

UGA IFP Geology Syllabus

Instructors: Julie Cox, Deb Dooley, Doug Dvoracek

Course names: Depending upon prior course credit, you may earn credit for one-two of the courses below. Regardless, all students complete the same coursework.

GEOL 2350H – Physical Geology (4 hours)
GEOL 2360H – Historical Geology (4 hours)
GEOL 4330 – Geology of North America (3 hours)

Course description: Geology is the study of the earth system, which includes physical, chemical, and biological processes of the lithosphere (the rocky part the planet), atmosphere, hydrosphere, and the biosphere. Earth's internal and external processes are responsible for the formation of landscapes, the production of our natural resources, the generation of natural hazards, and the origin and evolution of life. During this program, we will study these processes and the principles and tools earth scientists use to decipher and measure them.

Our focus is the geology of the North American continent. By traveling throughout the western U.S. during the IFP, you will see many geology “textbook examples” first-hand. You will find you are able to gain a stronger comprehension of earth science concepts in the field than in a traditional classroom, and you will be able to retain that knowledge and understanding for years to come.

By combining geology with anthropology and ecology on the IFP, our ultimate academic goal is to provide you with a broad scale science-based understanding of the natural processes that formed and continue to shape our environment and how humans and other organisms are dependent upon, interact with, and alter the landscape.

Course materials: You will not rely on a traditional textbook this summer. Instead, we will provide you with geologic field guides that contain maps, figures, readings, and exercises. We have compiled the guides to contain information most pertinent to the sites we visit and the topics we discuss. You should always keep up with reading your field guide as we travel.

For those topics for which you wish to consult a textbook, we will carry several copies of *The Changing Earth* by Monroe and Wicander in our field library. Feel free to use this book as a reference throughout the summer, as it covers both disciplines of physical and historical geology, with an emphasis on North America.

In addition to the above written materials, we will provide each student an iPad tablet loaded with multimedia such as video lectures, documentaries, etc.

Course evaluation: Your final grade in these courses will be determined by your performance in four areas: field notebook (30%), written exams (30%), special projects (30%), and group participation/discussion (10%).

Grading scale: A: 100-93, A-: 92-90, B+: 89-87, B: 86-83, B-: 82-80, C+: 79-77, C: 76-73, C-: 72-70, D: 69-60; F: < 60

Field notebook: You will be required to keep a field notebook that records your location and observations at every site we visit. We will provide you with formal instruction on how to keep a field notebook. Throughout the summer, we will evaluate your notebook for clarity, detail, thoroughness, and how well you connect your observations to the scientific concepts that you are learning. We may check your notebook at unannounced times, so you must always keep it up to date. Remember this is a field notebook, not a journal for reflection at the end of the day.

Exams: We will take time from our summer travels for four written exams. IFP geology exams generally consist of essay and short answer questions. We do not emphasize memorization of names, dates, or facts, but we ask you to process and synthesize scientific concepts and apply them to the places we visit.

Special projects: There will be multiple field projects this summer. These projects can involve geologic mapping, water/soil quality measurements, or geologic hazard assessment, or some other topic of investigation. At the discretion of the instructor, you may be required to work in teams or individually. The format of the final graded product will vary. You may be asked to produce a map, a written report, and/or an oral presentation.

Participation/Discussion: Your participation in all group activities is vital to the program's success. Group activities include everything from daily chores in camp to class discussion of scientific issues. Thus we will evaluate you on your willingness to contribute to a great IFP experience for all.