DECISION ACADEMIC

Lakehead University
Faculty of Science and Environmental Studies

REQUEST REPORT

Request Tracking Number: 2015-SCI-4695
Request Title: Course Description/Prerequisite Updates for Geology

[DeAcTerm[EffectiveDate]] [DeAc[RequestEffectiveDate]]
Request Status: In Workflow
Request can be split

Request Contents

Type		Title
1.	New Version of a Course	Principles of Geophysics
2.	New Version of a Course	Understanding Geology Through Maps
3.	New Version of a Course	Introductory Geology for Engineers
4.	New Version of a Course	Environmental Geology
5.	New Version of a Course	Environmental Geochemistry
6.	New Version of a Course	Groundwater
7.	New Version of a Course	Geological Case Studies
8.	New Version of a Course	Mineral Deposits II
9.	New Version of a Course	Mineralogy
10.	New Version of a Course	Mineralogy with Laboratory

Request History

Workflow Step	Workflow Action	User	Change Made	Comments	Date
Initiator	Approved	Kristine Carey	Yes	Submitted to workflow	01/07/2015
Submission Review (Calendar Officer)	Approved	Margaret Anderson (Submission Review)	No	Ready for workflow submission	01/07/2015

Supporting Documents

File Name	Uploaded By	Upload Date	Size

Supporting Documents Audit Trail

File Name	User	Date	Action

Notes

Date	User	Note

1.	New Version of a Course	Geology 2112 - Principles of Geophysics

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 2112 - Principles of Geophysics **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 2112 - Principles of Geophysics **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details

CURRENT VERSION	PROPOSED VERSION
Code Geology 2112	**Code** Geology 2112
Title Principles of Geophysics	**Title** Principles of Geophysics
Description Principles and applications of solid-earth geophysical techniques, especially in magnetic and gravity surveying ("prospecting"), and the study of rock magnetism with all its implications for paleomagnetism, archeology and geomorphology.	**Description** ~~Principles~~ *An introduction to the principles* and applications of ~~solid-earth~~ *various* geophysical techniques, ~~especially in magnetic~~ and ~~gravity surveying ("prospecting"), and~~ the ~~study of rock magnetism with all its~~ implications for ~~paleomagnetism, archeology and geomorphology~~*solid-earth geophysics, mineral exploration, archaeology, and environmental studies*.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Updating the course description to better reflect the material covered by new instructor.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List**
Offering 3-0; or 3-0	**Offering** 3-0; or 3-0
Prerequisites	**Prerequisites**

Corequisites	**Corequisites**
Notes It is recommended that students have previously completed Mathematics 1160 or 1180 and Physics 1101 or 1113 and 1133 before taking Geology 2112.	**Notes** It is recommended that students have previously completed Mathematics 1160 or 1180 and Physics 1101 or 1113 and 1133 before taking Geology 2112.
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

2.	New Version of a Course	Geology 2310 - Understanding Geology Through Maps

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 2310 - Understanding Geology Through Maps **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 2310 - Understanding Geology Through Maps **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details

CURRENT VERSION	PROPOSED VERSION
Code Geology 2310	**Code** Geology 2310
Title Understanding Geology Through Maps	**Title** Understanding Geology Through Maps
Description This course deals with the interpretation of the three-dimensional configuration of rock bodies from their distribution at the surface as represented on geological map. Topics will include: the distinction of various stratigraphic and secondary contacts between rock bodies, the attitudes of rock bodies at depth, the construction of geological maps from bore hole or seismic profile data, the determination of displacements on faults, the construction of mine plans at certain levels below O.D., the construction of subcrop maps below unconformities, the construction and interpretation of isopachytes, and the determination of ore shoot intersections. A brief overview of the techniques used to determine both relative and absolute ages of geological bodies and of geological events.	**Description** This course deals with the interpretation of the three-dimensional configuration of rock bodies from their distribution at the surface as represented on geological map. Topics ~~will~~ *could* include: the distinction of various stratigraphic and secondary contacts between rock bodies, the attitudes of rock bodies at depth, the construction of geological maps from bore hole or seismic profile data, the determination of displacements on faults, the construction of mine plans at certain levels below O.D., the construction of subcrop maps below unconformities, the construction and interpretation of isopachytes, and the determination of ore shoot intersections. A brief overview of the techniques used to determine both relative and absolute ages of geological bodies and of geological events.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Minor correction required in description and prerequisites required to ensure students are properly prepared for class.*

