Intro to Environmental Science
GEOS 125
Fall 2023

LECTURE*: GEOS 125A: 1:40-2:40pm EDT MWF; GEOS 125B: 2:50 - 3:50pm EDT, MWF*

Instructor: Dr. Ken Brown **Email:** kennethbrown@depauw.edu **Phone:** 765.658.6767
Office: Julian 213 **Office Hours**: MWF 11:30 -12:30am; or by appointment

Textbook: *Essentials of Environmental Science* (2 ed.) - by A. Friedland and R. Relyea (*Optional*)
ISBN-10: 1-319-06566-X *Additional Readings & Documents are posted in Moodle*

COURSE DESCRIPTION:

This course is an introduction to environmental science. It is a survey of fundamental scientific principles and covers the basic content necessary for students interested in any career related to the environment. The main goal of this course is to increase student understanding of the natural world and the continuous interactions between its biotic and abiotic components. This course also explores how humans impact and are impacted by the natural world. GEOS 125 integrates science from three areas: 1) Biological sciences (e.g., ecology, ecosystems, evolution); 2) Geological sciences (e.g., mineral, rocks, soils, water); and 3) Energy & Climate Science (e.g., climate change). NOTE: aspects of chemistry, physics, and math are also included. Emphasis is placed on the geology, energy, and climate change components.

***PRIMARY COURSE OBJECTIVES:** At the end of this course, students will/should be able to:

1. Apply the scientific method to study the Earth and its many environments
2. Describe the natural processes operating at and beneath the Earth's surface, and explain how those processes affect humans
3. Use appropriate concepts and terminology to describe natural features and phenomena
4. Explain how humans impact (and are impacted by) the Earth and its environment, its resources, and its processes
5. Acquire, analyze, and interpret scientific data aimed at understanding earth materials, natural processes, and landscapes

**These course objectives are linked to specific student outcomes and performance indicators outlined in the Geology & Environmental Geoscience Assessment Plan.*

BASIC STUDENT RESPONSIBILITIES: It is your responsibility/expectation to….

- Enjoy the learning process, remain open-minded, and be respectful
- Read, understand, and abide by all of the policies established in this syllabus and DePauw Student Handbook
- Know when all important assessments are scheduled (outlined in the syllabus calendar)
- Complete assessment and assigned exercises by the *due dates/deadlines*
- Attend class, participate in activities, and engage with materials inside & outside of the class
- Check your email daily for updates and announcements
- Attend office hours and ask questions when you don't understand content or directions

GRADING*

Syllabus Quiz	*20pts*
Exam #1	*100pts*
Exam #2	*100pts*
Exam #3	*100pts*
Exam #4	*100pts*
Weekly Quizzes	*8 @ 10pts = 80pts*
Total points:	**500pts***

**It is your responsibility to regularly check with your instructor about your progress in the course*

Letter Grade	Percent Range
A	100.00 - 93.00
A-	92.99 - 90.00
B+	89.99 - 87.00
B	86.99 - 84.00
B-	83.99 - 81.00
C+	80.99 - 78.00
C	77.99 - 75.00
C-	74.99 - 72.00
D+	71.99 - 69.00
D	68.99 - 66.00
D-	65.99 - 63.00
F	<62.99

STUDENT FEEDBACK: Timely feedback is essential to student learning. Thus, I will strive to provide feedback on your submitted work, offering constructive comments and ways to improve. *Students should contact me if they wish to have additional feedback on their submitted work*.

