and maintenance practices; environmental impact of development; sustainable housing and community planning; design and construction of buildings and building components; building performance; material choice and system design; urban agriculture; industrial and post-consumer waste utilization.

Transportation: Planning for accessibility, non-motorized modes, and public transit; urban land use-transport interactions; transport demand management; transport, energy and environment; alternative transport fuel systems; transportation policy development.

Greenhouse gas (GHG) capture and storage: Capture of carbon dioxide and other GHGs from industrial sources, geologic storage of carbon dioxide, incorporation of carbon dioxide in commercial production, value added products from industrial carbon dioxide emissions.

Sustainable extraction of mineral resources: Extraction of renewable energy from mines, planning of efficient extraction, efficient mineral processing technologies.

Governance

The Institute will initially be directed by a tenure-track faculty member of the Faculty of Engineering, and who is regarded as a leader in the field of sustainable engineering. The **ISEAD Director** will be appointed for a three-year, renewable term, and will report

to the Dean of Engineering. A Board will be formed to provide guidance and input to the Director, and to provide oversight to its operations. The **Board** will be chaired by the Dean of Engineering (or his/her representative) and the tentative composition will be as follows: seven members of the Institute (including one member from the McGill School of Environment and one member from the Department of Bioresource Engineering), the Director, a graduate student, an undergraduate student, a representative of the Vice-Principal (Research and International Relations), two industrial or governmental representatives and an international researcher.

Staffing

The **ISEAD Director** will be responsible for planning and developing the educational and research activities of the Institute. Implementation of these activities will be responsibility of an **Executive Manager**. This will ideally be a senior person who has significant industrial experience and who is able to create links between academia, industry, government agencies and foundations; develop the business plan of the Institute; manage the financial aspects of the program; and last but not least, fundraise for the Institute. Finally, a **Coordinator** will be required for the clerical and administrative tasks of the Institute.

Memberships

All members of the university who are actively teaching or researching in the field of engineering and design for sustainability will be eligible for membership in ISEAD. Candidates for membership will be requested to submit their résumés and a short letter of intent to the Board, which will assess suitability for membership.

Rationale for name

"Sustainability in engineering and design" is adapted from "sustainable development". The concept of sustainable development was popularized by the Brundtland Commission of the United Nations (1987), which defined it as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". Engineering and design for sustainability represents the subset of this field that focuses on the creation and application of technology and design, and is becoming an academic field in its own right. In 2008 Taylor and Francis created the *International Journal of Sustainable Engineering*, which lists as its aims and scope a set of topics that closely overlap those of the proposed McGill Institute (see Appendix C). In proposing this name we recognize that there are many essential aspects of sustainable development (in particular the social, environmental, economic, educational and scientific aspects) that are also required in addition to technological solutions, but that the scope of the proposed Institute will be in technology, planning and design.

Survey of similar units elsewhere

In Canada, there are no centres or institutes that combine a specific focus on engineering and design with the broad topic of sustainability. The University of British Columbia has created the "Institute for Resources, Environment and Sustainability", with a strong focus on water resources and the environment, while the Universities of Alberta, Calgary and Lethbridge have combined to create "The Canada School of Energy and the Environment", with a major focus on renewable energy. Carleton has also established a "Sustainable Energy Research Centre", which combines expertise in engineering and public policy, again focused on renewable energy. However, several similar institutes or centres exist in the U.S.A. In particular Carnegie Mellon University, University of Texas at Austin and Arizona State University came together in 2005 to create a "Center for Sustainable Engineering", while California Polytechnic (San Luis Obispo) has created a "Center for Sustainability in Engineering", and there are many centres and institutes focused in particular on sustainable energy (including University of Illinois, Georgia Institute of Technology, Caltech, Stanford, Princeton, Florida, MIT). The University of Rochester has recently launched a graduate program in sustainable engineering.

Relationship with other organizations at McGill

Although the Institute will initially be based in the Faculty of Engineering, the topic of sustainability clearly requires input from many domains, and the ISEAD must necessarily have a multidisciplinary focus. As such, this represents an exciting opportunity to build interactions that extend across the University. Some of the obvious interactions are outlined below, but others will undoubtedly arise over time.

The ISEAD shares interests in common with the **McGill School of the Environment (MSE)**. As might be expected, there will be some overlap between the membership of the two bodies. Seven Associate Members and one Member of the MSE are also members of the Faculty of Engineering. These faculty members will play a critical role in building synergies between the ISEAD and MSE. However, the ISEAD is very clearly focused on technological solutions and design and planning approaches to increased sustainability. As a result the two organizations will be highly complementary and it is expected that they will work closely together to advance their shared concerns.

