McGill

New Program/Major or Minor/Concentration Proposal Form

CC-07-128   **07-SCTP-04-49 revised as per Apr.17/08 mtg.**   (Revised: May 02/2008)

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

B.A.

2.0 Administering Faculty/Unit

Arts

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

Software Engineering

Offering Faculty/Department

Science/School of Computer Science

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

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

200809

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

4.0 Rationale for new proposal

Compared to the Major Concentration in Computer Science, which gives a broad introduction to various fields of Computer Science, this new Major Concentration in Software Engineering focuses on the techniques and methodology required to design and develop complex software systems. This specialization is justified given the importance of software systems in current IT technology.

5.0 Program Information
Please check appropriate box(es)

5.1 Program Type
- [X] 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
- [X] 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

36-37

7.0 Consultation with
Related Units   Yes [X]   No [ ]
Financial Consult   Yes [ ]   No [ ]
Attach list of consultations.

8.0 Program Description (Maximum 150 words)

Basic computer programming and sound Software Engineering practices can be usefully applied in many areas. This program allows students to augment their other studies by learning good software development skills.

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)

MAJOR CONCENTRATION IN SOFTWARE ENGINEERING (36-37 credits)

Required Courses (30 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 302 (3) Programming Languages and Paradigms
COMP 303 (3) Software Development
COMP 304 (3) Object-oriented Design
COMP 421 (3) Database Systems
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1

*Students who have sufficient knowledge in a programming language do not need to take COMP 202 and can replace it with an additional computer science complementary course credits.

Complementary Courses (6-7 credits)
COMP 335 (3) Software Engineering Methods
 or ECSE 321 (3) Introduction to Software Engineering
COMP 361 (3) Systems Development Project
COMP 529 (3) Software Architecture
COMP 533 (3) Object-Oriented Software Development
COMP 322 (1) Introduction to C++
Or any Computer Science course at the 300 level or above, excluding COMP 364, COMP 396 and COMP 431.

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Sue Whitesides	_signature_	Jan 23 2008
Curric/Acad Committee	Susan Sharpe	_signature_	MAR 17 2008
Faculty 1	APPROVED BY		
Faculty 2	FACULTY OF ARTS	_signature_	MAR 18 2008
Faculty 3	SCTP		
SCTP			MAY 1/08
GS	APPROVED		
APPC	Helen M. C. RICHARD	Helen M c Richard	22nd May 2008
Senate			

Submitted by

Name	Marisa Lento (for Judy Keniasberg
Phone	Ext. 00895
Email	Marisa@cs.mcgill.ca
Submission Date	

To be completed by ARR:

CIP Code

McGill

New Program/Major or Minor/Concentration Proposal Form

(07/2004)

1.0 Degree Title	2.0 Administering Faculty/Unit
Please specify the two degrees for concurrent degree programs	

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

Bachelor of Arts

2.0 Administering Faculty/Unit

ARTS

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

Offering Faculty/Department

Science / Mathematics and Statistics

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

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

200809

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

Supplementary Minor Concentration in Mathematics

4.0 Rationale for new proposal

This program is designed as a supplement to the Major Concentration in Mathematics. In combination, the Major Concentration and the Supplementary Minor Concentration in Mathematics will provide students in the Faculty of Arts with the option of obtaining an education in Mathematics and Statistics that is equivalent to the Major in Mathematics offered by the Faculty of Science.

5.0 Program Information
Please check appropriate box(es)

5.1 Program Type	5.2 Category	5.3 Level
☒ Bachelor's Program	☐ Faculty Program (FP)	☒ Undergraduate
☐ Master's	☐ Major	☐ Dentistry/Law/Medicine
☐ M.Sc. (Applied) Program	☐ Joint Major	☐ Continuing Ed (Non-Credit)
☐ Dual Degree/Concurrent Program	☐ Major Concentration (CON)	☐ Collegial
☐ Certificate	☒ Minor	☐ Masters & Grad Dips & Certs
☐ Diploma	☒ Minor Concentration (CON)	☐ Doctorate
☐ Graduate Certificate	☐ Honours (HON)	☐ Post-Graduate Medicine/Dentistry
☐ Graduate Diploma	☐ Joint Honours Component (HC)	☐ Graduate Qualifying
☐ Ph.D. Program	☐ Internship/Co-op	☐ Postdoctoral Fellows
☐ Doctorate Program (Other than Ph.D.)	☐ Thesis (T)	
☐ Private Program	☐ Non-Thesis (N)	
☐ Off-Campus Program	☐ Other	
☐ Distance Education Program (By Correspondence)	Please specify	
☐ Other (Please specify)		

