



MONDAY & WEDNESDAY, 2:30 TO 4:00 PM (IN PERSON)

COURSE SYLLABUS (LECTURE)

LIFE THROUGH TIME

GEO 405

SPRING 2024

Course Description

In this course, we will study the history of life on Earth and its relationship to major shifts in the geosphere, atmosphere, and hydrosphere. Lecture is combined with active in-class discussion and exercises. Labs will provide hands-on experience with the topics covered.



Skills Learned:

- Communication (discussions, group projects, lab inquiry, & synthetic essays).
- Critical thinking & logical analysis (assignments include readings or data to be critiqued).
- Quantitative skills honed through lab exercises (e.g., radiometric dating, fossil identification, phylogenetic methods).
- Teamwork (small group exercises).
- Real-world paleontology (analyze real data, special lectures, & virtual specimens).



YOUR INSTRUCTOR:

Dr. Rowan Martindale

Pronouns: She/her/hers

Office: JSG 3.216A

(Gun free office)

martindale@jsg.utexas.edu

↑ Email is the best way to reach me!

TA (LABS): TBD

LAB SECTIONS: Tuesday 11:00 a.m. – 1:00 p.m.
Wednesday 11:00 a.m. – 1:00 p.m.
Thursday 2:00 p.m. – 4:00 p.m.
Friday 11:00 a.m. – 1:00 p.m.

COVID-19 poses a significant health risk, so sometimes class will be held virtually. Check Canvas for updates!

Student Learning Objectives

By the end of the course, students will be able to:

1. Develop and critique scientific hypotheses and recognize logical fallacies.
2. Identify the critical concepts in the development of the geologic time scale.
3. Utilize stratigraphy, biostratigraphy, other relative dating techniques to determine the ordering of geological events. Explain the basics of absolute dating.
4. Explain the process of fossilization and analyze factors affecting preservation in different depositional environments.
5. Explain evolutionary theory and demonstrate how mutation, migration, natural selection, and genetic drift lead to change in populations.
6. Distinguish common factors affecting biodiversity in the biological & geological record. Identify the major patterns of change in shape, form, & richness through time.
7. Distinguish the major groups of organisms & identify their timing of origin & proliferation in the fossil record.
8. Explain how (mass) extinctions dramatically impact life on Earth & appraise the evidence for the five largest mass extinctions in the history of life.
9. Demonstrate the intimate connection between climate, geology, & evolution in shaping the history & future of planet Earth.
10. Recognize the major impacts humans are having on Earth and how climate change, extinction, & hazards are tightly linked to social injustice.



Prerequisites:

GEO 401, 303, or 312K (or equivalent) with a grade of C or higher. If you have not passed one of these classes, you will be dropped from this course (unless you have my permission to attend).

Common Core:

- This course may be used to fulfill three hours of the natural science and technology (Part I or Part II) component of the common core curriculum.
- It addresses the following four core objectives established by the Texas Higher Education Coordinating Board: communication skills, critical thinking skills, teamwork, and empirical and quantitative skills.



EXPECTATIONS

Attendance:

- **LECTURES WILL BE IN PERSON.** Attendance is STRONGLY encouraged.
- **If necessary, classes may shift online (Zoom/prerecorded) with recordings on Canvas** (all activities will fit in the 2:30-4 pm timeslot).
- Even if lectures are asynchronous, **follow up quizzes and assignments will still be due on the lecture schedule** (see Canvas).
- Lectures involve active participation, such as group work, reading discussions, or Q&A sessions with experts. **These activities will always be SYNCHRONOUS.**
- Check the weekly page on Canvas for lecture modality and due dates.
- **It is your job to complete quizzes, assignments, and readings.** It is okay if you don't completely understand everything in the reading but do your best.



