

Syllabus

Course Information

Course Number: GEOL 207

Course Title: Dinosaur World

Time: Asynchronous

Location: Online

Credit Hours: 3 CR

Instructor Details

Name: David Bapst

Office: Halbouty 169

Email: dwbapst@tamu.edu

Office Hours:

- Tues/Thurs: 9:30-10:30 AM, 3:40-4:30 PM

Office Hours are held in-person in my office, as well as online – please send me an email or a message via the Canvas Learning Management System so I can send you a Zoom link. If these times do not work for you, then please contact me and we will work out alternative times for use to chat.

Course Description

Survey of the evolution, extinction and ecology of dinosaurs and dinosaur groups, as well as the paleogeography, paleoclimate, and terrestrial paleoecology of the Mesozoic, the events of the Cretaceous/Paleogene mass extinction, and its effect on ecosystems.

Course Prerequisites

None, but the course is not available to students who have taken GEOL 307, the course code for Dinosaur World before 2017.

Special Course Designation

CORE CURRICULUM - This course fulfills the Core Curriculum requirement for Life & Physical Sciences. Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences. The following skills will be addressed in the courses that comprise this area:

- **Critical Thinking Skills** – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. This will be taught through lecture mini assignments and online lab assignments, and assessed through those same assignments as well as major project assignments.
- **Communication Skills** – to include effective development, interpretation and expression of ideas through written, oral *and* visual communication. Students will experience working on their communication skills in their major projects, especially their group projects, which will also assess those same skills.
- **Empirical and Quantitative Skills** – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. This will be taught through the majority of lecture mini assignments and online lab assignments, which focus on analysis of numerical data and visual information, and assessed through those same assignments.

- **Teamwork** – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal. Students will have an opportunity to develop and reflect on their abilities to work with others as part of their two latter major projects, both of which are group work. A component of these assignments will be assessments on coordinating a plan for finishing their assigned work, assigning roles to each group member and providing feedback on their group members.

Course Learning Outcomes

Students in Dinosaur World will learn to:

1. Describe how the scientific method has led to our current understanding of dinosaurs.
2. Communicate the theory of natural selection to non-scientists.
3. Describe the paleogeography and paleoclimate of the Mesozoic.
4. Recognize major dinosaur groups and describe current hypotheses concerning their evolution and ecology.
5. Create and interpret phylogenetic trees depicting evolutionary relationships among dinosaurs and living archosaurs (birds and crocodilians).
6. Describe the geologic evidence for the cause of the Cretaceous/Paleogene mass extinction and evaluate the effect of this extinction on ecosystems.
7. Work collaboratively to plan and create works of oral, visual and written communication that express scientific information clearly for both well-informed parties and general audiences.
8. Critically evaluate non-specialist literature and media (television shows, videos, podcasts, web-sites) on dinosaurs and modern terrestrial ecology.

Textbook and/or Resource Materials

Dinosaurs: The Textbook, by Spencer G. Lucas (6th edition).

Thanks to the support of Texas A&M University Libraries, you can access the following course materials for free: [Dinosaurs via http://proxy.library.tamu.edu/](http://proxy.library.tamu.edu/)

While all readings and any other reference to the textbook will be tied to the 6th edition, most editions of Lucas's textbook are sufficient for providing necessary background information, if that is your main reason for wanting a copy.

Grading Policy

Your final letter grade will be based on the final percentage grade for the course:

A	>89.99%
B	80-89.99%
C	70-79.99%
D	60-69.99%
F	Less than 60%

Your final percentage for the course will be based on:

Lecture Mini-Assignments & Associated Quizzes	15%
Online Lab Assignments & Associated Quizzes	30%
Major Assignment: Natural Selection Essay	15%
Major Assignment: Excavation Team Report	20%
Major Assignment: Dinosaurs in the Media Team Video	20%

Grades in this class will be based on the total grades of each of the component areas listed in the table above, with the percentage of your final grade determined by a component area as indicated.

Lecture Mini-Assignments & Associated Quizzes

In most weeks, there is a short assignment associated with the lecture content of the course. These assignments help build skills necessary for completing the laboratory assignments and reinforce key concepts covered in the lecture videos. In some cases, these assignments will require reading portions of the textbook. Quizzes that accompany these assignments serve to let you check your answers before submitting the assignment. You will have two attempts at the quiz and your highest quiz score will count. These assignments are often prerequisites to accessing that week's laboratory.

Online Lab Assignments & Associated Quizzes

In most weeks, there are laboratory assignments posted to Canvas that are due by the following week. To access these assignments, you will need to complete the related lecture material and may also be required to submit the previous week's laboratory assignment in some cases. Quizzes that accompany the laboratory assignments serve to let you check your answers before submitting the assignment. You will have two attempts at the quiz and your highest quiz score will count. These online laboratory assignments develop the use of quantitative data and measurements in testing hypotheses, visualizing patterns in data, and drawing synthetic conclusions. Thus, these lab exercises fulfill the visual communication, critical thinking, and quantitative analysis requirements of the core curriculum.

