LEE UNIVERSITY
Division of Adult Learning

DIVISION OF ADULT LEARNING

SYLLABUS

GSCI-122: EARTH AND SPACE SCIENCE

Date: 08/01/2021

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University Mission Statement:

Lee University is a Christian institution which offers liberal arts and professional education on both the baccalaureate and graduate levels through residential and distance programs. It seeks to provide education that integrates biblical truth as revealed in the Holy Scriptures with truth discovered through the study of arts and sciences and in the practice of various professions. A personal commitment to Jesus Christ as Savior is the controlling perspective from which the educational enterprise is carried out. The foundational purpose of all educational programs is to develop within the students knowledge, appreciation, understanding, ability and skills which will prepare them for responsible Christian living in a complex world.

Catalog Description:

The course is a general introduction to astronomy, geology, meteorology, and physical geography. Emphasis will be placed on the universe's structure, cosmology theories, the Milky Way, and the Solar System. The earth dynamics will be investigated through the shape, structure, and composition of the earth; earthquakes, volcanism, theories of plate tectonics, seafloor spreading, and continental drift. Weather and climate will be overview in the context of the composition, structure of the earth's atmosphere, and erosion. We will further investigate the hydrosphere through the exploration of oceanography and glaciation.

Required Text(s) and/or Supporting Resources:

Required Text:
All texts are open sourced/free and provided through the LMS:
Astronomy by OpenStax is licensed under Creative Commons Attribution License v4.0 (https://openstax.org/details/books/astronomy)
Introduction to Chemistry 2nd ed., Bishop, M. - Edited for GSCI-122
Physical Geology 2nd ed., Earle, S. is used under a CC BY 4.0 License. (https://opentextbc.ca/geology/)

Additional Supporting Resources:
Chem21labs.com and Laboratory Materials Kit **(A "Lab Fee" is charged on your Lee account for these resources)**
Resources provided in the Learning Management System (LMS).

Prerequisite Skills and Knowledge:

None

Course Goals and Learning Outcomes:

PURPOSE
The purpose of this course is to provide students the ability to think and work accurately in terms of quantitative relationships and the logic of the scientific method and understand the physical world in which we live through the applications of the basic principles of physics and chemistry.

General Learning Objectives (*Course Goals*):
This course seeks to:

1. Engage the principles of the scientific method in the process of problem-solving.
2. Classify the fundamental organization of matter and chemical processes.
3. Identify the composition and organization of the earth's crust

4. Explore the activities that occur from the forces within the earth's interior.
5. Describe the principles of atmospheric and hydrospheric science, including weather and climate.
6. Summarize the earth's history and explain the methods of historical geology.
7. Discuss earth's place in the universe and the organization of the universe.
8. Reflect on the theories of origin and life cycles and the search for extraterrestrial life.

Specific Behavioral Objectives (*Learning Outcomes*):
As a result of the activities and study in this course, the student should be able to:

1. Describe the fundamental composition of atoms and radioactivity.
2. Formulate simple chemical compounds and manipulate chemical equations.
3. Identify the properties of and recognize common rocks and minerals.
4. Define plate tectonics and the roles of earthquakes and volcanoes.
5. Define the composition and structure of the atmosphere and hydrosphere.
6. Differentiate the types of clouds and precipitation, including how the weather is recorded on maps.
7. Describe the hydrologic cycle and identify the work of erosion, including that of running water.
8. Differentiate between ancient and modern astronomy.
9. Describe the solar system organization, stars, galaxies, and universe informed by the tools of astronomy.
10. Evaluate the scientific principles relating to the origins and structure of the universe and the development of life.