Lab Component:

- **You are required to attend the section for which you are registered in person (or virtually when necessary).** **The lab is always SYNCHRONOUS.**
- If you must miss a lab for any reason, **make arrangements with your TA in advance to attend a different section.** Your TAs will have additional lab policies.
- Labs are a significant part of your overall course grade; if you do not attend lab, you will fail the course.

Office Hours:

- **Here's a secret... Office Hours are your free one-on-one help sessions!** We enjoy helping you!
- If you have questions, need clarification of a concept/topic covered, or want more information about a topic, do not hesitate to see us during office hours (or send us an email).
- Feedback is an important part of learning. Please let me know when something we discuss is not clear. This kind of communication will enable me to provide additional information when needed or to explain a concept differently.
- **Office hours are also available through Zoom (link on Canvas).**

Questions:

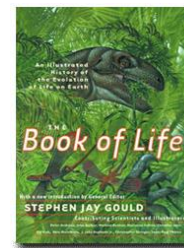
- I strongly encourage you to ask questions and speak up in class, through chat, or on Canvas Discussion Sections.

Email:

- It is the student's responsibility to keep the University informed as to changes in their e-mail address.
- **Students are expected to check e-mail and Canvas on a frequent and regular basis** to stay current with university-related communications, recognizing that certain communications may be time-critical. **It is recommended that e-mail be checked daily Monday-Friday at a minimum.**
- The University's official e-mail student notification policy and instructions for updating your e-mail address are available at: www.utexas.edu/its/policies/email_notify.html.
- In this course e-mail and Canvas will be used as a means of communication (e.g., class work and announcements).
- We will check email regularly, but **please be respectful of our time commitments** (e.g., we will not respond to your email at 3 in the morning).

Texts:

Required text:
Gould, S.J., (ed.)
2001. The Book
of Life. W.W.
Norton &
Company



- I supplement the text with topical new research, current events & news for class discussion and exercises.
- All non-textbook readings are posted to Canvas as PDF files. In the spirit of preserving the environment I will not be putting paper copies in open reserve. If you do not have a computer you can access these files from public computers in any UT library, or the Geology Undergraduate Computer Lab.
- **You are responsible for all the material designated as readings. YOU WILL BE TESTED ON THIS MATERIAL.**
- Readings are not redundant with lecture content; they provide additional information not necessarily covered in class and are an important supplement to the lectures.

Food & Devices:

- The same rules for drinks that apply in the library apply in the lecture and lab (coffee and other drinks must be in a secure cup or bottle).
- **Food is not permitted in lab (we work with real fossils!).**
- Cell phones must be off when you are in class or lab unless they are being used for TopHat.
- **No text messaging or social media in class or lab;** if you are messaging etc. on your phone, you will be warned once then asked to leave class.
- Laptop computers are allowed (again for notes and TopHat). If you are on social networking sites (TikTok, Instagram, etc.) or email during class, you will be warned once then lose your right to bring a laptop to class.

GRADES

Grade boundaries (+/-) determined at the discretion of the instructor at the end of the semester. Below is a typical breakdown (not final).

Grade	Typical Cutoff
A	94%
A-	90%
B+	87%
B	84%
B-	80%
C+	77%
C	74%
C-	70%
D+	67%
D	64%
D-	60%
F	<60%

Letter grades scaling may be reconsidered (after all grades have been finalized).

The final class grades will not be curved.

Late work: Late work will be accepted with a penalty of -10% of the total value per day (unless otherwise noted).

Absences: In extenuating circumstances, absences will be considered on a case-by-case basis.

Current Grade: If you wish to know your current lab, quiz, & overall grades at any point, check the Canvas website or come to office hours. Letting us know you would like to see this summary before the meeting is helpful.

I do not give extra credit assignments to individuals; they are unfair to other students. There are several extra credit opportunities (for all) throughout the semester.

