

The following proposals, received on DAP between July 1-15, 2010, have now been approved.  
For more information on the DAP process see the Academic Handbook at <http://www.uwo.ca/univsec/handbook>

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## **RICHARD IVEY SCHOOL OF BUSINESS**

### **RICHARD IVEY SCHOOL OF BUSINESS**

Effective **September 1, 2010**, the following course to be added to the HBA2 Curriculum.

#### **Business 4540A/B Schulich Medical School Health Care Management**

To provide participants with tools and concepts so that they can perform effective leadership roles in health care delivery. The course has been designed as a cross-discipline/cross professional schools initiative as students in the course will be HBA students of the Ivey Business School along with 4th year MD students of the Schulich Medical School. The joint interaction of future physicians and future industry leaders will provide a stimulating environment for all student participants.

3 lecture hours, 0.5 course.

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## **FACULTY OF SCIENCE**

### **EARTH SCIENCES**

Effective **September 1, 2010**, Earth Sciences 1070A/B –Introduction to the Geology and Resources of Earth be introduced in the Department of Earth Sciences.

#### **Earth Sciences 1070A/B –Introduction to the Geology and Resources of Earth**

An introduction to geology covering rock forming minerals and rock forming processes: Emphasis will be placed on how mineral and hydrocarbon resources develop. A survey of the geological record is carried out to illustrate how resources are classified and distributed through time.

Antirequisite(s): The former Earth Sciences 020.

Only available online, 0.5 course.

Purchase of Rock and Mineral Kit required.

Effective **September 1, 2010**, Earth Sciences 2130Y – Field Geography and Geology of Southwestern Ontario be introduced in the Department of Earth Sciences.

#### **Earth Sciences 2130Y – Field Geography and Geology of Southwestern Ontario**

A field-trip based course exploring the history and patterns of geology, physical landscapes and resources of southwestern Ontario. To be offered in the first half of the Fall semester; four mandatory, full day field excursions supported by a weekly lecture.

Antirequisite(s): Geography 2130Y Field Geography and Geology of Southwestern Ontario or registration in an Earth Sciences Specialization, Honors Specialization or Professional Program.

Enrollment limited to students registered in the Minor or Major in Earth and Planetary Sciences; recommended to be taken in second year and may not be taken after ES 2250Y. Transportation fee of approximately \$60 required.

Effective **September 1, 2010**, Earth Sciences 4432A/B – Geochemistry of Metals, Melts and Fluids in the Crust be introduced in the Department of Earth Sciences.

#### **Earth Sciences 4432A/B Geochemistry of Metals, Melts and Fluids in the Crust**

The principals of metal concentration and deposition in magmatic and hydrothermal environments are examined. Natural and experimental data, including fluid inclusion, stable isotope, metal solubility, mineral stability and metal partition behavior are used to develop genetic models for ore deposits, which form the basis of mineral exploration strategies.

Prerequisite(s): Earth Sciences 2230A/B and 3370A/B

3 lecture hours, 0.5 course.

Effective **September 1, 2010**, Earth Sciences 1083F/G, offered by the Department of Earth Sciences, be revised to include an additional tutorial hour.

**Earth Sciences 1083F/G – Life on Planet Earth Concepts of the development of life on Earth.**

Darwinian evolution and modern concepts of evolution. Genetics and evolution. Mode and rate of evolution. A survey of the vertebrate fossil record with focus on particular groups, including dinosaurs. Major extinction events in the fossil record. Origin of the geological time scale.

Antirequisite(s): The former Earth Sciences 020.

3 lecture hours, 1 tutorial hour, 0.5 course.

Effective **September 1, 2010** revisions be made to the prerequisites for Earth Sciences 2200A/B, offered by the Department of Earth Sciences.

**Earth Sciences 2200A/B – Plate Tectonic Theory, Environments and Products**

Rock types and their distribution within the Earth's crust are a result of tectonics, including continental rifting, seafloor spreading, subduction, obduction, and orogenic uplift and collapse. Lectures synthesize and explain major rock types in primary and secondary tectonic settings. Laboratories examine rocks and textures in hand specimens.

Prerequisite(s): Any 0.5 Earth Sciences course at the 1000 level or registration in a Major, Specialization, Honors Specialization or Professional Program in the Faculty of Science or in the Basic Medical Sciences.

2 lecture hours, 3 laboratory hours, 0.5 course.

Effective **September 1, 2010**, revisions be made to the pre- and co-requisites for Earth Sciences 2201A/B, offered by the Department of Earth Sciences.

**Earth Sciences 2201A/B**

Deformation of Earth's crust; description of geological structures; construction and interpretation of geologic maps, cross sections and block diagrams; stereographic and orthographic representation of structural data; mechanical behavior of rocks; origin and tectonic significance of geological structures.

