

GEOL 600
Earth Sciences Colloquium, Spring 2024

Class times:

- Department seminar:** M 3:30-4:30 pm, ZHS 159
- Discussion section:** M 2:00-2:50 pm, ZHS 118

Instructors:

- Prof. John Vidale** – jvidale@usc.edu, (310-210-2131), office hours by appointment, 107 ZHS

Units: 2

Introduction

This 2-unit class will meet twice per week for one hour, structured around a Monday afternoon lecture from a guest speaker. We will meet Monday prior to each lecture to discuss a publication relevant to the talk topic recommended by the speaker. We will distribute the paper on the Tuesday prior to the discussion.

Assignments

Students' responsibility for this class is to attend the weekly seminars, carefully read and critically assess related papers, summarize a key point of the topic, or identify and ask relevant questions, and participate in discussions in a collegial, constructive manner. In the last day of class, present a 3-minute video of your research goals that incorporates the lessons you have learned during class.

Weekly assignments

1. Read assigned paper prior to Monday discussion (reading assigned Tuesday, **complete reading by Monday 2pm**).
2. Attend the Monday 2 pm discussion with at least three questions on the reading for oral participation.
3. Attend the Monday lecture and ask question(s) at the end of the talk.
4. Submit a short synopsis of the seminar and describe things the speaker did that was effective.
due: Tuesday morning at 10am

Summative assignment

5. Create a short PowerPoint or Keynote presentation (5 slides of material to summarize students' thesis topic). Structure would typically include title slide, framing of scientific problems, summary of existing knowledge, and identification of where the targeted knowledge gaps lie.
6. Presentation of recorded 3-minute presentation in class on Monday, April 3.

Learning objectives

Students will be able to

- Identify* research questions and recognize advances and remaining questions from the presentation of novel research findings in geoscience research talks and publications.
Summarize scientific findings from synthesis of complex information.
 - Hone these skills through taking notes on lecture and reading, and refining understanding in discussion sections. Instructor assesses these skills as demonstrated in oral and written contributions.

- *Evaluate* effective scientific communication, assessed by oral discussion and short written summaries of what speakers did well.
 - Hone these skills through discussion sections. Assessed by short written synopses.
- *Contribute* to scientific discourse, assessed by participation in classroom discussions – in a constructive, collegial manner.
 - Opportunities include questions in the discussion section and following the lecture.
- *Create* a narrated PowerPoint or Keynote recorded talk that introduces a scientific research question, with reference to students’ thesis research.
 - Leverage the techniques and styles of speakers, and class evaluation of speakers in discussions, to improve students’ presentations.

Grading

Written assignments: 12 x 5% each = 60%

Weekly participation in discussions, lecture, and wiki responses: 20%

Final summative recorded presentation assessment: 20%

A = good to excellent grasp of academic research – comprehension and collegial discourse – performing at or above the expected level for the student’s career level.

B = fair grasp of academic research – comprehension and collegial discourse. Recommendation would be to continue to develop your skills, e.g., by retaking this seminar in future.

C = incomplete grasp of academic research – comprehension and collegial discourse – needs improvement to perform at graduate level, continue to develop your skills e.g., by retaking this seminar in future.

Missed work and deadlines

Full participation requires asking at least one question or making a comment during each weekly discussion section (following lecture optional/time dependent), and completion of the written assignments. Late work will have a penalty (max score 4% vs 5%).

Missing more than two weeks of class during the semester (participation and written assignments) requires *advance* approval and completion of alternative assignments (such as attending other seminars and submitting written work). Please contact the instructors with any questions and need for accommodations/support.

Technology and participation

We will be using Blackboard for class information and assignments. You can connect to Blackboard using your USC ID and password.

Have trouble participating in class? Contact the instructors to let them know and to be referred to resources for further technical/wellness support.

Lecture schedule and assigned reading:

The readings are journal articles that will be available via Blackboard for this course.

The spring semester is currently being scheduled, **for illustration last year's seminars are listed.**

1/09 Mon	Organizational meeting and introductions Meet with your instructor Barbot and your classmates, be ready to introduce yourself. Seminar: Seismology The confusing gyrations of Earth's inner core John Vidale, Professor of Seismology, USC. https://science.org/doi/10.1126/sciadv.abm9916
1/23 Mon	Seminar: Seismology The magmatic web below Hawaii John Wilding, California Institute of Technology
1/30 Mon	Seminar: Hydroclimate Dan Ibarra
2/6 Mon	Seminar: Rock Mechanics Heather Savage
2/13 Mon	Seminar: Civil Engineering Buka Nweke
2/27 Mon	Seminar: Paleo-Oceanography Lizzy Trower https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022GL100800
3/06 Mon	Seminar: Mineral Physics Matej Pec
3/20 Mon	Seminar: Paleo-oceanography Sophie Hines
3/27 Mon	Seminar: Climate change Tianjia (Tina) Liu, UC Irvine Meteorological and active fire suppression controls on wildfire spread in the Western U.S.
4/03 Mon	Seminar: Moon geophysics Ananya Mallik

Policies will adhere to the standard USC Academic and Support System guidelines:

<https://cet.usc.edu/teaching-resources/syllabus-template/>