Requiredor Elective	Requiredor Elective
Cross List	**Cross List**
Offering 3-2; or 3-2	**Offering** 3-2; or 3-2
Prerequisites	**Prerequisites** *Geology 1110 or 1111 and Geology 1130 or 1131, or permission of the instructor*
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *none*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course is already being taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

3.	New Version of a Course	Geology 3015 - Introductory Geology for Engineers

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 3015 - Introductory Geology for Engineers **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 3015 - Introductory Geology for Engineers **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details	
CURRENT VERSION	**PROPOSED VERSION**
Code Geology 3015	**Code** Geology 3015
Title Introductory Geology for Engineers	**Title** Introductory Geology for Engineers
Description An introduction to Earth systems, cycles, and materials followed by discussion of Earth's interior processes, including seismicity and volcanism, leads to description of common crustal structures and their role in regional and global tectonism. Subsequently emphasis will be directed to a study of important surface processes, resulting features, and geologic hazards. Laboratory work includes the identification of common minerals and rocks, a study of common structures in section and plan view, three-point problems, interpretation of geologic maps, and application of stereographic projection in solution of structural problems.	**Description** An introduction to Earth systems, cycles, and materials followed by discussion of Earth's interior processes, including seismicity and volcanism, leads to description of common crustal structures and their role in regional and global tectonism. Subsequently emphasis will be directed to a study of important surface processes, resulting features, and geologic hazards. Laboratory work includes the identification of common minerals and rocks, a study of common structures in section and plan view, ~~three-point problems,~~ *and* interpretation of geologic maps~~, and application of stereographic projection in solution of structural problems~~.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Minor revision in course description was required for laboratory work to better reflect content as taught by new instructor.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List**

Offering 0-0; 3-3	**Offering** 0-0; 3-3
Prerequisites	**Prerequisites**
Corequisites	**Corequisites**
Notes Not for credit in the HBSc or BSc Geology programs.	**Notes** Not for credit in the HBSc or BSc Geology programs.
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

4.	New Version of a Course	Geology 3311 - Environmental Geology

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 3311 - Environmental Geology **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 3311 - Environmental Geology **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details	
CURRENT VERSION	**PROPOSED VERSION**
Code Geology 3311	**Code** Geology 3311
Title Environmental Geology	**Title** Environmental Geology
Description The relevance of geology to human society is investigated. Throughout the course students will be taught to relate their newfound understanding of Geology to interpreting the world around them. Topics to be discussed include volcanic hazards, earthquakes, flooding, landslides, desertification and glaciation, global warming, groundwater issues, soil erosion, resource geology, fossil fuels, renewable energy sources, waste management, pollution and environmental law. No specialist knowledge of geology is required as the basic geological principles underlying each topic will be explained each week.	**Description** The relevance of geology to human society is investigated. Throughout the course students will be taught to relate their ~~newfound~~ understanding of ~~Geology~~ *geology* to interpreting the world around them. Topics ~~to~~ *that may* be discussed include volcanic hazards, earthquakes, flooding, landslides, desertification and glaciation, global warming, groundwater issues, soil erosion, resource geology, fossil fuels, renewable energy sources, waste management, pollution and environmental law. ~~No specialist knowledge of geology is required as the basic geological principles underlying each topic will be explained each week.~~
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Updating the description to better reflect the material as taught by new instructor. Prerequisites needed to be added to ensure students are properly prepared for class.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List** Environmental Studies 3312

Environmental Studies 3312	
Offering 3-0; or 3-0	**Offering** 3-0; or 3-0
Prerequisites	**Prerequisites** *Geology 1110 or Geology 1111 or Environmental Studies 1111 or 1112 and Geology 1130 or 1131 or Environmental Studies 1131 or 1132*
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course taught already*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

5.	New Version of a Course	Geology 4011 - Environmental Geochemistry

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 4011 - Environmental Geochemistry **Start Term:** Fall 2014 **End Term:** No Specified End Date	Geology 4011 - Environmental Geochemistry **Start Term:** ~~Fall 2014~~*2015-16* **End Term:** No Specified End Date

