1.0 Degree Title
Specify the two degrees for concurrent degree programs

B.Sc. (Hon)

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

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

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

1.4 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

1.5 Complete Program Title
Honours in Earth Sciences

2.0 Administering Faculty/Unit

Science

Offering Faculty/Department
Earth & Planetary Sciences

3.0 Effective Term of revision or retirement
Please give reasons in 5.0 “Rationale” in the case of retirement
(Ex. Sept. 2004 = 200409) □ Retirement

Term:
200809

4.0 Existing Credit Weight
75

Proposed Credit Weight
75

5.0 Rationale for revised program

A new required course has been introduced: Earth and Planetary Inference (EPSC 340), replacing the “approved statistics course”. One course, Isotope Geology (EPSC 519) has been moved from a required to a complementary course. U1 required credit weighting has been reduced to allow for some flexibility. Complementary credit weighting has been increased.

Two new complementary courses are listed: Subsurface Mapping (EPSC 525), Geodynamics and Geomagnetism (EPSC 510).

Housekeeping: Structural Geology (EPSC 203) and Mineral Deposits (EPSC 452) have been renamed, dropping the now-unneeded numerical appendix.

6.0 Revised Program Description (Maximum 150 words)

The program curriculum is designed to provide a rigorous foundation in physical sciences and the flexibility to create an individualized program in preparation for careers in industry, teaching and research. It is intended to provide an excellent preparation for graduate work in the Earth Sciences. The program is accepted for professional qualification in most Canadian provinces.
7.0 List of existing program and proposed program

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

**U1 Required Courses**
(27 credits)
- EPSC 203 (3) Structural Geology 1
- EPSC 210 (3) Introductory Mineralogy
- EPSC 212 (3) Introductory Petrology
- EPSC 220 (3) Principles of Geochemistry
- EPSC 231 (3) Field School 1
- EPSC 233 (3) Earth and Life History
- EPSC 312 (3) Spectroscopy of Minerals
- MATH 222 (3) Calculus 3

**Approved (3) statistics course**
Note: Students who have not had the following course or its equivalent in CEGEP or the Freshman Program may be required to take MATH 133 Vectors, Matrices and Geometry.

**U2 and/or U3 Required Courses**
(33 credits)
- EPSC 320 (3) Elementary Earth Physics
- EPSC 350 (3) Tectonics
- EPSC 423 (3) Igneous Petrology
- EPSC 445 (3) Metamorphic Petrology
- EPSC 452 (3) Mineral Deposits 2
- EPSC 455 (3) Sedimentary Geology
- EPSC 480D1 (3) Honours Research Project
- EPSC 480D2 (3) Honours Research Project
- EPSC 519 (3) Isotope Geology
- MATH 314 (3) Advanced Calculus 3
- MATH 315 (3) Ordinary Differential Equations

**Complementary Courses**
(15 credits)
- 3 credits, one of:
  - EPSC 331 (3) Field School 2
  - EPSC 341 (3) Field School 3
- plus 12 credits (4 courses) chosen from the following:
  - EPSC 330 (3) Earthquakes and Earth Structure
  - EPSC 334 (3) Invertebrate Paleontology
  - EPSC 425 (3) Sediments to Sequences
  - EPSC 435 (3) Geophysical Applications
  - EPSC 451 (3) Hydrothermal Mineral Deposits
  - EPSC 501 (3) Crystal Chemistry
  - EPSC 525 (3) Subsurface Mapping
  - EPSC 530 (3) Volcanology
  - EPSC 542 (3) Chemical Oceanography
  - EPSC 547 (3) High Temperature Geochemistry
  - EPSC 548 (3) Processes of Igneous Petrology
  - EPSC 549 (3) Hydrogeology
  - EPSC 550 (3) Selected Topics 1
  - EPSC 551 (3) Selected Topics 2
  - EPSC 552 (3) Selected Topics 3
  - EPSC 561 (3) Ore-forming Processes 1
  - EPSC 562 (3) Ore-forming Processes 2
  - EPSC 570 (3) Cosmochemistry
  - EPSC 580 (3) Aqueous Geochemistry
  - EPSC 590 (3) Applied Geochemistry Seminar

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.

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

**U1 Required Courses**
(24 credits)
- EPSC 203 (3) Structural Geology
- EPSC 210 (3) Introductory Mineralogy
- EPSC 212 (3) Introductory Petrology
- EPSC 220 (3) Principles of Geochemistry
- EPSC 231 (3) Field School 1
- EPSC 233 (3) Earth and Life History
- EPSC 312 (3) Spectroscopy of Minerals
- MATH 222 (3) Calculus 3

**U2 and/or U3 Required Courses**
(33 credits)
- EPSC 320 (3) Elementary Earth Physics
- EPSC 340 (3) Earth and Planetary Inference
- EPSC 350 (3) Tectonics
- EPSC 423 (3) Igneous Petrology
- EPSC 445 (3) Metamorphic Petrology
- EPSC 452 (3) Mineral Deposits 2
- EPSC 455 (3) Sedimentary Geology
- EPSC 480D1 (3) Honours Research Project
- EPSC 480D2 (3) Honours Research Project
- MATH 314 (3) Advanced Calculus 3
- MATH 315 (3) Ordinary Differential Equations

**Complementary Courses**
(18 credits)
- 3 credits, one of:
  - EPSC 331 (3) Field School 2
  - EPSC 341 (3) Field School 3
- plus 15 credits (5 courses) chosen from the following:
  - EPSC 330 (3) Earthquakes and Earth Structure
  - EPSC 334 (3) Invertebrate Paleontology
  - EPSC 425 (3) Sediments to Sequences
  - EPSC 435 (3) Geophysical Applications
  - EPSC 451 (3) Hydrothermal Mineral Deposits
  - EPSC 501 (3) Crystal Chemistry
  - EPSC 510 (3) Geodynamics and Geomagnetism
  - EPSC 525 (3) Subsurface Mapping
  - EPSC 530 (3) Volcanology
  - EPSC 542 (3) Chemical Oceanography
  - EPSC 547 (3) High Temperature Geochemistry
  - EPSC 548 (3) Processes of Igneous Petrology
  - EPSC 549 (3) Hydrogeology
  - EPSC 550 (3) Selected Topics 1
  - EPSC 551 (3) Selected Topics 2
  - EPSC 552 (3) Selected Topics 3
  - EPSC 561 (3) Ore-forming Processes 1
  - EPSC 562 (3) Ore-forming Processes 2
  - EPSC 570 (3) Cosmochemistry
  - EPSC 580 (3) Aqueous Geochemistry
  - EPSC 590 (3) Applied Geochemistry Seminar

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.
## 9. Approvals

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Submitted by

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To be completed by ARR:

CIP Code