GG 101: Dynamic Earth

General Information

**IMPORTANT:** Please review other course resources in the Table of Contents to the left.

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Course Description

**Welcome**

Geology is the study of the planet Earth and the processes that shape it through time. Geologists work and study in the lab and in the field; the natural world is their classroom. Exciting and relevant areas of research and study in the field of geology include, but are not limited to:

- Minerals
Course Goals

This course consists of sixteen modules covering the following concepts. Each module will last approximately one week. Additionally, more specific objectives will be provided during the course for each module:

Module 1 – Provides an introduction to geology as a science.

Module 2 – This module introduces you to minerals, the basic component of rocks.

Module 3 – This module continues to discuss minerals, the basic component of rocks.

Module 4 – This module discusses the rock cycle and the different types of rocks.

Module 5 – This module covers the three different types of rocks; Igneous, Sedimentary, and Metamorphic.

Module 6 – This module covers the basics of weathering, which includes the production of soils.

Module 7 – This module involves an exam study session and Exam #1.

Module 8 – This module covers the Mythologies of the formation of Hawai‘i.

Module 9 – This module covers the structure of the Earth’s interior.

Module 10 – This module discusses the basics of Plate Tectonics.

Module 11 – This module covers Volcanics.

Module 12 – This module covers the crustal deformation of the Earth.

Module 13 – This module covers Earthquakes.

Module 14 – This module covers the Special Topics Presentation.

Module 15 – This module covers mass movement including landslides and other spectacular natural catastrophes!!!

Module 16 – This module includes the Final Class Presentation.

At the end of this class, students will be able to:
be able to identify and classify common rocks and minerals.

understand how geologic resources form, how they are used, and the differences between renewable and nonrenewable resources.

understand plate tectonics and its central role as the unifying theory of geology.

be able to articulate the relationship between volcanoes, earthquakes, and mountain belts and tectonic plate boundaries.

understand the scientific process and scientific basis for geologic interpretations.

Course Readings and Resources

Textbooks:

Required: This course uses a free geology textbook. See the Geology Open Text Module Link (https://windwardcc.instructure.com/courses/184/modules/1625).

Learning resources:

Lectures: Any additional lectures will be posted in the Syllabus below and the Weekly Module Resources page.

Course Communication

News and Announcements

The News and Announcements Forum, linked under the Course Communication Center module on our course’s home page, serves as a way for me to make announcements within our virtual learning environment. All students are automatically subscribed to this forum and will receive a duplicate email of each message posted within it.

Discussion Forum

The discussion forum will be used for the submission of some assignments and for communication with other class members on topics of interest to the whole class. In some cases you will be asked to discuss assignments and translation approaches and techniques that you have used for your language pair and compare them to what others have done. You may also be asked to discuss how you have approached such issues as cultural problems and how you have overcome them so that other students in the class can benefit. All forums are public. Therefore, whatever is posted can be seen by everyone in the course. If you want to send a private message, use email.

Email
Course participants can also use email to communicate with me, group members, and each other privately. Please copy me on all communications using email so that I can keep up on what’s going on.

## Course Schedule

*(Note: reading/writing assignments should be completed on the date listed in the course calendar.) This calendar is subject to change. Students are expected to make note of any changes made.*

