

Elements of Earth Science

PHSC-210

CG Section 8WK 11/08/2019 to 04/16/2020 Modified 03/28/2022

Course Description

A study of the principles of physical and historical geology, oceanography, and meteorology for non-science majors.

Requisites

For information regarding prerequisites for this course, please refer to the [Academic Course Catalog](https://catalog.liberty.edu/) (<https://catalog.liberty.edu/>).

Rationale

The purpose of this course and its associated lab is to reveal the complex inter-relatedness of earth processes affecting the hydrosphere, atmosphere, and lithosphere. These processes and the contemporary scientific paradigms upon which they are founded will be evaluated via the grid of biblical revelation. Naturally, particular attention will be given to the Book of Genesis. In the end, this course is designed to broaden the student's understanding of the earth and its function from both scientific and biblical perspectives.

Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

- A. Identify the basic structures, materials, and processes of the earth system.
- B. Apply various geologic rules and methods to solve geological problems.
- C. Compare the scientific evidences for the young-earth and old-earth historical frameworks.
- D. Discuss the various ways geologic, meteorological, and oceanographic processes impact humanity.
- E. Evaluate the strength of arguments for controversial topics in the earth sciences.

General Education Foundational Skill Learning Outcomes (FSLO): Social and Scientific Inquiry (SSI)

- A. SSI 1: Demonstrate an understanding of the impact of science on the world in which we live.
- B. SSI 2b: Demonstrate a biblical understanding of humankind's role in scientific inquiry and discovery.
- C. SSI 4: Describe how social and/or scientific inquiry equips human beings to be participants in God's redemptive work.

Course Resources

Click on the following link to view the required resource(s) for the term in which you are registered: [Liberty University Online Bookstore](https://bncvirtual.com/liberty/) (<https://bncvirtual.com/liberty/>).

Additional Materials for Learning

- A. Computer with basic audio/video output equipment
- B. Internet access (broadband recommended)
- C. Canvas [recommended browsers](https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66) (<https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66>)
- D. Microsoft Word

☰ Course Assignments

Textbook readings and lecture presentations

Course Requirements Checklist

After reading the Course Syllabus and [Student Expectations \(https://www.liberty.edu/institutional-effectiveness/student-expectations/\)](https://www.liberty.edu/institutional-effectiveness/student-expectations/), the student will complete the related checklist found in the Course Overview.

Discussions (2)

Discussions are collaborative learning experiences and are designed to help the student evaluate earth science via the grid of biblical revelation. The student is required to create a thread in response to the provided prompt. Each thread must be 350–450 words and demonstrate course-related knowledge. In addition to the thread, the student is required to reply to at least 1 other classmate thread. Each reply must be 150–175 words and add substantially to the conversation. All posts must adhere to current APA format (CLO:B,C,D,E;FSLO:SSI1,2b, 4)

Quizzes: Presentations (8)

The student will complete various online exercises matching terms and phrases related to the Presentations found in the module. The content of these presentations support the textbook readings for that module and the assignments will reinforce what is read in the course textbook. (CLO:A,B,C,D,E; FSLO:SSI 1, 4)

Quizzes: Young-Earth (6)

The student will complete a Young-Earth quiz by answering multiple choice questions related to the video presentation. These videos feature Dr. Steve Austin, world-renowned creation geologist discussing earthquakes, landslides and megafloods. (CLO:C,D,E; FSLO: SSI 1,2b, 4)

Worldview and Science Quizzes (2)

The student will offer a self-assessment and discuss worldview as related to science during the course and offer any prayer requests / praise reports. This assignment is intended to help the instructor maintain awareness of the student's spiritual health during the course. (FSLO:CC 3)

Argumentative Essay Assignment

The student will choose a Argumentative Essay topic from a list provided by the instructor and write an essay in which a position of yes or no in response to the topic question. This paper must follow current APA formatting rules. The student is expected to adequately research the chosen topic and provide bibliographic reference to at least 4 scholarly sources in addition to the course textbook and the Bible. The paper must be 1,000–1,200 words. (CLO:C; FSLO:SSI 1,2b)

Quizzes (8)

Each quiz will cover the Learn material for the assigned module. Each quiz will be open-book/open-notes, contain 25 multiple-choice and true/false questions. Some quizzes contain an essay question. Quizzes have a 1-hour time limit. (CLO:A,B,C,D,E; FSLO:SSI 1, 2b)

✓ Course Grading

Course Requirements Checklist	10
Discussion Assignments (2 at 50 pts ea)	100
Young-Earth Quizzes (6 at 30 pts ea)	180