Prerequisite(s): Earth Sciences 2200A/B.

2 lecture hours, 3 laboratory hours, 0.5 course.

Note: Grade 12 Physics or 0.5 course in first year Physics is recommended before taking this course.

Effective **September 1, 2010**, revisions be made to the pre and co-requisites for Earth Sciences 2230A/B, offered by the Department of Earth Sciences.

**Earth Sciences 2230A/B – Introduction to Geochemistry**

Effects of temperature, pressure and bulk composition on stabilities of minerals in natural geological settings are evaluated using thermodynamic principals. Reaction rates among minerals and fluids, including the effects of natural catalysts and inhibitors, and biotic mediation are addressed. Introduction to the principals of radioisotope and stable isotope geochemistry.

Prerequisite(s): Chemistry 1100A/B and Earth Sciences 2200A/B or permission of the Department.

2 lecture hours, 3 laboratory hours, 0.5 course.

Effective **September 1, 2010**, revisions be made to the prerequisite of Earth Sciences 2240F/G, offered by the Department of Earth Sciences.

**Earth Sciences 2240F/G– Catastrophic Events in Earth History**

Rare events so catastrophic that they leave evidence in the geologic record and threaten life on Earth. Included are impacts by asteroid and comets, eruptions from giant resurgent volcanic calderas, large to mega-earthquakes and associated tsunamis, and dramatic reduction of atmospheric oxygen by release of reservoirs of methane hydrate.

Antirequisite(s): Earth Sciences 2241A/B.

2 lecture hours, 3 laboratory hours, 0.5 course.

Note: Grade 12 Physics or 0.5 course in first year Physics is recommended before taking this course.

Effective **September 1, 2010**, revisions be made to the prerequisite of Earth Sciences 2241A/B, offered by the Department of Earth Sciences.

#### **Earth Sciences 2241A/B – Hazardous Earth**

Earth processes leading to disasters; the amplification of earth processes by human activity; individual, national and global policies mitigating natural disasters. Volcanoes and earthquakes in the context of plate tectonic processes. Mass wasting, large storms, floods, and fires; global climate change.

Antirequisite(s): Earth Sciences 2240F/G.

2 lecture hours, 3 laboratory hours, 0.5 course.

Note: Grade 12 Physics or 0.5 course in first year Physics is recommended before taking this course.

Effective **September 1, 2010**, revisions be made to the corequisites for Earth Sciences 2250Y, offered by the Department of Earth Sciences.

#### **Earth Sciences 2250Y – Introductory Field Mapping Techniques**

Eleven day field camp in the vicinity of Whitefish Falls, northern Lake Huron. Students will examine Precambrian metasedimentary and Early Paleozoic sedimentary rocks, make a geological map, measure a stratigraphic section and learn techniques of paleocurrent analysis.

Corequisite(s): Earth Sciences 2200A/B and registration in a module or program where Earth Sciences 2250Y is mandatory; or registration in an Earth Sciences Minor and a minimum mark of 60% in Earth Sciences 2200A/B.

11 day field course, 0.5 course

Note: Students must register prior to the September "Add" deadline for full courses (see Undergraduate Sessional Dates). Partial cost of the field expenses must be borne by the student, and is payable to the Department prior to February 28th. The cost per student is \$295 in 2010, and will increase by \$15 every year thereafter.

Effective **September 1, 2010**, revisions be made to the prerequisites for Earth Sciences 3341A/B, offered by the Department of Earth Sciences.

#### **Earth Sciences 3341A/B – Water and Geochemical Cycles**

Acquisition of solutes by rain, surface and subsurface waters and their transportation and deposition in natural environments (e.g., formation of ore deposits). Natural sources of potential pollutants (e.g., heavy metals). Geochemical cycles of solutes and waters.

Antirequisite(s): The former Earth Sciences 330b.

Prerequisite(s): Earth Sciences 2230A/B or Chemistry 1100A/B or the former Chemistry 1050, 1020, or permission of the Department.

2 lecture hours, 1 tutorial hour, 0.5 course.

Effective **September 1, 2010** revisions be made to the corequisites and course description for Earth Sciences 3350Y, offered by the Department of earth Sciences.

#### **Earth Sciences 3350Y –Advanced Field Mapping Techniques**

Eleven day field school in a deformed metamorphic terrain. Observation and documentation of geological features at outcrops. Three-dimensional thinking and reconstruction of structural geometry. Establishing overprinting relationships among structures. Mapping from mesoscopic to macroscopic scales. Kinematic interpretation and tectonic synthesis of geological data at different scales.

