

GEOG 1400 – Earth Systems Science

4 course credits

Fall 2022

Lectures and Labs: Asynchronous on Blackboard

Instructor: Sara Eshleman

Pronouns: she/her

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Office Hours: Wednesdays 9-10am and 4-5pm, Fridays 10:30am-12:30pm, or by appointment

Appointment schedule and Zoom link available on Blackboard

Course Description

University Catalog Course Description

This course is a systematic study of the various components that make up the Earth's physical environment, weather, climate, vegetation, soil, and landforms using a lecture and laboratory format. Specific emphasis is placed on understanding interactions between the natural processes that create and modify the Earth System's four major subsystems (atmosphere, biosphere, hydrosphere, and lithosphere). Physical geographic perspectives (e.g., location, landscape interpretation, etc.) and the scientific method are incorporated into the lecture and laboratory settings to foster a holistic view of the Earth System, and provide students with a comprehensive overview of the physical world in which we live.

This course is part of the Critical Inquiry component of the Lower-Division Core. Critical Inquiry courses promote the ability to analyze new problems and situations to formulate informed opinions and conclusions. For more information, go to <http://uca.edu/core>. Additionally, this course meets the transferability requirements of ACTS 72 (PHSC 1104 Earth Science).

Course Overview

Physical geography is a major subfield of geography that investigates Earth's natural systems and human's interactions with them. Earth Systems Science introduces fundamental concepts of physical geography through sections focusing on Earth's atmosphere, hydrosphere, lithosphere, and biosphere – simply, the air, water, rocks, and living things that make-up Earth. In this course, you will learn about the dynamic nature of these components and take a systems-based approach towards understanding the integrated nature of Earth's elements. Students engage with course material through an interactive textbook and note-taking during online lectures. You will further delve into the topics during labs by applying geographic methodologies in hands-on activities and interpreting your results.

This is an asynchronous course. The lectures and labs will be delivered online via Blackboard asynchronously. You have weekly due dates to ensure progress and assess your advancement through the course.

Learning Outcomes

1. Understand the spatial dimensions of Earth's dynamic systems
2. Know what geography is, especially physical geography
3. Learn the fundamental processes and patterns in the natural world
4. Recognize the importance of human interactions with Earth systems
5. Develop critical thinking and spatial analysis skills
6. Appreciate the Earth in new and more meaningful ways

Course Requirements

Course Pre-requisites

There are no pre-requisites for this course.

Required Materials

- 1) The required textbook is *McKnight's Physical Geography: A Landscape Appreciation* (12th or 13th edition) by Hess.
ISBN: 9780134195421
- 2) A laptop or desktop computer. You can use a laptop, desktop, or tablet that is Wi-Fi enabled (or over the cell network).
- 3) Blackboard. Material and information will be provided to you on Blackboard. It is your responsibility to check Blackboard regularly for updates. Be sure that you receive emails and other notices sent through Blackboard by the instructor.

Course Assessments

Exams

Three exams, in approximately one-month intervals, will assess your knowledge of concepts. Each of these exams are non-cumulative and only cover the associated part of the course. They will be timed, asynchronous, and open book. You will have 1 hour to complete each exam and will be able to choose any timepoint within three days of the due date. (51% of final grade)

Labs

Labs (9 in total) will engage you with hands-on activities to further your comprehension of geographic concepts. They consist of a Pre-Lab Lecture Video, Lab Instructions, and a Lab Answer Sheet. The labs become available on Wednesdays at 11:59pm and are due the following Friday at 6pm. After the Add/Drop period, each student will be randomly assigned a study group. Students are allowed, and encouraged, to assist each other, but each student must submit their own original work in compliance with UCA's *Academic Integrity Policies*. (27% of final grade)

Review Quizzes

Weekly quizzes (14 in total; lowest score dropped) function as a review of important topics from the book chapter(s) and corresponding lectures, and an assessment of comprehension. These are "open book" and "open note." The quizzes become available on Wednesdays at 11:59pm and are due the following Wednesday at 11:59pm. (13% of final grade)

Participation

Participation credit will be given based on discussion posts. For full credit, you are expected to contribute to discussion threads 9 times throughout the semester, spaced based on the exams. These will be tallied on each exam date, creating 3 sections of participation credit with 3 contributions each. The contributions can consist of a question about the material, an answer to another student's question, a link to a relevant article, or another substantial discussion point. (9% of final grade)

Course Grading

The following table represents how you will demonstrate your learning and how I will assess the degree to which you have done so.

Assessments	Percent of Total Grade
1. Exams (3 exams 17% each)	51%
2. Labs (9 labs 3% each)	27%
3. Review Quizzes (13 quizzes 1% each)	13%
4. Participation (3 sections 3% each)	9%

Final Grade	A	B	C	D	F
Cutoff	>90%	80-89%	70-79%	60-69%	<59%

Lab Assignments

Lab Assignment	Topic	Open Date	Due Date
1	Scale, Topographic Maps, and Location	Sept. 1	Sept. 9
2	Geospatial Technologies & GPS	Sept. 8	Sept. 16
3	GPS Mapping & Accuracy	Sept. 15	Sept. 23
4	Earth-Sun Relationships and Solar Energy	Sept. 29	Oct. 7
5	Temperature, Pressure, & Wind	Oct. 6	Oct. 14
6	Atmospheric Moisture	Oct. 13	Oct. 28
7	Climate Classification	Nov. 3	Nov. 11
8	Introduction to Landform Interpretation	Nov. 10	Nov. 18
9	Assessment of Jewell Moore Nature Reserve	Nov. 17	Dec. 2

Course Schedule

All instructions, assignments, readings, rubrics and essential information will be on the Blackboard website at <https://bblearn.uca.edu/>. Check this site regularly and use it to answer questions about the course schedule.