Major Assignment: Natural Selection Essay

To develop your written communication skills and apply the concept of natural selection to the evolution of the dinosaurs, you will write a short essay. A rubric will be used to grade this assignment and is provided on Canvas with a full description of the assignment. This fulfills the written communication requirement of the core curriculum.

Major Assignment: Excavation Team Report

After completing the four laboratory assignments associated with the excavation project, you will work with a team to arrive at a consensus regarding the identification of the organism(s), the paleoenvironment of the site, and paleoecology of the organisms. Together, the team will write a single consensus report. A rubric will be used to grade this assignment as is provided on Canvas with a full description of the assignment. This project fulfills the written communication requirements of the core curriculum, as well as the critical thinking, empirical analysis, and teamwork requirements.

Major Assignment: Dinosaurs in the Media Team Video

For the final major project, you will work with your team to examine an example of how dinosaurs are depicted in the media and compare that to our modern idea of what dinosaurs are like and your knowledge from this class. The project will culminate in a scripted video presentation by your group. A rubric will be used to grade this assignment and is provided on Canvas with a full description of the assignment. This project fulfills the oral communication requirements of the core curriculum, as well as the critical thinking, empirical analysis and teamwork requirements.

Late Work Policy

All assignments have a due date in Canvas. Meeting those due dates will ensure that you are pacing yourself appropriately to finish all assignments before the end of the course and that you have completed the work necessary to fully participate in the team assignments. While assignments on Canvas do not ‘close’ and you may submit assignments to meet module prerequisites at anytime, work submitted more than two weeks after the Canvas due date will not be graded. No assignments will be accepted after the last day of the final exam period (**May 7th**). Work submitted late due to an excused absence is not considered late work, per Student Rule 07, and is exempt from the late work policy.

Course Schedule

		Lecture Topic / <i>Mini-Assignments</i> / Major Assignments
Week 1	Jan 16-19	Welcome to the World of Dinosaurs From Death to Fossilization to Discovery <i>Bone Detectives Mini-Assignment</i> Lab 1: Fossil Preservation & Sedimentary Environments
Week 2	Jan 22-26	Time in Geology Continents and Biogeography <i>Telling Time and Distribution of Fossils</i> Lab 2: Fossils in Time and Space
Week 3	Jan 29 - Feb 2	Natural Selection and Genes Getting Started with Phylogeny <i>Graphing Natural Selection</i> Lab 3: Natural Selection Natural Selection Essay Assigned
Week 4	Feb 5-9	Phylogenies and the Dinosaur Tree Diversity and Convergence in Form <i>Sauropod Phylogeny</i> Lab 4: Reconstructing Evolutionary Trees
Week 5	Feb 12-16	Evolution of Vertebrates and Beyond Archosaurs and the Earliest Dinosaurs <i>Pelvic Anatomy Mini-Assignment</i> Lab 5: Excavation Stage 1, Pelvis and Hind-Limb
Week 6	Feb 19-23	The Eusauropoda: Long Necks and Big Bodies Thyreopneans: Armored Ankylosaurs and Stegosaurs <i>The Tail and Key Trace Fossils</i> Lab 6: Excavation Stage II, Caudal Region Natural Selection Essay Due
Week 7	Feb 26 - Mar 1	Ornithopods Marginocephalids: Ceratopsians & Pachycephalosaurs

		Lecture Topic / <i>Mini-Assignments</i> / Major Assignments
		<i>Vertebrae Mini-Assignment</i> Lab 7: Excavation Stage 2, Spine Vertebrae
Week 8	Mar 4-8	Theropods Dinosaur Take to the Skies Pterosaurs - Sisters to the Dinosaurs
		<i>Skull Mini-Assignment</i> Lab 8: Excavation Stage 3, Skull and Forelimb Excavation Teams Based on Lab 7 Submission
	Mar 11-15	SPRING BREAK
Week 9	Mar 18-22	The Dinosaur World: Climate, Ecology and Ecosystems
		Excavation Report Assigned Group Logistics Quiz Due
Week 10	Mar 25-29	Dinosaur Behaviors Growth and Reproduction of Dinosaurs
		Lab 9: Skeletal Growth
Week 11	Apr 1-5	Trackways and Locomotion Metabolism
		Lab 10: Size and Speed Excavation Team Reports Due Dinosaurs in the Media Video Project Assigned
Week 12	Apr 8-12	Public Perception of Dinosaur
		Work With Your Dinosaurs in the Media Team!
Week 13	Apr 15-19	End-Cretaceous Mass Extinction Marine Mesozoic Reptiles
Weeks 14 - 15	Apr 22-26 Apr 29-30	Birds: Dinosaurs Still Rule in the Cenozoic Wrap-Up
		Dinosaurs in the Media Video Due

In general, please refer to Canvas for the most up-to-date due-date information.

Optional Course Information Items: Student Resources

- **Are You Having an Emergency?** – A variety of student resources focused on health and safety are available to you as a student at Texas A&M. [Student Life](#) provides a number of services, such as free legal services to students on non-university matters, emergency food resources, off campus student services, support for pregnant and parenting students, access to short-term relief pantries and support for former foster and adopted domestic students. [Student Counseling and Mental Health](#), part of University Health Services (UHS) can provide short-term counseling services and help coordinate

long-term help at off-campus providers.

