GEO 202
Evolution of Earth

Instructor: Dr. Tenley Banik (she/her)
Dr. Banik's Office: 440 Felmley Science Annex
Office Hours: Monday + Wednesday 11:15 am–12 pm
Email: tjbanik@ilstu.edu (preferred over ReggieNet Message)

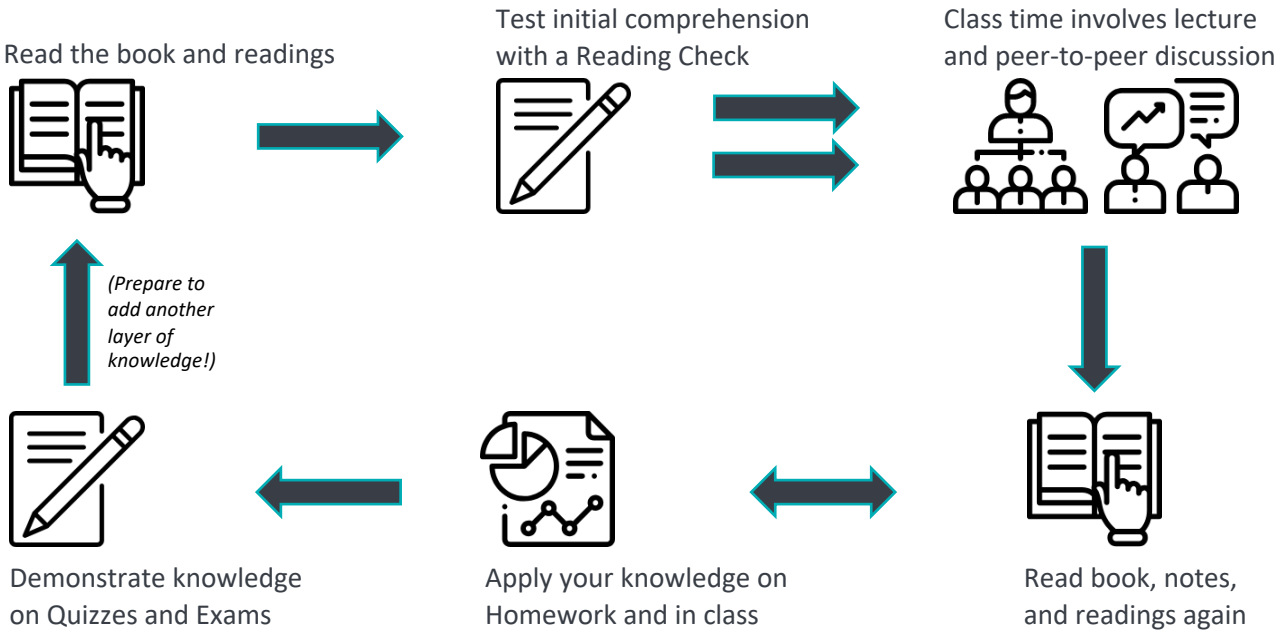
Course Content

What did Earth look like in the past? How have Earth's systems interacted to form the planet we see today? When did Earth's major economic resources develop, and why? These are the types of questions asked—and answered!—in this course. We will explore the major changes our planet and its systems have experienced through geologic time and the basic principles and ideas for interpreting Earth history, including time, fossils, rocks, environments, dating methods, evolution of life, and plate tectonics.

Learning Objectives

After successful engagement with the course material, students should be able to: understand basic principles of Earth system functionality (plate tectonics, the rock cycle, major steps in the evolution of life, the water cycle, etc.) and be familiar with major events in Earth history (timing, what happened, and impact on future Earth development). In GEO 202, students integrate information from the natural and physical sciences, thus beginning the life-long processes of (1) understanding the nature of life, our planet, the universe, and interactions among them, and (2) asking critical questions to understand how science works.

