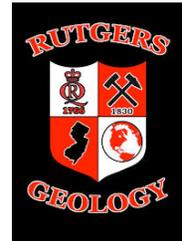


A Walk Through Time—The Evolution of Mammals

Department of Earth and Planetary Sciences



Foran Hall room 138A
Monday & Wednesday
Section 01
Dr. Christopher J. Lepre
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Cook Campus
3:55-5:15 PM
Index# 19510
Office hours: Mondays & by appointment
Office: Wright Building (room 202B) Busch campus

A Walk Through Time—The Evolution of Mammals (Geological sciences) introduces the current perspectives on the origins and fossil history of the mammals. This course allows students to critically evaluate the “how” and “why” theories of evolution and adaptation through a detailed presentation of the “who”, “what”, “when”, and “where” facts that are gathered by geological, biological, and paleontological research. Ultimately, the course is designed to give students an understanding of the evolutionary past, the processes of evolution that are occurring today, and an appreciation of the time and spatial scales over which extinction, natural selection, and the origins of new species take place.

Learning Goals: Students taking this course should develop an appreciation of critical thinking and the scientific method, including hypothesis testing. Students should recognize the importance of geology and paleontology in understanding the physical and economic resources and history of our planet. After successful completion of this course, students should be able to critically evaluate debates concerning the theory of evolution, how mammal extinctions and environmental change go hand-in-hand, and the interplay between climate and the development of mammal ecosystems over the last 66 million years.

This course satisfies SAS Core Curriculum Goals:

II A: Areas of Inquiry—Natural Sciences—students will be able to:

- e. Understand and apply basic principles and concepts in the physical or biological sciences.
- f. Explain and be able to assess the relationship among assumptions, method, evidence, arguments, and theory in scientific analysis.

Required Course Accessories (two that are required)

- (1) **REQUIRED TEXTBOOK:**
The Princeton Field Guide to Prehistoric Mammals (Princeton Field Guides)
by Donald Prothero
- (2) **LAPTOP OR EQUIVALENT:** during class meetings, this course requires you to access Sakai and its “Tests & Quizzes”. In order to do this you will need a laptop, tablet, etc. I do not recommend using a mobile phone device. Although a phone might work, many students have had problems interfacing with Sakai when using a phone.

Please be sure you have the most current version of the syllabus; changes may have been made since the first class meeting of the semester, or because of class cancelations due to bad weather, for example...

Course Content & Schedule

<u>DAY</u>	<u>DATE</u>	PART 1 (background information)
W	4-Sep	Linnaean classification
M	9-Sep	Mammals: definition and evolution
W	11-Sep	How does natural selection work?
M	16-Sep	Origin and Early Evolution of Mammals
W	18-Sep	Museum assignment #1
M	23-Sep	Monotremes, Marsupials & Xenathra
W	25-Sep	Measuring geological time
M	30-Sep	in-class exercise #1: geological time scale & stratigraphy
W	2-Oct	Test #1
PART 2 (the fossil record)		
M	7-Oct	Proboscidea
W	9-Oct	Primates & human evolution
M	14-Oct	Glires: Lagomorpha & Rodentia
W	16-Oct	Museum assignment #2
M	21-Oct	Chiroptera & gliding mammals
W	23-Oct	Carnivora 1
M	28-Oct	Carnivora 2
W	30-Oct	Artiodactyla
M	4-Nov	Cetacea
W	6-Nov	Perissodactyla
M	11-Nov	Test #2
PART 3 (special events & extinctions)		
W	13-Nov	Dinosaur demise & the radiation of early Cenozoic mammals
M	18-Nov	Continental drift and mammal evolution
W	20-Nov	Climate change and Cenozoic mammal ecosystems
M	25-Nov	Museum assignment #3
W	27-Nov	FRIDAY SCHEDULE, NO CLASS
M	2-Dec	Why were prehistoric mammals so much bigger than today?
W	4-Dec	Ice-age hunters & mammal extinctions
M	9-Dec	in-class exercise #2: virtual safari on Africa's savanna
W	11-Dec	The future of mammals

Reading days Thursday, December 12 to Friday, December 13

Exam week Monday, December 16 to Monday, December 23

During Exam week is Test #3, date and time to be announced

Each week, I will post the assigned reading that corresponds to each lecture. This will be updated within a document called "Textbook readings" that will be posted within the **Resources** folder on Sakai. Some readings will not be found in the textbook. For example, Wednesday September 11, the reading is a Scientific American article by Stephen Jay Gould, which will be posted as a pdf document in the Resources folder.

