

## Syllabus: INTRODUCTION TO EARTH SCIENCES

### ESC 1000, Summer B, 2022 (Secs. 1122, 3 credits)

General Education Core Course in Natural Sciences, satisfying Biological or Physical Sciences (B/P)

M,T,W,R,F | Period 2 (9:30 AM - 10:45 AM)

Lecture: FLI0050

#### Instructor

John M. Jaeger, Ph.D. Associate Professor, Department of Geological Sciences, University of Florida 225 Williamson Hall, P.O. Box 112120, Gainesville, FL 32611

Office hours: 1:30-2:30 pm MWF or by appointment

e-mail: [jmjaeger@ufl.edu](mailto:jmjaeger@ufl.edu) (but communicate with me mainly through Canvas messaging)

#### Teaching Assistant

Paloma Olarte, Department of Geological Sciences, University of Florida 241 Williamson Hall, P.O. Box 112120, Gainesville, FL 32611

Office hours: 10-11 am MWF or by appointment

e-mail: through Canvas messaging

#### Recommended Textbook

I will be basing my content around the following text:

*Tarbuck/Lutgens/Tasa, Earth Science, 15e, Prentice*

To facilitate learning during the compressed schedule of Summer B, I will be incorporating assignments from the companion website of the textbook. The online tools are really exceptional for getting into the basics of earth sciences, with excellent videos, virtual field trips, and learning tools.

This will allow you to work on material at your own pace online outside of the daily lecture.

All students will need access to Pearson's MASTERING GEOLOGY through UF All Access.

#### Course Goals

Earth is dynamic planet that is continually being reshaped by forces generated within the Earth's interior and by processes operating in both the oceans and atmosphere. In this course we will:

- Explore the fundamental processes that occur within each of these domains as well as the interactions between them.
- Develop an enhanced awareness of how the earth influences human well-being and vice versa based on ~15 topics that are arranged as case studies.
- Discover an excitement about science and how it can enhance our appreciation for the complexity and beauty of the world around us and solve real-world problems.

Hopefully, this will translate into an eagerness to explore science-topics further and to vote and consume goods as a scientifically- educated citizen. I will constantly stress and teach you how to make your own observations and then discuss in class possible interpretations of what causes changes based on the scientific method.

#### Course Objectives

*By the end of this course, students will:*

- develop an understanding of the Earth through the study of complex geosystems that interact across a wide range of spatial and temporal scales.
- learn the essential properties of Earth's components, including its core, mantle, asthenosphere, lithosphere, cryosphere, hydrosphere, atmosphere and biosphere.
- learn how to critically evaluate scientific information in visual and written forms.

### Structure of the Course

During each of the six weeks of the course, 2 – 4 topics (depending on complexity) will be completed. Each topic is a combination of short lectures, readings, animations, web links and additional materials for further exploration. A short reading quiz needs to be completed each Wednesday by 11:59 pm. An online quiz on the material needs to be completed at the end of each week (Sunday 11:59 pm). See the Canvas calendar for a listing of the specific dates that each activity is due.

Each student is responsible for completion of each activity of the course on time, for checking the Canvas site for announcements, and to see that your grades are being correctly recorded in the Canvas gradebook. **No grade will be changed more than one week following the date it was due.** It is recommended that students adjust Canvas settings so that Announcements are sent to phone or email.

### In-class Exam Dates

Friday, July 8, 2022

Friday, July 22, 2022

Thursday, August 4, 2022

### Communications

The most efficient way to contact me is through regular email (not Canvas). Throughout the term, I will provide information to you through Canvas announcements. Be sure that you check announcements regularly and set up Canvas to have announcements delivered to you as emails as well. You should also take advantage of the Discussions link here on Canvas. This provides a simple way of communicating with other students in the class. It is particularly useful when looking for information, or providing information to your fellow students that may not be an explicit part of instructions/syllabus (e.g., issues regarding technology, programs/browsers that you find useful, your experiences in best practices, discussions on course content, etc.)

### Course Website

All learning material, homework, exercises, quizzes, and discussions for this course will be carried out on the UF Canvas system website. Go to <http://lss.at.ufl.edu/> and click on the e-Learning in Canvas to Log In. You must have an active GatorLink ID to access the course website. If not, go to the GatorLink website (<http://gatorlink.ufl.edu>) or call the help desk at 392-HELP for assistance.

## Attendance Policy

Attendance and participation in all lectures are recommended because the majority of the exam content will be based on material covered in lectures. Attendance will not be taken. **Lectures will not be recorded nor streamed through Zoom.** Notify the instructor ASAP if you have a known schedule conflict with exam dates.

*Make-up Exams:* No make-up exams will be given without prior permission or documentation of illness. In case of illness, a letter from the student's primary care provider is required. This letter must state that the student was unable to complete the quiz on the scheduled date (i.e., a letter stating only that the student was seen in a clinic is not sufficient). A personal matter requires a note from the Dean of Students (P202 Peabody Hall).

Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

## Grading

3 Exams.....20, 15, 15% (student chooses exam to count for 20%)= 50%

12 MyLab and Mastering Geology Online Exercises 40%

12 MyLab and Mastering Geology Online Quizzes 10%

If you would like to discuss a grade you received on an assignment or exam, this must be completed within 1 week of the assignment/quiz grade being posted to Canvas.

MyLab and Mastering Geology quizzes are graded based on identifying the correct answer to true/false and multiple-choice questions.

MyLab and Mastering Geology assignments are graded based on identifying the correct answer for each problem.

