Course Syllabus

Aims of the Course: To provide the student with a non-science background a basic understanding of:
a) Earth materials and processes (from a qualitative scientific perspective)
b) The importance of Earth materials and processes on art, technology, mythology and other aspects of culture (in the context of the Earth Sciences).
c) Human perception of Earth from cultural and scientific perspectives
Learning Outcomes: Upon completion of this course, the student will be able to:
1. Identify, classify and describe the characteristics of important minerals, rocks, and other Earth materials using appropriate scientific terminology, and interpret aspects of formation based on their observed characteristics.
2. Describe how geologic materials, processes and concepts are significant to aspects of human culture.
3. Articulate, in written form, basic scientific concepts covered in the course and acquired through independent research.
Lectures: Mondays, 10:30 am–12:30 pm & Wednesdays, 11:30 am-12:30 pm; Health Sciences Building Rm. 35
Background: This course is intended (but not limited to) students registered in faculties other than Science. As this course is offered through the Department of Earth Sciences (within the Faculty of Science), and counts as 0.5 course credits in Science for all UWO students. ***Students enrolled in the course will be expected to learn all scientific terms and concepts covered in the course. However, for the benefit of non-Science students taking the course, emphasis is placed on qualitative (versus quantitative) aspects of Science.*** As such, students taking the course need not be proficient in mathematics (or other numerically focussed disciplines) to grasp the material covered.
Prerequisites, Antirequisites: None
Instructor: Dr. Cameron J. Tsujita, Assistant Professor, Department of Earth Sciences
Email: ctsujita@uwo.ca (Please include 'ES 1089G' in the subject line of all emails about this course
Earth Sciences Tel: (519) 661-3187; **Fax:** (519) 661-3198
Office: B&G Rm. 1064 **Office Hours:** 1:30 pm- 3:30 pm Mondays and Wednesdays (or email Cam for appointment)
Course website: https://owl.uwo.ca/portal (log in with UWO username and password)
Textbook: Earth: An Introduction to Physical Geology (Tarbuck, Lutgens, Tsujita, Hicock), UWO custom edition *OR* Fourth Canadian Edition of full version if you previously took a course using this text (Earth Sci. 1022a/b or 2200a/b).
Teaching Assistants: TBA (email addresses will be provided on OWL) Tianqi Xie, Halima Warsame
Note: If you would like meet with one of your TAs to ask questions about course content or marking issues, please email them to arrange a time to meet and they will be happy to talk to you.

Assignments: All necessary instructions and materials for assignments will be posted on OWL. Please ensure that you print these by the dates when they are assigned. All assignments will be submitted in the appropriate drop box located in B&GS Rm.1015).
Important Comments on Availability of Lecture Materials:
Powerpoint presentations for each lecture will be posted the evening before the lecture (at the latest), and will remain on the website for the rest of the term. However, **some material in the presentations will be deliberately left out, requiring you to fill in important terms and other information critical to the topic**. You are therefore still required to come to the lectures. It follows that the Powerpoint presentations posted on Web CT are not to be used as a substitute for coming to class (you have been warned). **Historically, students who have not come to class regularly have fared poorly in this course.** It is up to you to download the presentations when they are available and to obtain information from your classmates if you miss a class. Internet readings for background information or for general interest will be indicated for each lecture topic listed on the website.
Background Reading: The above-noted text will be used for some of the topics covered in the course (especially in the first half). Links to relevant online articles for each lecture (where indicated) will be provided on the course website for your reading pleasure (either to supplement text material or to cover course material absent in the text).
Comments on Following Instructions: Specific instructions provided for assignments and exams are expected to be followed. Any marks deducted for not following instructions are non-negotiable.
Policy on Late Assignments: All assignments handed in after 4:00 pm on the due date will be deducted 10 %. For each additional day late (after 4:00 pm on the day following the due date) a further 10% will be deducted.

Grade Components:

3 Very Short Practical Assignments: 10 % total
1 Short Written Assignment: 10%
1 Final Term Paper: 20 %
Midterm Exam: 20%
Final Exam: 40%

Lecture Schedule (Spring, 2017)

Please Note: Each of the two-hour lecture sessions on Mondays will be presented as two separate one-hour lectures back-to-back, whereas each of the Wednesday sessions will be presented as a single one-hour lecture

Week 1 ***Introduction***

Jan 9 Introduction to Earth, Art and Culture
Our Place in Space: Ancient and modern views on "creation"
Jan 11 The Earth System: Our views of planet Earth

Week 2 ***Minerals***

Jan. 16 Why Minerals Are Beautiful: Minerals and their properties
Why Minerals Are Beautiful, cont'd (Minerals and their properties, cont'd)
Jan. 18 Minerals Gemstones and Jewellery: Minerals as prized objects ***short practical assignment 1 on minerals assigned***