Prerequisite(s): Earth Sciences 2201A/B and 2250Y.

Corequisite(s): Any two of Earth Sciences 3313A/B, 3314A/B, 3315A/B, and registration in the Major in Earth and Planetary Sciences, Specialization in Geology or Honors Specialization in Geology, or in the Honors Geology or Honors Environmental Geoscience Programs for Professional Registration.

11 day field course in May, 0.5 course.

Effective **September 1, 2010**, revisions be made to the prerequisites for Earth Sciences 4450Y, offered in the Department of Earth Sciences.

#### **Earth Sciences 4450Y – Regional Field Geology**

Field study of the geology of major structural provinces of North America. A ten day field trip at the beginning of September.

Prerequisite(s): Earth Sciences 3350Y and registration in the Honors Specialization in Geology, or the Honors Geology or Honors Environmental Geoscience Programs for Professional Registration, or permission of the Department.

A ten day field course in early September, 0.5 course

Note: Students must inform the Department of their intention to register in the course prior to May 1st and register prior to August 15th. Partial cost of the field course must be borne by the student, and is payable to the Department by May 1st. The cost per student is \$345 in 2010, and will increase by \$15 every year thereafter.

*Effective **September 1, 2010**, revisions be made to include an additional lecture hour in Earth Sciences 4421A/B, offered by the Department of Earth Sciences.*

### **Earth Sciences 4421A/B – Physics of the Earth II**

Advanced topics in physics of the Earth's interior: Age of the Earth, shape of the Earth, rotation of the Earth, thermal state of the Earth, origin of the Earth's magnetic field and rock magnetism.

Prerequisite(s): Earth Sciences 3321A/B.

3 lecture hours, 0.5 course.

*Effective **September 1, 2010**, revisions be made to the prerequisites for Earth Sciences 4490E, offered by the Department of Earth Sciences.*

### **Earth Sciences 4490E – Senior Thesis**

A presentation of research on a chosen problem: Original data must be generated from field or laboratory studies and analyzed using appropriate methodologies. The results must be integrated into the existing literature on the topic. Independence in the conduct and reporting of research must be demonstrated.

Prerequisite(s): Registration in year 4 of a Specialization, Honors Specialization or Professional Program offered by the Department of Earth Sciences, or permission of the Department.

1.0 course.

*Effective **September 1, 2010**, the module Honors Specialization in Geology be revised due to course changes in the sciences.*

## **HONORS SPECIALIZATION IN GEOLOGY**

Admission Requirements: Completion of first-year requirements with no failures. Students must have an average of at least 70% and no mark less than 60% in the 3.0 principal courses taken, including:

Chemistry 1100A/B;

1.5 courses from: Chemistry 1200B or the former Chemistry 1020, 1050, Physics 1028A/B, 1029A/B, 1301A/B, 1302A/B, 1501A/B, 1502A/B or the former Physics 1020 or 1024, or Biology 1001A, 1002B, 1201A, 1202B or the former Biology 1222, 1223; Plus 1.0 additional course (to make the total of 3.0) from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year.

### **Module**

10.0 courses:

8.0 courses: Earth Sciences 2123A/B, 2200A/B, 2201A/B, 2206A/B, 2230A/B, 2250Y, 2260A/B, 2265A/B, 3310A/B, 3313A/B, 3314A/B, 3315A/B, 3340A/B, 3350Y, 3370A/B, 4400A/B.

1.0 additional course in Earth Sciences at the 3000 level or above.

1.0 course: Earth Sciences 4490E with a mark of at least 70%.

Note: Earth Sciences 2123A/B should be taken by the end of the second year. If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/B cannot be taken, and one additional 2000-level or above Earth Sciences course not required for the module must be taken as a substitute.

*Effective **September 1, 2010**, the module Honors Specialization in Geophysics be revised due to course changes in the sciences.*

## **HONORS SPECIALIZATION IN GEOPHYSICS**

Admission Requirements: Completion of first-year requirements with no failures. Students must have an average of at least 70% and no mark less than 60% in the 3.0 principal courses taken, including: Calculus 1000A/B or 1100A/B and one of Calculus 1301A/B or 1501A/B, or Applied Mathematics 1413; Physics 1301 A/B or 1501A/B and 1302A/B or 1502A/B or the former Physics 1020, 1024; At least 1.0 course from: Earth Sciences 1022A/B, 1023A/B, 1081A/B, Chemistry 1024A/B, 1100A/B, 1200B or the former Chemistry 1020, 1050, Mathematics 1600A/B or the former Linear Algebra 1600A/B.  
 Note: At least a 0.5 course in Earth Sciences is recommended in first year. If not taken in first year, Mathematics 1600A/B or the former Linear Algebra 1600A/B must be completed before the beginning of third year.