Major Topics:

A. Nature and Chemistry of Matter
B. Atmosphere and hydrosphere
C. Earth materials
D. The changing crust
E. Earth history
F. Earth and sky
G. The solar system
H. The stars
I. The universe

Course Assessments:

A. **Unit Assignments.** Unit assignments include chapter reading, note taking and are evaluated using H5P interactive videos which will include quizzing throughout the lecture material. The quizzes will focus on a quick concept check of the material in the lessons. Further application of the content will be engaged in the Homework.
B. **Homework.** The online homework exercises will be engaged on Chem21Labs.com to help students take a more active approach to learn. The questions will focus on essential ideas in the chapter and allow students to monitor their understanding and comprehension of significant facts and concepts. The questions and problems will also challenge the learner by involving them in activities that require higher-order thinking skills that include synthesis, analysis, and application of the material in each unit.
C. **Labs.** Students will be provided with a kit of material to complete laboratory investigations to reinforce each unit's significant concepts. Completion of these activities will require the

application of the proper safety requirements for each activity. The activities' completion will require photo documentation of setup, results, final analysis, and written work uploaded to the LMS for grading.

D. **Exams.** There will be four exams during this course: Exam 1 (Units 1-2), Exam 2 (Unit 2-3), Exam 3 (Unit 5), and the Final Exam (Units 6-8). The exams will be drawn from the electronic lectures, online homework, and required readings. All exams must be taken during the unit assigned, as the online platform will only allow entrance during the designated period and for the amount of time allotted.

Evaluation:

A.	Unit Assignments	200
B.	Homework	250
C.	Labs	250
D.	Exams	300

Grading Scale:

The standardized grading scale provides a uniform foundation from which to assess your performance.

Grade	Quality Points per Credit	Score
A	4.0	930 - 1000
A-	3.7	900 - 929
B+	3.3	870 - 899
B	3.0	830 – 869
B-	2.7	800 – 829
C+	2.3	770 – 799
C	2.0	730 – 769
C-	1.7	700 – 729
D+	1.3	670 – 699
D	1.0	600 – 669
F	.0	0 - 599

Letter Grade Equivalencies:

A = Clearly stands out as excellent performance. Has unusually sharp insights into material and initiates thoughtful questions. Sees many sides of an issue. Articulates well and writes logically and clearly. Integrates ideas previously learned from this and other disciplines. Anticipates next steps in progression of ideas. Example "A" work should be of such nature that it could be put on reserve for all cohort members to review and emulate. The "A" cohort member is, in fact, an example for others to follow.

B = Demonstrates a solid comprehension of the subject matter and always accomplishes all course requirements. Serves as an active participant and listener. Communicates orally and in writing at an acceptable level for a cohort member. Work shows intuition and creativity. Example "B" work

indicates good quality of performance and is given in recognition for solid work; a "B" should be considered a good grade and awarded to those who submit assignments of quality less than the exemplary work described above.
C = Quality and quantity of work is average. Has average comprehension, communication skills, or initiative. Requirements of the assignments are addressed at least minimally.
D = Quality and quantity of work is below average. Has marginal comprehension, communication skills, or initiative. Requirements of the assignments are addressed at below acceptable levels.
F = Quality and quantity of work is unacceptable and does not qualify the student to progress to a more advanced level of work.
Unit and Time Distribution:
The time to complete each unit is approximately 14-17 hours per week on average for a three hour course. Actual assignment completion times will vary. A more detailed breakdown of each assignment can be found within the course.

POLICIES

Attendance Policy:
At Lee University student success is directly related to the student actively attending and engaging in the course. Online courses are no different from classroom courses in this regard; however, participation must be defined in a different manner. Online courses will have weekly mechanisms for student participation, which can be documented by submission/completion of assignments, participation in threaded discussions, and/or specific communication with the instructor as outlined within the syllabus.
Academic Honesty Policy/Information:
Cheating is defined as the use or attempted use of unauthorized materials or receiving unauthorized assistance or communication during any academic exercise. Examples of cheating include: ▪ Submitting work for academic evaluation that is not your own. ▪ Receiving assistance from another person during an examination. ▪ Using prepared notes or materials during an examination. ▪ Permitting another student to copy your work. ▪ Plagiarism. ▪ Falsification. ▪ Other misrepresentations of academic achievement submitted for evaluation or a grade. As stated in the LEE UNIVERSITY Catalog, plagiarism is presenting as your own work the words, ideas, opinions, theories, or thoughts which are not common knowledge. Students who present others' words or ideas as their own without fair attribution (documentation) are guilty of plagiarizing. Unfair attribution includes, but is not limited to, a direct quotation of all or part of another's words without appropriately identifying the source. It is also unfair attribution to have included a source within a Works Cited page without having carefully cited the source within the text of the document.