6.0 Total Credits

18 credits

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

8.0 Program Description (Maximum 150 words)

This Minor Concentration is open only to students registered in the Major Concentration in Mathematics. Taken together, these two concentrations constitute a program equivalent to the Major in Mathematics offered by the Faculty of Science.

No Course overlap between the Major concentration in Mathematics and the Supplementary Minor Concentration in Mathematics is permitted.

Note that according to the Faculty of Arts Degree requirements, Multi-Track System, Option C, students registered in the Supplementary Minor Concentration in Mathematics must also complete another Minor Concentration in a discipline other than Mathematics.

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 (3 credits)
MATH 315   (3) Ordinary Differential Equations

Complementary Courses (15 credits)
3 credits must be chosen from the following:
MATH 316   (3) Complex Variables
Or Math 249   (3) Honours Complex Variables

12 credits from the following list:
MATH 204	(3) Principles of Statistics 2
MATH 317	(3) Numerical Analysis
MATH 318	(3) Mathematical Logic
MATH 319	(3) Partial Differential Equations
MATH 320	(3) Differential Geometry
MATH 324	(3) Statistics
MATH 326	(3) Nonlinear Dynamics and Chaos
MATH 327	(3) Matrix Numerical Analysis
MATH 329	(3) Theory of Interest
MATH 335	(3) Computational Algebra
MATH 338	(3) History and Philosophy of Mathematics
MATH 339	(3) Foundations of Mathematics
MATH 340	(3) Discrete Structures 2
MATH 346	(3) Number Theory
MATH 348	(3) Topics in Geometry
MATH 352	(1) Problem Seminar
MATH 407	(3) Dynamic Programming
MATH 410	(3) Majors Project
MATH 417	(3) Mathematics Programming
MATH 423	(3) Regression and Analysis of Variance
MATH 430	(3) Mathematical Finance
MATH 447	(3) Stochastic Processes
MATH 523	(4) Generalized Linear Models
MATH 524	(4) Nonparametric Statistics
MATH 525	(4) Sampling Theory and Applications

Where appropriate, Honours courses may be substituted for their Majors equivalents.

If MATH 315, MATH 316 or MATH 249 have already been taken as part of the Major Concentration in Mathematics they must be replaced by a three credit course from the list of complementary courses above.

Attach extra page(s) as needed

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Axel Hundemer	_(signature)_	25.3.08
Curric/Acad Committee	Susan Sharpe	Susan Sh...	APR 1 4 2008
Faculty 1	Susan Sharpe	Susan Sh...	APR 2 2 2008
Faculty 2			
Faculty 3			
SCTP			MAY 1/08
GS			
APPC	Helen M.C. RICHARD	Helen M.c Richard	22nd May 2008
Senate			

SCTP APPROVED _(stamp)_

Submitted by

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

McGill

APC APPENDIX A

(07/2004)

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

> none (see rationale and program description)

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

> General Engineering

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

> Engineering

Offering Faculty/Department

> Engineering

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

> 200909

4.0 Rationale for new proposal

> The faculty of Engineering wishes to admit a percentage of its incoming non-CEGEP cohort into a general common first year program, instead of admitting these students directly to one of the Faculty's B.Eng. programs. The purpose of this is to be able to better inform students about the range of B.Eng. programs available, and to balance enrolments in over- and under-subscribed B.Eng. programs. Students enrolled in the General first year program will be admitted into one of the B.Eng. programs upon successful completion of the General first year curriculum. Note that the courses in the General first year are the same courses as will be taken by those students admitted directly into the B.Eng. programs. Thus the effect of the General program is purely on the relative enrolments in the various B.Eng. programs, and there is no effect on the courses taken in the B.Eng. programs.