### Module

9.5 courses:

2.0 courses: Earth Sciences 2200A/B, 2220A/B, 2222A/B, 2250Y.

0.5 course from: Earth Sciences 2201A/B, 2206A/B.

0.5 course: Applied Mathematics 2402A or the former Differential Equations 2402A.

1.0 course: Physics 2110A/B and 2910F/G.

1.0 course from: Calculus 2502A/B and 2503A/B or Calculus 2302A/B and 2303A/B. 0.5 course from: Applied Mathematics 3815A/B, Statistical Sciences 2141A/B, 2143A/B.

2.5 courses from: Earth Sciences 3320A/B, 3321A/B, 3323A/B, 4420A/B, 4421A/B, 4424A/B.

0.5 course from: Earth Sciences 4423A/B, 4425A/B.

1.0 course: Earth Sciences 4490E with a mark of at least 70%.

*Effective **September 1, 2010**, the module Honors Specialization in Environmental Geoscience be revised due to course changes in the sciences.*

### HONORS SPECIALIZATION IN ENVIRONMENTAL GEOSCIENCE

Admission Requirements: Completion of first-year requirements with no failures. Students must have a minimum average of at least 70% in 3.0 principal courses, with a minimum of 60% in each of the principal courses taken, including:

Biology 1001A or 1201A and 1002B or 1202B or the former Biology 1222, 1223; Chemistry 1100A/B and 1200A/B or the former Chemistry 1020, 1050; Plus 1.0 additional course from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1600 or the former Linear Algebra 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B or the former Mathematics 030. This requirement must be completed by the end of second year.

Module

10.5 courses:

5.0 courses: Earth Sciences 2200A/B, 2201A/B, 2206A/B, 2220A/B, 2230A/B, 2250Y, 2260A/B, 3314A/B, 3340A/B, 3341A/B.

0.5 course from: Earth Sciences 4431A/B, 4440A/B, 4462A/B.

0.5 course: Chemistry 2210A/B.

0.5 course from: Biology 2244A/B, or the former Statistical Sciences 2122A/B.

0.5 course: Biology 2485B.

0.5 course from: Geography 2153A/B, 2154F/G.

1.0 course: Environmental Science 3300F/G, 3350F/G.

0.5 course from: Biology 2217B, 2290F/G, 2404A, 2483A, 2484A, 3220Z, 3421F, 3435F/G, 3445F, 3446B, 4405F/G, Pharmacology 3560A/B, 4630A.

0.5 course from: Political Science 2137, 2235E, Philosophy 2033A/B, all Geography courses at the 2000 level or above, Biology 4243G.

1.0 course from: Earth Sciences 4490E, or Environmental Science 4970F/G and 4971F/G, with a mark of at least 70%.

Note: If Political Science 2137 or 2235E is chosen the module will consist of 11.0 courses.

*Effective **September 1, 2010**, the module Honors Specialization in Geology and Biology be revised due to course changes in the sciences.*

### HONORS SPECIALIZATION IN GEOLOGY AND BIOLOGY

Admission Requirements: Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, with a minimum of 60% in each of the 3.0 principal courses taken, including:

Biology 1001A or 1201A and 1002B or 1202B or the former Biology 1222, 1223; Chemistry 1100A/B and 1200B or the former Chemistry 1020 or 1050; Plus 1.0 additional course from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year.

### Module

10.0 courses:

3.5 courses: Earth Sciences 2200A/B, 2206A/B, 2250Y, 2260A/B, 2265A/B, 2266F/G, 3314A/B.

1.0 course from: Earth Sciences 2240F/G, 2241A/B, 3340A/B, 3369A/B, 4400A/B, 4460A/B, 4461A/B, 4462A/B.

0.5 course: Biochemistry 2280A.

2.5 courses: Biology 2290F/G, 2382B, 2483A, 2486A, 2581B.

0.5 course from: Chemistry 2213A/B or Earth Sciences 2230A/B.

1.0 courses from: Biology 2240F/G, 2244A/B, 2471A/B, 2484A, 2660A/B, 3404F/G, 3651A/B, Microbiology and Immunology 2100A. Note: Biology 2244A/B is recommended.

1.0 or 1.5 courses from: Earth Sciences 4490E (1.0 course) or Biology 4999E (1.5 courses), with a mark of at least 70%.

Note: If Biology 4999E is chosen the module will consist of 10.5 courses.

