

**Cincinnati Christian University**  
**Foster School of Biblical Studies, Arts & Sciences**

**DANGEROUS EARTH NSCI 215**  
Fall 2019, PH 105 TH 8:30 a.m. – 9:45 a.m.  
3 Semester Credit Hours

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**Text: Natural Disasters; Patrick L. Abbot, 10<sup>th</sup> Edition: McGraw Hill, 2016**

**Purpose:** CCU is committed to providing a Christ-centered, liberal arts education taught with a Christian worldview in students' chosen fields of study. The purpose of this course will be to study the ways in which geology affects our society including geologic hazards such as volcanoes, earthquakes, landslides, flooding and coastal erosion, in the context of God's creation. Emphasis will be placed on the geology of southwestern Ohio, northern Kentucky, and southeastern Indiana, and the ways in which geologic conditions and geologic processes influence our lives.

**Goals:** Upon completion of this course, the students are expected to have the following expertise:

- An understanding of the concepts of geologic hazards and the processes that cause them
- An understanding of how these processes affect our everyday life
- A knowledge of the geology and environmental geologic conditions in the Tristate and an appreciation of the way that geologic factors have influenced social and economic development of this area
- Improved observational abilities with respect to appreciation of the local geologic environment.

**Outcomes:** Upon completion of this course, you should have an understanding of the scientific theories explaining the causes and effects of natural geologic hazards and how they affect society (A&S 5). In addition, you will have an appreciation of the geology of the northern Kentucky and southwestern Ohio and the impact that geologic conditions and processes have had on this region (A&S 3 and 4). Finally, you will have the ability and critical thinking skills to identify and evaluate certain hazardous conditions and settings to enhance the safety of your life (A&S 3 and 4).

### **Outcomes for the Arts & Sciences Department**

**A&S 1** Communicate effectively in both oral and written forms in a variety of rhetorical contexts, including Standard English

**A&S 2** Adeptly utilize modern research and writing tools

**A&S 3** Identify decisive events and ideas in the human experience and assess their influences on modern culture and thought

**A&S 4** Employ critical and creative thinking and mathematic and scientific principles for problem solving, literary and socio-cultural analysis, intercultural understanding, and research in the sciences and humanities

**A&S 5** Demonstrate the integration of academic insights and experiences by constructing and employing a personal framework in which ethical decisions can be made in light of societal values and a Christian worldview

**Course Requirements and Policies:** This is a rigorous course that requires high quality work from you. You are expected to attend lectures and read the principal text and additional assigned reading materials, do the reading prior to class, and fully participate in class discussions. Lectures are designed to cover the basic concepts and provide supplemental material to that presented in the text. Material available on the Internet also will be used for additional assignments. All assignments must be turned in on time and in a clear and concise manner.

**Attendance:** All students play a vital role in this class and are **required to attend lectures**. After your third unexcused absence, five points will be deducted from your final grade. Unexcused late arrivals (**2**) and early departures will also count as an absence. **More than 4 absences results in being dropped from the class.**

**Academic Support:** Students who require academic accommodations due to any documented physical, psychological, or learning disability should request assistance from the Academic Support Director within the first two weeks of class. You may contact the office by phone (244-8420).

**Assessment:** Your understanding of the course material and ability to apply that knowledge in every-day life will be assessed in the following ways: 1) knowledge of material including terms, concepts, and examples on quizzes, exams and research report (A&S 1 and 2); 2) analysis of examples and real-life situations on research report and field trips (A&S 1-3); 3) evaluation of dangerous geological settings on field trips and subsequent write-ups (A&S 1-4).

### **Course grading:**

The final grade will be based on the following course responsibilities:

• Exams (four @ 100 points each)	400 points
• Field trip and write-up (@ 100 points each)	200 points
• Pop Quizzes (about once a week)	150 points
• Case Study Research Report (*See below*)	150 points
• Case Study Presentation (presented in class per topic flow)	<u>100 points</u>
<b>Total</b>	<b>1000 points</b>

The pop quizzes will be given periodically as part of a lecture period. Questions will cover materials from that day's reading assignment. You may use hand written notes that you have taken while studying that day's reading assignment.

### **Grading Scale:**

- A 90 – 100%** - indicating exceptional mastery of the subject, and the ability to interpret and apply course concepts to everyday life.
- B 80 – 89%** - indicating above average performance fulfilling course requirements and exhibiting some mastery of material regarding completeness, accuracy, comprehension, and application
- C 70 – 79%** - indicating satisfactory performance at the collegiate level, having dedicated sufficient time for course work, and demonstrated knowledge of course content and methods
- D 60 – 69%** - indicating sub-standard performance and limited understanding of course material, and may not have completed all assignments, or may not have supplied sufficient effort.
- F 59% and below** – indicating failure for unsatisfactory or incomplete work.

## Tentative Schedule:

<u>Day</u>	<u>Chapter</u>	<u>Topic</u>
August 20	1	Intro to Course, Population Problem
August 22	2	Intro to Earth's Systems
August 27	2	Earth's Systems and History
August 29	2	Plate Boundaries and Behavior
September 3		Plate Tectonics
September 5	3	Earthquakes, Video
September 10	4	Earthquakes
September 12	8	Tsunami
September 17	5	Earthquake Case Histories
<b>September 19</b>		<b>Research Day – No Class</b>
<b>September 24</b>		<b><u>Exam 1 (Ch. 1-5, 8)</u></b>
September 26	6	Plate Tectonics and Volcanism
October 1	7	Ancient Volcano Case Histories
<b>October 3</b>		<b>Fall Recess – No class</b>
October 8	7	Modern Volcano Case Histories I
<b>October 10</b>		<b><u>Exam 2 (Ch. 6-7)</u></b>
October 15	15	Mass Movement I Video
October 17	15	Mass Movement Case Histories Video
<b>October 22</b>	during class	<b>Mass Movement Field Trip</b>
October 24	13	Streams & Floods
October 29	13	Flood Case Histories
October 31	9	Atmosphere
<b>November 5</b>		<b><u>Exam 3 (Ch 13, 15)</u></b>
November 7	12	Climate Cycles and Ice Age
November 12	10	Storms and Tornadoes
<b>November 14*</b>	10	Tornadoes, Video ( <b>Paper due</b> )
December 19	11	Hurricanes and Case Studies
November 21	11	Hurricane Video & Case Studies
<b>November 25-29</b>		<b>Thanksgiving Break</b>
December 3	14	Fire & Case Studies
December 5	17, Epilogue	Extinctions, Local Hazards
<b>December 10 or 12</b>		<b><u>Exam 4 (Ch. 9-12, 14, 17, Epi. &amp; Tristate)</u></b>

\*\*It is to be understood that this is an outline of the class schedule and probably will be modified as we go along.

### **\*Research Report (due November 14) – no late work will be accepted**

You are to investigate a geological hazards case study of your choosing using the following guidelines:

- 1) five full pages of text (minimum), 12 point font, 1 inch margins, page numbers
- 2) cover sheet / title page
- 3) **every paragraph referenced** (except introduction and conclusion)
- 4) additional pages of appropriate maps, charts, photos, etc.
- 5) bibliography
- 6) resources can include internet, books, articles, etc.
- 7) text must be in **your own words** – plagiarism of any kind will not be tolerated and will result in a zero on the assignment.
- 8) You will be graded on the quality of your work and your ability to follow these guidelines.
- 9) **You will present this case study at the appropriate point in the topic flow.**

ALL CELL PHONES MUST BE ON VIBRATE MODE OR OFF DURING LECTURE, AND MUST BE TURNED OFF DURING EXAMS.