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<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Assignments</th>
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<td>Course Orientation</td>
<td>Course Introduction</td>
<td>Syllabus review</td>
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<tr>
<td></td>
<td></td>
<td>Discussion #1: Introduce Yourself</td>
</tr>
<tr>
<td>Module 1</td>
<td>Introduction to Geology</td>
<td>Reading: The Science of Geology</td>
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<tr>
<td>(August 22 - August 28)</td>
<td></td>
<td>Reading: The Nature of Science</td>
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<td>Module 2</td>
<td>Minerals</td>
<td>Reading: Mineral Identification</td>
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<tr>
<td>(August 29 - September 4)</td>
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<td>Reading: Mineral Basics</td>
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<tr>
<td>Module 3</td>
<td>Minerals</td>
<td>Reading: Classes of Minerals</td>
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<tr>
<td>(September 5 - September 11)</td>
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<td>Reading: Abundance of Elements in the Earth’s Crust</td>
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<td></td>
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<td>Quiz 1: Intro to Geology + Minerals</td>
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<tr>
<td>Module 4</td>
<td>Rock</td>
<td>Reading: The Rock Cycle</td>
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<td>(September 12 - September 18)</td>
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<td>Reading: Types of Rocks</td>
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<tr>
<td>Module 5</td>
<td>Types of Rocks</td>
<td>Reading: Igneous Rocks</td>
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<tr>
<td>(September 19 - September 25)</td>
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<td>Reading: Sedimentary Rocks</td>
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<td>Reading: Metamorphic Rocks</td>
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<td>Module 6</td>
<td>Soil</td>
<td>Quiz #2: Rocks</td>
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<td>(September 26 - October 2)</td>
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<td>Discussion #3: Minerals vs. Rocks</td>
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<tr>
<td>Module 7</td>
<td>Exam Study Session</td>
<td>Reading: Weathering</td>
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<tr>
<td>(October 3 - October 9)</td>
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<td>Reading: Characteristics of Soil</td>
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<tr>
<td>Module 8</td>
<td>Mythology of Hawaii</td>
<td>Exam #1</td>
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<tr>
<td>(October 10 - October 16)</td>
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<td>Module 9</td>
<td>Earth’s Interior</td>
<td>Reading: Papa o Wakea</td>
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<td>(October 17 - October 23)</td>
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<td>Research a Mo’olelo</td>
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<td>Module 10</td>
<td>Plate Tectonics</td>
<td>Special Discussion: Post a Mo’olelo</td>
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<td>(October 24 - October 20)</td>
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<td>Reading: Inside the Earth</td>
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<td>Module 11</td>
<td>Volcanics</td>
<td>Reading: Beyond Simple Layers</td>
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<td>Reading: The Interior of the Earth</td>
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<tr>
<td></td>
<td></td>
<td>Quiz #3: Inside the Earth</td>
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<td></td>
<td></td>
<td>Reading: The Basics of Plate Tectonics</td>
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<td>Reading: The Theory of Plate Tectonics</td>
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<td></td>
<td></td>
<td>Reading: Volcanic Eruptions</td>
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<td></td>
<td></td>
<td>Reading: Types of Volcanoes</td>
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</tbody>
</table>
Module 12
(October 31 - November 6)
Reading: Basics of Volcanos
Quiz #4: Plate Tectonics & Volcanoes
Reading: Stress and Strain
Reading: The Nature of Earthquakes
Reading: Earthquakes
Quiz #5: Crustal Deformation & Earthquakes
Discussion #4: What about Tsunamis

Module 13
(November 7 - November 13)
Crustal Deformation
Earthquakes

Module 14
(November 14 - November 20)
Special Topics

Module 15
(November 21 - November 27)
Mass Movement

Module 16
(November 28 - December 4)
Special Topic Presentation
Final Exam Study Session

Finals
(December 5 - December 11)
Final Exam

Course Requirements

Quizzes (100 points total- 20 points for each quiz). The student will complete 5 online quizzes to assess their comprehension of course materials (the lowest three quiz scores will be dropped). The quizzes will be based on the lectures and assigned reading for the previous week. Although the quizzes are open-book, they are timed (As such, students who have not studied can expect to do poorly on the quizzes).

Examinations (100 points total- 50 points each for exam). The student will take two online exams to demonstrate understanding of basic geology as presented in the lectures and text readings. Exams are typically 50-100 questions in length. Each student will be allowed to take each exam ONCE ONLY and there is no re-takes for exams. Students who fail to take the exam by the required date and time will receive a zero score on the exam.

Discussion Forum: (150 points total- 30 points for each activity). The student will complete five discussion board assignments on selected topics from the course text. The purpose of these assignments is to facilitate open discussion of course topics between students in the class. For discussion boards, you will be required to post a response based on the prompt posted by your instructor. You will also be required to read and post responses to at

https://windwardcc.instructure.com/courses/184
least TWO of the posts from your fellow students. Both your initial post and your responses MUST be completed by the deadline. Your posts and responses will be graded based on effort, clarity, and accuracy. The topics for each discussion board will be posted on the course website.

Students are asked to respond to assignment discussion topics with thoughtful commentary, incorporating readings and other class materials into their posting. Students are required to respond to at least two other posts by their classmates.

-Special Discussion: (75 points total). Each student will start a discussion on a Hawai’ian mythology (Mo‘olelo) that is related to geology. You may record yourself talking story and post it in lieu of a written submission. Please choose an interesting Mo‘olelo that will inspire us all!! Please feel free to go Hale La‘akea library and check out the Hawai‘ian collection!!