Plagiarism also includes, but is not limited to, the following acts when performed without fair attribution:

a. directly quoting all or part of another person's words without quotation marks, as appropriate to the discipline.
b. paraphrasing all or part of another person's words without documentation.
c. stating an idea, theory, or formula as your own when it actually originated with another person.
d. purchasing (or receiving in any other manner) a term paper or other assignment, which is the work of another person, and submitting that work as if it were one's own.

Late Policy:

- No credit is available for postings of any kind made in the **Threaded Discussions** after a given Unit ends.
- If your faculty approves your submission of late assignments, each assignment score will be penalized 10% per day up to five days late. After the fifth day, late assignments will not be accepted. (Note: An assignment is a paper, a project, a team presentation, etc., **not** a discussion.)
- No late assignments will be accepted after the close of the final unit.

EXPECTATIONS

Faculty Expectations of Students:

- Have consistent access to a computer and possess baseline computer and information skills prior to taking online courses.
- Log into their courses within 24 hours of the beginning of the session to confirm their participation. (Students who register after the session has begun will be responsible for any assignments or material already covered.)
- Take an active role in each unit, participating fully in discussions, assignments and other activities throughout the entire session. If some event interferes with that participation, the student is responsible for notifying the instructor in advance.
- Review the course syllabus and other preliminary course materials thoroughly as early as possible during the first few days of the course.
- Be responsible for raising any questions or seeking clarification about these materials, if necessary, within the first week of the session.
- Frequently check the course calendar for due dates.
- Submit assignments and papers on time, and take tests by the posted dates. Acceptance of late work and any penalties for late submissions are up to the discretion of the instructor, based on the expectations outlined in the course syllabus.
- Contribute meaningful, timely comments to online discussions according to guidelines provided.
- Contribute substantively to group assignments (if required in course).
- Check for University announcements each time you log onto the LMS. These postings are critical.
- Use Lee email address.

- Complete the "Student Survey of Instruction" for each course to evaluate the instructor and the course.

Students' Expectations of Faculty:

- The opportunity to be active participants in a stimulating and challenging education that is global in scope, interactive in process and diverse in content and approach.
- A friendly, respectful, open, and encouraging learning environment.
- A course outline or syllabus that clearly provides information regarding course content, teaching methods, course objectives, grading, attendance/participation policies, due dates, and student assessment guidelines.
- Instructors who are responsive and available to discuss within 48 hours students' progress, course content, assignments, etc. at mutually convenient times from the first day of the session through the last day of the session. (Check the faculty contact information regarding weekends and holidays.)
- Individual instructor's contact information, schedules, availability, and procedural details are located within the course.
- To have access to instructor feedback and grading on projects, exams, papers, quizzes, etc., within ten (10) days of assignment due date so students are able to determine where they have made errors or need additional work.
- Final grade/feedback provided within ten (10) days after the last date of course.

IMPORTANT STUDENT INFORMATION

Special Needs:

Lee University, in conjunction with the Academic Support Office, works to ensure students with documented disabilities have access to educational opportunities. Students who need accommodations based on a disability should visit the Academic Support Office, call (423) 614-8181, or email academicsupport@leeuniversity.edu. It is the student's responsibility to share the Accommodations Form with the instructor in order to initiate the accommodations.

BIBLIOGRAPHY

Knowledge Base/Working Bibliography (Reading List):

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Thompson, Graham R. and Jon Turk. *Earth Science and the Environment.* 2006.