Grades are based on:

Synthesis Assignments 40%	
(Roughly every 2 weeks)	
Summative Quizzes 20%	
(Roughly every 2 weeks)	
Laboratory Work 30%	
(Weekly)	
Metacognition Quizzes (10%)	

* 100% is the maximum score for each category (NB: Canvas allows you to score >100%, but this will be adjusted in the final grade).

Class Recordings:

- Lectures Online automatically (but not always perfectly) record lectures so you can catch up if you are sick.
- Recordings are exclusively for educational purposes and only for members of this class (students, TAs, & the instructor).
- RECORDINGS MUST NOT BE SHARED OUTSIDE THE CLASS IN ANY FORM. Violation of this restriction could lead to Student Misconduct proceedings.**

Canvas:

- This course uses a web-based learning management system (password-protected site for each course).
- Canvas is available at <http://canvas.utexas.edu/>
- Support is provided by the ITS Help Desk (512-475-9400) Monday to Friday, 8 am to 6 pm.
- Announcements, grades, Zoom links, assignments, and discussions will be posted on Canvas; student enrollments are updated each evening.
- YOU ARE RESPONSIBLE FOR CHECKING THE CANVAS SITE REGULARLY (I suggest daily).**
- Readings, lectures, labs, assignments, and quizzes will be organized in weekly modules.



TopHat:

- This course uses **TOPHAT** (<https://tophat.com/>) an app that fosters in-class participation, discussion, & knowledge testing.
- TopHat is available for iPhones, Android, flip-phones, and can be accessed via any computer or tablet.



Assignments, Exams, & Quizzes:

- THERE ARE NO EXAMS IN THIS COURSE (yay!).**
- Synthesis assignments (both group & individual) are 40% of your grade and will be due roughly every other week.** These assignments integrate information from your readings, lectures, and labs. These are built to test your understanding of core concepts and will require a significant amount of consideration, work, and writing.
- Summative Quizzes (20% of your grade) test your knowledge of concepts in the class and will be posted on Canvas.** If you are participating in the class and doing the readings/homework, these should not be difficult.
- Metacognition quizzes are 10% of your grade.**
- In the absence of exams, these exercises let me assess how well you are learning the material.
- If you have a university sanctioned conflict with any due dates, you must notify me at least 14 days in advance of the deadline; failure to notify me will result in a zero.**
- If you feel there was an error made in an evaluation of your work, you must bring this up within 10 days of the return of the assignment/quiz.
- CHEATING AND PLAGIARISM IS NOT TOLERATED, unless an assignment is specifically a group project, you MUST SUBMIT YOUR OWN WORK.**

UT's Plan to Promote Diversity, Inclusion & Equity

In July 2020, UT Austin announced steps to promote diversity & equity and to recruit, retain & support even more talented and diverse students, staff and faculty. Track our progress here:

www.utexas.edu/about/diversity-equity-and-inclusion/plans

Land Acknowledgment:

We acknowledge that we are meeting on the Indigenous lands of Turtle Island, the ancestral name for what now is called North America. Moreover, we would like to acknowledge the Alabama-Coushatta, Caddo, Carrizo/ Comecrudo, Coahuiltecan, Comanche, Kickapoo, Lipan Apache, Tonkawa and Ysleta Del Sur Pueblo, and all the American Indian and Indigenous Peoples and communities who have been or have become a part of these lands and territories in Texas.

JSG Code of Conduct

- The **Jackson School of Geosciences (JSG)** is dedicated to creating a positive, inclusive work environment that embraces diversity in all forms and rejects any form of hostile workplace, discrimination, or bullying.
- We have a clear statement of behavioral expectations & definitions of discrimination, (sexual) harassment, & bullying, which can be found here: www.jsq.utexas.edu/people/jsq-community/workplace-issues/.
- On this website, you can find resources & contacts for reporting issues.

