EASTERN ILLINOIS UNIVERSITY

Student Learning Outcomes (SLOs) Report for Non-Accredited Programs

(*updated 9/19/23*)

Program Type: **Non-Accredited Program**

Program Name: Geology

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Submission Date:

Review Cycle:

- **Even Year**
- Odd Year

Review Round:

- **Round A** (Associate Dean review) X
- **Round B** (Associate Dean + VPAA review)

All SLO reports are archived here: https://www.eiu.edu/assess/majorassessment.php

DUE: **October 15th** to your Associate Dean or designee

Each academic program is expected to prepare a Summary of the Assessment Data by Student Learning Outcome. This summary may take the form of a chart or other means of presentation that describes the annual data collected, when it is collected, in which course(s), through which assignment or activity, and by whom. This summary should clearly indicate what the program seeks to discover in its students' learning. The summary should correspond to the record-keeping documents maintained by the academic program.

Program Name:

PART 1. OVERVIEW OF STUDENT LEARNING OUTCOMES AND MEASURES

Student Learning Outcome (SLO)	What **measures and instruments** are you using? This could be an oral or written exam, a regularly assigned paper, a portfolio— administered early and later in coursework.	How are you using this info to improve student learning? What are you hoping to learn from your data? Include **target score(s) and results**, and specify whether these were met, not met, or partially met for each instrument.	Does your SLO correspond to an **undergraduate learning goal (ULG)**: writing, speaking, quantitative reasoning, critical thinking, responsible citizenship?
1. Equity, Diversity, Inclusion, Global Citizenship: Students in the Geology Program will **develop** an understanding and appreciation for the diversity of peoples and ideas contributing to the field of Geology. In addition, students will **investigate and evaluate** issues of environmental justice and its impacts on different groups.	**GEO 4850- Environmental Geology: Case Study 3: Waste, Health, and Pollution**- students must research a topic relating to waste, public health, and pollution and then relate it to a community, they write a short paper and give a presentation in class. One of the questions they must answer is: Is it a problem that affects more people at or below the poverty line or is it indiscriminate? Is there a racial group that is more affected by it? Why?	**GEO 4850: Case Study 3: Waste, Health, and Pollution-** Students should use this assignment to not only learn about a specific environmental problem, but also how it's affecting a targeted community. Data is only from fall 2023. The course was not taught in fall of 2022. **The target score would be 75% at least partially meeting the criteria.** Environmental justice is an important theme in this class. While all (13) students (5 grad students in Sustainability, 1 undergraduate geology minor, and 5 undergraduate geology majors) did an excellent job of explaining the science, not all addressed the question of environmental justice within a targeted community.	RC 1-4 CT 1-6

		4 students (31%) **met** this criteria 1 student (8%) **partially met** this criteria 6 students (43%) **did not meet** this criteria **Results:** 39% at least partially met the criteria. **The target was NOT met.**	
	GEO 4850- Environmental Geology: final exam question: Discuss heavy metal contamination. Choose either the Flint Water Crisis or the problem in Minamata Bay, Japan in the mid-20th century and explain what happened and why. Who was responsible? Who was impacted? What should have been done once the problem was recognized? How was it ultimately fixed?	**GEO 4850- Environmental Geology: final exam question:** Data is only from fall 2023. The course was not taught in fall of 2022. **Target score was 75% on this exam question (18.5 points out of 25).** **Results:** 100% (13/13) answered the question well enough to earn 75% of the points (18.5/25). 62% (8/13) answered the question well enough to earn at least 92% of the points (23/25). 31% (4/13) answered the question well enough to earn all of the points (25/25). **This criteria was MET.**	