ATTENDANCE: Regular attendance is required and is important to your success in this course. Students are expected to attend class sessions at the course's scheduled time*. If you have to miss class, you will be held responsible for all of the content (and announcements) that you missed during your absence.* It is common for students to face challenges (e.g., academic, medical, spiritual, or emotional) that result in absences. *If you should miss class due to one of these and this results in a missed exam, you are expected to document your absence through the DePauw CARES team (*care@depauw.edu*) in advance of the absence.*

SYLLABUS QUIZ: Understanding course expectations and student responsibilities are important for any student enrolled in a college course. As such, students will complete a brief quiz during the first week of classes that acknowledges course expectations/responsibilities. Upon reading the syllabus, you will need to complete the quiz in Moodle. *The due date is outlined in the syllabus calendar.*

EXAMS: Exams evaluate your understanding of fundamental concepts/vocabulary and your ability to apply these to solve problems. Please note that concepts and vocabulary found in one section/chapter may require you to have a working knowledge of previous concepts and vocabulary from earlier sections/chapters. If it is covered in the lecture (lecture slides/reading assignments/discussions), you are responsible for knowing it. The dates for all exams are outlined in the calendar. *No make-up exams will be given without documentation. You may not take the final exam early – be sure to plan your travel accordingly. If you are unable to take the final at the scheduled date and time, it will be a zero.*

QUIZZES: Quizzes are designed to help you determine how well you understand that week's material. These low-stake quizzes help you recognize areas of weakness/strength in your learning. There are 8 quizzes (10pts each). *Quizzes are completed in Moodle (available from Friday – Sunday 11:59pm). Because these can be completed over a 3 day period, there are no make up opportunities.* If you miss one quiz, the missed quiz's score will be replaced with the next exam's score*. This policy allows for one missed quiz; all future missed quizzes will be recorded as a zero.*

IN-CLASS DISCUSSIONS/ACTIVITIES: Class discussions and activities are designed to: 1) supplement lectures; 2) facilitate student interactions with each other; 3) permit questions to be answered about the course content; 4) explore selected course topics in more depth; and 5) offer opportunities to have hands-on learning. *You are expected to join AND participate in these discussion sessions/activities. Please note - content from our discussion/activities may be found on quizzes and exams!*

ADDITIONAL POLICIES AND INFORMATION:

EMAIL: If you cannot meet during office hours, please email your instructor. *Emails sent after 5pm may not receive a response until the next day. Emails sent over the weekend may not receive a response until the following weekday (Monday). Please respect this policy and plan accordingly.*

Classroom Technology Use: Laptop use for anything other than note taking is considered disruptive. You should refrain from using your laptop (and phone) in class. Always be respectful to others and think about how your actions are impacting the learning experience of others around you.

Diversity, Equality, & Inclusivity:

The Geology & Env. Geoscience Department at DePauw is committed to providing an inclusive environment of learning and living that is open to all people and perspectives. It is the policy and practice of this course and its instructor to create a welcoming environment for all students as well as to address students in accordance with their personal identities. In this course, you will be encouraged to remain open to information, ideas, and experiences shared by other students. For more information about diversity and inclusion at DePauw, please use the following link: https://www.depauw.edu/studentacademiclife/cdi/

ADA Accommodations:

It is the policy and practice of DePauw University to provide reasonable accommodations for students with properly documented disabilities. Written notification from Student Accessibility Services is required. If you are eligible to receive an accommodation and would like to request it for this course, please contact Student Accessibility Services. Allow one-week advance notice to ensure enough time for reasonable accommodations to be made. Otherwise, it is not guaranteed that the accommodation can be provided on a timely basis. Accommodations are not retroactive. Students who have questions about Student Accessibility Services or who have, or think they may have, a disability (psychiatric, attentional, learning, vision, hearing, physical, medical, etc.) are invited to contact Student Accessibility Services for a confidential discussion in Union Building Suite 208 or by phone at 658-6267. (studentaccessibility@depauw.edu).

Resources for Unrepresented Students in STEM:

Students of Color in STEM (SoCiS) is a student organization aimed at supporting STEM students who identify as students of color and members of diverse underrepresented identities on campus. This organization provides these students with a network that could be a support system for them academically (tutoring) and socially (mentoring). Please consider joining this exciting organization and feel free to contact executive members Brittany Davis, Antoinette Gibson, or Bridget Gourley (Chemistry & Biochemistry) for more information. Join their e-mail list at: (SoCiS_list@depauw.edu).