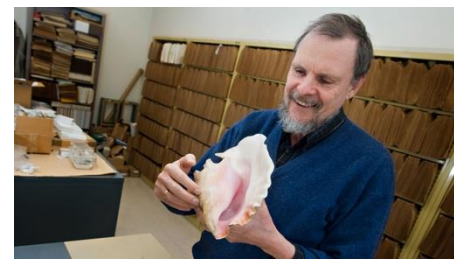
PLEASE NOTE: AS A FACULTY MEMBER I AM A MANDATORY REPORTER FOR TITLE IX VIOLATIONS.

Diversity & Inclusion:

- Ideally, science would be objective but much of science is subjective and is historically built on a small subset of voices.
- **Integrating a diverse set of experiences is important for a comprehensive understanding of science.** I often discuss issues of diversity in geoscience as part of the course. Please contact me if you have any suggestions to improve the quality of the course materials.
- UT Gender Inclusive Restrooms: <http://diversity.utexas.edu/genderandsexuality/gender-inclusive-restrooms/>
- Beyond the Jackson School protocols, **it is my goal to create a learning environment for my students that supports a diversity of thoughts, perspectives, and experiences, and honors your identities (race, gender, class, sexuality, religion, ability, etc.).**
- To help accomplish this:
 - If you are comfortable doing so, **please share your pronouns** with the class. I request that you also **respect & honor everyone's pronouns.**
 - If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.
 - Your classmates & instructors (like many people) are still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it.
 - I ask you, as a good UT citizen, to also strive to honor the diversity of your classmates (e.g., use correct pronouns, pronunciation of names, make sure all voices are heard, etc.).

Student Rights & Responsibilities

- You have a right to a learning environment that supports mental and physical wellness.
- You have a right to respect.
- You have a right to be assessed and graded fairly.
- You have a right to freedom of opinion and expression.
- You have a right to privacy and confidentiality.
- You have a right to meaningful and equal participation.
- You have a right to learn in an environment that is welcoming to all people. **No student shall be isolated, excluded, or diminished in any way.**



With these Rights come Responsibilities:

- **You are responsible for taking care of yourself, managing your time, and communicating with me if things start to feel out of control or overwhelming.**
- You are responsible for acting in a way that is worthy of respect and always respectful of others.
- Your experience with this course is related to the quality of the energy that you bring to it.
- **You are responsible for creating an inclusive environment** and for speaking up when someone is excluded.
- You are responsible for holding yourself accountable to these standards, holding each other to these standards, and holding the teaching team accountable as well.

University Policies

Academic Integrity

- **WE MAINTAIN A ZERO-TOLERANCE POLICY ON CHEATING.**
- Scholastic dishonesty includes, but is not limited to: cheating, plagiarism, collusion, using, buying, stealing, and/or divulging the contents of an exam, removing a test from the exam room, substituting for another person, having someone take a test for you, falsifying research data, misrepresenting facts including providing false grades or resumes, presenting someone else's work as one's own, & falsifying academic records.
- **Plagiarism is taken very seriously at UT and in my classroom.**
Therefore, if you use words or ideas that are not your own, you must cite your sources. Otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course.
- You are responsible for understanding UT's Academic Honesty and Honor Code which can be found here: http://deanofstudents.utexas.edu/sjs/acint_student.php
- A full, comprehensive statement about what constitutes academic dishonesty can be found in Appendix C, section 11-802 in the General Information bulletin. The Student Judicial Services office in the Office of the Dean of Students has the responsibility for following up and making the final determination.



Honor Code

- You are responsible for knowing and following the UT Policies and the UT Honor Code, available through Canvas when you log in to the course page. The UT Honor Code states:
"The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community."

Content Warning

Our classroom provides an open space for the critical and civil exchange of ideas. Some readings and other content in this course will include topics that some students may find offensive and/or traumatizing. I'll aim to forewarn students about potentially disturbing content and I ask all students to help to create an atmosphere of mutual respect and sensitivity.