Presentation Quizzes (8 at 20 pts ea)	160
Worldview and Science Quizzes (2 at 5 pts ea)	10
Argumentative Essay Assignment	150
Quizzes (8 at 50 pts ea)	400
Total	1010

Policies

Mathematical Late Assignment Policy

Mathematical assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions

1. Late *mathematical* assignments submitted within one week after the due date will receive a 10% deduction.
2. *Mathematical* assignments submitted more than one week late or after the final date of the course will not be accepted.
3. Discussion board assignments submitted within one week after the due date will receive a 10% deduction.
4. Discussion board submitted more than one week and less than 2 weeks late will receive a 20% deduction.
5. Discussion board submitted more than 2 weeks late will not be accepted.
6. Group projects, including group discussion board threads and/or replies, and assignments will not be accepted after the due date.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

For other assignments, please refer to the standard Late Assignment Policy, below.

Late Assignment Policy

Course Assignments, including discussions, exams, and other graded assignments, should be submitted on time.

If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week after the due date will receive up to a 10% deduction.
2. Assignments submitted more than one week and less than 2 weeks late will receive up to a 20% deduction.
3. Assignments submitted two weeks late or after the final date of the course will not be accepted outside of special circumstances (e.g. death in the family, significant personal health issues), which will be reviewed on a case-by-case basis by the instructor.
4. Group projects, including group discussion threads and/or replies, and assignments will not be accepted after the due date outside of special circumstances (e.g. death in the family, significant personal health issues), which will be reviewed on a case-by-case basis by the instructor.

Disability Assistance

Students with a disability and those with medical conditions associated with pregnancy may contact Liberty University's Online Office of Disability Accommodation Support (ODAS) at LUOODAS@liberty.edu for accommodations. Such accommodations require appropriate documentation of your condition. For more information about ODAS and the accommodations process, including how to request an accommodation, please visit <https://www.liberty.edu/online/online-disability-accommodation-support/> (<https://www.liberty.edu/online/online-disability-accommodation-support/>). Requests for accommodations not related to disabilities or pregnancy must be directed to the Registrar's Office, which generally handles medical needs support.

If you have a complaint related to disability discrimination or an accommodation that was not provided, you may contact ODAS or the Office of Equity and Compliance by phone at (434) 592-4999 or by email at equityandcompliance@liberty.edu. Click to see a full copy of Liberty's [Discrimination, Harassment, and Sexual Misconduct Policy](https://www.liberty.edu/media/1226/Liberty_University_Discrimination_Harassment_and_Sexual_Misconduct_Policy.pdf) (https://www.liberty.edu/media/1226/Liberty_University_Discrimination_Harassment_and_Sexual_Misconduct_Policy.pdf) or the [Student Disability Grievance Policy and Procedures](http://www.liberty.edu/media/8021/Disability_Grievance_Procedures.pdf) (http://www.liberty.edu/media/8021/Disability_Grievance_Procedures.pdf).

Course Attendance

In an effort to comply with U.S. Department of Education policies, attendance is measured by physical class attendance or any submission of a required assignment within the enrollment dates of the course (such as examinations, written papers or projects, any discussion posts, etc.) or initiating any communication with one's professor regarding an academic subject. More information regarding the [attendance policy](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FOnline%2BAttendance%2Band%2BNon-Attendance&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613719138&sdata=%2BNBTsPOoXuHAPLfISQRugK7cRSuV6UyC7qD3agf3l2k%3D&reserved=0) (<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FOnline%2BAttendance%2Band%2BNon-Attendance&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613719138&sdata=%2BNBTsPOoXuHAPLfISQRugK7cRSuV6UyC7qD3agf3l2k%3D&reserved=0>) can be found in the [Academic Course Catalogs](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.liberty.edu%2Findex.cfm%3FPID%3D791&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=DjjhMiRBFnF%2B2ZJUC8eBd1OdNb26S9ADukODYsilXIA%3D&reserved=0) (<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.liberty.edu%2Findex.cfm%3FPID%3D791&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=DjjhMiRBFnF%2B2ZJUC8eBd1OdNb26S9ADukODYsilXIA%3D&reserved=0>). Regular attendance in online courses is expected throughout the length of the term. Students who do not attend within the first week of a sub-term by submitting a required academic assignment (such as the Course Requirements Checklist, an examination, written paper or project, discussion post, or other academic activity) will be dropped from the course. Students who wish to re-engage in the course are encouraged to contact Academic Advising to discuss their enrollment options. Students who begin an online course, but at some point in the semester cease attending, and do not provide official notification to withdraw, will be assigned a grade of "FN" ([Failure for Non-Attendance](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FUnofficial%2BWithdrawals&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=MoMvZdPfa69InuhVHMHAVgu59ZP0Fw45xJTU9PIBrU%3D&reserved=0) (<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FUnofficial%2BWithdrawals&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=MoMvZdPfa69InuhVHMHAVgu59ZP0Fw45xJTU9PIBrU%3D&reserved=0>)). Students wishing to withdraw from courses after the official start date should familiarize themselves with the [withdrawal policy](#).