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

> 30-31

7.0 Consultation with

Related Units	Yes ☐	No ☐
Financial Consult	Yes ☐	No ☐

Attach list of consultations.

8.0 Program Description (Maximum 150 words)

This program is intended for non-CEGEP entry students who have not been admitted directly into one of the B.Eng. programs, and are thus considered to have an undeclared major. Such students will be transferred to one of the the B.Eng. programs after completion of the General Engineering first year curriculum. The courses in this curriculum will be the same as those taken by students that are admitted directly into the B.Eng. programs. Prospective students can apply for admission to the General Engineering program just as they would for one of the regular B.Eng. progams.

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 (24 credits)
CHEM 110 General Chemistry 1 (4)
CHEM 120 General Chemistry 2 (4)
MATH 141 Calculus 2 (4)
MATH 133 Vectors, Matrices and Geometry (3)
PHYS 131 Mechanics and Waves (4)
PHYS 142 Electromagnetism and Optics (4)
FACC 100 Introduction to the Engineering Profession (1)

Complementary Courses (6-7 credits)
3-4 credits from the following:
MATH 140 Calculus 1 (3)
MATH 139 Calculus (4)

3 credits selected from an approved list: one course on the impact of technology on society or in the humanities and social sciences, administrative studies and law. See section 8.3.4 "Complementary Studies" for further information.

TOTAL CREDITS: 30-31

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department			
Curric/Acad Committee	J. Clark. Associate Dean		Mav 14. 2008
Faculty 1	J. Clark. Associate Dean		Mav.14. 2008
Faculty 2			
Faculty 3			
SCTP	Cindv Smith		Mav 15/08
GS			
APPC	Helen M.C RICHARD	Helen McRichard	28ᵗʰ Aug. 2008
Senate			

Submitted by

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

McGill

New Program/Major or Minor/Concentration
Proposal Form

(07/2004)

1.0 Degree Title Please specify the two degrees for concurrent degree programs	2.0 Administering Faculty/Unit
M.Sc.	Graduate and Postdoctoral Studies

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

Epidemiology and Biostatistics

Offering Faculty/Department

Medicine/Epidemiology, Biostatistics & Occupational Health

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

Non-Thesis - Epidemiology Stream - Environment

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

200809

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

4.0 Rationale for new proposal

See next page after program listing (Box 9.0)

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	7.0 Consultation with
48 credits	Related Units Yes ☒ No ☐ Financial Consult Yes ☐ No ☐ Attach list of consultations.

8.0 Program Description (Maximum 150 words)

A number of departments and Faculties throughout McGill University are joining with the McGill School of Environment (MSE) to provide a new Environment Option as part of a variety of existing graduate degrees. The new Option provides students with an appreciation of the role of science in informed decision-making in the environment sector, and the influence that political, socioeconomic and ethical judgments have. The Option also provides a forum whereby graduate students bring their disciplinary perspectives together and enrich each other's learning through structured courses, formal seminars and informal discussions and networking. Students that have been admitted through their home department or Faculty may apply for admission to the Option. Option requirements are consistent across academic units. The Option is coordinated by the MSE, in partnership with participating academic units.