Religious Holy Days

- Religious holy days sometimes conflict with classes, labs, and due dates. If you miss an activity, assignment, or other project due to the observance of a religious holy day you will be given an opportunity to complete the work missed within a reasonable time after the absence.
- It is the policy of The University of Texas at Austin that **you must notify each of your instructors at least fourteen days prior to the classes scheduled on dates you will be absent to observe a religious holy day (earlier notification is preferable).**

Drop Dates

- The last day of the official add/drop period is Friday, Jan. 12th, 2023.
- The last day to drop the course for academic reasons (with approval of the dean) is Monday, April 24th, 2023 except for urgent & substantiated, nonacademic reasons. After this date, students may go to the Chair of the Department of Geological Sciences (JGB 2.112), to appeal for non-academic reasons.
- Tuesday, March 21st, 2023 is also the last day an undergraduate may: Q-drop a class; withdraw; or change a class to pass/fail.



Q Drop Policy

- Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: www.utexas.edu/ugs/csacc/academic/adddrop/qdrop
- **If you are considering a Q-drop for any of your classes, contact your advisor. There may be some conditions when a Q-drop is not available** (e.g., students on probation).

Q-drops may have an impact on financial aid as well as other implications.

University Resources for Students

Your success in this class is important to me.

We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course.

There are a range of resources on campus, check them out!

Services for Students with Disabilities

- **This class respects and welcomes students of all backgrounds, identities, and abilities.**
- If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible.
- I promise to maintain the confidentiality of these discussions. If appropriate, please provide me with a letter (as soon as possible) from the Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329-3986 (video phone).
<http://ddce.utexas.edu/disability/about/>

Counseling and Mental Health Center

All of us benefit from support during times of struggle. **You are not alone.** There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you, or anyone you know, experiences academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support.
<http://www.cmhc.utexas.edu/individualcounseling.html>



The Sanger Learning Center

More than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance!

All students are encouraged to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. Please visit www.utexas.edu/ugs/slc or call 512-471-3614 (JES A332).

- **Undergraduate Writing Center:** <http://uwc.utexas.edu/>
- **Libraries:** www.lib.utexas.edu/
- **ITS:** www.utexas.edu/its/

Important Safety Information:

If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn't feel right – it probably isn't. Trust your instincts and share your concerns.

Student Emergency Services:
<http://deanofstudents.utexas.edu/emergency/>

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, www.utexas.edu/safety/. Students should sign up for [Campus Emergency Text Alerts](#).

- Occupants of buildings on UT Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember: the nearest exit door may not be the one you used when entering.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency

Other Resources

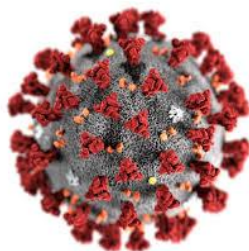
COVID-19 Guidance

If you develop COVID-19 symptoms or feel sick, stay home and contact the [University Health Services' Nurse Advice Line](#) at 512-475-6877. If you need to be absent from class, contact Dr. Martindale and [Student Emergency Services](#).

To preserve the safety of our in-person learning environment, please adhere to the following.

- **Adhere to university [mask guidance](#).** Masks are strongly recommended, inside university buildings for people at high risk and unvaccinated individuals.
- **Vaccinations are widely available, free, and not billed to health insurance.** The vaccine helps protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated.
- **[Proactive Community Testing](#) is an important part of protecting our community. Tests are fast and free.** Up-to-Date UT Austin COVID-19 Tracking: <https://protect.utexas.edu/ut-austin-covid-19-dashboard/>
- We encourage the use of the [Protect Texas App](#).
- If you have been in close contact with someone who tested positive for COVID-19, see the [University Health Services](#).
- [Behavior Concerns and COVID-19 Advice Line](#) (BCCAL) is the primary tool to address questions or concerns from the university community about COVID-19.
- **Students who test positive should contact [BCAL](#) or self-report (if tested off campus) to [University Health Services](#).**
- Visit [Protect Texas Together](#) for more information.

