

The Use of Field Courses in the Geosciences

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Editorial

The Geosciences, like most sciences, lends itself to applied learning. Most, if not all, Geoscience programs utilize laboratory work as part of their curriculum. The applied nature of these labs work to solidify the theory developed in the classroom. Intensive (8-10 day) field courses can also serve to enhance classroom learning. These courses are normally focused in scope and utilize the natural laboratory of various Earth systems. As an example, students and an instructor may travel to a Bahamian island to study Karst Geology. These types of courses do not need to be taught in faraway locations, but can be developed to serve any specific location. Introductory field courses may include lessons in the Local Climate and Weather, Geology, Geography, Hydrology, Agriculture, Forestry and often lend themselves to being team-taught. Advanced courses are often more specific to one or two processes (e.g. tornado genesis, Karst weathering, rainforest species, hydrological processes of the southwest USA, etc...).

I have been offering and participating in field based courses for nearly 15 years. The learning outcomes of these courses go beyond the course itself. For example, following the progress of all students who

have taken these courses, I found a 0.38 increase in GPA for general education courses and a 0.62 increase in GPA for major specific courses. When a field course is taken following a student's first year college, there is a 64% increase in retaining that student in the major vs. students who did not take a field course. Exit interviews of graduates indicate that the use of field courses (both introductory and advanced) kept students motivated. These interviews also revealed that students felt more confident in their lecture courses as they often "saw the utility" of what they were learning. While colloquial, companies hiring our graduates often complement their ability to do perform applied science and the development of critical thinking skills.

The Geosciences is a discipline, rooted in nature, and can benefit from field based courses. These benefits are afforded to both the students and programs (making your program more visible and attractive). I would encourage you to look into the development of an introductory course to attract and retain students. I would also suggest that an advanced course (between the 3rd and 4th year of academic work) as a way to develop theory and concepts into application.