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## Expanding Horizons: A Writing Intensive Undergraduate Field Camp to Prepare Students for the Future

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### ABSTRACT

A capstone field course is the pinnacle of an undergraduate geoscience degree and there is a strong perception within the geoscience community, including industry and graduate schools, that such an experience is required. This traditionally senior-level course uses information from across multiple classes and geology sub-disciplines and draws on the student's accumulated knowledge base to solve geologic problems. The American Geosciences Institute (AGI) reports that since 2006 there has been a 92 percent increase in students attending field camps. At the same time, the number of schools offering field camps has significantly declined. The number of field camps listed on the Geology.com website is down to approximately 75 from over 100 just seven years ago and many no longer accept students from outside a small consortium. This decline in available camps has been occurring for years; 35 percent of geoscience departments had some sort of field school in 1995 but by 2006, only 15 percent had a strong field base (Status Report on Geoscience Summer Field Camps by AGI). The decline in available camps contrasts with the views of industry professionals whom believe that field work should, 'be an integral and required part of undergraduate programs' (Petecovic et al., 2014). In order to meet the needs of industry and provide an affordable field camp option for our students, Texas A&M University–Kingsville developed an in-house set of field courses in 2012. One of the driving forces in this decision was that there were only eight field courses taught in the state of Texas. Another motivation was that the cost to students for many camps is very high, often over \$5000 not including travel costs and we wanted to develop a lower-cost alternative. Finally, the development from the ground up of a field camp also allowed us to incorporate industry professionals in our design. One of our field courses is similar to traditional summer field camp except that it contains a writing-intensive component. The six-credit course runs for seven weeks and is divided into separate writing and field segments. Prior to camp, students are required to write an introduction (geologic history section) on the study area. We spend two weeks in the field, mapping daily (Big Bend National Park), and then return to Kingsville. Students then have two weeks to finish a fully referenced paper, including their edited introduction, methods, observations, interpretations, discussion, and conclusions, and once completed, they begin the introduction for the second field area. This is another two-week field session, in Central Texas. After this, we return the first paper, which has

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been edited for content by geoscience faculty and for grammar by an English instructor. Students spend the next few days correcting edits and turn in a polished, final draft. They use edits and suggestions from this first paper to complete the second paper. The second field course occurs between the fall and spring semesters and is two credits, co-taught by industry leaders, and is also writing intensive. We have deemed this our 'professional development' field course and students travel to local sites and get hands-on experience. This course is also popular with many petroleum engineering students that are getting a minor in geology.