-Presentation: (100 points total). The student will provide a 5 minute talk on a predetermined topic in Geology. This topic will be assigned by the instructor by the November 22nd class.

-Participation: (75 points total). Just participate!! Easy 75 points~

Netiquette

The best possible experience in discussion forums and in e-mail exchanges occurs when respect is shown to all participants. When addressing other people on the discussion forums, think about the impact of your words and remember that unlike face-to-face communication, those you communicate with cannot see the expression on your face or hear the intonation in your voice.

Try to be brief and to the point. Answer questions but do not be drawn into arguments. The discussion forum is not the place for political arguments or for discussion of inappropriate topics.

If you cite someone else's ideas, make sure to give them credit.

Peer Feedback

Collaborative learning is a part of this course. Students are expected to provide quality feedback to their peers. Some of the ways that this can be done in this course include the following:

- Be nonjudgmental and provide specific examples if discussing the work of someone else

- Cite examples from your own work or cite other research as a way to make your point

- Make suggestions that are easy to understand and make sense. Suggest specific processes that a person might use to solve a particularly difficult problem.
Grading

Grade breakdown will be as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Occurrences</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>5 x 20 points</td>
<td>100</td>
</tr>
<tr>
<td>Exams</td>
<td>2 x 50 points</td>
<td>100</td>
</tr>
<tr>
<td>Discussion Board</td>
<td>5 x 30</td>
<td>150</td>
</tr>
<tr>
<td>Special Discussion</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Presentation</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Participation</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

Calculation of grade: The final letter grade for this course will be determined on the basis of the total number of points and will follow the normal University of Hawaii grading system. Thus, the letter grade is determined by the percentage of points accumulated, based on the following scale:

- A - 90%-100%  (537-600 points)
- B – 80%-89%  (477-536 points)
- C – 70%-79%  (417-476 points)
- D – 60%-69%  (357-416 points)
- F – 0%-59%  (<357 points)

Please note that "N" grades are not given for this course

Grades may be curved at the instructor's discretion; however, the student should use the above grading scale to evaluate their performance throughout the class. If you miss an examination because of an illness or legitimate emergency, you must contact the instructor within 48 hours to arrange a time to take a make-up exam. The instructor will request that the student present evidence of the illness or emergency that caused the student to miss the exam. While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different. No retests will be given for any reason.

Attendance and Class Preparation Policy
This is an online class and students are expected to keep pace with module assignments. Students are required to complete reading and writing assignments by the posted deadlines, and interact with the instructor and other members of this online class using the delivery platform with professionalism. There will be no make-up work. As in real life, no assignments will be accepted late. In case of illness or other serious emergencies, please provide documentation and notify the instructor by e-mail. Students may not stop and restart the class.

Please read the University of Hawaii Policies on Academic Integrity

See the E7.208 University of Hawaii Systemwide Student Conduct Code

The UH Student Conduct Code shall apply to conduct that occurs on UH premises, at UH sponsored activities, in distance/on-line courses and events, and to off-campus conduct that affects the UH Community and/or the pursuit of its objectives. Each student shall be responsible for his/her conduct from the time of application for admission through the actual awarding of a degree.

Additional Information

STUDENT RESPONSIBILITIES

The student is expected to view all lectures, participate in all course activities, and complete all examinations and course assignments on time. Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time on the course website or by UH email. Students should check their UH email address regularly (at least every 48 hrs.) so that they can be informed of course changes in a timely manner. It is the student’s responsibility to be informed of these changes. It is also the student’s responsibility to be informed about deadlines critical to making registration changes (e.g., last day for making an official withdrawal).

HOW TO SUCCEED IN THIS CLASS

Although you can download all lecture outlines and course materials, you will not succeed in this class without reading your textbook and taking detailed notes. Merely reading the chapter will not suffice. Science courses at WCC generally require a minimum of three hours of independent study time for each hour in class. It is your responsibility to allocate the appropriate amount of time needed for study and be realistic about all personal and professional commitments that may cut into your study time.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale ‘Akoakoa 213 for more information.

Assignments Summary:

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://windwardcc.instructure.com/courses/184/assignments/1832" alt="Discussion #1 - Tell us about yourself" /></td>
<td>due by 11:59pm</td>
</tr>
</tbody>
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https://windwardcc.instructure.com/courses/184
Discussion #2 - Why minerals are important.
[https://windwardcc.instructure.com/courses/184/assignments/1834](https://windwardcc.instructure.com/courses/184/assignments/1834)
due by 11:59pm