Final letter grade: A =  $\geq 93\%$ , A- = 90-92.99, B+ = 87-89.99, B = 83-86.99, B- = 80-82.99, C+ = 77-79.99, C = 73-76.99, C- = 70-72.99, D+ = 67-69.99, D = 63-66.99, D- = 60-62.99, E < 60

There will be no 'rounding up', but in a border line cases, I may check the quality of your participation in discussions as well as your time spent on the course textbook and companion website. \*Note: An earned grade of 'C-' grade or below does not qualify for major, minor, Gen. Ed., or college basic distribution credit. For further information on UF's Grading Policy, consult:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

## Exams

Everything associated with the class, including lecture material, book readings and exercises are fair game on exams. However, the focus will be on the material presented in lecture. The 3 exams will consist of 60 multiple choice and true/false questions.

Exam grades will be curved to a median of 85% using a linear method described at:

<http://www.ats.amherst.edu/software/excel/excel-grading/excel-grades/#CurvingGrades>

## Late Policy

All quizzes must be completed on the scheduled date time and cannot be made up if missed (except in cases as outlined in UF policies, below). Online Exercises and Quizzes can be completed only up to one week after their due date, but will be awarded only half credit after the due date. Students are expected to complete all activities on the specified dates and will not be granted an alternate date unless they have an acceptable reason (e.g., medical emergency, military obligation) and pre-arranged consent of the instructor. These requests must be timely and accompanied by all necessary written/email documentation. This policy is accordance with UF's policies: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

### Academic Honesty Policy

Students must conform to UF's academic honesty policy regarding plagiarism and other forms of cheating. This means that on all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The university specifically prohibits cheating, plagiarism, misrepresentation, bribery, conspiracy, and fabrication. For more information about the definition of these terms and other aspects of the Honesty Guidelines, see <http://www.dso.ufl.edu/sccr/process/student---conduct---honor---code/>. All students found to have cheated, plagiarized, or otherwise violated the Honor Code in any assignment for this course will be prosecuted to the full extent of the university honor policy, including judicial action and the sanctions listed in paragraph XI of the Student Conduct Code. For serious violations, you will fail this course.

### Accommodations for Students with Disabilities

Please do not hesitate to ask for accommodation for a documented disability. Students requesting accommodation must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drp/>). The Dean of Students Office will provide documentation to the student, who must then provide this documentation to the Instructor when requesting accommodation. Please ask the instructor if you would like any assistance in this process. Please provide this information to your instructor within the first two days of the semester.

### Additional Resources

Students facing difficulties completing the course or who are in need of counseling or urgent help may contact the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; or the University Police Department: 392- 1111 or 9-1-1 for emergencies. Other Resources available on-campus for students include:

a. Student Mental Health, Student Health Care Center, 392-1171, personal counseling; b. Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual counseling; c. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

# Tentative Schedule of Lectures (5/10/22)

	<b>Topic</b>	<b>Earth Science Concepts</b>	<b>Reading</b>
Week 1	Topic 1: Introduction and Earth as a System	Course Intro/Earth as a System	1.1-1.4
	Topic 2: Facts & Earth Science	Facts and Science	1.2; 2.2; 21.2;22.1-22.2
	Topic 3: Sound in the ocean; lights in the sky-mapping the Earth	Google Earth Tour-What do you see?- Oceans and Continents, hypsometry	1.5, 3.1-3.2, 13.1-13.6; 14.2
Week 2	Topic 4: Why the Earth is not flat, smooth, or round	Tectonics, earthquakes, GPS, climate & erosion	Chs. 4, 5 & 7
	Topic 5: Do I need to worry about volcanoes in FL?	Tectonics, volcanoes, climate	Ch. 6
Week 3	Topic 6: Why aluminum is cheaper than gold	Plate tectonics, volcanoes, minerals, rock cycle	2.4-2.6
	Topic 7: Where does this stuff making up my house come from?	Minerals, space science	
	Topic 8: PaleoEarth-journey through time	PaleoGoogle Earth Tour, Geologic time, fossils, rock types	Chs. 11&12
	Topic 8: PaleoEarth-journey through time	Atmospheres, volitiles, ocean physics (winds, temp), proxies	Ch. 16 Ch. 20
Week 4	Topic 8: PaleoEarth-journey through time	Atmospheres, climate, surface processes, drought, ice sheets	Ch, 9, 10.7, Ch. 17
	Topic 8: PaleoEarth-journey through time	Atmospheres, volitiles, ocean physics (winds, temp), proxies	12.1; 8.2; 22.3
	Topic 9: Venus is too hot; Mars too cold; Goldilocks Earth!	Atmospheres, volitiles, ocean physics (winds, temp), proxies	Ch. 16 Ch. 20
Week 5	Topic 10: Water-its more than just refreshing to drink!	Atmospheres, climate, surface processes, drought, ice sheets	Ch, 9, Ch. 17
	Topic 11: Sinkholes!	Ground Water, sedimentary rocks, atmospheres	Ch. 9
	Topic 13 Ice Sheets & Glaciers -visit them before they are gone!	Isostacy, orbital dyanamics, oceans, tectonics, cliamte	10.1-10.6
Week 6	Topic 14 Sea level -should I buy property in Miami?	Lidar/elevation, cliamte, oceans, surface processes, storms, earthquakes	Ch. 15
	Topic 15: Coastal Change-fighting with the ocean	Ground Water, sedimentary rocks, atmospheres	Ch. 16
	Topic 15: Coastal Change-fighting with the ocean	Tectonics, surface processes, climate, sedimentary rocks	Ch. 17