2. Scientific Inquiry/Critical Thinking: Students in the Geology Program will **engage** in scientific inquiry (science process skills) and critical thinking skills in order to question, examine, evaluate, and respond to problems or arguments, This includes asking questions, formulating strategies gathering data/information, synthesizing information, analyzing and interpreting data/information, and making conclusions based on these actions.	**GEO 2200- History of Earth: Taphonomy: Dead and Fossilized, an Educational Paleontology Board Game.** Students answer a series of questions preparing them to play this game over the course of a couple of lab periods in class. After playing, they answer follow questions about whether the strategy that they used (which is part of the planning and pre-lab) worked to put them ahead of their classmates.	**GEO 2200- History of Earth: Taphonomy: Dead and Fossilized, an Educational Paleontology Board Game.** The goal of this activity is to have students use the information they are learning about with regard to fossilization and preservation to plan a strategy for collecting fossils that will give them the best collection at the end of the game.. They have to use their critical thinking skills to plan a strategy. They have to execute it and evaluate it. This activity was not used in spring of 2023 when the class was taught. So data is only for spring 2024. **Target score was 80% of students would come up with a viable plan, execute it, and evaluate it critically afterwards.** **Results**: 100% of students created a plan, executed it and critically evaluated it. **This criteria was MET.**	CT 1-6 WCR 2,5, 6
3. Discourse and Communication: Students will be able to clearly **express and communicate** geological concepts and **present information** in written, oral, and/or graphic format. Students will **incorporate vocabulary** used within the geological discipline. This will	**GEO 2200 History of Earth: Earth History paper and presentation**- students choose an event in Earth history and write a 5-7 page paper and then present a 7-10 minute presentation to the class using a powerpoint presentation.	**GEO 2200 History of Earth: Earth History paper and presentation** The goal of this assignment is for students to learn about an event in Earth's 4.6 Billion year history and then to communicate what they have learned through both a 5-7 page paper and a short class presentation. Criteria for this project includes grammar, spelling, mechanics, the ability to express ideas and arguments both orally and in writing using the vocabulary of a geologist,	WCR 1-7 SL 1-7

discourse accurately about geological topics.		use of in-text citations, formatting references lists, as well as putting together a nice looking, easy to follow powerpoint presentation and presenting it within a time limit. **Target score is for 80% of students to earn at least 80% on both the presentation and the paper.** **Results:** **Spring 2023:** 86% (6/7) of the students earned at least an 80% on the paper, demonstrating good written communication skills. 100% (7/7) of the students earned at least an 80% on the presentation, demonstrating good oral presentation skills. **Target was MET.** **Spring 2024:** 100% (4/4) of the students earned at least an 80% on the paper, demonstrating good written communication skills. The average was 91%. 75% (3/4) of the students earned at least an 80% on the presentation, demonstrating good oral presentation skills. One students earned a 75%. The average was 90%. Target was **partially MET in that semester**. One student did not meet the criteria for the presentation. **Target was MET**	

	GEO 3560 Principles of Stratigraphy- basin research paper and presentation: investigation of evolution of a depositional basin from inception to today, including resources obtained from it and impact on society.	10/11 (91%) of students earned at least an 80% on the paper and presentation, demonstrating good written and oral communication skills. **GEO 3560 Principles of Stratigraphy- basin research paper and presentation** Target goal was a demonstration of a good grasp of concepts/skills (80% or better) as well as demonstration of written and oral communication skills. **Results:** 100% demonstrated a good grasp of concepts/skills and written and oral communication skills. 5 out of 5 students Scored better than 80% on the project. Target was **MET.**	
4. Discipline Specific Knowledge a. Students will demonstrate and apply knowledge and awareness about how Earth materials and resources, including, but not limited to minerals, rocks, and soil form and the processes involved and how to identify and classify those materials.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results**: A pre-test is given in the first week of class. After that, they are given the questions after covering the material in class. A comparison is made to see if there is a gain in learning that specific material.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results** **Target Goal: Understanding of key concepts. Increase in number of correct answers from Pre-test to Post-test.** **Fall 2022:** **1300/1390 This class was run together** 4 questions were included that addressed this material.	CT 1-5 QR 1-4

		Overall average on this content: 47% got the answers correct on the Pre-Test 63% got the answers correct on the Post-Test **A gain in understanding of key concepts in goal 4a.** **Target MET** Q1: Pre-Test 80%, Post-Test 84% Q2: Pre-Test 12%, Post-Test 47% Q3: Pre-Test 37%, Post-Test 52% Q4: Pre-Test 57%, Post-Test 67% **Spring 2023:** **1300G** 3 questions were included addressing this material. 32 out of 51 students took both the pre and post tests. Overall average on this content: 57% got the answers correct on the Pre-Test 65% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4a.** **Target MET** Q1: Pre-Test 75%, Post-Test 94% (22% of students exhibited a gain on this question) Q2: Pre-Test 50%, Post-Test 34% (There is a problem here! Even so, 4 students (13%) show a gain on this question) Q3: Pre-Test 47%, Post-Test 66% (28% of students show a gain on this question) **Fall 2023:** **1300G**	