Course Details

CURRENT VERSION	PROPOSED VERSION
Code Geology 4011	**Code** Geology 4011
Title Environmental Geochemistry	**Title** Environmental Geochemistry
Description An introduction to environmental geochemistry emphasizing the interactions of chemical, physical, geological and biological factors in controlling the chemical distribution, composition and structure of aqueous systems. Students will be introduced to various topics in aqueous geochemistry such as mineral equilibria, ion exchange, redox equilibria, mass transport and the application of radiogenic and stable isotope tracers to environmental systems. Students will gain practical experience with computer software used for modeling geochemical reactions and processes.	**Description** An introduction to ~~environmental geochemistry emphasizing the interactions of chemical, physical, geological and biological factors in controlling the chemical distribution, composition and structure of aqueous systems~~*the principles of stable isotope geochemistry, with specific emphasis on the behaviour of oxygen, hydrogen and carbon isotopes among the bio-,hydro-,litho-, and atmosphere*. Students will be introduced to ~~various topics in aqueous geochemistry such as mineral equilibria, ion exchange, redox equilibria, mass transport and the application of radiogenic and stable isotope tracers to environmental systems. Students will gain practical experience with computer software used for modeling geochemical reactions and processes.~~*theoretical and practical applications of stable isotopes to environmental studies.*
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale There will be more than one first year chemistry course that will function as the prerequisite.	**Rationale** ~~There will be more than one first year chemistry course that will function as the prerequisite~~*Updated description was required to better reflect the material taught*.

Requiredor Elective	**Requiredor Elective**
Cross List Chemistry 4011/Environmental Studies 4011	**Cross List** Chemistry 4011/Environmental Studies 4011
Offering 3-0; or 3-0	**Offering** 3-0; or 3-0
Prerequisites Chemistry 1130 or Chemistry 1131 and either Geology 2219 or Chemistry 2111	**Prerequisites** Chemistry 1130 or Chemistry 1131 and either Geology 2219 or Chemistry 2111
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT Approximately 15 students: a combination of majors and non-majors	**EffectonEnrolmentINIT** ~~Approximately 15 students: a combination of majors and non-majors~~*no*
EffectonEnrolmentOTHER Please see above	**EffectonEnrolmentOTHER** ~~Please see above~~*no*
AdditionalTeachingSpace No additional resources will be required for this course.	**AdditionalTeachingSpace** No additional resources will be required for this course.
EffectonTeachingLoads The teaching loads in chemistry will be increased.	**EffectonTeachingLoads** ~~The teaching loads in chemistry will be increased~~*No change, course already taught*.
EffectonServices There are no additional teaching support services requested.	**EffectonServices** There are no additional teaching support services requested.
DirectinkindSupport We are not requesting outside support.	**DirectinkindSupport** ~~We are not requesting outside support~~*No*.

6.	New Version of a Course	Geology 4137 - Groundwater

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 4137 - Groundwater **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 4137 - Groundwater **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details	
CURRENT VERSION	**PROPOSED VERSION**
Code Geology 4137	**Code** Geology 4137
Title Groundwater	**Title** Groundwater
Description Both the physical and chemical attributes of groundwater are examined. Porosity and permeability will be examined for various types of substrate consisting of loose sediment and bedrock. Methods of evaluating groundwater flow rates and aquifer volumes will be utilized to quantify subsurface water supplies. Techniques employed in exploring for groundwater reserves will be discussed. Groundwater geochemistry forms the other important aspect of material taught in this course. The chemical variability of natural groundwater (Eh, pH, dissolved ion concentration) will be contrasted with the effects of pollution (esp. sewage, pesticides and hydrocarbons) on aquifer systems. Remediation methods for contaminated aquifers will be explored.	**Description** Both the physical and chemical attributes of groundwater are examined. Porosity and permeability will be examined for various types of substrate consisting of loose sediment and bedrock. Methods of evaluating groundwater flow rates and aquifer volumes will be utilized to quantify subsurface water supplies. Techniques employed in exploring for groundwater reserves will be discussed. Groundwater geochemistry forms the other important aspect of material taught in this course. The chemical variability of natural groundwater (Eh, pH, dissolved ion concentration) will be contrasted with the effects of pollution (esp. sewage, pesticides and hydrocarbons) on aquifer systems. Remediation methods for contaminated aquifers will be explored.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Departmental meeting determined that a prerequisite was required for this course to ensure students are adequately prepared.*
Requiredor Elective	**Requiredor Elective**