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. in Epidemiology and Biostatistics; Non-Thesis – Epidemiology Stream (48 credits)	**M.Sc. in Epidemiology and Biostatistics; Non-Thesis – Epidemiology Stream - Environment (48 credits)**
Required Courses (21 credits) EPIB 601 Fundamentals of Epidemiology 1 (4) EPIB 602 Fundamentals of Epidemiology 2 (3) EPIB 603 Intermediate Epidemiology (3) EPIB 605 Practicum (1) EPIB 607 Inferential Statistics (4) EPIB 613 Introduction to Statistical Software (1) EPIB 621 Data Analysis in Health Sciences (4) EPIB 634 Data Analysis Computer Lab (1) Students exempted from any of the courses listed above must replace them with additional Complementary Course credits.	Required Courses (33 *credits*) *ENVR 610 Foundations of Environmental Policy (3)* *ENVR 650 Environmental Seminar 1 (1)* *ENVR 651 Environmental Seminar 2 (1)* *ENVR 652 Environmental Seminar 3 (1)* EPIB 601 Fundamentals of Epidemiology 1 (4) EPIB 602 Fundamentals of Epidemiology 2 (3) EPIB 603 Intermediate Epidemiology (3) EPIB 605 Practicum (1) EPIB 607 Inferential Statistics (4) EPIB 613 Introduction to Statistical Software (1) EPIB 621 Data Analysis in Health Sciences (4) EPIB 630 Research Project/Practicum in Epidemiology (6) EPIB 634 Data Analysis Computer Lab (1) Students exempted from any of the courses listed above must replace them with additional Complementary Course credits.
Complementary Courses (21 credits) 21 credits of course work, at the 500-level or higher, chosen in consultation with the student's academic advisor or supervisor	Complementary Courses (15 *credits*) *3 credits chosen from:* *ENVR 519 Global Environmental Politics (3)* *ENVR 544 Environmental Measurement and Modeling (3)* *ENVR 580 Topics in Environment 3 (3)* *ENVR 611 Economy of Nature (3)* *ENVR 620 Environment and Health of Species (3)* *ENVR 622 Sustainable Landscapes (3)* *ENVR 630 Civilization and Environment 1 (3)* *ENVR 680 Topics in Environment 4 (3)* *or other courses at the 500-level or higher recommended by advisory committee and approved by Environment Option Committee*
Project Component - Required (6 credits) EPIB 630 Research Project/Practicum in Epidemiology (6)	*12 credits* of course work, at the 500-level or higher, chosen in consultation with the student's academic advisor or supervisor

Rationale

McGill University recognized the importance of interdisciplinary work in environment by creation of the McGill School of Environment (MSE). The degradation of the biological and biophysical environment has roots in the structure of human societies and solutions to environmental problems will impact on human livelihoods. Therefore, resolving environmental issues requires dialogue between both pure and applied sciences and the social sciences and humanities.

A number of academic units at McGill promote graduate level research and training on environmental topics and have faculty members whose main research interest falls in this area. For example, a McGill Environmental Symposium (May 2005) involved presentations from 29 academic units distributed among 7 McGill Faculties. While much environmental research can be successfully undertaken within existing graduate degree programs, students and supervisors are often frustrated in their attempts to capture interdisciplinary components that would extend their research questions and approaches into the new horizons that are urgently required to tackle the world's environmental problems.

The graduate Environment Option provides a vehicle whereby discipline-based graduate programs can easily and effectively incorporate collaborations, and where students enrolled in the Option can form a broad-based community of young researchers. The structure is modeled after the highly successful Neotropical Environment Option (NEO) whereby graduate students in several departments in the Faculties of Arts, Science, and Agricultural and Environmental Sciences engage in courses and environmental research in Latin America.

Attach extra page(s) as needed

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Dr. Rebecca Fuhrer	*[signature]*	19/11/07
Curric/Acad Committee	Dr. Jean-François Boivin	*[signature]*	19 NOV 07
Faculty 1	Paul Holland	*[signature]*	18 DEC 07
Faculty 2	Dean R. Levin	*[signature]*	14 March 2008
Faculty 3			
SCTP			Apr. 17/08
GS	*[signature]*	MURIEL AUBERGER	May 12/08
APPC	Helen M.C. RICHARD	Helen M.C. Richard	22nd May 2008
Senate			

SCTP APPROVED *(stamp)*

Submitted by

Name	André Yves Gagnon
Phone	1812
Email	andre.yves.gagnon@mcgill.ca
Submission Date	19 November 2008

To be completed by ARR:

CIP Code

McGill
New Program/Major or Minor/Concentration Proposal Form

(07/2004)

1.0 Degree Title Please specify the two degrees for concurrent degree programs Ph.D.	**2.0 Administering Faculty/Unit** Graduate and Postdoctoral Studies
1.1 Major (Legacy= Subject)(30-char. max.) Biology	**Offering Faculty/Department** Science/Biology
1.2 Concentration (Legacy = Concentration/Option) If applicable to Majors only (30 char. max.) Developmental Biology	**3.0 Effective Term of Implementation** (Ex. Sept. 2004 = 200409) Term 200809
1.3 Minor (with Concentration, if Applicable) (30 char. max.)	