The ISEAD will also have a close relationship with the **Brace Centre for Water Resources Management**. The mandate of the Brace Centre is primarily that of research, while the ISEAD will be focused chiefly on teaching and student programs. It is anticipated that several members of the Brace Centre will become members of the ISEAD and that they will work closely together to further the essential topics of water resource engineering and water treatment. The current Director of the Brace Centre, Professor Van Nguyen, is a member of the Faculty of Engineering and, as Chair of the Civil Engineering Department, will be closely involved in the ISEAD.

The **Faculty of Agricultural and Environmental Sciences** on the **Macdonald Campus**, in addition to its close involvement with the MSE and the Brace Centre, has

significant expertise in this area. Of particular note are the Department of Bioresource Engineering and the associated B.Eng. in Bioresource Engineering program. The McGill Network for Innovation in Biofuels and Bioproducts (McNIBB), and other areas for interaction also exist. Courses taught by members of FAES and McNIBB that contain aspects of sustainable engineering will be built into the institute's programs, where appropriate.

The topic of **Green Chemistry** has emerged as a key strategic research interest of McGill University, championed in particular by the **Faculty of Science** and the Department of Chemistry, but also with participation of several members of the Faculty of Engineering. Green Chemistry, with its concern for sustainable and low impact chemical synthesis techniques, has links with sustainable engineering. We anticipate fruitful future interactions between these two domains around the topic of sustainable manufacturing management. A proposal for a new BA&Sc. in Sustainability, Science and Society is currently being prepared in collaboration between the MSE and the Faculty of Science, and it is anticipated that courses within this program will be relevant to Engineering students who are seeking to broaden their understanding of sustainability.

The **Faculty of Management** possesses significant expertise in sustainable manufacturing, and as previously mentioned, offers the Master's in Manufacturing Management in partnership with the Faculty of Engineering. We anticipate that the Institute will be able to encourage significant additional interaction in both teaching and research through the incorporation of topics such as sustainable business practices, life cycle management and sustainable supply chain design. Through collaboration with the Faculty of Management we will seek to ensure that Engineering students are made aware of the need to develop a business case for sustainable solutions in addition to a technological case. In turn, the Institute will provide a destination for Management students who seek to understand some of the technological issues that relate to sustainability.

The **Faculty of Law** is a key source of expertise in the area of policy development for sustainability, and in the understanding of the complex interactions between technology and policy in the evolution of sustainable solutions.

The McGill Office of Sustainability has been given the mission of creating a culture of sustainability at McGill. As such it is a repository of a significant insight on the sustainable management of large organizations, and has many important contacts with relevant groups both inside and outside the McGill. Of particular interest is the potential for using McGill itself as a location for pilot projects or case studies in sustainability engineering. The Office of Sustainability has already worked with undergraduate students on several projects that relate to topics such as increasing the use of biofuels at McGill, and we anticipate that there will be many rich opportunities for interaction with the Institute.

Financial support

Donor funding of $700,000 has already been committed to the ISEAD, which will be sufficient to provide for the staffing over a period of three years. In addition, the Provost has committed $250,000 over three years from the University Priorities Pool, which will support the operations of the ISEAD. During the first three years, the Director and staff will seek to obtain additional external funding to sustain long-term operations. Given the proposed teaching focus, it is anticipated that other donors will be found who support the goals of the Institute.

Appendix A

Taken from http://www.mddep.gouv.qc.ca/developpement/loi_en.htm/

The principles of sustainable development: a guide for action

The Sustainable Development Act defines 16 principles that must be incorporated into the interventions of all departments and agencies. In a sense, these principles are a guide for action within a perspective of sustainable development. They are an original reflection of the principles of the Rio Declaration on Environment and Development, a fundamental text that affirms international commitment to sustainable development.