Copyright Policy:

All materials provided to you in this course are copyrighted. None of the course materials may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without prior written permission.

Academic Integrity Statement:

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. Cheating, plagiarism, submission of the work of others (or ChatGPT) violates DePauw's policy on academic integrity. Lapses of academic integrity will be dealt with according to the policies set forth in the student handbook. If you are not sure what constitutes dishonest academic activities, please make sure you discuss any questions you may have with me. The policy and discussion of each student's obligations and rights can be found in the Student Handbook. The policy is also available at: https://www.depauw.edu/academics/academic-resources/academic-integrity/

As the instructor, I agree:	Your basic responsibilities as the student:
1. To begin and end class at its scheduled time. 2. To respectfully answer questions about the subject matter (i.e.to respect all questions and students). 3. To accept questions before/after the class period and to respond to these accordingly. 4. To promptly notify students of any change made to the course. 5. To be approachable and respectful to students. 6. To provide timely and adequate feedback on submitted student work. 7. To agree to meet with students that schedule office appointments. 8. To teach you fundamental geologic concepts and vocabulary relevant to Geoscience careers 9. To have fun while teaching this course!	1. Remain open-minded about course content 2. Attend our class meetings and be prepared for class activities/discussions 3. Refrain from any disruptive behavior (talking, texting, phone calls, laptop use). 4. Email/visit your instructor if have questions. 5. Abide by all of the policies outlined in this syllabus and in-class. 6. Respect the opinions, ideas, and experiences shared by other students. 7. Complete all assignments and assessments by their respective due dates/ times. 8. Check your email daily for class announcements 9. Enjoy how cool science can be!

Teaching and Office Hours Schedule – Subject to Change*

Dr. Ken Brown

Dept. of Geosciences; Spring 2023 Teaching/ Office Hour Schedule

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 AM					
9:10 AM 9:20 AM 9:30 AM 9:40 AM 9:50 AM **10:00 AM**					
10:10 AM 10:20 AM 10:30 AM 10:40 AM 10:50 AM **11:00 AM**	**GEOL 230 LECTURE 10:20 - 11:20 AM**		**GEOL 230 LECTURE 10:20 - 11:20 AM**		**GEOL 230 LECTURE 10:20 - 11:20 AM**
11:10 AM 11:20 AM 11:30 AM 11:40 AM 11:50 AM **12:00 PM**	**OFFICE HOURS 11:30 - 12:30 PM (or by appointment)**		**OFFICE HOURS 11:30 - 12:30 PM (or by appointment)**		**OFFICE HOURS 11:30 - 12:30 PM (or by appointment)**
12:10 PM 12:20 PM 12:30 PM 12:40 PM 12:50 PM **1:00 PM**					
1:10 PM 1:20 PM 1:30 PM 1:40 PM 1:50 PM **2:00 PM**	**GEOS 125 LECTURE 1:40- 2:40 PM**		**GEOS 125 LECTURE 1:40- 2:40 PM**		**GEOS 125 LECTURE 1:40- 2:40 PM**
2:10 PM 2:20 PM 2:30 PM 2:40 PM 2:50 PM **3:00 PM**	**GEOS 125 LECTURE 2:50- 3:50 PM**		**GEOS 125 LECTURE 2:50- 3:50 PM**		**GEOS 125 LECTURE 2:50- 3:50 PM**
3:10 PM 3:20 PM 3:30 PM 3:40 PM 3:50 PM **4:00 PM**					

SYLLABUS CALENDAR (*subject to change*)

The syllabus calendar is color-coded for your convenience (subject to change).

