CGPS APPENDIX A CGPS.12.12

McGill

New Program/Major or Minor/Concentration Proposal Form

(07/2004)

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

M.Sc.(Applied)

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

Bioresource Engineering

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

Non-Thesis - Integrated Food and Bioprocessing

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

2.0 Administering Faculty/Unit

Graduate and Postdoctoral Studies

Offering Faculty/Department

FAES/Bioresource Engineering

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

201309

4.0 Rationale for new proposal

Food and bioprocessing target the design of equipment and processes for the manufacturing and management of bio-products such as food, feed, biopharmaceuticals, biochemical, biopolymer and all other bio-based materials. On the other hand, the provision of adequate food for all at affordable prices is a fundamental basis for ensuring food security. The proposed program will bridge the two concepts to offer avenues for the development of the uses of biological resources while respecting food production and food security. Although there has been progress in increased agricultural and biomass productivity over the past decade, it has become clear that an integrated approach is required to deal appropriately with the multidimensional issues of bioproduct production and food security (for example the food versus fuel issue). All steps that are involved in biomass and food production, processing, sale and service have a role in ensuring that our agricultural production can satisfy our needs for foods and other bio-products.

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
- 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

45

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

8.0 Program Description (Maximum 150 words)

The M.Sc.(Applied) in Bioresource Engineering; Non-Thesis – Integrated Food and Bioprocessing will provide students with the tools to understand how agricultural and food production interact in order to better manage agricultural, food and biomass systems for the adequate supply of wholesome food, feed, fiber, biofuel and any other bio-based material. This course-based program will present students with the skills needed to assess existing production, delivery and quality management systems, introduce improvements and communicate effectively with policy makers and with colleagues in multi-disciplinary teams. The goals of the proposed program are to provide up-to-date world class knowledge on techniques for adequate process design and management of our biomass production strategies to deliver quality food, natural fiber, biochemicals, biomaterials and biofuels, in a sustainable and environmental friendly way for the benefits of all. Training activities will include laboratory research and/or industrial/government internships.

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)

M.Sc.(Applied) in Bioresource Engineering; Non-Thesis - Integrated Food and Bioprocessing (45 credits)

Required courses (6 credits)

BREE 651 (1) Departmental Seminar M.Sc. 1
BREE 652 (1) Departmental Seminar M.Sc. 2
BREE 600 (1) Project/Internship proposal
BREE 699 (3) Scientific Publication

Complementary courses (39 credits)

Minimum of 3 credits of graduate level statistics in any department

Minimum of 9 credits from courses selected from the following:

BREE 518 (3)	Bio-Treatment of Wastes
BREE 519 (3)	Advanced Food Engineering
BREE 520 (3)	Food, Fibre and Fuel Elements
BREE 530 (3)	Fermentation Engineering
BREE 531 (3)	Post-Harvest Drying
BREE 532 (3)	Post-Harvest Storage
BREE 535 (3)	Food Safety Engineering
BREE 603 (3)	Advances Properties: Food & Plant Materials

Minimum of 12 credits selected from the following:

BREE 671 (6)	Project 1
BREE 672 (6)	Project 2
BREE 601 (6)	Integrated Food and Bioprocessing Internship 1
BREE 602 (6)	Integrated Food and Bioprocessing Internship 2

Minimum of 3 credits selected from the following:

AGRI 510 (3)	Professional Practice
AGEC 630 (3)	Food and Agricultural Policy
AGEC 633 (3)	Environmental and Natural Resource Economics
AGEC 642 (3)	Economics of Agricultural Development

Minimum of 3 credits selected from the following

BTEC 502 (3)	Biotechnology Ethics and Society
FDSC 519 (3)	Advanced Food Processing
FDSC 535 (3)	Food Biotechnology
FDSC 538 (3)	Food Science in Perspective
NUTR 501 (3)	Nutrition in Developing Countries
GEOG 515 (3)	Contemporary Issues of Development

9 credits of any relevant graduate-level course chosen in consultation with the program director.

Attach extra page(s) as needed

EXISTING M.Sc.(A.) in Bioresource Engineering; Non-Thesis (45 credits)

Research Project (12 credits)

BREE 671 Project 1 (6)
BREE 672 Project 2 (6)

Required Courses (2 credits)

BREE 651 Departmental Seminar M.Sc. 1 (1)
BREE 652 Departmental Seminar M.Sc. 2 (1)

Complementary Courses (31 credits)

31 credits of 500-, 600-, or 700-level courses in bioresource engineering and other fields* to be determined in consultation with the Project Director.

*Note: 12 of the 31 credits are expected to be from collaborative departments, e.g., food process engineering: 12 credits divided between Food Science and Chemical Engineering.

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	SHIV PRASHER		AUGUST 12 2012
Curric/Acad Committee	W. Hendershot	W. Henderhot	Aug 27 2012
Faculty 1 FAES	J. Ten Eyck		Sept 14/12
Faculty 2	SCTP APPROVED		
Faculty 3			
SCTP			Oct. 18/12
GS			
APPC			
Senate			

Submitted by

Name	Valerie ORSAT
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Submission Date	August 7th 2012

To be completed by ARR:

CIP Code

Consultations received from the following:

- Department of Food Science & Agricultural Chemistry;
- Department of Natural Resource Sciences;
- Institute of Parasitology;
- School of Dietetics and Human Nutrition;
- Department of Geography; and
- Interim Dean – Faculty of Engineering.

Cindy Smith, Secretary to SCTP