Week 3 ***Rocks***

Jan. 23 Rocks: Earth's Building Blocks 1: Igneous rocks
Rocks: Earth's Building Blocks 2: Sedimentary rocks
Jan. 25 Rocks: Earth's Building Blocks 3: Metamorphic rocks**;** ***practical assignment 2 on rocks assigned; pract. assign. 1 due at 4:00 pm***

Week 4 ***Fossils***

Jan. 30 The Devil's Doing: Fossils, superstitions and mythology
Fossils, Art and Culture: Fossilization and aesthetics of fossil remains
Feb. 1 Fossils, Art and Culture, cont'd; ***practical assignment 3 on fossils assigned; pract. assign. 2 due at 4:00 pm***

Week 5 ***Geological Time and Plate Tectonics***

Feb. 6 The Sands of Time: Our perception of time and the antiquity of Earth
Earth's Changing Face: The basics of plate tectonics and rock deformation
Feb. 8 Mother Nature's Chisel: Processes of weathering and erosion***; pract. assign. 3 due at 4:00 pm***

Week 6 ***Weathering and Erosion***

Feb. 13 Clay: From weathering product to art medium
Stolen Land : Famous erosional landforms
Feb. 15 Midterm exam: material up to including "Earth's Changing Face" (regular lecture room, regular lecture time)

Week 7 Feb. 20-Feb. 24 READING WEEK – NO CLASSES (YAY!)

Week 8 ***Rivers and Coastlines***

Feb. 27 Rivers: The geological and cultural significance of rivers
Coasts and Reefs: Shallow marine processes
Mar. 1 Metal Madness: The geology of metallic mineral deposits**; Short written assignment due in drop box by 4:00 pm (in addition to the hard copy, submit an electronic copy via OWL).**

Week 9 ***Metallic Resources and Fossil Fuel***

Mar. 6 Metal Madness, cont'd: The geology f metallic mineral deposits
Heavy Metal Thunder: Uses of metals in art
Mar. 8 Coal and Petroleum: Fuel, fashion, and fads

Week 10 ***Geology, Painting and Architecture***

Mar. 13 Minerals and Paint: The use of minerals as pigments
The Geology of Ancient Monuments: When human hands meet stone
Mar. 15 Modern Monuments and Stone Sculpture: Stone and modern aesthetics; **Term paper due in drop box by 4:00 pm (don't forget to submit an electronic copy via OWL as well)**

Week 11 ***Earth Catastrophes***

Mar. 20 Doing the Apocalypso: Apocalyptic imagery in art and literature
The Cretaceous-Tertiary Mass Extinction: When dinosaurs meet disaster
Mar. 22 Modern Doomsday Scenarios: Global catastrophe at the movies

Week 12 ***Biological Materials and Aesthetics***

Mar. 27 The Dinosaur: Dragon or doofus?
Nacre: The natural beauty of mother of pearl
Mar. 29 Pearls: Irritants, iridescence and industry

Week 13 ***Natural Disasters and Earth Oddities***

Apr. 3 Disasters and Plate Tectonics: Earthquakes and Tsunami
Odd Earth Objects: Unusual sights and sounds of Earth
Apr. 5 You Are What You Eat: Geology and food

Comments on Assignments:

1. **Three very short practical assignments** will be assigned in the early part of the course. These will be **assigned on Jan. 18, Jan. 25, and Feb. 1, 2017**; each of these is due in the drop box (in B&GS 1015) by 4:00 pm on the Wednesday following the date it is officially assigned (i.e., Jan. 25, Feb. 1 and Feb. 8 respectively; you do not need to submit these to turnitin via OWL as you will for the larger assignments). These three assignments are designed to encourage you to look at real examples of the various minerals, rocks, and other items that we will be dealing with in this course. They are NOT designed to stump you- yes, we know many of them will seem **too** easy. But if we simply asked students to "look at the rock samples outside of B&G…" how many would actually do it? Each of these practical assignments is worth about 3.33 % of your final grade so, no, we don't expect you to invest a huge amount of time into these.

Approach these assignments as tools for reinforcing the concepts that we deal with in class and your ability to problem-solve. Remember: **Observe, Record *then* Interpret**.

2. **A short (approximately 5 page) assignment** will be assigned in later in the term. This is will be **due in the drop box at 4:00 pm on Wednesday, Mar. 1, 2017**. **An electronic copy of the text must also be submitted to turnitin (via OWL) at this time.**

3. **A 2000 word assignment** (term paper) will addressing an issue related to geology and culture is **due in the drop box by 4:00 pm, Wednesday, March 15, 2017**. **An electronic copy of the text must also be submitted to turnitin (via OWL) at this time.**

A more complete set of instructions for preparing your term paper will be provided on the course website.