		5 questions pertained to this material. There were 32 students in this class. Overall average on this content: 39% answered correctly on the Pre-Test 55% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4a.** **Target MET** Q 1 – pretest, 6% correct; tested, 9% correct Q 2 – pretest, 31% correct; tested, 48% correct Q 3 – pretest, 34% correct; tested, 48% correct Q 4 – pretest, 47% correct; tested, 81% correct Q 5 – pretest, 78% correct; tested, 90% correct **1390G** Overall average on this content: 53% got the answers correct on the Pre-Test 94% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4a.** **Target MET** Q1: Pre-Test 82%, Post-Test 100% Q2: Pre-Test 35%, Post-Test 82% Q3: Pre-Test 35%, Post-Test 100% Q4: Pre-Test 59%, Post-Test 94% **Spring 2024:** **1300G**	

	GEO 2440 Mineralogy: Students are assessed using a practical exam that requires synthesis and application of knowledge and skills cultivated during the semester. They identify a suite of common rock-forming minerals by performing tests of the physical properties of each mineral. In addition, students must provide the chemical formula, describe the crystallization process of that mineral, and any significant mineral or environmental associations.	Overall average on this content: 43% answered correctly on the Pre-Test 70% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4a.** **Target MET** Q1: Pre-Test 9%, Post-Test 28% Q2: Pre-Test 20%, Post-Test 87% Q3: Pre-Test 40%, Post-Test 65 Q4: Pre-Test 60%, Post-Test 82% Q5: Pre-Test 84%, Post-Test 90% **GEO 2440 Mineralogy Practical Exam:** **Target score was 75% of students scoring at a level of Significant (>74%).** **Fall 2022:** 4 students were enrolled in the class and completed the exam. All were geology majors. 2 (50%) scored 90% or above (**Superior)** 2 (50%) scored between 75-89% **(Significant)** 100% of the students scored at the level of Significant. **Target MET** **Fall 2023:** 4 students were enrolled in the class and completed the exam. 3 were geology majors. 3 (75%) scored 90% or above **(Superior)**	

		1 (25%) scored between 60-75% **(Satisfactory)** **Target MET**	
4b. Students will demonstrate and apply knowledge of the Theory of Plate Tectonics. This would include being able to explain the development of the theory, explain the theory, and being able to apply the theory of plate tectonics to interpreting natural disasters, earth processes and the rock record	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results**: A pre-test is given in the first week of class. After that, they are given the questions after covering the material in class. A comparison is made to see if there is a gain in learning that specific material.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results** **Target Goal: Understanding of key concepts. Increase in number of correct answers from Pre-test to Post-test.** **Fall 2022:** **1300/1390 This class was run together** 4 questions were included that addressed this material. Overall average on this content: 55% got the answers correct on the Pre-Test 79% got the answers correct on the Post-Test **A gain in understanding of key concepts in goal 4b.** **Target MET** Q1: Pre-Test 78%, Post-Test 93% Q2: Pre-Test 62%, Post-Test 88% Q3: Pre-Test 57%, Post-Test 76% Q4: Pre-Test 23%, Post-Test 57% **Spring 2023:** **1300G** 2 questions were included addressing this material. 32 out of 51 students took both the pre and post tests. Overall average on this content: 11% got the answers correct on the Pre-Test	CT 1-6 WCR 4-6

		30% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4b.** **Target MET** Q1: Pre-Test 9%, Post-Test 44% (41% of students exhibited a gain on this question) Q2: Pre-Test 13%, Post-Test 16% (30% of students show a gain on this question) **Fall 2023:** **1300G** 3 questions pertained to this material. There were 32 students in this class. Overall average on this content: 75% answered correctly on the Pre-Test 84% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4b.** **Target MET** Q1: Pre-test 88%, Post-Test 100% Q2: Pre-Test 63%, Post-Test 70% Q3: Pre-Test 75%, Post-Test 83% **1390G** Overall average on this content: 58% got the answers correct on the Pre-Test 94% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4b.** **Target MET** Q1: Pre-Test 82%, Post-Test 100%	

