College: Arts & Sciences   **Dept.** Earth & Space Sciences

Degree Program: BS in Earth Sciences   **Dates:** 2019/20 – 2021/22

Learning Outcome	Assessment	Results	Evidence of Seeking Improvement
Undergraduate Earth Science majors will develop proficiency in critical thinking as demonstrated by the use of scientific principles while solving Earth Science problems using various techniques such as map reading, using principles of chemistry and physics as related to the atmosphere, hydrosphere, and lithosphere, and identification of minerals.	Each year we will use input from the following courses if they are taught that year: GEOL 2471, GEOL 3390, GEOL 4360, GEOL 4370, and GEOL 4380 to assess the above skills. Participating faculty members teaching the above upper-division courses will be asked to complete the following rubric at the end of their courses. Results from each class will be changed to the percentage of students falling into each quality category (Very Poor to Exemplary). These percentages will be averaged for each skill and each category to determine the total percentage scores for each skill and quality category.	The target is an expectation of 70% Fair or better in each listed skill category. This would occur for example, with a normal distribution of 10% Very Poor, 20% Poor, 40% Fair, 20% Good, and 10% Exemplary. **2019-20** We had 3 ES students take courses in this category. 33% were Good and 66% were Exemplary. Thus, 100 % were Good or better. No Earth Science majors took Oceanography (GEOL 4380) this year, so expectations related to that course could not be evaluated. **2020-21** No Earth Science majors took GEOL 2471, 4380, 3390, 4370 or 4360 this year, so expectations	The desired performance or target expectations will be increased from 70% to 75% or better in the 2022-2023 year and onwards.

		related to that course could not be evaluated. **2021-22** Four Earth Science majors took GEOL 2471, 4380, 3390, 4370 or 4360 this year, and the score was Fair in all those courses for critical thinking skills. 75% of the students evaluated were Fair or better.	
Undergraduate Earth Science students will develop field skills as demonstrated by the ability to use geologic and topographic maps and gather data.	Each year we will use input from the following courses if they are taught that year: GEOL 4101 (Oceanography lab), GEOL 2377 & 4101 (Physical Geography & Geomorphology Lab), GEOL 4360 (Field Geology of Texas) as forums to evaluate the students' field skills. Participating faculty members teaching the above upper-division courses will be asked to complete the following rubric at the end of their courses. Results from each class will be changed to the percentage of students falling into each quality category (Very Poor to Exemplary). These percentages will be averaged for each skill and each category to determine the total percentage scores for each skill and quality category.	The target is an expectation of 70% Fair or better in each listed skill category. This would occur for example with a normal distribution of 10% Very Poor, 20% Poor, 40% Fair, 20% Good, and 10% Exemplary. **2019-20** One Earth Science major took Physical Geography and Geomorphology Lab (GEOL 4101) and was Good in that course for field skills. 100% was Good or better. **2020-21** No Earth Science majors took GEOL 2471, 4380, 3390, 4370 or 4360 this year, so expectations	The desired performance or target expectations will be increased from 70% to 75% or better in the 2022-2023 year and onwards.

		related to that course could not be evaluated. **2021-22** Two Earth Sciences majors took Physical Geography and Geomorphology Lab (GEOL 4101) and were Good (80%) in that course for field skills. 100% was Good or better.	
Undergraduate Earth Science students will develop proficiency in oral and written communication of scientific thinking applied to Earth Science concepts as demonstrated through oral presentations and technical writings.	Each year we will use input from the following courses if they are taught that year: GEOL 2377, and GEOL 3101 (Assistant geology lab instructor) and GEOL 4360, as forums to evaluate the students' communication skills. Participating faculty members teaching the above courses will be asked to complete the following rubric at the end of their courses. Results from each class will be changed to the percentage of students falling into each quality category (Very Poor to Exemplary). These percentages will be averaged for each skill and each category to determine the total percentage scores for each skill and quality category.	The target is an expectation of 70% Fair or better in each listed skill category. This would occur for example with a normal distribution of 10% Very Poor, 20% Poor, 40% Fair, 20% Good, and 10% Exemplary. **2019-2020** One Earth Science major took GEOL 3101 and was Fair in that course for communication skills. One Earth Science major took GEOL 2733 Geomorphology and scored Good (100%) in that course for communication skills. 100% were Fair or better. **2021-22** One Earth Science major took GEOL 3101 and was Fair in that course for communication skills.	The desired performance or target expectations will be increased from 70% to 75% or better in the 2022-2023 year and onwards. We will additionally add input from the GEOL 4101 Lab Instruction course in 2022-2023 assessment.

		Two Earth Science majors took GEOL 2733 Geomorphology and both scored Good (100%) in that course for communication skills. 100% were Fair or better.	