All students returning to campus for the spring semester are encouraged to receive a **[viral test](#)** within 72 hours (three days) prior to returning to campus or the surrounding community for in-person social activities, events or classes.



If Exposed: https://healthyhorns.utexas.edu/coronavirus_exposure_action_chart.html

Self-reporting form for COVID-19: www.healthyhorns.utexas.edu/coronavirus_self_report.html

Stress and Anxiety Related to COVID-19: www.healthyhorns.utexas.edu/coronavirus_stress.html

Supporting Mental Well-Being: <https://protect.utexas.edu/how-to-support-a-longhorn/>

We realize that some students are under extreme stress, for whom the relief mechanisms will not be sufficient to help them get back onto the right track. If you are in this situation, know that the university continues to offer you a wide range of resources. I encourage you to review and take advantage of the support available to you as student at UT.

COVID-19 Vaccinations and Testing: <https://protect.utexas.edu/vaccines-testing/>

Other Student Resources

- Student Emergency Services: <https://deanofstudents.utexas.edu/emergency/howwecanhelp.php>
- Services for Students with Disabilities: <https://diversity.utexas.edu/disability/2020/04/ssd-covid19/>
- Counseling and Mental Health Center: <https://cmhc.utexas.edu/index.html>
- Student Ombuds: <https://ombuds.utexas.edu/student>
- Academics and Student Support: <https://longhornsonline.utexas.edu/academics-and-student-success/>
- Texas One Stop: <https://onestop.utexas.edu>
- Keep Learning: <https://onestop.utexas.edu/keep-learning/>

Food Banks

- **Hunger and Food Insecurity on our campus is real.** There are 2 food pantries on campus:
- <https://deanofstudents.utexas.edu/emergency/utoutpost.php>
- <https://socialwork.utexas.edu/student-resources/financial/food-pantry/>



Handguns on Campus

Texas' Open Carry law expressly prohibits a licensed to carry (LTC) holder from carrying a handgun openly on the campus of an institution of higher education such as UT Austin.

Students in this class should be aware of the following university policies:

- Students in this class who hold a license to carry are asked to [review the university policy regarding campus carry](#).
- Individuals who hold a license to carry are eligible to carry a concealed handgun on campus, including in most outdoor areas, buildings and spaces that are accessible to the public, and in classrooms.
- **Open carry is NOT permitted**, meaning that a license holder may not carry a partially or wholly visible handgun on campus premises or on any university driveway, street, sidewalk or walkway, parking lot, parking garage, or other parking area.
- **Per my right, I prohibit carrying of handguns in my personal office. Note that this information will also be conveyed to all students verbally during the first week of class.** This written notice is intended to reinforce the verbal notification and is not a "legally effective" means of notification in its own right.



Title IX Disclosure

Beginning January 1, 2020, Texas Senate Bill 212 requires **all employees of Texas universities, including faculty, to report any information to the Title IX Office regarding sexual harassment, sexual assault, dating violence and stalking that is disclosed to them.** Texas law requires that all employees who witness or receive any information of this type (including, but not limited to, writing assignments, class discussions, or one-on-one conversations) must be report it.



- If you would like to speak with someone who can provide support or remedies without making an official report to the university, please email advocate@austin.utexas.edu.
- For more information about reporting options and resources, visit <http://www.titleix.utexas.edu/>, contact the Title IX Office via email at titleix@austin.utexas.edu, or call 512-471-0419.



- **Although graduate teaching and research assistants are not subject to Texas Senate Bill 212, they are still mandatory reporters under Federal Title IX laws and are required to report a wide range of behaviors we refer to as sexual misconduct, including the types of sexual misconduct covered under Texas Senate Bill 212.**
- The Title IX office has developed supportive ways to respond to a survivor and compiled campus resources to support survivors.