		Q2: Pre-Test 59%, Post-Test 100% Q3: Pre-Test 71%, Post-Test 94% Q4: Pre-Test 18%, Post-Test 82% **Spring 2024:** **1300G** Overall average on this content: 55% answered correctly on the Pre-Test 69% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4b.** **Target MET** Q1: Pre-Test 82%, Post-Test 98% Q2: Pre-Test 56%, Post-Test 60% Q3: Pre-Test 36%, Post-Test 56% Q4: Pre-Test 47%, Post-Test 61%	
4c. Students will demonstrate and apply knowledge of internal processes, such as geodynamics, Earth's interior, earthquakes, and the methods used to study these processes.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results**: A pre-test is given in the first week of class. After that, they are given the questions after covering the material in class. A comparison is made to see if there is a gain in learning that specific material.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results** **Target Goal: Understanding of key concepts. Increase in number of correct answers from Pre-test to Post-test.** **Fall 2022:** **1300/1390 This class was run together** 4 questions were included that addressed this material. Overall average on this content: 30% got the answers correct on the Pre-Test	QR 1-4 CT 1-6 WCR 4-6

		60% got the answers correct on the Post-Test **A gain in understanding of key concepts in goal 4c.** **Target MET** Q1: Pre-Test 15%, Post-Test 31% Q2: Pre-Test 25%, Post-Test 40% Q3: Pre-Test 30%, Post-Test 84% Q4: Pre-Test 50%, Post-Test 84% **Spring 2023:** **1300G** 1 question was included addressing this material. 32 out of 51 students took both the pre and post tests. Overall average on this content: 25% got the answers correct on the Pre-Test 44% got the answers correct on the Post-test 4 out of the 32 taking both the pre and post test showed a gain in knowledge (13%) **A gain in understanding of key concepts in goal 4c.** **Target MET** **Fall 2023:** **1300G** 5 questions pertained to this material. There were 32 students in this class. Overall average on this content: 36% answered correctly on the Pre-Test 59% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4c.**	

		Target MET Q1: Pre-test 28%, Post-Test 42% Q2: Pre-Test 47%, Post-Test 52% Q3: Pre-Test 25%, Post-Test 55% Q4: Pre-Test 47%, Post-Test 55% Q5: Pre-Test 34%, Post-Test 90% **1390G** Overall average on this content: 24% got the answers correct on the Pre-Test 91% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4c.** **Target MET** Q1: Pre-Test 6%, Post-Test 88% Q2: Pre-Test 24%, Post-Test 88% Q3: Pre-Test 41%, Post-Test 94% Q4: Pre-Test 24%, Post-Test 94% **Spring 2024:** **1300G** Overall average on this content: 36% answered correctly on the Pre-Test 55% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4c.** **Target MET** Q1: Pre-Test 16%, Post-Test 53% Q2: Pre-Test 40%, Post-Test 63% Q3: Pre-Test 33%, Post-Test 45% Q4: Pre-Test 47%, Post-Test 67% Q5: Pre-Test 44%, Post-Test 73% Q6: Pre-Test 36%, Post-Test 30%	

	GEO 3405 Petrology: Comprehensive Practical Exam requiring synthesis and application of petrologic skills and knowledge of complex igneous systems and alteration mechanisms developed throughout the semester. Sample questions include: 1)What evidence is there for alteration within the field of view presented? 2) What is the likely mineral species that has been altered/replaced? 3)Based on texture, suggest a possible cooling history and parental magma composition. **GEO 3430 Structural Geology: Geologic Mapping and Interpretation Exercises:** Students were tasked with the construction of stratigraphic columns and cross sections,	**GEO 3405 Petrology: Comprehensive Practical Exam** **Target score was 80% of the class scoring at least at the level of Significant (at least 75%)** **Spring 2023:** 5 students were enrolled, all geology majors. 3/5 (60%) scored 90% or above **(Superior)** 1/5 (20%) scored between 75-89% **(Significant)** 1/5 (20%) scored between 60-74% (**Satisfactory)** **Target MET** **Spring 2024:** 3 students enrolled, 2 majors, 1 minor. 2/3 (66.7%) scored 90% or above **(Superior)** 1/3 (33.3%) scored between 60-74% **(Satisfactory)** **Target NOT MET** **75% (6/8) of students met the goal of achieving Significant on this assessment. Our goal was 80% of the students.** **GEO 3430 Structural Geology: Geologic Mapping and Interpretation Exercises.**	

