

**Using a 2+2 Agreement and a Simulated Geological Investigation to Improve Student Preparation**  
**Mr. Andrew Smith**  
**Assistant Professor**  
**Vincennes University**

At Vincennes University we have found a number of techniques to be effective in preparing students for the geoscience workforce and/or transitioning to four-year programs. I would like to highlight two of the methods we use to improve student preparation.

First, we have excellent working relationships with institutions where our students commonly transfer. We have what we call a 2 + 2 agreement with several of the major state universities in Indiana. What this means is they have evaluated our program requirements and found them to be compatible with their similar programs. In turn, we have modified our program requirements to make them compatible with those of other schools. This allows for students to complete their first two years at Vincennes University and then transfer to a four-year program without the obstacle of classes that don't transfer. In addition to establishing the 2 + 2 programs, we have organized field trips with students and faculty from the nearby four-year schools and taken students to visit the campus and department at some of the schools. This allows students to get a feel for what they can expect when they transfer to that school. It also allows for faculty at VU to better understand what the expectations are of students at the nearby four-year programs.

Another technique we have tried involves a simulated geologic / environmental investigation which I have used in my physical geology lab class. This exercise aims to give students a sample of one type of work completed by consulting geologists. Students visited several stations on campus where they collected information that was supplied by "drilling" a borehole at each station. At each station, students were supplied with bags marked with different depth intervals and asked to record the depth, type of rock/material, depth to water and any other information supplied by the "driller". After visiting each station, students then came back to the lab and were asked to construct various geologic maps and cross-sections depicting the fictional geology of our campus. Because water table information was also supplied, they were charged with interpreting groundwater flow beneath campus and how certain environmental factors (i.e. leaking underground storage tank) would affect the quality of groundwater. I tried to give this activity an authentic feel making it a rain or shine activity and providing them with "minor" setbacks such as arriving at a station and finding that the "drill rig" was not working properly. This exercise is an effective way for students to collect, interpret and present data that has real-world implications. One challenge associated with the exercise (or strength depending on your viewpoint) is the fact that the students are spread out all around campus and the instructor is not always available if they have questions. Students generally enjoy the exercise and come away with some "real-world" experience.