ESC1000 - Intro to Earth Sciences, Summer B 2025

Time: MTWRF Period 3 (9:30-10:45)

Place: Williamson Hall Room 100

Instructor: R. M. Russo

Office: Williamson 223 **Phone**: 392-6766

Email: rrusso@ufl.edu **Web site**: https://people.clas.ufl.edu/rrusso/

Office Hours: MW 10:45-11:45

Course Description: Earth is our home! Come find out how the complex and beautiful interlocking processes on our vibrantly dynamic planet have resulted in life that evolved eventually into us - humans. We will cover the basics of how the solid Earth formed and evolved, and its current dynamic processes; and how the hydrosphere interacts with the solid Earth and atmosphere to produce today's ocean chemistry and circulation patterns, which in turn strongly affect global climate, including formation of deserts and glacial environments. We will outline how plate tectonics determine where earthquakes and volcanoes are active, what types of rocks - igneous, sedimentary, or metamorphic - form in any given place, and how mountain building processes follow from plate motions. And we will review how plate tectonic theory grew from Wegener's ideas on continental drift.

Textbook: Earth Science, 3rd Edition, by Marshak & Rauber, W.W. Norton & Co., available through (UFALLACCESS)

Grading: Three in-class exams, each worth 33% of your grade.

This course fulfills a General Education requirement for Physical Sciences.

Course Goals:

- Become conversant with the basics of Earth Science in order to understand how the various processes in the solid Earth, hydrosphere, and atmosphere operate and interact to produce the planet we live on.
- Learn how to integrate observations and logical reasoning to arrive at clear scientific conclusions about the Earth and its evolution.
- Establish a knowledge base for all interested in pursuing a career in any field related to the Earth.

Course Objectives:

- Develop an understanding of the Earth through the study of complex systems 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.
- Develop an understanding of Earth history, from time of formation to present.

Honor Pledge: *We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Student Honor Code. 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."*

Students with Disabilities:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting our Get Started page. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Wellness and Mental Health:

As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. The UF Counseling & Wellness Center (CWC) is available to provide support, and participation in services does work. You can learn more about confidential mental health services available on campus at: counseling.ufl.edu Support is available (24/7) from the CWC who can be reached at: 352-392-1575 for brief consultation or support for urgent/emergent concerns. You can access the Wellness Center using this QR code:

Course Schedule:

Month	Day	Reading
June	30	Beginnings
July	01	Chapter 2: Plate Tectonics
	02	Chapter 2: Plate Tectonics
	03	Chapter 3: Minerals
	04	Independence Day - No Class
	07	Chapter 4: Volcanism and Igneous Rocks
	08	Chapter 4: Volcanism and Igneous Rocks
	09	Chapter 5: Sedimentary Rocks
	10	Chapter 5: Sedimentary Rocks
	11	**EXAM No. 1 (33% of grade)**
	14	Chapter 6: Metamorphic Rocks
	15	Chapter 6: Metamorphic Rocks
	16	Chapter 7: Deformation & Mountain Building
	17	Chapter 7: Deformation & Mountain Building
	18	Chapter 8: Earthquakes
	21	Chapter 8: Earthquakes
	22	Chapter 9: Deep Time
	23	Chapter 9: Deep Time
	24	Chapter 10: Earth History
	25	Chapter 11: Energy and Mineral Resources
	28	**Exam No. 2 (33% of grade)**
	29	Chapter 12: Landscapes, Hydrology and Mass Wasting
	30	Chapter 13: Streams and Groundwater
	31	Chapter 14: Deserts and Glaciers
August	01	Chapter 15: Earth's Oceans

	04	Chapter 16: Ocean Basins and Coasts
	05	Chapter 17: Earth's Atmosphere
	06	Chapter 18: Global Atmospheric Circulation
	07	Chapter 19: Storms
	08	Chapter 20: Climate Change
		EXAM No. 3 (33% of grade)