*Effective **September 1, 2010**, the module *Specialization in Geology* be revised due to course changes in the sciences.*

### SPECIALIZATION IN GEOLOGY

#### Admission Requirements

Completion of first-year requirements. Students must have a minimum of 60% in each of the 3.0 principal courses taken, including:

Chemistry 1100A/B;

1.5 courses from: Chemistry 1200B or the former Chemistry 1020, 1050, Physics 1028A/B, 1029A/B, 1301A/B, 1302A/B, 1501A/B, 1502A/B or the former Physics 1020 or 1024, or Biology 1001A, 1002B, 1201A, 1202B or the former Biology 1222, 1223;

Plus 1.0 additional course from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year.

### Module

9.0 courses:

8.0 courses: Earth Sciences 2123A/B, 2200A/B, 2201A/B, 2206A/B, 2230A/B, 2250Y, 2260A/B, 2265A/B, 3310A/B, 3313A/B, 3314A/B, 3315A/B, 3340A/B, 3350Y, 3370A/B, 4400A/B.

1.0 additional course in Earth Sciences at the 3000 level or above.

Note: Earth Sciences 2123A/B should be taken by the end of second year. If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/B cannot be taken, and one additional 2000-level or above Earth Sciences course not required for the module must be taken as a substitute.

*Effective **September 1, 2010**, the module *Specialization in Geophysics* be revised due to course changes in the sciences.*

### SPECIALIZATION IN GEOPHYSICS

#### Admission Requirements

Completion of first-year requirements. Students must have a minimum of 60% in each of the 3.0 principal courses taken, including: Calculus 1000A/B or 1100A/B and one of Calculus 1301A/B or 1501A/B, or Applied Mathematics 1413; Physics 1301A/B or 1501A/B and Physics 1302A/B or 1502A/B or the former Physics 1020, 1024;

At least 1.0 course from: Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, Chemistry 1024A/B, 1100A/B, 1200B or the former Chemistry 1020, 1050, Mathematics 1600A/B or the former Linear Algebra 1600A/B.

Notes: At least a 0.5 course in Earth Sciences is recommended in first year. If not taken in first year, Mathematics 1600A/B or the former Linear Algebra 1600A/B must be completed before the beginning of third year.

**Module**

9.5 courses:

2.0 courses: Earth Sciences 2200A/B, 2220A/B, 2222A/B, 2250Y.

0.5 course from: Earth Sciences 2201A/B, 2206A/B.

0.5 course: Applied Mathematics 2402A or the former Differential Equations 2402A.

1.0 course: Physics 2110A/B, 2910F/G.

1.0 course: Calculus 2502A/B and 2503A/B or 2302A/B and 2303A/B.

0.5 course from: Applied Mathematics 3815A/B, Statistical Sciences 2141A/B, 2143A/B.

2.5 courses from: Earth Sciences 3320A/B, 3321A/B, 3323A/B, 4420A/B, 4421A/B, 4424A/B.

0.5 course from: Earth Sciences 4423A/B, 4425A/B.

1.0 additional course in Earth Sciences at the 3000 level or above.

*Effective **September 1, 2010**, the module *Specialization in Environmental Geoscience* be revised due to course changes in the sciences.*

**SPECIALIZATION IN ENVIRONMENTAL GEOSCIENCE**

## Admission Requirements

Completion of first-year requirements. Students must have a minimum of 60% in each of 3.0 principal courses taken, including: Biology 1001A/B or 1201A and 1002B or 1201B or the former Biology 1222, 1223; Chemistry 1100A/B and 1200B or the former Chemistry 1020, 1050;

Plus 1.0 additional course from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Calculus 1301A/B or 1501A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year.

**Module**

10.5 courses:

5.0 courses: Earth Sciences 2200A/B, 2201A/B, 2206A/B, 2220A/B, 2230A/B, 2250Y, 2260A/B, 3314A/B, 3340A/B, 3341A/B.

1.0 course from: Earth Sciences 4431A/B, 4440A/B, 4462A/B.

0.5 course: Chemistry 2210A/B.

0.5 course from: Biology 2244A/B, or the former Statistical Sciences 2122A/B.

0.5 course: Biology 2485B.

0.5 course from: Geography 2153A/B, 2154F/G.

1.0 course: Environmental Science 3300F/G, 3350F/G.

0.5 course from: Biology 2217B, 2290F/G, 2404A, 2483A, 2484A, 3220Z, 3421F, 3435F/G, 3445F, 3446B, 4405F/G, Pharmacology 3560A/B, 4630A.

0.5 course from: Political Science 2137, 2235E, Philosophy 2033A/B, all Geography courses at the 2000 level or above, Biology 4243G.

0.5 additional course from: Earth Sciences 2240F/G or 2241A/B, 3320A/B, 3369A/B, 3370A/B, 4431A/B, 4440A/B, 4444A/B, 4462A/B, Chemical and Biochemical Engineering 3363A/B, Civil and Environmental Engineering 4405A/B.

