McGill

New Program/Major or Minor/Concentration Proposal Form

(07/2004)

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

B.Sc. Minor in Natural History

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

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

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

Natural History

2.0 Administering Faculty/Unit

Science/Redpath Museum

Offering Faculty/Department

Science / Redpath Museum

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

201009

4.0 Rationale for new proposal

Much of what we seek to understand about the natural world, in all its manifestations and complexities, is the result of a one-off history that must be studied using observation and comparison, as opposed to experiment. This is the essence of natural history, which comprises those sciences that are amenable to hypothesis testing via comparative methods. Thus a solid understanding of natural history informs and underlies scientific investigations in ecology, botany, geology, zoology, evolution, biogeography, earth history, etc. Good natural history makes for better science. **(Please see P1-3 for continuation)**

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
- [ ] Major Concentration (CON)
- [x] 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

24

7.0 Consultation with Related Units Yes ☐ No ☐

Financial Consult Yes ☐ No ☐

Attach list of consultations.

8.0 Program Description (Maximum 150 words)

Exploration of the natural world via specimen-based studies, object-oriented investigations and field studies. Employment of museum collections to provide hands-on experience with real objects and specimens. The required course brings students to the Redpath Museum and other McGill natural science museums and exposes them to natural history methodologies and the value of specimen-based studies. 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, botany and earth and environmental sciences. To ensure breadth, students are required to choose courses from among these lists. A compulsory field course component rounds out the program.

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 Course (3 credits):
REDM 400 (3) Science and Museums

Complementary Courses (21 credits):
21 credits from among the following, with at least 3 credits and no more than 9 credits from each of Lists A – C and at least 3 credits from List D. No more than 3 credits from any one list may be at the 200 level.

Note: Students may take up to a maximum of 9 credits outside the Faculties of Arts and Science.

List A (Zoology)
AEBI 211 (3) Organisms 2
ANTH 312 (3) Zooarchaeology
BIOL 205 (3) Biology of Organisms *
BIOL 215 (3) Introduction to Ecology and Evolution *
BIOL 305 (3) Animal Diversity
BIOL 341 (3) History of Life
BIOL 418 (3) Freshwater Invertebrate Ecology
BIOL 427 (3) Herpetology
BIOL 452 (3) Vertebrate Evolution
BIOL 463 (3) Mammalian Evolution
ENTO 330 (3) Insect Biology or ENTO/BIOL 350 (3) Insect Biology and Control
ENTO 440 (3) Insect Diversity
ENTO 535 (3) Aquatic Entomology
EPSC 334 (3) Invertebrate Paleontology
WILD 307 (3) Natural History of Vertebrates
WILD 350 (3) Mammalogy
WILD 420 (3) Ornithology

List B (Botany)
AEBI 210 (3) Organisms 1
BIOL 205 (3) Biology of Organisms *
BIOL 215 (3) Introduction to Ecology and Evolution *
BIOL 240 (3) Monteregian Flora
BIOL 355 (3) Trees: Ecology and Evolution
PLNT 304 (3) Biology of Fungi
PLNT 353 (3) Plant Structure and Diversity
PLNT 358 (3) Flowering Plant Diversity
PLNT 458 (3) Flowering Plant Systematics

List C (Earth and Environmental Sciences)
BIOL 540 (3) Ecology of Species Invasions
ENVR 200 (3) The Global Environment
ENVR 202 (3) The Evolving Earth
EPSC 233 (3) Earth and Life History
EPSC 210 (3) Introductory Mineralogy
ESYS 200 (3) Earth System Processes
ESYS 300 (3) Investigating the Earth System
GEOG 203 (3) Environmental Systems
GEOG 272 (3) Earth's Changing Surface
GEOG 470 (3) Wetlands
~~GEOG 550 (3) Historical Ecology Techniques~~

(Please see P1-3 for continuation)

Attach extra page(s) as needed

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	David M. Green		7 December 2009
Curric/Acad Cttee			
Faculty 1			
Faculty 2			
Faculty 3			
SCTP			
GS			
APPC			
Senate			

Submitted by

Name	
Phone	
Email	
Submission Date	

To be completed by ARR:

CIP Code

Box 4.0 Rationale for new proposal, continued:

During an era of disciplinary specialization, the study of natural history steadily lost ground and prestige despite the importance of intellectually solid natural history and the specimen-based research it fosters. Currently, there is renewed interest in natural history because it bridges the gap between our understanding of the Earth and the conservation of the natural environment. Natural history has no rivals as a framework for educating students and the general public about the history of the Earth and the diversity of life. McGill's natural history museum, the Redpath Museum, is an institution of natural history research and teaching based on its collections and programs of specimen-based research, object-oriented investigation, and field studies.

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. 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. A strong subtext of REDM 400 is to stress the importance of good natural history in science.

We anticipate that the Minor in Natural History will appeal principally to students in the Departments 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. The minor will be a valuable adjunct to these students' disciplinary studies as it deepens their understanding of natural history at the same time as it broadens their perspectives. Administered by the Redpath Museum, students in any of these majors will be able to add this minor to their programs of study.

Box 9.0 List of proposed program for the New Program/Major or Minor/Concentration, continued:

List D (Field Courses)

BIOL 331 (3) Ecology/Behaviour Field Course
BIOL 334 (3) Applied Tropical Ecology
BIOL 335 (3) Marine Mammals
BIOL 573 (3) Vertebrate Palaeontology Field Course
ENTO 340 (3) Field Entomology
EPSC 231 (3) Field School 1
NRSC/REDM 405 (3) Natural History of East Africa
WILD 475 (3) Desert Ecology
or any other approved field course

* Note: BIOL 205 Biology of Organisms and BIOL 215 Introduction to Ecology and Evolution may be applied to either List A or List B

CONSULTATION REPORT FORM
RE: PROGRAM PROPOSALS

DATE:

TO:

FROM: David M. Green
Redpath Museum

The attached proposal has been submitted to the Redpath Museum Curriculum Committee, and it has been decided that your department should be consulted.

Program Title: B.Sc. Minor in Natural History

Would you be good enough to review this proposal and let me know as soon as possible, on this form, whether or not your department has any objections to, or comments regarding, the proposal. Specifically, a course [or courses] taught by your department that has [have] been included in the program's list of courses.

_____ **NO OBJECTIONS** _____ **SOME OBJECTIONS**

COMMENTS:

Signature: _____

Date: _____