How this course works:



The Fine Print*

*more Policies and Procedures on ReggieNet

- No late homework or Reading Checks (RC) accepted. Period. End of story. No exceptions. The two lowest RC scores will be dropped.
- No make-up quizzes or exams UNLESS: (1) You provide documentation of participation in a University-sponsored activity at least one week in advance. You will complete the assessment in advance or at a mutually agreed –upon time; (2) You have a personal emergency and you've communicated that emergency to Dr. Banik in advance of the assessment; or (3) You have a pre-planned absence, in which case you must email Dr. Banik at least one week before the time of the exam. In 2 or 3, your Exam 4 grade will count in lieu of **one** missed exam score. There will be no option to count Exam 4 for a missed exam for after-the-fact notifications or no notification, nor will multiple missed exams be accommodated by this policy.
- Students who experience the death of an immediate family member or relative as defined in the University Student Bereavement Policy will be excused from class for funeral leave, bereavement, and/or travel considerations. Students are responsible for providing appropriate documentation to the Dean of Students office and for contacting the instructor before the assessment to make arrangements for completing missed assessments. More information is available in the Student Bereavement Policy at http://www.policy.illinoisstate.edu/2-1-27.shtml.
- **There will be no option to make up any assessment for after-the-fact or too-late notifications.**
- Any student needing to arrange a reasonable accommodation for a documented disability and/or medical/mental health condition should contact Student Access and Accommodation Services at 350 Fell Hall, 309-438-5853, or visit their website at StudentAccess.IllinoisState.edu.

FYI

- Must-have Book: "The Story of Earth" by Robert M. Hazen
- Everything else you need is on the ReggieNet site for this class (readings, assignments, announcements, etc.)—check this site often (daily!)

Exams: Three during the term; summary Exam 4 is cumulative

Quizzes: Four during the term

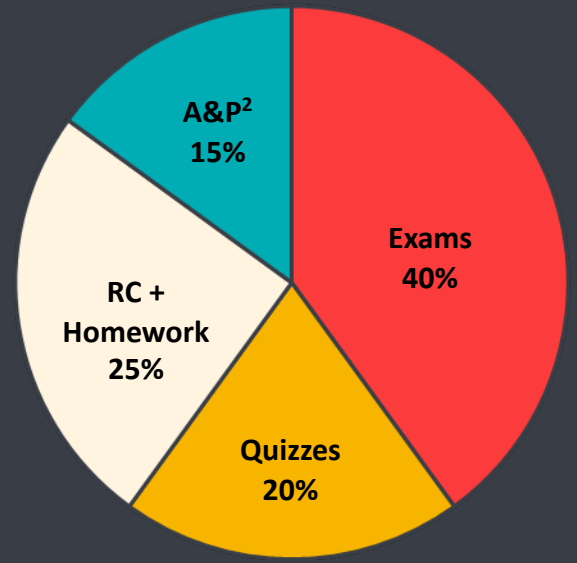
Reading Checks and Homework: Throughout the term

A&P²: Attendance, participation, and professionalism

Evaluation

A: ≥90–100% **B: ≥80–90%**
C: ≥70–80% **D: ≥60–70%**
F: <60% **There is no curve.**

*Scores will be on ReggieNet to facilitate grade tracking, but any grade calculation ReggieNet generates **DOES NOT** constitute the course grade. The official gradebook is kept offline.*



Lecture Topics | **Read + Homework*** *due 11:55pm the night before | **Assessment** | **Other**

