



COURSE OUTLINE: NRT0238 - PHYSICAL GEOLOGY

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Approved: Martha Irwin, Chair, Community Services and Interdisciplinary Studies

Course Code: Title	NRT0238: PHYSICAL GEOLOGY
Program Number: Name	1120: COMMUNITY INTEGRATN
Department:	C.I.C.E.
Semesters/Terms:	18F
Course Description:	Students will gain an understanding of the processes that have led to the incredible variety of formations in the rocks and soils of our region. These will be related to land use and travel patterns both contemporary and historical. Included will be rock formation, minerals, surficial geology, glaciation, soils and fossil formation and identification.
Total Credits:	3
Hours/Week:	3
Total Hours:	45
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Substitutes:	NRT229
Essential Employability Skills (EES) addressed in this course:	<p>EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>EES 3 Execute mathematical operations accurately.</p> <p>EES 4 Apply a systematic approach to solve problems.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.</p> <p>EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.</p> <p>EES 10 Manage the use of time and other resources to complete projects.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
General Education Themes:	Science and Technology
Course Evaluation:	Passing Grade: 50%, D
Books and Required Resources:	Mountaineering Freedom of the Hills by Ronald C. Eng Publisher: The Mountaineers Books Edition: 8 ISBN: 978-1594851384



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Course Outcomes and Learning Objectives:

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will acquire varying levels of skill development relevant to the following learning outcomes:

Course Outcome 1	Learning Objectives for Course Outcome 1
Explain the geological development of the Earth since the beginning of its formation.	1.1 Describe the makeup of the Earth. 1.2 Explain the theory of plate tectonics(continental drift). 1.3 Explain why magnetic reversals are observed. 1.4 Explain the structure of subduction zones and their associated phenomena. 1.5 Describe mid-oceanic ridges. 1.6 Describe the geological time scale and how it applies to Ontario. 1.7 Explain the development of the present-day continents. 1.8 Explain the major dating processes used to determine the age of rocks.
Course Outcome 2	Learning Objectives for Course Outcome 2
Identify common rocks and minerals of the Algoma Region.	2.1 Adapt diagnostic tests and techniques used in determining different minerals and rocks. 2.2 Identify common minerals found in the Algoma District using the diagnostic tests and techniques described above. 2.3 Identify metamorphic, sedimentary and igneous rocks found in the Algoma District using the diagnostic tests and techniques described above.
Course Outcome 3	Learning Objectives for Course Outcome 3
Describe the rock cycle and the associated processes, rocks and formations.	3.1 Identify and explain the formation of sedimentary rocks. 3.2 Describe the main types of sedimentary rock found in Ontario in relation to rock type, origin, characteristics and age. 3.3 Identify major fossil groups found in the sedimentary rocks of Ontario. 3.4 Identify and explain the formation of metamorphic rocks. 3.5 Identify and explain the formation of igneous rocks. 3.6 Identify and describe formations within the rock cycle. 3.7 Relate each of the above to Ontario's geological time scale.
Course Outcome 4	Learning Objectives for Course Outcome 4
Explain the major glacial events in Ontario's recent history and describe the resulting impacts on surficial geology and landforms produced.	4.1 On maps of Ontario, describe the sequences of glacial advances and associated glacial lakes. 4.2 Explain isostatic rebound and how this phenomenon has left its mark in Algoma District. 4.3 Identify and explain the formation of glacial land forms such as eskers, drumlins, kames, potholes, outwash plains and moraines. 4.4 Explain climate change in the recent epoch and its impact on animal and plant populations.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight	Course Outcome Assessed
Labs	30%	2
Projects	30%	All



CICE Modifications:**Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

A. Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

B. Tests may be modified in the following ways:

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

C. Tests will be written in CICE office with assistance from a Learning Specialist.***The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

D. Assignments may be modified in the following ways:

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

The Learning Specialist may:

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment



E. Evaluation:

Is reflective of modified learning outcomes.

NOTE: Due to the possibility of documented medical issues, CICE students may require alternate methods of evaluation to be able to acquire and demonstrate the modified learning outcomes

Date:

September 18, 2018

Please refer to the course outline addendum on the Learning Management System for further information.