	measurement of strike, dip, and general attitude of beds and deformation features, and mathematical estimations of the areal extent of subsurface features. The final mapping exercise involves the creation of a stratigraphic column and two cross sections that aid the students in interpreting the entire deformation history of the region.	**Target was 80% of students achieving a score at the level of Significant (at least 75%).** **Spring 2023:** 3 students were enrolled, all majors. 2/3 (66.7%) achieved scores 90% or greater **(Superior)** 1/3 (33.33%) achieved a score between 60-74%. **(Satisfactory)** **Spring 2024:** **4 students enrolled, all geology majors** 2/4 (50%) scored 90% or greater **(Superior)** 2/4 (50% scored 75-89% **(Significant)** **Target MET** 6/7 (86%) of students scored in the range of **Significant** or better	
4d. Students will demonstrate, apply, and interpret knowledge of major physical and historical events of Earth and the methods used to study these events.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results**: A pre-test is given in the first week of class. After that, they are given the questions after covering the material in class. A comparison is made to see if there is a gain in learning that specific material.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results** **Target Goal: Understanding of key concepts. Increase in number of correct answers from Pre-test to Post-test.** **Fall 2022:** **1300/1390 This class was run together** 4 questions were included that addressed this material. Overall average on this content: 48% got the answers correct on the Pre-Test 58% got the answers correct on the Post-Test	CT 1-6 WCR 1-7

		A gain in understanding of key concepts in goal 4d. **Target MET** Q1: Pre-Test 23%, Post-Test 41% Q2: Pre-Test 88%, Post-Test 88% Q3: Pre-Test 27%, Post-Test 34% Q4: Pre-Test 53%, Post-Test 69% **Spring 2023:** **1300G** 2 questions were included addressing this material. 32 out of 51 students took both the pre and post tests. Overall average on this content: 22% got the answers correct on the Pre-Test 54% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4d.** **Target MET** Q1: Pre-Test 19%, Post-Test 63% (43% of students showed a gain of knowledge on this question) Q2: Pre-Test 25%, Post-Test 38% (25% of students showed a gain of knowledge on this question). **Fall 2023:** **1300G** 5 questions pertained to this material. There were 32 students in this class. Overall average on this content: 33% answered correctly on the Pre-Test 75% answered correctly on the Post-Test	

		A gain in understanding of key concepts in goal 4d. **Target MET** Q1: Pre-test 19%, Post-Test 66% Q2: Pre-Test 16%, Post-Test 76% Q3: Pre-Test 22%, Post-Test 62% Q4: Pre-Test 72%, Post-Test 69% Q5: Pre-Test 34%, Post-Test 100% **1390G** Overall average on this content: 43% got the answers correct on the Pre-Test 73% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4d.** **Target MET** Q1: Pre-Test 24%, Post-Test 100% Q2: Pre-Test 82%, Post-Test 94% Q3: Pre-Test 24%, Post-Test 88% Q4: Pre-Test 41%, Post-Test 100% **Spring 2024:** **1300G** Overall average on this content: 32% answered correctly on the Pre-Test 63% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4d.** **Target MET** Q1: Pre-Test 18%, Post-Test 33% Q2: Pre-Test 44%, Post-Test 62% Q3: Pre-Test 25%, Post-Test 52%	