Note: If Political Science 2137 or 2235E is chosen the module will consist of 11.0 courses.

*Effective **September 1, 2010**, the module *Specialization in Geology and Biology* be revised due to course changes in the sciences.*

**SPECIALIZATION IN GEOLOGY AND BIOLOGY**

## Admission Requirements

Completion of first-year requirements. Students must have a minimum of 60% in each of 3.0 principal courses taken, including: Biology 1001A or 1201A and Biology 1002B or 1202B or the former Biology 1222, 1223; Chemistry 1100A/B and 1200B or the former Chemistry 1020 or 1050;

Plus 1.0 additional course from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Calculus 1301A/B or 1501A/B, Mathematics 1600A/b or the former Linear Algebra 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year.

**Module**

10.0 courses:

3.5 courses: Earth Sciences 2200A/B, 2206A/B, 2250Y, 2260A/B, 2265A/B, 2266F/G, 3314A/B.  
 1.5 courses from: Earth Sciences 2240F/G, 2241A/B, 3340A/B, 3369A/B, 4400A/B, 4460A/B, 4461A/B, 4462A/B.  
 0.5 course: Biochemistry 2280A.  
 2.5 courses: Biology 2581B, 2382B, 2483A, 2486A, 2290F/G.  
 0.5 course from: Chemistry 2213A/B or Earth Sciences 2230A/B.  
 1.5 courses from: Biology 2240F/G, 2244A/B, 2660A/B, 2471A/B, 2484A, 3404F/G, 3651A/B, Microbiology and Immunology 2100A. Note: Biology 2244A/B is recommended.

*Effective **September 1, 2010**, the module Major in Earth and Planetary Sciences be revised due to course changes in the sciences.*

### **MAJOR IN EARTH AND PLANETARY SCIENCES**

Admission Requirements

Completion of 5.0 first-year courses.

#### **Module**

6.0 courses:

3.0 courses: Earth Sciences 2200A/B, 2201A/B, 2206A/B, 2250Y, 2260A/B, 2265A/B.

0.5 course from: Earth Sciences 3313A/B, 3314A/B, 3315A/B.

1.0 course from: Earth Sciences 2123A/B, 2130Y, 2220A/B, 2230A/B, 2240F/G or 2241A/B.

1.5 additional courses in Earth Sciences at the 2000 level or above.

Note: If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/B cannot be taken.

*Effective **September 1, 2010**, the module Minor in Earth and Planetary Sciences be revised due to course changes in the sciences.*

### **MINOR IN EARTH AND PLANETARY SCIENCES**

Admission Requirements

Completion of 5.0 first-year courses.

#### **Module**

4.0 courses:

0.5 course: Earth Sciences 2200A/B.

2.0 courses from: Earth Sciences 2123A/B, 2130Y, 2201A/B, 2206A/B, 2220A/B, 2230A/B, 2231A/B, 2240F/G, 2241A/B, 2260A/B, 2261A/B, 2265A/B.

0.5 course from: Earth Sciences 3313A/B, 3314A/B, 3315A/B.

1.0 additional course in Earth Sciences at the 2000 level or above.

Note: If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/B cannot be taken.

*Effective **September 1, 2010**, the module Minor in Geophysics be revised due to course changes in the sciences.*

### **MINOR IN GEOPHYSICS**

This minor may be of interest to Physics and Astronomy, Applied Mathematics, and Computer Science Majors.

Admission Requirements

Completion of first-year requirements including 1.0 courses from: Calculus 1000A/B or 1100A/B and one of Applied Mathematics 1201A/B or the former Calculus 1201A/B, Applied Mathematics 1413, Calculus 1301A/B or 1501A/B, with a mark of at least 60%.

#### **Module**

4.0 courses:

4.0 courses from: Earth Sciences 2123A/B, 2220A/B, 2222A/B, 2281A/B, 3320A/B, 3321A/B, 3323A/B, 4420A/B, 4421A/B, 4423A/B, 4424A/B, 4425A/B, 4440A/B.

Notes:

1. Earth Sciences 2281A/B has the following antirequisites: Earth Sciences 1022A/B, 1081A/B, 2123A/B.

2. If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/B cannot be taken.



*Effective **September 1, 2010**, the module Honors Earth Science Programs – For Professional Registration be revised due to course changes in the sciences.*

**HONORS EARTH SCIENCE PROGRAMS** - For Professional Registration Adherence to these programs will fulfill all course requirements for professional registration as set by the Association of Professional Geoscientists of Ontario (APGO) and the Canadian Council of Professional Geoscientists (CCPG). Programs require 4.5 Foundation Science courses. Students are responsible for ensuring course selections result in: fulfillment of current breadth requirements with at least 1.0 from each of category A and category B; and essay requirements, 2.0 courses, one of which may be the senior Earth Sciences 4490E thesis.