Grading Scale

A	B	C	D	F
900-1010	800-899	700-799	600-699	0-599

For courses with a Pass/NP final grade, please refer to the Course Grading section of this syllabus for the assignment requirements and/or point value required to earn a Passing final grade.

Add/Drop Policy

The full policy statement and procedures are published in the [Policy Directory](https://wiki.os.liberty.edu/display/IE/Dropping+and+Adding+Online+Classes) (<https://wiki.os.liberty.edu/display/IE/Dropping+and+Adding+Online+Classes>).

Honor Code

Liberty University comprises a network of students, Alumni, faculty, staff and supporters that together form a Christian community based upon the truth of the Bible. This truth defines our foundational principles, from our Doctrinal Statement to the Code of Honor. These principles irrevocably align Liberty University's operational procedures with the long tradition of university culture, which remains distinctively Christian, designed to preserve and advance truth. Our desire is to create a safe, comfortable environment within our community of learning, and we extend our academic and spiritual resources to all of our students with the goal of fostering academic maturity, spiritual growth and character development.

Communities are predicated on shared values and goals. The Code of Honor, an expression of the values from which our Doctrinal Statement was born, defines the fundamental principles by which our community exists. At the core of this code lie two essential concepts: a belief in the significance of all individuals, and a reliance on the existence of objective truth.

While we acknowledge that some may disagree with various elements of the Code of Honor, we maintain the expectation that our students will commit to respect and uphold the Code while enrolled at Liberty University.

Adherence to the principles and concepts established within facilitates the success of our students and strengthens the Liberty community.

The Code of Honor can be viewed in its entirety at <http://www.liberty.edu/index.cfm?PID=19155> (<http://www.liberty.edu/index.cfm?PID=19155>).

Schedule

When	Topic	Notes
Module 1: Week 1	Learn	Read: 3 items Watch: 4 items
	Apply	Quiz: Presentation Minerals Quiz: Introduction to Earth Science and Minerals
Module 2: Week 2	Learn	Read: 3 items Watch: 6 items
	Apply	Quiz: Presentation Rocks and Plate Tectonics Quiz: Young-Earth Earthquakes Introduction Quiz: Worldview and Science Prayer and Praise Quiz: Rocks and Plate Tectonics
Module 3: Week 3	Learn	Read: 3 items Watch: 6 items
	Apply	Quiz: Presentations Earthquakes Volcanoes and Geological Time Quiz: Young-Earth Earthquakes Conclusion Quiz: Earthquakes, Volcanoes, and Geologic Time
Module 4: Week 4	Learn	Read: 1 item Watch: 4 item Explore: 3 item
	Apply	Discussion: Current Earth Science Research Quiz: Presentation Earth History Quiz: Young-Earth Landslides Introduction Quiz: Perspectives on Earth History
Module 5: Week 5	Learn	Read: 3 items Watch: 5 items

When	Topic	Notes
	Apply	<p>Quiz: Presentations Mass Wasting, Soils, Streams, and Groundwater</p> <p>Quiz: Young-Earth Landslides Conclusion</p> <p>Quiz: Worldview and Science Promises and Application</p> <p>Quiz: Mass Wasting, Soils, Streams, and Groundwater</p>
Module 6: Week 6	Learn	<p>Read: 4 items</p> <p>Watch: 3 items</p> <p>Explore: 4 item</p>
	Apply	<p>Argumentative Essay Assignment</p> <p>Quiz: Presentations Glaciers, Deserts, and Oceans</p> <p>Quiz: Glaciers, Deserts, Oceans, and Coastlines</p>
Module 7: Week 7	Learn	<p>Read: 2 items</p> <p>Watch: 3 items</p>
	Apply	<p>Discussion: Young-Earth Research</p> <p>Quiz: Presentations The Atmosphere</p> <p>Quiz: Young-Earth Megafloods Introduction</p> <p>Quiz: Earth's Atmosphere</p>
Module 8: Week 8	Learn	<p>Read: 2 items</p> <p>Watch: 4 items</p>
	Apply	<p>Quiz: Presentations Atmospheric Processes</p> <p>Quiz: Young-Earth Megafloods Conclusion</p> <p>Quiz: Atmosphere Phenomena and Processes</p>