	GEO 2200- History of Earth: **Geologic History and National Parks Lab.** A two-part lab is done where the first part has students identify rocks, minerals, and fossils and learn what sorts of environments they signal and then in the second part they use that information to construct the Geologic History of the Grand Canyon, Zion, and Bryce National Parks. They must write a brief history of the evolution discussing their evidence.	Q4: Pre-Test 55%, Post-Test 78% Q5: Pre-Test 16%, Post-Test 88% **GEO 2200- History of Earth**: **Geologic History and National Parks Lab** A large part of being a geologist is synthesizing information- knowing what the clues you have mean for interpreting processes and depositional environments. The purpose of this exercise is to give students practice doing that. It challenges them and encourages them to use their critical thinking skills. **Results for Part I:** **Target score is 80% of students would be able to identify the rocks, minerals, and fossils and tie them to the environments where they are deposited given materials to help them do so. This is the first part of the lab.** **Spring 2023**: 100% (7/7) of the students were able to identify 80% the rocks, minerals and fossils and tie them to the appropriate environments given materials to help them do so. All students completed this part of the exercise with a score of 92% or better. **Spring 2024:** 100% (4/4) of the students were able to identify 80% of the rocks, minerals, and fossils and tie them to the appropriate environments given materials to	

		help them do so. 50% (2/4) completed this exercise with a score of >90%. **Results for Part II:** **Target score is 80% of the students complete this assignment earning 80% of the points.** They are required to use the information they collect about each formation to infer a depositional environment and then to create a short geologic history of the region from the Precambrian through the early part of the Cenozoic. **Spring 2023:** 100% (7/7) of the students were able to collect the information about each of the formations within each of the National Parks and then write up a reasonable geologic history using their evidence to justify it. This group did a phenomenal job and all students earned all the points. **Spring 2024:** 75% (3/4) students were able to collect information about each of the formations within each of the National Parks and then write up a reasonable geologic history using their evidence to justify it and earn 80% of the points associated. 25% (1/4) of the students did this earning at least 75% of the points associated. Target goal of 80% of students earning at least 80% of the points was met (10/11 students met the goal). **Target MET**	

4e. Students will demonstrate and apply knowledge of the interactions between the major processes occurring within the major spheres (biosphere, hydrosphere, atmosphere, geosphere, and cryosphere), including, but not limited to recycling of materials and major cycles, like the hydrological cycle, the carbon cycle, etc.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results**: A pre-test is given in the first week of class. After that, they are given the questions after covering the material in class. A comparison is made to see if there is a gain in learning that specific material.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results** **Target Goal: Understanding of key concepts. Increase in number of correct answers from Pre-test to Post-test.** **Fall 2022:** **1300/1390 This class was run together** 4 questions were included that addressed this material. Overall average on this content: 48% got the answers correct on the Pre-Test 48% got the answers correct on the Post-Test **No gain in understanding of key concepts in goal 4e.** **Target NOT MET** Q1: Pre-Test 25%, Post-Test 17% Q2: Pre-Test 70%, Post-Test 98% Q3: Pre-Test 25%, Post-Test 16% Q4: Pre-Test 72%, Post-Test 60% **Spring 2023:** **1300G** 2 questions were included addressing this material. 32 out of 51 students took both the pre and post tests. Overall average on this content: 72% got the answers correct on the Pre-Test 77% got the answers correct on the Post-test	CT 1-6 WCR 4-6 QR 1-3

		A gain in understanding of key concepts in goal 4e. **Target MET** Q1: Pre-Test 84%, Post-Test 84% (13% of students showed a gain of knowledge on this question) Q2: Pre-Test 63%, Post-Test 69% (25% of students showed a gain of knowledge on this question). **Fall 2023:** **1300G- no questions from this goal were used on the pre/post-test** **1390G** Overall average on this content: 41% got the answers correct on the Pre-Test 76% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4e.** **Target MET** Q1: Pre-Test 29%, Post-Test 100% Q2: Pre-Test 65%, Post-Test 100% Q3: Pre-Test 6%, Post-Test 82% Q4: Pre-Test 65%, Post-Test 100% **Spring 2024:** **1300G no questions from this goal were used on the pre/post-test**	
	GEO 2200 History of Earth: Sediments and the Global Carbon Cycle Lab. Students learn about the carbon cycle and how sediments can act as a global repository. Students also learn	**GEO 2200 History of Earth:** **Sediments and the Global Carbon Cycle Lab.** **Target is for 80% of students to score better than 80% on the exercise.**	

