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GSA 2020 Connects Online

Paper No. 90-6
Presentation Time: 3:00 PM

ADDING ASSESSMENT AND ACTIVE LEARNING ACTIVITIES TO A LECTURE-BASED CONCURRENT ENROLLMENT INTRODUCTORY GEOLOGY COURSE TO PROMOTE RECRUITMENT IN THE EARTH SCIENCES

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High school juniors and seniors at the Northern Utah Academy for Mathematics, Engineering and Science (NUAMES) may fulfill their high school science requirements and receive college credits by taking an introductory geology (GEO 1110) concurrent enrollment class at Weber State University (WSU) in Ogden, Utah. WSU is in a unique position because NUAMES is located on the university campus and therefore the course can be taught by WSU faculty with the help of an upper-level geology undergraduate who has been working as a peer mentor. The goal of the course is to introduce high school students to Earth Science as a discipline and hopefully recruit some of those students into the Earth and Environmental Sciences program at WSU. This project includes adding assessment to the course through instituting entrance and exit surveys that are designed to determine the students' academic interests, plans for higher education, and their likelihood of continuing on as a science major in college. The goal is to determine if there are differences in academic success between students who take GEO 1110 as a concurrent enrollment class in high school, versus students who take it once they are traditional college students at WSU. We also added new in-class activities to increase student engagement with the material on earthquakes, groundwater and landslides. The earthquake activity teaches the students about skare-resistant construction by letting them build their own (toothpick) structures and then see if they can withstand various types and magnitudes of shaking. The groundwater exercise involves a physical model where students can make predictions and observations about how groundwater contamination, and water generally, will move within the model based on their understanding of sediment types and their properties. Students learned about how groundwater impacts slope stability by using a physical stream table model and making predictions and observations about where landslides and slope failures were likely to occur based on the location of surface water. Exits surveys included questions about which activities were the most engaging and how they related to hazards in the Wasatch Front.

Session No. 90

T239. Integrating Active Learning Strategies into College-level Geoscience Classrooms: Implementation, Effects, and "Lessons Learned"
Tuesday, 27 October 2020: 1:30 PM-5:30 PM

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