Blue = Discussion, Activity, Quiz; **Orange** = Exam dates

MONTH	WEEK	DAY	TOPIC	READING/ ASSIGNMENT	-
AUG.	Week 1	-	-	-	INTRO
		23-Aug	Syllabus Overview & Introductions	-	
		25-Aug	Scientific Method & Class Activity	**Syllabus (GSA Scientific Method); Syllabus Quiz**	
SEPTEMBER	Week 2	28-Aug	Intro to Environmental Science	**Article #1 (Env. Crisis in History)**	
		30-Aug	Intro to Environmental Science (continued)	Chapter 1	
		1-Sep	Systems, Matter, & Energy	**QUIZ #1**	
	Week 3	4-Sep	**LABOR DAY - NO CLASS**		BIOLOGICAL SCIENCES
		6-Sep	Intro to Ecosystems	Chapter 3	
		8-Sep	Intro to Ecosystems (continued)	**QUIZ #2**	
	Week 4	11-Sep	Defining Biomes	Chapter 3	
		13-Sep	Defining Biomes (continued)	Chapter 3	
		15-Sep	**REVIEW SESSION**		
	Week 5	18-Sep	**EXAM #1**		
		20-Sep	Biodiversity & Evolution	Chapter 4	
		22-Sep	Biodiversity & Evolution (continued)	Chapter 4	
OCTOBER	Week 6	25-Sep	Extinction & Population Dynamics	Chapter 4	
		27-Sep	Extinction & Population Dynamics (continued)	Chapter 4	
		29-Sep	Growth Models & Species Interactions	Chapter 4; **QUIZ #3**	
	Week 7	2-Oct	Ecological Succession	Chapter 4	GEOLOGICAL SCIENCES
		4-Oct	Biogeochemical Cycles	Chapter 3	
		6-Oct	Biogeochemical Cycles (continued)	**QUIZ #4**	
	Week 8	9-Oct	**REVIEW SESSION**		
		11-Oct	**EXAM #2**		
		13-Oct	**NO CLASS**		
	Week 9	16-Oct	**FALL BREAK**		
		18-Oct			
		20-Oct			
NOVEMBER	Week 10	23-Oct	Rocks, Minerals, & Weathering (Part I)	**Article #2 (USGS Minerals)**	
		25-Oct	Rocks, Minerals, & Weathering (Part II)	Chapter 6	
		27-Oct	Mineral & Rock Resource Activity	**QUIZ #5**	
	Week 11	30-Oct	Soils and Soil Formation (Part I)	**Article #3 (SSSA Sustainable Soils)**	
		1-Nov	Soils and Soil Formation (Part II)	Chapter 6	
		3-Nov	Soil Remediation Activity	**QUIZ #6**	
	Week 12	6-Nov	Water Resources & Hydorlogic Cycle (Part I)	**Article #4 (GSA Water Resources)**	
		8-Nov	Water Pollution & Treatment (Part II)	Chapter 9	
		10-Nov	Water Resources Activity	**QUIZ #7**	
	Week 13	13-Nov	**EXAM #3**		ENERGY & CLIMATE CHANGE SCIENCE
		15-Nov	Energy Sources (Part I) (Nonrenewable)	Chapter 8 - **Article #5 (Battery Challenge)**	
		17-Nov	Energy Sources (Part II) (Renewable)	**QUIZ #8**	
DECEMBER	Week 14	20-Nov	**THANKSGIVING BREAK - NO CLASS**		
		22-Nov			
		24-Nov			
	Week 15	27-Nov	Climate Change (Part I): Intro	Chapter 14	
		29-Nov	Climate Change (Part I): Paleoclimate Record	Chapter 14	
		1-Dec	Climate Change (Part I) (continued)	**Article #6 (MSA Energy)**	
	Week 16	4-Dec	Climate Change (Part II): Current Patterns	Chapter 14	
		6-Dec	Climate Change (Part II): Current Patterns	Chapter 14	
		8-Dec	Climate Change (Part II) (continued)	**Review Session**	
	Week 17	12-Dec	**EXAM #4 Comprehensive: GEOS 125A - Dec. 12th (8:30-11:30am)**		
		13-Dec	**EXAM #4 Comprehensive: GEOS 125B - Dec. 13th (1-4pm)**		