	about carbon isotopes and what they can learn from them. A good portion of this lab requires them to do calculations of the amounts of carbon deposited in different settings. Students also interpret the data and make interpretations.	**Spring 2023:** 8 students were in the class. All were geology majors. 8/8 (100%) scored 80% or better on the assignment. 7/8 (88%) scored 90% or better on the assignment. **Spring 2024:** 4 students were enrolled in GEO 2200, 3 were majors, 1 was a minor. 4/4 (100%) scored 90% or better **Target MET** 12/12 students scored 80% or better on the exercise.	
4f. Students will demonstrate and apply knowledge of surface geological processes and their impact on development of landforms, weathering, cycles, etc. and their ability to identify and interpret landform development	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results**: A pre-test is given in the first week of class. After that, they are given the questions after covering the material in class. A comparison is made to see if there is a gain in learning that specific material.	**GEO 1300G Introduction to Earth Science Pre and Post Test Questions on discipline specific content results** **Target Goal: Understanding of key concepts. Increase in number of correct answers from Pre-test to Post-test.** **Fall 2022:** **1300/1390 This class was run together** 4 questions were included that addressed this material. Overall average on this content: 32% got the answers correct on the Pre-Test	CT 1-6 WCR 4-6

		50% got the answers correct on the Post-Test **A gain in understanding of key concepts in goal 4f.** **Target MET** Q1: Pre-Test 45%, Post-Test 60% Q2: Pre-Test 43%, Post-Test 48% Q3: Pre-Test 38%, Post-Test 66% Q4: Pre-Test 3%, Post-Test 24% **Spring 2023:** **1300G** 2 questions were included addressing this material. 32 out of 51 students took both the pre and post tests. Overall average on this content: 49% got the answers correct on the Pre-Test 69% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4f.** **Target MET** Q1: Pre-Test 50%, Post-Test 84% (13% of students showed a gain of knowledge on this question) Q2: Pre-Test 47%, Post-Test 53% (22% of students showed a gain of knowledge on this question). **Fall 2023:** **1300G** 3 questions pertained to this material. There were 32 students in this class. Overall average on this content:	

		41% answered correctly on the Pre-Test 64% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4f.** **Target MET** Q1: Pre-test 69%, Post-Test 74% Q2: Pre-Test 9%, Post-Test 69% Q3: Pre-Test 44%, Post-Test 48% Q5: Pre-Test 34%, Post-Test 100% **1390G** Overall average on this content: 54% got the answers correct on the Pre-Test 93% got the answers correct on the Post-test **A gain in understanding of key concepts in goal 4f.** **Target MET** Q1: Pre-Test 76%, Post-Test 100% Q2: Pre-Test 53%, Post-Test 94% Q3: Pre-Test 76%, Post-Test 94% Q4: Pre-Test 12%, Post-Test 82% **Spring 2024:** **1300G** Overall average on this content: 33% answered correctly on the Pre-Test 57% answered correctly on the Post-Test **A gain in understanding of key concepts in goal 4f.** **Target MET** Q1: Pre-Test 44%, Post-Test 53% Q2: Pre-Test 18%, Post-Test 67%	

	Spring 2024 **GEO 3420 Geomorphology: Embedded Question on final exam:** Recalling all of the geomorphic processes we discussed during the semester, describe the one that have shaped the landscape of east-central Illinois. A)Identify the erosional agents that have or continue to impact our region B) Discuss the processes involved with the movement and transport of landscape materials. C) Describe the resultant erosional and depositional features found here.	Q3: Pre-Test 36%, Post-Test 50% **Spring 2024** **GEO 3420 Geomorphology: Embedded Question on exam:** **There were 11 students in the class. Four were geology majors** Target was for students to answer the question at the level of Satisfactory (at least 60%). 9 students completed the final exam question. 4 scored 90% or above (Superior) 4 scored between 75-89% (Significant) 1 scored between 60-74% (Satisfactory) The average score was 87% **Target MET**	

PART 2. IMPROVEMENTS AND CHANGES BASED ON ASSESSMENT

A. Provide a short summary (1-2 paragraphs) or bulleted list of any **curricular actions** (revisions or additions) that were approved over the past two years as a result of reflecting on the student learning outcomes data. Are there any additional future changes, revisions, or interventions proposed or still pending?