Cross List	**Cross List**
Offering 3-0; or 3-0	**Offering** 3-0; or 3-0
Prerequisites	**Prerequisites** *Geology 1110 or 1111 or Environmental Studies 1111 or 1112 and Geology 1130 or 1131 or Environmental Studies 1131 or 1132*
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

7.	New Version of a Course	Geology 4313 - Geological Case Studies

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 4313 - Geological Case Studies **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 4313 - Geological Case Studies **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details	
CURRENT VERSION	**PROPOSED VERSION**
Code Geology 4313	**Code** Geology 4313
Title Geological Case Studies	**Title** Geological Case Studies
Description A team-taught program of case studies, each of which will be chosen to exemplify a certain characteristic style of tectonic terrain, whether it be primarily igneous, metamorphic, deformed, or sedimentary. Each case study will use published maps and reports for two to three weeks, after which progress will be judged by essays and seminars. Typical case studies may include, for example, an Archean terrane, a Proterozoic terrane, a Phanerozooic basin, a fold-and-thrust-belt, a basin-and-range province, an ophiolite, a transtensional (pull-apart) region and/or an impact-site. The topics may be finalized according to the interests of the class.	**Description** ~~A team-taught program of case studies, each of which will be chosen to exemplify a certain characteristic style of tectonic terrain, whether it be primarily igneous, metamorphic, deformed, or sedimentary. Each case study will use published maps and reports for two to three weeks, after which progress will be judged by essays and seminars~~*Case studies are used to teach concepts of geological analysis on a regional scale. Published literature about the mapped lithologies, structure, petrology, geochemistry, geophysics, stratigraphy and/or geochronology of various regions will be used to unravel geological history and evaluate tectonic models*. Typical case studies may include, for example, ~~an Archean terrane, a Proterozoic terrane, a Phanerozooic basin, a fold-and-thrust-belt, a basin-and-range province, an ophiolite, a transtensional (pull-apart) region and/or an impact-site. The topics may be finalized according to the interests of the class~~*the Appalachian orogenic belt, the North American Cordillera, the Himalayan-Tibetan orogeny, and Proterozoic tectonics of North America*.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5

Rationale	**Rationale** *Description was out of date; new description better reflects the course content.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List**
Offering 3-0; or 3-0	**Offering** 3-0; or 3-0
Prerequisites Permission of the Chair of the Department	**Prerequisites** Permission of the Chair of the Department
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change; course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

8.	New Version of a Course	Geology 4411 - Mineral Deposits II

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 4411 - Mineral Deposits **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 4411 - Mineral Deposits *II* **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details	
CURRENT VERSION	**PROPOSED VERSION**
Code Geology 4411	**Code** Geology 4411
Title Mineral Deposits	**Title** Mineral Deposits *II*
Description A survey of the geology of mineral and energy resources, with emphasis on those in northern regions. Laboratory work will consist of the study of ore suites and other materials from representative deposits.	**Description** ~~A survey of the geology of mineral and energy resources, with emphasis on those in northern regions~~*This course explores the characteristics and genesis of hydrothermal mineral deposits. Emphasis will be on VMS, SEDEX, sediment-hosted copper, carbonate-hosted, orogenic gold and uranium deposits*. Laboratory work will consist of the study of ore suites and other materials from representative deposits.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Updating course description to better reflect materials covered and addition of Mineral Deposits II; revision of prerequisite required to ensure students adequately prepared and reflect changes in program.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List**
Offering	**Offering**

3-2; or 3-2	3-2; or 3-2
Prerequisites Geology 2215, 2219 and 3216	**Prerequisites** Geology 2215~~, 2219 and 3216~~
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