The principles of Québec's Sustainable Development Act:

a. **"Health and quality of life":** People, human health and improved quality of life are at the centre of sustainable development concerns. People are entitled to a healthy and productive life in harmony with nature;
b. **"Social equity and solidarity"**: Development must be undertaken in a spirit of intra- and inter-generational equity and social ethics and solidarity;
c. **"Environmental protection"**: To achieve sustainable development, environmental protection must constitute an integral part of the development process;
d. **"Economic efficiency"**: The economy of Québec and its regions must be effective, geared toward innovation and economic prosperity that is conducive to social progress and respectful of the environment;
e. **"Participation and commitment":** The participation and commitment of citizens and citizens' groups are needed to define a concerted vision of development and to ensure its environmental, social and economic sustainability;
f. **"Access to knowledge":** Measures favourable to education, access to information and research must be encouraged in order to stimulate innovation, raise awareness and ensure effective participation of the public in the implementation of sustainable development;
g. **"Subsidiarity":** Powers and responsibilities must be delegated to the appropriate level of authority. Decision-making centres should be adequately distributed and as close as possible to the citizens and communities concerned;
h. **"Inter-governmental partnership and cooperation":** Governments must collaborate to ensure that development is sustainable from an environmental, social and economic standpoint. The external impact of actions in a given territory must be taken into consideration;
i. **"Prevention"**: In the presence of a known risk, preventive, mitigating and corrective actions must be taken, with priority given to actions at the source;
j. **"Precaution":** When there are threats of serious or irreversible damage, lack of full scientific certainty must not be used as a reason for postponing the adoption of effective measures to prevent environmental degradation;
k. **"Protection of cultural heritage":** The cultural heritage, made up of property, sites, landscapes, traditions and knowledge, reflects the identity of a society. It passes on the values of a society from generation to generation, and the preservation of this heritage fosters the sustainability of development. Cultural heritage components must be identified, protected and enhanced, taking their intrinsic rarity and fragility into account;
l. **"Biodiversity preservation":** Biological diversity offers incalculable advantages and must be preserved for the benefit of present and future generations. The protection

of species, ecosystems and the natural processes that maintain life is essential if quality of human life is to be maintained;

m. **"Respect for ecosystem support capacity":** Human activities must be respectful of the support capacity of ecosystems and ensure the perenniality of ecosystems;
n. **"Responsible production and consumption":** Production and consumption patterns must be changed in order to make production and consumption more viable and more socially and environmentally responsible, in particular through an ecoefficient approach that avoids waste and optimizes the use of resources;
o. **"Polluter pays"**: Those who generate pollution or whose actions otherwise degrade the environment must bear their share of the cost of measures to prevent, reduce, control and mitigate environmental damage;
p. **"Internalization of costs"**: The value of goods and services must reflect all the costs they generate for society during their whole life cycle, from their design to their final consumption and their disposal.

These principles and other comparable ones are integrated into the practices of a growing number of government agencies, non-profit or private organizations and those working in fields such as education (1), business (2), architecture and construction, research and development, management, etc. They draw inspiration from these principles to improve their methods with regard to access to knowledge, production and consumption, citizen participation and involvement, ecological responsibility, and the ideas to develop new areas of intervention.

Appendix B

Requirements to Become an Engineer in Quebec

Taken from:
http://www.oiq.qc.ca/students/studying/becoming/passing-examination.html

Passing the professional examination

Once you have been entered on the membership roll as a junior engineer, you may apply to take the professional examination. You must pass this examination before you can receive your engineer's permit. The examination is designed to determine if:

- You are well versed in Quebec's professional law.
- You are familiar with:
  - Principles of professional practices.
  - Concepts of ethics and of professionalism.
  - The roles and obligations of engineers within society.
  - The social impact of technology.
  - Sustainable development.
  - Protection of the environment.
  - The obligation to maintain your competency.
- You possess basic legal knowledge on topics of:
  - Civil liability.
  - Contract law.
  - Intellectual property.
  - General commercial law.
  - Labour law.
  - Construction law.
  - Environmental law.

Occupational health and safety law.

Appendix C

Information on the *International Journal of Sustainable Engineering*

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- Taken from http://www.tandf.co.uk/journals/titles/19397038.asp, 6/12/2009
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International Journal of Sustainable Engineering

Published By: Taylor & Francis
Volume Number: 3
Frequency: 4 issues per annum
Print ISSN: 1939-7038
Online ISSN: 1939-7046

Aims & Scope

Engineering and sustainable development are intrinsically linked. All capital plant and every consumable product depends on an engineering input through design, manufacture and operation, if not for the product itself then for the equipment required to process and transport the raw materials and the final product. Many aspects of sustainable development depend directly on appropriate and timely actions by engineers. Engineering is an extended process of analysis, synthesis, evaluation and execution and, therefore, it is argued that engineers must be involved from the outset of any proposal to develop sustainable solutions. Engineering embraces many disciplines and truly sustainable solutions are usually inter-disciplinary in nature. Sustainable solutions have not only an environmental dimension but also economic and social dimensions, thus extending the multi-disciplinary nature beyond engineering.