A HARD COPY OF ALL ASSIGNMENTS MUST BE SUBMITTED TO THE COURSE DROP BOX (IN B&GS 1015) BY THE TIMES INDICATED ABOVE TO COUNT AS "ON TIME"

Comments on Exam Format:

Both the midterm and final exams will follow a basic format (at least approximately) of three components:

The first 1/3 of the exam will consist of "fill-in-the-blanks"-type questions (1 mark per blank). These are Designed to evaluate how well you understand the meanings of certain terms, important associations between concepts, and aspects of the various minerals, rocks and other substances dealt with in the course.

The second 1/3 of the exam will require you to provide definitions (preferably in your own words) of terms provided (2 marks per definition). A **clear and concise definition** should only require the equivalent of approximately two sentences (plus sketches if they improve the clarity of your statements). Keep in mind that **a longer answer does not necessarily equate with a better mark; if the pertinent information is not there, it's just not there!** Answers can be written in point form.

The third 1/3 of the exam will require paragraph-length answers (4 marks each). These will mostly deal with concepts, historical items, and links between concepts that require longer explanations. **Answers can be written in point-form**.

The midterm exam (scheduled for **Wednesday, Feb. 15** during the **regular lecture time (11:30 am-12:20 pm)** and in the **regular lecture room (HSB-35)**) will be 50 minutes long. The final exam will be 2 full hours long and is scheduled by the Office of the Registrar– details on the date, time and place of the exam will be provided later in the term.

Policy on Late Assignments and Missed Exams (Due to Illness or Other Serious Circumstance):

If you are unable to meet a course requirement (i.e., an assignment or exam) due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Dean's office as soon as possible and contact your instructor immediately. A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Records Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here: https://studentservices.uwo.ca/secure/medical_document.pdf

It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately.

For further information please see: http://www.uwo.ca/univsec/handbook/appeals/medical.pdf

If official approval and documentation is not provided to the instructor, the penalties for late assignments will apply (see above) and/or permission to write a special Examination will not be granted.

Please Note: We cannot and will not accommodate any requests to hand in an extra assignment for the purpose of boosting your final course grade.

Additional Comments on Student Conduct and Issues of Plagiarism:

1. Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: www.uwo.ca/univsec/handbook/appeals/scholoff.pdf
2. All required papers may be subject to submission for textual similarity review to the commercial **plagiarism detection software** under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com)."
3. Electronic devices will or will not be allowed during tests and examinations.
4. **As indicated above, the powerpoint slides used for lectures in this course are posted on OWL in incomplete form deliberately.** It is up to all students to attend classes and fill in the "missing" material**.** (You have now been warned twice!) **Complaints from students that the complete versions are not posted (especially near the end of term) will not be taken seriously.** Also, please respect the amount of work that the instructor and TAs invest in marking the assignments. Exams and assignments typically take **at least** a week to mark (longer for term papers), so **please** be patient (we're working as hard as we can!). Also, please refrain from **abusively demanding** things of the instructor and TAs by email, especially the night before an exam or similar last-minute circumstance. We will respond to your concerns as promptly as we can! Use respect, and you will receive it return!

Important Note: We encourage you to collaborate with your classmates, but **make sure you complete your own assignments (including the practical ones) individually (yes, even if unintentional), writing down exactly the same answers as your friend can count as plagiarism. You have been warned!**

Comments on the Geological/Science Content of the Course

The title of this course is Earth, Art and Culture. As such it is **first, and foremost, a geology course, so you can expect most of the content will concentrate on geological topics.** As such, **you will need to learn geological concepts before you can truly appreciate the links between geology and cultural aspects of society – *we will be looking more closely at the links between geology and culture after the midterm, so just hang in there***. For those of you who have taken an Earth Sciences course previously, please keep in mind that **MOST of the people taking this course will never have taken an Earth Sciences course before;** they will be learning the material for the first time. **Please be patient** with those who are less experienced (for whom this course is principally designed). Use the "fundamentals" part of this course is course as an opportunity to better understand the concepts. **For those of you who have NOT taken an Earth Science course previously, you have come to the right place**; we will take things at a fairly leisurely pace so that everybody arrives at the same level of understanding. Many of you will have taken this course due to the "art" or "culture" aspects. However, we hope that you might just find that even in its own right, geology is a heck of a lot more interesting than you initially thought. We hope you enjoy the experience!

And lastly…

If you have ANY problems following the course material, please make sure you come talk to Cam (or the TAs), or email us (Again, **please include 'ES 1089G' in the subject line of all emails about this course**), to go over the material with you and help you understand the concepts better. Cam's door is always open (yes, even outside office hours), so if you are needing extra help or have questions, PLEASE SAY SO before it becomes a bigger problem (as long as Cam is in, he will be happy to talk to you). Please do not feel inimidated about asking questions about concepts you are struggling with- **that's what we're here for!**