Required Courses 1st Year (common to all programs)

The completion of first-year requirements with no mark less than 60% and an average of at least 70% in the following 3.0 courses: Chemistry 1100A/B and 1200A/B or the former Chemistry 1020 or 1050; Physics 1301A/B or 1401A/B or 1501A/B and Physics 1302A/B or 1402A/B or 1502A/B or the former Physics 1020, 1024, 1026;

0.5 course from: Calculus 1000A/B or 1100A/B;

0.5 course from: Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, 1083F/G.

1.0 course from: Biology 1001A, 1002B, 1201A, 1202B or the former Biology 1222, 1223, Computer Science 1025A/B, 1026A/B, 1027A/B, 1032A/B, Calculus 1301A/B, 1501A/B, Mathematics 1225A/B, 1229A/B, Statistical Sciences 1023A/B, 1024A/B, or the former Statistical Sciences 2122A/B, Earth Sciences 2222A/B, Geography 2210A/B.

*Effective **September 1, 2010**, the module Honors Geology Program – For Professional Registration be revised due to course changes in the sciences.*

**HONORS GEOLOGY PROGRAM** - For Professional Registration Common 1st Year

Required Courses 2nd Year

5.5 courses (overload due to field course Earth Sciences 2250Y):

4.0 courses: Earth Sciences 2200A/B, 2201A/B, 2206A/B, 2220A/B, 2230A/B, 2250Y, 2260A/B, 2265A/B.

1.0 course not chosen in 1st year from: Biology 1001A, 1002B, 1201A, 1202B or the former Biology 1222, 1223, Computer Science 1025A/B, 1026A/B, 1027A/B, 1032A/B, Calculus 1301A/B, 1501A/B, Mathematics 1225A/B, 1229A/B, Statistical Sciences 1023A/B, 1024A/B, or the former Statistical Sciences 2122A/B, Earth Sciences 2222A/B, Geography 2210A/B.

0.5 course from category A or category B.

Required Courses 3rd Year

5.0 courses:

2.5 courses: Earth Sciences 3313A/B, 3314A/B, 3315A/B, 3350Y, 3370A/B.

1.5 course from the Additional Geoscience Courses listed below.

1.0 course from the Open Course list below.

Required Courses 4th Year

5.0 courses:

2.5 courses: Earth Sciences 4400A/B, 4450Y, 4462A/B, 4490E.

1.5 courses from the Additional Geoscience Courses listed below.

1.0 course from Open Course list below.

Lists of additional courses required in 3rd or 4th year:

Geoscience Course list: Earth Sciences 3310A/B, 3321A/B, 3340A/B, 3371A/B, 4415A/B, 4431A/B, 4432A/B, 4460A/B; Geography 2220A/B

Open Course list: At least 1.0 at a senior level; the following are recommended for additional geoscience background, but are not required: Earth Sciences 2266F/G, 3369A/B, 4440A/B, 4470A/B, 4471A/B, Geography 2230A/B, 2310A/B, 2330A/B.

Note: Geography courses will count towards your category A breadth requirement.

*Effective **September 1, 2010**, the module Honors Geophysics Program – For Professional Registration be revised due to course changes in the sciences.*

**HONORS GEOPHYSICS PROGRAM** - For Professional Registration Common 1st Year

Required Courses 2nd Year

5.0 courses:

4.0 courses: Earth Sciences 2123A/B, 2200A/B, 2201A/B, 2206A/B, 2220A/B, 2222A/B, 2250Y, 2260A/B.  
1.0 course from category A or category B.

Required Courses to be completed in 3rd or 4th Year

10.0 courses:

5.5 courses: Earth Sciences 3320A/B, 3321A/B, 3323A/B, 3340A/B, 4420A/B, 4421A/B, 4423A/B, 4451Y, 4490E, Physics 2101A/B.

2.5 courses from: Earth Sciences 3341A/B, 3370A/B, 3371A/B, 4424A/B, 4440A/B, 4462A/B, 4470A/B, 4471A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B, Applied Mathematics 2402A or the former Differential Equations 2402A, Applied Mathematics 4129A/B, Mathematics 3124A/B, Geography 2220A/B, 2330A/B, or Physics 3300A/B.

2.0 courses of which at least 1.0 is at a senior level.

Note: Geography courses will count towards your category A breadth requirement.