The ***International Journal of Sustainable Engineering*** is predicated on the need for engineers to have access to a source of information and an opportunity to share, through publication, new ideas and solutions for sustainable development.

Researchers from both academia and industry are invited to submit papers on their recent research into problems related to reducing the environmental impacts of engineered systems, processes and products. The ***International Journal of Sustainable Engineering*** also welcomes papers that include economic and social components that complement the engineering dimension, consider the management of sustainable engineering, or address the modelling of sustainable engineering solutions.

Topics may include, but are not limited to:

- Engineering design for sustainable development
- Sustainable technology innovation
- Life-cycle engineering
- Energy conservation and low-carbon manufacturing
- Sustainable power engineering and renewable energy technologies
- Waste minimisation, remanufacturing, reuse and recycling technologies

- Sustainable material development
- Sustainable packaging solutions
- Sustainable process engineering
- Environmental management and ISO standards
- Water engineering solutions for developing countries
- Sustainable construction for the built environment
- Product versus service paradigms
- Managing use and consumption
- Sustainable supply chain management
- Sustainable transport engineering
- Sustainable business models
- Engineering education for sustainable development

Short Communications

Research aimed at improving the sustainability of a product, process or system is dynamic and may produce valuable knowledge worthy of prompt publication. The Short Communications section of the Journal provides an opportunity for such prompt publication, covering all areas related to sustainable engineering. Submissions will be subjected to the normal rigorous review process but will benefit from a 'fast-track' procedure.

Short communications should be brief and must not exceed 2000 words and 4 illustrations. The Editor will return submissions that exceed these maxima with a request that they be shortened before resubmission.

Any topic relevant to the aims and objectives of the Journal can form the basis of a short communication but authors should be aware that only high quality, timely submissions will qualify for inclusion. As a guide, submissions that match at least one of the following criteria will be welcome:

- Innovative design solutions
- Innovative uses of materials
- Novel industrial applications
- Concepts and paradigms and their initial validation
- Formative conclusions from pure and applied research

Book Reviews

The Journal will publish reviews of books that are relevant to its Aims and Scope. Although the Editor will take the principal responsibility for identifying titles of interest and suitable reviewers, suggestions of titles and offers of reviews will be welcome.

Reviews will typically be of 500-600 words in length and will include a brief summary of contents, main strengths and shortcomings, and indication of the readership to which it will be best suited.

APPENDIX F

McGill

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March 18, 2010

Provost A.C. Masi
Chair, Academic Policy Committee
Room 504
James Administration Building

Dear Provost Masi,

I am writing to the Academic Policy Committee to request approval for the name change of the Department of History to the **Department of History and Classical Studies.** This was unanimously approved in the Department on January 25th, 2010.

After fully agreeing with the request, the following motion was then submitted to Faculty for approval:

> **Whereas,** the proposed name change better reflects and recognizes the current membership of the Department and will make it easier to integrate future members in Classical Studies into the departmental community.
>
> **Be it resolved,** that the name of the Department of History be changed to the **Department of History and Classical Studies.**

On March 16th, 2010 Faculty unanimously approved this motion.

Please let me know if the Academic Policy Committee requires any further information for this request.

Sincerely,

Christopher Manfredi
Dean and Professor
Faculty of Arts

McGill

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February 9, 2010

Christopher Manfredi
Professor and Dean of Arts
Dawson Hall

Dear Chris,

I am writing to request that the Department of History change its name to the **Department of History and Classical Studies**. Our Department unanimously approved this name-change at a meeting on January 25th, 2010.

When the Classics Department was dissolved in the 1990s, the Department of History offered a kind of parking lot to the classicists so they might regroup. Since 2004 the Classical Studies area in our Department has undergone a process of systematic rebuilding. We have hired three assistant professors and the MacNaughton professor, two faculty lecturers and the Papachristidis Chair in Modern Hellenic Studies. Classical Studies is now a thriving area in History and I am delighted to report that we have a happy marriage. A name change would better reflect and recognize our new arrangement. It would also make it easier to integrate future members in Classical Studies into the departmental community. Finally, a name change will give our classicists more recognition from potential donors and from their colleagues at other institutions.

I hope this request meets with you approval.

Regards,

John Zucchi
Professor and Chair
Department of History

Approved
Dean
10/2/10