Course Requirements and Graded Work

- **Attendance** is mandatory for every class.
- **Participation exercises:** Between 10 and 15 of these will be administered this semester. These will be taken through the Sakai website; therefore, ***you must bring to every class*** a computer, tablet, etc. that can access the Sakai website and access the “tests & quizzes” app. There are no make-up chances under any circumstances, and leniency will not be given if a student forgets to bring their computer, tablet, etc. to class. Questions are true or false, multiple choice, fill-in-the-blanks, or short answer. The content of each exercise is based on the lecture of that day. These are open-book & open-note, and some will require that you collaborate with other students in the class.
- **Tests:** Tests are multiple choice, true or false, matching, diagram questions. Some short answer essay-styles questions will also be included. About 75 minutes is given to complete each test. There are about 60 questions on each test, sometimes more and sometimes less.
- **In-class assignments:** two of these will be done in class. See dates on “Course Content & Schedule”. No late assignments will be accepted. You cannot hand in these assignments using email. In-class assignments are to be completed using the test and quizzes app on Sakai; therefore, you must bring a laptop/tablet to class on the dates for the in-class assignments. The dates are listed on the previous page of this syllabus. In-class assignments take about 60 minutes to complete—although you have the entire 80 minute class period to complete them—and will consist of a variety of multi-media, subjective, and objective questions.
- **Museum assignments:** You are required to visit the Rutgers Geology Museum on the college ave campus and complete three assignments. The assignments are short answer questions based on the exhibits. These must be written on a computer and printed. Email submissions are not accepted.

PLEASE IDENTIFY YOUR WORK!

- Work submitted without a name and RU ID# will be graded as zero. For tests, your name, RU ID#, and test number must be labeled on your Xeroxed test packet and scan-tron clearly. If your test cannot be identified, then you will receive a zero. Furthermore, all identification must correspond in full between your scan-tron sheet and your Xeroxed test packet. If there are discrepancies between your Xeroxed test packet and your scan-tron, then you will receive a zero.
- If any identification information is missing from your graded work, then your work will not be eligible for a re-grade.
- The student assumes all responsibility for filling out scan-trons properly. Re-grades will not be issued for any markings, erasing, etc. that causes the scan-tron to be graded improperly. Please only fill in the instructed parts of the scan-tron. Filling in parts like sex, date of birth, etc. can cause your scan-tron to be improperly graded. You will not be eligible for a re-grade if you fill in extraneous parts of the scan-tron and this causes the scan-tron to be graded improperly. Scan-trons are to be done in pencil only. Any scan-trons filled out in pen or anything else besides a pencil will be graded as zero.
- Each in-class scan-tron tests has a finite number of copies distributed to the class. All copies must be accounted for at the end of the testing period. Failure to do so will result in point deductions from each and every student’s score. This is to prevent students from leaving the classroom with test information and sharing this information with students in other sections.

Grading Scheme, Make-up Tests & other information

Contribution to final grade

20%, 20%, 20%
15%
10%
15%
100%

Graded work

Test 1, 2, 3
Museum assignments 1, 2, 3
In-class exercise 1, 2
Participation exercises
Total

Final grade scale (Failure is below 60%):

A = 90-100%

B+ = 85-89%

B = 80-84%

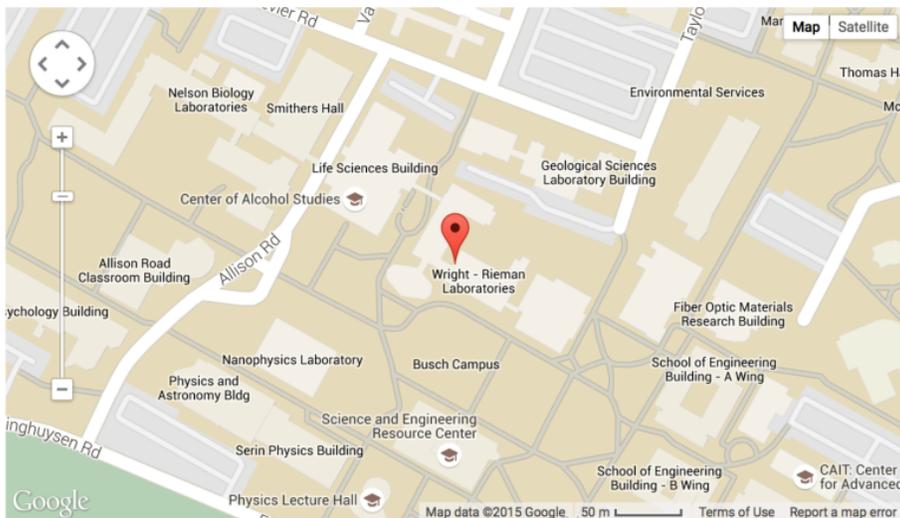
C+ = 75-79%

C = 70-74%

D = 60-69%

- If the instructor decides that you are eligible for a make-up assignment, then the next step would be for the student to obtain a letter from a Dean of Students.
- You have until the second class meeting from the regularly scheduled due date to complete a make-up assignment. In the case of absences longer than two weeks, the three-class grace period will begin from first day the instructor is given notification that the student can return to class.
- **Please inform me if you require special accommodations because of a disability or a complicated circumstance**

My office is the Wright Lab Building (room 202B) Busch campus. You can find the building using <http://rumaps.rutgers.edu/location/wright-rieman-laboratories>



Busch campus:

My office