Unit	Module	Topic	Chapter(s)	Quiz	Quiz Due Date	Lab	Lab Due Date
Intro	0	Welcome and Getting Started					
	1	Introduction to Earth	1	1	Aug. 31		
	2	Portraying Earth	2	2	Sept. 7	1	Sept. 9
Atmosphere	3	Introduction to the Atmosphere	3 & 4	3	Sept. 14	2	Sept. 16
	4	Atmospheric Pressure, Wind, & Moisture	5 & 6	4	Sept. 21	3	Sept. 23
	5	Atmospheric Disturbances	7	5	Sept. 28		
	Exam 1 Friday, September 30 (opens Wednesday, Sept. 28)						
Hydro.	6	Climate and Climate Change	8	6	Oct. 5	4	Oct. 7
	7	The Hydrosphere	9	7	Oct. 12	5	Oct. 14
Biosphere	8	Cycles and Patterns in the Biosphere	10	8	Oct. 19	6	Oct. 28
	9	Terrestrial Flora and Fauna	11	9	Oct. 26		
	10	Soils	12	10	Nov. 2		
	Exam 2 Friday, November 4 (opens Wednesday, Nov. 2)						
Lithosphere	11	Introduction to Landform Study	13	11	Nov. 9	7	Nov. 11
	12	The Internal Processes	14	12	Nov. 16	8	Nov. 18
	13	Weathering and Mass Wasting	15	13	Nov. 30	9	Dec. 2
	14	Fluvial Processes	16	14	Dec. 7		
	Exam 3 Wednesday, December 14 (opens Sunday, Dec. 11)						

Changes to the schedule may be made at the instructor's discretion and if circumstances require. It is your responsibility to note these changes when announced (although the instructor will do their best to ensure that you receive the changes with as much advanced notice as possible).

Policies

Classroom Statements and Policies

Late work

Late lab assignments and review quizzes will lose 10% of their potential points for each day past the due date. After 3 days, the assignment will no longer be accepted and it will receive zero credit unless a valid excuse is provided before the original due date.

Course Communication

Course communications will occur via email, Blackboard Discussion Boards, and Blackboard Announcements. Blackboard Announcements will be used for course-related updates and important information. Logistical and content questions should be posted on the Blackboard Discussion Board. This will help reduce redundancy in email communications and allow all students to benefit from a question and its response. Email is the mode of communication for personal exchanges between a student and the instructor (illness, personal circumstances, etc.). Allow 24 hours for a response from the instructor.

Statement on Flexibility

If you experience any hardships such as illness, accident, family crisis please know that these policies may be amended and therefore you should communicate with me as soon as you feel comfortable doing so.

Personal Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by a name that is different from what appears on the official roster, and by the gender pronouns you use (she/he/they/ze, etc). Please advise me of any changes early in the semester so that I may make appropriate updates to my records.

University Policies and Resources

Academic Integrity

The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the *Student Handbook*. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

Additionally, plagiarism will NOT be tolerated. Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit. The following web sites are good resources for acquainting yourself with plagiarism and how to avoid it:

<https://wts.indiana.edu/writing-guides/plagiarism.html>

https://owl.purdue.edu/owl/avoiding_plagiarism/index.html

Americans with Disabilities Act statement

The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the Office of Accessibility Resources and Services (OARS), <https://uca.edu/oars/>. Students requiring accommodations (as documented by the Disability Resource Center) must contact the instructors no later than the end of the fourth week of class (September 16, 2022) to discuss specific arrangements and logistics. UCA is dedicated to providing these students with necessary academic adjustments and auxiliary aids to facilitate their participation and performance in the classroom. We will make reasonable

accommodations for any student with a DRC Accommodation Letter. It is the student's responsibility to coordinate accommodations with the DRC and the course instructor(s).

Counseling and Mental Health Center

The Counseling Center provides mental health programs and services that enhance and support students' well-being, academic and life goals. To learn more about your counseling and mental health options, visit their website at <https://uca.edu/counseling/>.

If you are experiencing a mental health crisis, call the Counseling Center at (501) 450-3138. If your crisis is occurring after business hours call the UCA Police Department at (501) 450-3111 or the Crisis Line for Counseling Associates, a local community mental health center, at 1-800-844-2066.

Title IX Reporting

If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member is encouraged to report the act to the Title IX coordinator, deputy coordinator, or employee with the authority to institute corrective measures on behalf of the University. An investigation of a formal complaint of Title IX Sexual Harassment will only be initiated when the Complainant (individual who suffers actual harm from the violation of the Title IX Sexual Harassment Policy) or the Title IX Coordinator signs a complaint. For further information, please visit:

<https://uca.edu/titleix/>.

**Disclosure of sexual misconduct by a third party who is not a student and/or employee is also encouraged if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.*

Additionally, ALL students are required to familiarize themselves with the University's Sexual Harassment and general Academic policies as outlined in the UCA Student Handbook (<https://uca.edu/student/student-handbook/>).

Evaluations

The Student Course Experience Survey is a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may complete surveys for courses they are taking starting on Monday, November 21, 2022, through the Sunday after finals week by logging in to myUCA and clicking on the Course Evaluations task.