- **Prolonged Absences** - [Student Assistance Services \(SAS\)](#) can serve as a liaison for students in critical and/or life-altering situations where students are unable to communicate with their instructors. Student Absence Notifications are intended to serve as a central point of contact for students who need to notify their instructors when an absence is due to an emergency and requires missing class for an extended period of time (more than three class days). [See more here](#). In addition to SAS, students should use the [Title IX office](#) as the first point of contact for any incident involving domestic abuse, sexual harassment, or students dealing with issues related to their sexuality, reproductive health or sexual health. Absences related to such issues should be coordinated through the Title IX office. Finally, if absences are related to long-term health issues or disabilities that are registered through [Disability Resources](#), absences or the inability to participate in class should be discussed with the Disability Resources office. Title IX and Disability Resources have the ability to notify your instructors and provide rationale for excused absences when the situation warrants it.
- **Tell Somebody!** - In many of these emergent situations, whether these are cases require prolonged absences or not, it is important to inform the university about situations involving many of the above scenarios, including mental health issues that might fall under SAS/UHS, and can be reported to the university via [the Tell Somebody webform](#).
- **Writing Support** – The [University Writing Center \(UWC\)](#) has trained peer consultants available to work with you on any kind of writing or speaking project, including research papers, lab reports, application essays, or creative writing, and at any stage of your process, whether you're deciding on a topic or reviewing your final draft. You can also get help with public speaking, presentations, and group projects. We can work with you in person at our Evans or BLCC locations or via Zoom or email. To schedule an appointment or to view our handouts, videos, or interactive learning modules, visit writingcenter.tamu.edu. If you have questions, need help making an appointment, or encounter difficulty accessing our services, call 979-458-1455 or [email us](#).
- **Technology Support** – For issues with University technological infrastructure, like the campus wifi or using the Canvas Learning Management System, you should contact [TAMU IT Help Desk Central](#) via email, virtual chat, phone, etc.
- **Other Commonly Needed Student Resources** - Additional commonly utilized student services related to Admissions, the Registrar, Financial Aid, Student Business Services, Veteran Services and many others can be contacted via the [Aggie One Stop service](#). Individual services you may need access to may include [Scholarships and Financial Aid](#), [Student Billing Services](#), [Employment](#), [Academic Success](#), [Involvement and Engagement](#), [Leadership and Service](#), [Student Housing](#), and [Graduate Student Health Insurance](#). Links to an even broader list of student resources, many of which are university-wide, can be found on the ECCB program's [Student Resources page](#).

University Policies

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to [Student Rule 7](#) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in [Student Rule 7](#), or other reason deemed appropriate by the instructor.

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

“Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor” ([Student Rule 7](#), Section 7.4.1).

“The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence” ([Student Rule 7](#), Section 7.4.2).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

Academic Integrity Statement and Policy

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case” (Section 20.1.2.3, [Student Rule 20](#)).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact the Disability Resources office on your campus (resources listed below) Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Disability Resources is located in the Student Services Building or at (979) 845-1637 or visit disability.tamu.edu.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University’s goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with [Counseling and Psychological Services \(CAPS\)](#).

Students wishing to discuss concerns related to mental and/or physical health in a confidential setting are encouraged to make an appointment with [University Health Services](#) or download the [TELUS Health Student Support app](#) for 24/7 access to professional counseling in multiple languages. Walk-in services for urgent, non-emergency needs are available during normal business hours at University Health Services locations; call 979.458.4584 for details.

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's [Title IX webpage](#).

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors influencing a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care practices by utilizing the resources and services available through [University Health Services](#). Students needing a listening ear can call the Texas A&M Helpline (979.845.2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends for mental health peer support while classes are in session. The [TELUS Health Student Support app](#) provides access to professional counseling in multiple languages anytime, anywhere by phone or chat, and the 988 Suicide & Crisis Lifeline offers 24-hour emergency support at 988 or [988lifeline.org](#).

Students needing a listening ear can contact University Health Services (979.458.4584) or call the Texas A&M Helpline (979.845.2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends while classes are in session. 24-hour emergency help is also available through the 988 Suicide & Crisis Lifeline (988) or at [988lifeline.org](#).

Campus Specific Policies

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- **Writing Support** – The [University Writing Center \(UWC\)](#) has trained peer consultants available to work with you on any kind of writing or speaking project, including research papers, lab reports, application essays, or creative writing, and at any stage of your process, whether you're deciding on a topic or reviewing your final draft. You can also get help with public speaking, presentations, and group projects. We can work with you in person at our Evans or BLCC locations or via Zoom or email. To schedule an appointment or to view our handouts, videos, or interactive learning modules, visit writingcenter.tamu.edu. If you have questions, need help making an appointment, or encounter difficulty accessing our services, call 979-458-1455 or [email us](#).
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Campus Policies

Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to howdy.tamu.edu and clicking on the “Directory Hold Information” link in the Student Records channel on the MyRecord tab. [The complete FERPA Notice to Students and the student records policy is available on the Office of the Registrar webpage.](#)

Items that can never be identified as public information are a student’s social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.