9.	New Version of a Course	Geology 2210 - Mineralogy

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 2210 - Mineralogy **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 2210 - Mineralogy **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details	
CURRENT VERSION	**PROPOSED VERSION**
Code Geology 2210	**Code** Geology 2210
Title Mineralogy	**Title** Mineralogy
Description An introduction to mineral sciences, which includes appearance, structure, physical properties and occurrence of minerals, their application in material-science based industries and their significance in rocks, mineral deposits and environmental systems. Different mineralogical techniques such as macroscopic identification techniques, optical microscopy and X-ray powder diffraction will be also discussed.	**Description** An introduction to mineral sciences, which includes ~~appearance~~*crystallography*, ~~structure,~~ physical properties and occurrence of minerals, their application in material *science*-~~science~~ based industries and their significance in rocks, mineral deposits and environmental systems. Different mineralogical techniques such as macroscopic identification techniques, *and introductory* optical microscopy ~~and X-ray powder diffraction~~ will be ~~also~~ discussed.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Updating description to better reflect the material covered by new instructor; prerequisites added to ensure students properly prepared for course content.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List**
Offering	**Offering** 3-0; 0-0

3-0; 0-0	
Prerequisites	**Prerequisites** *Geology 1110 or 1111 and Geology 1130 or 1131*
Corequisites	**Corequisites**
Notes Not for credit in the HBSc or BSc Four Year Geology programs.	**Notes** Not for credit in the HBSc or BSc Four Year Geology programs.
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*

10.	New Version of a Course	Geology 2217 - Mineralogy with Laboratory

Course Details

CURRENT VERSION	PROPOSED VERSION
Geology 2217 - Mineralogy with Laboratory **Start Term:** Fall 2012 **End Term:** No Specified End Date	Geology 2217 - Mineralogy with Laboratory **Start Term:** ~~Fall 2012~~*2015-16* **End Term:** No Specified End Date

Course Details

CURRENT VERSION	PROPOSED VERSION
Code Geology 2217	**Code** Geology 2217
Title Mineralogy with Laboratory	**Title** Mineralogy with Laboratory
Description An introduction to mineral sciences, which includes appearance, structure, physical properties and occurrence of minerals, their application in material-science based industries and their significance in rocks, mineral deposits and environmental systems. Different mineralogical techniques such as macroscopic identification techniques, optical microscopy and X-ray powder diffraction will be also discussed. Laboratory work will treat the application of these techniques to minerals.	**Description** An introduction to mineral sciences, which includes ~~appearance~~*crystallography*, ~~structure,~~ physical properties and occurrence of minerals, their application in material-science based industries and their significance in rocks, mineral deposits and environmental systems. Different mineralogical techniques such as macroscopic identification techniques, *and introductory* optical microscopy ~~and X-ray powder diffraction~~ will be ~~also~~ discussed. Laboratory work will treat the application of these techniques to minerals.
End Term No Specified End Date	**End Term** No Specified End Date
Institution Lakehead University	**Institution** Lakehead University
Faculty Faculty of Science and Environmental Studies	**Faculty** Faculty of Science and Environmental Studies
CreditWeight 0.5	**CreditWeight** 0.5
Rationale	**Rationale** *Updating the course description to better reflect the materials covered by new instructor; prerequisite has also been added to ensure students are properly prepared for the course content.*
Requiredor Elective	**Requiredor Elective**
Cross List	**Cross List**

Offering 3-3; 0-0	**Offering** 3-3; 0-0
Prerequisites Permission of the Chair of the Department	**Prerequisites** ~~Permission of the Chair of the Department~~*Geology 1110 or 1111 and Geology 1130 or 1131*
Corequisites	**Corequisites**
Notes	**Notes**
SpecialTopicDropdown	**SpecialTopicDropdown**
GradeSchemePF	**GradeSchemePF**
EffectonEnrolmentINIT	**EffectonEnrolmentINIT** *no*
EffectonEnrolmentOTHER	**EffectonEnrolmentOTHER** *no*
AdditionalTeachingSpace	**AdditionalTeachingSpace** *no*
EffectonTeachingLoads	**EffectonTeachingLoads** *no change, course already taught*
EffectonServices	**EffectonServices** *none*
DirectinkindSupport	**DirectinkindSupport** *no*