W	Monday	Wednesday	W	Monday	Wednesday
1	L1: Welcome to Earth! Have we met? **[ZOOM]** Syllabus and RC S.1 (E.C)	L2: 7 Core Truths; How Earth Works 1: Plate Tectonics **[ZOOM]** Introduction and RC 0.1	2	No Class – Dr. MLK Jr. Day	L3: The Universe; How Earth Works 2: Rock Cycle 1 **[ZOOM]** Chapter 1 and RC 1.1; Suarez et al., 2019 and RC 1.2
3	L4: Minerals; Rock Cycle 2	L5: Rock Cycle Activity	4	L6: Hadean Earth Chapter 2 and RC 2.1; Chapter 3 and RC 3.1 (Quiz 1 on RN: 11 am to 11 pm; Stuff through Wed. 1/26 and Geologic Time Scale)	L7: Hadean Earth cont. Morton, 2017 and RC 3.2; Chapter 4 and RC 4.1
5	L8: Continents and Hadean Wrap Chapter 5 and RC 5.1	Exam 1 in class	6	L9: Reading Rocks and Dating; Into the Archean	L10: Origins of Life Chapter 6 and RC 6.1
7	L11: Origins of Life 2 Schoonen and Smirnov, 2016 and RC 6.2	L12: Oxygenation Chapter 7 and RC 7.1 (Quiz 2 on RN: 11 am to 11 pm; Stuff through Mon. 2/21)	8	L13: The "Boring" Billion, Snowball Earth, and Environments Chapter 8 and RC 8.1; Chapter 9 and RC 9.1	L14: Late Proterozoic Life and Archean/Protero Wrap Quammen, 2018 and RC9.2
SB	Spring Break!	Spring Break!	9	Exam 2 in class	L15: Early to Mid Paleozoic Chapter 10 through 'Facies Change' and RC 10.1
10	No Class (Banik @ conference)	L16: Mid to Late Paleozoic Chapter 10 'Life on Land' through 'The Third GOE' and RC 10.2; Chapter 10 ''The Great Dying . . .' and RC 10.3	11	L17: The Triassic (Quiz 3 on RN: 11 am to 11 pm; Stuff through 1/23)	L18: Late Mesozoic and Cretaceous Wrap Chapter 10 'Dinosaurs!' and RC 10.4
12	Exam 3 in class	L19: Into the Paleogene and the PETM Kunzig, 2011 and RC 10.5	13	L20: The Neogene and Space-Based Climate	L21: The Human Story Chapter 10 'The Human Age' and RC 10.6
14	L22: Catch-up/Activity Day	L23: The Future and Back to the Future Chapter 11 and RC 11.1 Quiz 4 in class	15	L24: The Long and Winding Road— A Review Concept map Homework	Exam 4 (cumulative!) in class

How to Succeed in this Class

1. Come to class. Every day.
2. Sit near the front of the room. Dr. Banik will likely get to know you better, you'll feel more comfortable asking questions (yes, you should ask questions!), and you'll be less distracted.
3. Take good notes. (See ReggieNet document on how to take notes)
4. Make an effort to pay attention in class. Concentrate on concentrating. No phones, no zoning out.
5. Keep up with the course. This means: review your notes within 24 hours (rewriting your notes in a more organized fashion is a good way to do this and also allows you to figure out where information might be missing); make note of any words, concepts, etc. that don't make sense and either look them up or bring them to the next class. In general, for every credit a course is worth, you should spend 3 hours outside of class preparing and studying on a weekly basis. That means you should be spending at least 9 hours a week on this course. This does not include studying for exams, although putting the time in as the course goes along will probably substantially reduce pre-exam cramming.
6. For every term, concept, or event discussed in class or reading, ask yourself these questions when studying:
What is it? Define the term or explain the concept.
Why is it important or notable? Why are we talking about it in class?
When did this event happen, did this life form evolve, etc.?
How does this event/life form/etc. fit into Earth's evolution in a big-picture context?
Then develop an example or two of big-picture interactions if relevant.
7. Study in an undistracted manner. Undistracted means no phones or social media, no chatty friends, no Netflix, etc. Brains are terrible at multitasking—devote your brain's full attention to the task at hand.
8. Keep track of your course grade—it should never be a surprise to you.
9. Take advantage of extra credit opportunities if you think your grade needs a boost.
10. Ask for help before it's too late. The last weeks of the course are often too late to substantially shift your course grade.