No substantive curricular changes were made as a result of the previous SLO data and report. However, changes to the process of building the report and what data we use in this report has been substantive . Instead of using archived artifacts submitted by the instructor of each class and reviewed only by the assessment chair, this report was written using data gathered by the instructor and his or her analyses of the data. Having the assessment chair do all of the analysis is burdensome to the person in that position and it is hard to evaluate an assignment you have no intimate knowledge of. Using the whole class data set is more authentic, as well. Using a curated set of artifacts leaves out data from many students in these classes.

Incorporating data from all core classes is a goal. This report does use data from each geology instructor, but not all classes that are part of the geology core are represented in this report. We hope to have them all represented in the next report.

B. Provide a brief description or bulleted list of **any improvements (or declines)** observed/measured in student learning. Be sure to mention any intervention made that has not yet resulted in student improvement (if applicable).

SLO 1 (Equity, Inclusion, Global Citizenship) was assessed using two assessments in GEO 4850 Environmental Geology. The Case Study results showed a decline since the last report in meeting the goal. The issue was having the students discuss a community targeted by an environmental justice issue. However, in the embedded question from the final exam in that class, all students did discuss environmental justice with regard to a specific group of people. In the future, in the directions for the Case Study Assignment, investigating a particular group who is impacted by the issue will be emphasized.

SLO 4 a-f Pre and Post-Test results- This assessment is run differently in different classes. In Spring 2023, the pre-test was administered in the first week of class. The Post-Test was administered during lab in the last week of class. While the questions were embedded into tests when the material was covered, that data was not pulled out and stored. So, students were taking the post-test at a time when some of the material was not fresh, so the gains were often not as good as those observed in the other semesters. In the future, we will try to collect the post-test data from embedded exam questions. Overall, we are meeting our targets for these discipline-specific learning objectives.

SLO 4c (Internal processes) An assessment from Petrology (GEO 3405) was used. In Spring 2024, the target of 80% of students scoring at least 75% on the Comprehensive Practical Exam, was not met. However, 75% of the students did meet the goal, so we fell just shy of meeting it. An assessment from GEO 3430 (Structural Geology) was also used to measure gains in this Objective. The goal was met in that assessment.

We feel confident that we are meeting our goals for the most part. We will tweak things slightly as we move forward, particularly with regard to SLO 1.

C. HISTORY OF DATA REVIEW OVER THE PAST TWO YEARS

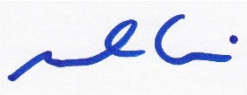
Please document annual faculty and committee engagement with the assessment process (such as the review of outcomes data, revisions/updates to assessment plan, and reaffirmation of SLOs).

Date of annual (or periodic) review	Individuals or groups who reviewed the assessment plan	Results of the review (i.e., reference proposed changes from any revised SLOs or from point 2.A. curricular actions)
3/8/2023	**Diane Burns, Jake Crandall, Katie Lewandowski**	**Comments from Dr. Park and Dr. Cornebise were reviewed**
Fall 2024	**Diane Burns, Jake Crandall, Katie Lewandowski, Jim Riley**	**Data was gathered to use for this report. Some different assignments were used for the different SLOs**

Dean Review and Feedback

The BS in Geology 2-year assessment program draws from multiple data points to measure nine student learning objectives that are each tied to the EIU undergraduate learning goals. The assessment program employs embedded exam questions, course grades resulting from research papers and presentations in multiple classes, lab assignment results, and a pre- and post-test instrument in

GEO 1300G (the program's introductory course). In the report, the department indicated that all goals were met with the exception of four sub-goals. The most recent data were shared with the Geology faculty in Fall 2024 and led to a discussion about using different assignments to better assess specific SLOs. While no substantive curricular changes resulted from the assessment data, changes to procedures have been implemented that better include the input of all instructors in the assessment enterprise. While improvements to the assessment program have been implemented, my main critique of the current assessment plan is that it relies too heavily on student course and assignment grades to measure the majority of the defined SLOs, though the pre- and post-tests in GEO 1300G serve as a good source of standardized data. I would urge the Geology faculty to consider other standardized means for measuring program assessment in the future.



11/24/26

Dean or Designee **Date**