4.0 Rationale for new proposal

Developmental biologists use a modern and continuously evolving toolkit to examine numerous key problems that may relate to cell growth and differentiation, morphology, disease, tissue regeneration, and even the timely decline of organisms. The establishment of the DBRI, the Genomics and Proteomics, and the Bellini Life Science Centres, all in close proximity to other McGill Departments/Institutes with research interests in Developmental Biology, will facilitate the advent of novel multidisciplinary approaches to examine development and its relationship to disease

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 0	**7.0 Consultation with** Related Units Yes ☒ No ☐ Financial Consult Yes ☐ No ☐ Attach list of consultations.

8.0 Program Description (Maximum 150 words)

This new option will allow students to focus on cutting-edge developmental biological questions using the strengths of modern molecular, cell and systems biological analysis. Students will become familiar with genetic analysis, real-time image analysis and quantification, high throughput strategies and their application to biological processes and molecular and cellular characterization of simple and complex traits using multiple model systems. Communication and multidisciplinary approaches to addressing these issues would be encouraged through enhanced communication and collaboration between participants and their host laboratories. This will be reinforced through a novel rotation style experience for first year students that will take place in the first semester of the program. These rotations will include three 8 week stages that will take place in three different participating host laboratories, chosen by the student. The final host supervisor will be selected after the third rotation.

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)

CURRENT PROGRAM REQUIREMENTS
Ph.D. in Biology (0 cr.)
REQUIRED COURSES (6 credits)
BIOL 700 Doctoral Qualifying Examination (0 credits)
BIOL 702 Ph.D. Seminar (6 credits)

Thesis is required

COMPLEMENTARY COURSES (6 credits)
6 credits at the 500-level or higher in Biology or in other departments. Additional courses may be required if the stuent's background is insufficient.

Note: The BIOL 700 Qualifying Exam is equivalent to a Comprehensive Exam

PROPOSED NEW OPTION
Ph.D. in Biology; Developmental Biology (0 cr.)
Students will meet the degree requirements of the Department of Biology (including Qualifying exam and Thesis)

REQUIRED COURSES (12 credits)
BIOL 700 Doctoral Qualifying Examination (0 credits)
BIOL 702 Ph. D Seminar (6 credits)
BIOL 520 Gene Activity in Development (3 credits)
BIOL 532 Developmental Neurobiology Seminar (3 credits)
Thesis is required.
Note: The BIOL 700 Qualifying Exam is equivalent to a Comprehensive Exam.

COMPLEMENTARY COURSES (chosen through consultation with the supervisor) (3 credits)
3 credits at the 500-level or higher in Biology or in other departments, to be selected from the courses listed below. Additional courses may be required if the student's background is deemed insufficient.

EXMD 608 Molecular Embryology (3 credits)
EXMD 607 Molecular Control of Cell Growth (3 credits)
BIOL 544 Genetic Basis of Life Span (3 credits)
BIOL 569 Developmental Evolution (3 credits)
BIOL 592 Integrated Bioinformatics (3 credits)
HGEN 692 Human Genetics (3 credits)
NEUR 605 Neuroscience Seminar 4 (3 credits)

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	Robert Levine	R Levine	
Curric/Acad Committee		March 25/08	
Faculty 1	Josie D'Amico	April 8/08	
Faculty 2			
Faculty 3	SCTP		
SCTP	APPROVED		Apr. 17/08
GS	MURIEL AUBERGER	M Aubry	MAY 12/08
APPC	Helen McRICHARD	Helen McC Richard	22nd May 2008
Senate			

Submitted by

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