Faculty members and certain staff members are considered "Responsible Employees" or "Mandatory Reporters," which means that they are required to report violations of Title IX to the Title IX Coordinator. **I am a Responsible Employee and must report any Title IX-related incidents** that are disclosed in writing, discussion, or one-on-one. **Before talking with me or with any faculty or staff member about a Title IX-related incident, be sure to ask whether they are a responsible employee.**

If you want to speak with someone for support or remedies without making an official report to the university, email advocate@austin.utexas.edu For more information about reporting options and resources, visit the [Title IX Office](#) or email titleix@austin.utexas.edu.

TOPIC SCHEDULE

** This topic list represents my current plans.*

*As we go through the semester, those plans may need to change to enhance learning opportunities. Such changes, communicated clearly, are not unusual and should be expected. **Please check for announcements on Canvas regularly.***

Part I - Fundamentals for the Study of the History of Life

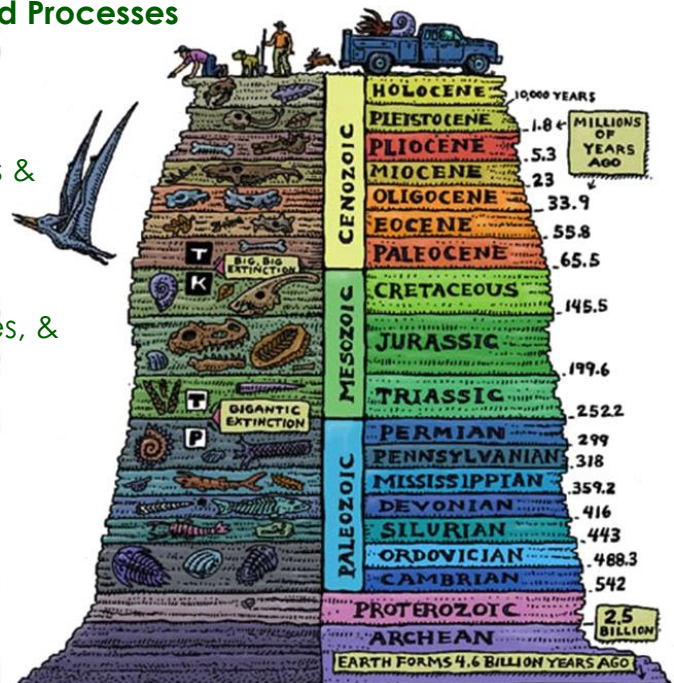
- Introduction: Scope, Content, and Expectations (your and ours).
- The Nature of Science- Hypotheses in Historical Geology
- Deep Time and How to Tell Time: Age of the Universe, Earth, and Its Rocks
- Earth and Life through Time: Plate Tectonics, Depositional Environments, and Fossils
- Fossilization, Finding Fossils, and the Nature of the Fossil Record

Part II - Classification, Systematics, and Evolutionary Processes

- Discovery: History of Classification, Hierarchies, and Taxonomy
- Classification and Systematics: Phylogenetic Systematics
- Evolution: History of Evolutionary Thought, Principles, and Mechanisms of Evolution, Macroevolution, Novelty, and Biodiversity
- Extinctions: Causes, Dynamics, and The Big Five

Part III - A Walk Through Time: Patterns and Processes

- 4 billion years of life on Earth
- Early Links Between Earth and Life
- Before there were skeletons
- The Deep Watery History of Animals & Vertebrates
- The Paleozoic Terrestrial Invasion
- Paleozoic Mass Extinctions
- Life Through the Mesozoic, Amniotes, & Archosaurs
- Mesozoic Mass Extinctions
- Dissecting dinosaur diversity
- Moving into the Cenozoic
- Links between Climate and Life
- Human Evolution
- Earth and Life



Special Seminars (opportunity for bonus marks)

Most are part of the DeFord Lecture Series, topics can be found here:

www.jsg.utexas.edu/events/de-ford-lecture-series/