Note: If Earth Sciences 1023A/B has been taken, Earth Sciences 2123A/B cannot be taken, and one additional 2000-level or above Earth Sciences course not required for the module must be taken as a substitute.

*Effective **September 1, 2010**, the module Honors Environmental Geoscience Program – For Professional Registration be revised due to course changes in the sciences.*

**HONORS ENVIRONMENTAL GEOSCIENCE PROGRAM** - For Professional Registration

Common 1st Year

Required Courses 2nd Year

5.5 courses: (overload due to field course Earth Sciences 2250Y)

4.0 courses: Earth Sciences 2200A/B, 2201A/B, 2206A/B, 2220A/B, 2230A/B, 2250Y, 2260A/B, 2265A/B.

1.0 course not chosen in 1st year from: Biology 1001A or 1201A/B and 1002B, or 1201B or the former Biology 1222, 1223, Computer Science 1025A/B, 1026A/B, 1027A/B, 1032A/B, Calculus 1301A/B, Mathematics 1225A/B, 1229A/B, Statistical Sciences 1023A/B, 1024A/B, or the former Statistical Sciences 2122A/B, Earth Sciences 2222A/B, Geography 2210A/B.

0.5 course from category A or category B.

Required Courses 3rd Year

5.0 courses:

4.0 courses: Earth Sciences 3313A/B, 3314A/B, 3315A/B, 3340A/B, 3341A/B, 3350Y, 3370A/B, Geography 2330A/B.

1.0 course from the Open Course list below.

Required Courses 4th year

5.0 courses:

2.5 courses: Earth Sciences 3369A/B, 4440A/B, 4462A/B, 4490E.

0.5 course from: Geography 3350A/B or 3352A/B.

1.0 course from the Additional Earth Sciences Courses listed below.

1.0 course from the Open Course list below.

Lists of additional courses required in 3rd or 4th year:

1.0 course from: Earth Sciences 3310A/B, 3371A/B, 4400A/B, 4431A/B, 4432A/B, 4460A/B.

Open Course list: At least 1.0 is at a senior level; the following are recommended for additional geoscience background but are not required: Earth Sciences 2266F/G, 3321A/B, 3369A/B, 4450Y, 4470A/B, 4471A/B.

Note: Geography courses will count towards your category A breadth requirement

*Effective **September 1, 2010**, the module Minor in Advanced Studies in Earth and Planetary Sciences be withdrawn.  
– PENDING APPROVAL ON SCAPA*

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**REGISTRAR'S UPDATE**

*The following minor changes have been approved during this time:*

***Brescia University College*****NUTRITION AND FAMILIES MODULES**

Change last requirement from: 0.5 course from: Family Studies 3310A/B, 4401A/B, 4220A/B, 4230A/B.

**To: 0.5 course from: Family Studies 3310A/B, 4220A/B, 4230A/B.**

Family Studies 4401A/B should be removed as it has been changed to a full course FS 4403 effective 2010/09/01 and they are still figuring out what to do with this requirement. Will resubmit to DAP when module is revised.

***Kings University College*****PSYCHOLOGY 3310F/G and 3320F/G**

Prerequisites change from: Psychology 2820E or both Psychology 2800E and 2810.

Back to previous (approved November 2009): Registration in third or fourth year of Honors Specialization in Psychology or Honors Specialization in Developmental Cognitive Neuroscience

***Faculty of Law*****JD/LLM Combined Program with Auckland University**

Change From: Existing Listing

Change To: Program has been suspended and is under review (Make notation in Academic Calendar)

***Richard Ivey School of Business*****BUSINESS 4423A/B – was listed in July 16<sup>th</sup> DAP incorrectly as From: Financial Markets**

Change Title From: Financial Analysis

Change Title To Financial Strategies for Global Success

***Faculty of Science*****BIOLOGY 2382B**

Change From: 5 laboratory hours

Change To: 2 lecture hours, 1 tutorial hour, 0.5 course.

**CALCULUS 2502 A/B**

Change From Pre- or Corequisite(s): Linear Algebra 1600A/B

To: Mathematics 1600A/B or the former Linear Algebra 1600A/B

**PHYSICS 3151 A/B**

Add to the end of the Prerequisite(s): or the former Linear Algebra 1600A/B.

***Faculty of Social Science*****INTERNATIONAL RELATIONS 2701E – was listed in July 16<sup>th</sup> DAP incorrectly as Political Science**

Change From: 3 lecture hours, 1.0 course.

Change To: 2 lecture hours, 1 tutorial hour, 1.0 course.

**MANAGEMENT AND ORGANIZATIONAL STUDIES 3362A/B**

Change From: 4 lecture hours, 0.5 course.

Change To: 3 lecture hours, 0.5 course.