

GLY 4930/6932: Current Trends in Solid Earth Geophysics - Fall 2024

Time: F, Periods 4-6 (10:40 am -1:40 pm)

Place: 214 Williamson Hall

Instructors: Alessandro Forte

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Office Hours: By appointment

Course Description: Current research in solid Earth geophysics regularly yields surprising new results that are changing the way we understand the Earth, its past evolution, and its future. We will survey a wide range of the geophysical literature, targeting both recent developments and key classic papers. Literature selection will be a group effort; papers for discussion will be read prior to class meetings. Each work selected will then be presented by a student participant, followed by in-depth discussion of new findings and how they relate to established results and past understanding. We will explore a unified and comprehensive view of the structure and dynamics of the Earth, integrating the latest research in both seismology and geodynamics. We will explore how modern seismological techniques are employed to study the Earth's structure at scales ranging from local to global, offering new insights into the composition and behavior of the Earth's interior. Additionally, the course will delve into recent advancements in geodynamics, emphasizing the interactions between deep Earth processes and surface phenomena. Through a combination of in-depth reading, presentations, and discussions, students will engage with cutting-edge research that is reshaping our understanding of the Earth's evolution, from its core to its crust, and the dynamic processes that drive changes in its structure.

Course Goals

- Become conversant with the recent literature in solid Earth geophysics.
- Learn, through in-depth reading and discussion, how to integrate observations and logical reasoning to arrive at clear scientific conclusions about the solid Earth and its evolution.
- Establish a broad knowledge base for all interested in pursuing a career in any field related to solid Earth geophysics.

Course Objectives

- Develop an understanding of the solid Earth through the study of complex systems that interact across a wide range of spatial and temporal scales.
- Learn to read critically and to assess new results quickly.
- Learn how to present new research comprehensively and effectively.

Weekly Course Schedule of Topics and Assignments

A detailed weekly schedule will be provided during the first week of class. This schedule will include the specific topics to be covered each week, along with any associated readings and assignments. Students are expected to complete the readings prior to each class and come prepared for discussions.

Grading Policies

Grades for this course will be determined based on student presentations, participation in discussions, and other assignments as described during the first week of class. For detailed information on UF grading policies, please visit: [UF Grading Policies](#).

Course Evaluation Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at [GatorEvals for Students](#). Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via [UF Blue Evaluations](#). Summaries of course evaluation results are available to students at [GatorEvals Public Results](#).

Materials and Supplies Fees

There are no additional materials or supplies fees for this course. If this changes, students will be notified in advance.

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:

