

Core Curriculum Annual Assessment

Year	2019-2020
Course number and Name:	GEOL 1403 Physical Geology
Component area:	Life and Physical Sciences
Number of sections offered:	2-Fall 2019; 2-Spring 2020
Number of students enrolled:	Total 88 students for all sections Fall 2019 and Spring 2020
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Summary of Continuous Improvement Efforts since Last Report

Provide a brief description of how assessment results have been used for core course improvement. Point to a specific example of how an assessment provided the department with data it could use for improvement and what that improvement was, if possible, also show evidence of the improvement. You may look at data from the two previous academic years to support this case.

Respond here: The only skill area that the core assessment for GEOL 1403 Physical Geology indicated improvement was needed in was for the attitude of students in lab towards teamwork. Discussions were conducted with the Lab Coordinator and a decision was made to try and convince students to work in teams of two to four in lab and explain why doing so would likely improve their grade. Grades have been on average higher in the labs since implementing this policy. Although a direct cause and effect can not be attributed to students working more in teams, it is likely that this new policy helped since no other changes were made in the lab portion of the course since Spring 2020.

When the next assessment is completed, this theory will be tested, as well as the theory that being highly encouraged to work in teams of two to four students also improves the student's attitudes towards teamwork.

Course highlights Since Last Report

Identify and briefly discuss any changes made to the course since the last report.

Respond here: Since the last report at the end of the 2019-2020 academic year, encouraging more students in lab to work in teams of two to four students to help each other out may have resulted in the improved assignment and test scores seen in the labs.

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Table 1. Assessment Results and Analysis for Current Cycle

Stage 1: PLAN			STAGE 2: DO		Stage 3: STUDY	
General Education Competencies Addressed in this Course:	Assessment Method(s) – e.g. pre/post tests, embedded questions, portfolio evaluation, rubric-scored essay; list only activities for which you are reporting assessment data	Proficiency – e.g. the proficient student will correctly answer 5 out of the 6 embedded questions on the final exam	Benchmark – e.g. 80% of students taking the final exam will correctly answer 5 of the 6 embedded questions on the final exam	Results of course assessment(s)	Analysis of results – e.g. strengths and weaknesses What does this data tell you? How will you use this data? How were data from the last cycle used to make changes during this cycle, and what were the results of those changes?	Recommendations for Course based on assessment
Communication (required)	In lab, students will learn to communicate with the instructor visually and in writing by completing one or more lab exercises that require a moderate amount of writing and generation of illustrations. The Tectonics lab exercise, which	The score for each of three writing skills (style, organization, use of graphs and tables) for the Tectonics lab exercise will be determined for each student. The scores are as follows: 1 = Below Expectations, 2 = Meets Expectations, 3 =	Target is met if the average score of all the students for each skill is greater than or equal to 2.0. Partially met if any one skill is less than 2.0. Not met if all skills are less than 2.0. Note: Scores are calculated to three digits and rounded to two significant digits.	Average scores are as follows: Style: 2.0 Meets Target Organization: 2.2 Meets Target Use of Graphs and Tables: 2.2 Meets Target	Students are meeting the expectations for their Communication Skills.	Based on the results, if the target is met next cycle, the target should be raised to greater than or equal to 2.5 for each subskill to meet the benchmark. No other improvements to the course seem necessary at this time.

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	contains a significant amount of writing and communication through a visual illustration, will be assessed by the corresponding lab instructor for that lab section using the Written Communication rubric.	Exceeds Expectations. The total number of students that fall into each score will be added up for each skill for all lab sections taught on campus. These total scores will be averaged for each skill and the average score for each skill will be used to determine if the target was met. A proficient student is expected to average a score of 2.0 or better (meets or exceeds expectations) on the rubric.				
Critical Thinking (required)	1) A multiple choice, true-false, and matching quiz will be used at the end of the semester to evaluate the	1) A quiz will be given in each lecture section taught at Lamar University that will contain at least 10 questions	1) The target for the average of all quizzes for all students in all sections is 65% or better.	1) The average of all quizzes for all sections reporting is 73%. Therefore, the target was met.	Students are meeting the expectations for their Critical Thinking Skills.	1) Based on the results, if the target is met next cycle, the target should be raised to 70% for the end of semester lecture

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	<p>students' ability to use critical thinking skills in evaluating scientific questions.</p> <p>2) Three lab quizzes and one lab exercise will be used to determine the students' critical thinking skills regarding the analysis and interpretation of rivers, marine shorelines, karst features, and elevation on topographic maps. The rivers, marine shorelines, and topographic interpretation quizzes, as well as either the karst topography or contour map exercise will be averaged for each student and used</p>	<p>related to critical thinking. The instructors will create their own quiz. The average score for all the students in each section will be averaged and used to determine if the target has been met. The proficient student will correctly answer a minimum of 65% of the questions correctly.</p> <p>2) The average for all questions for the three quizzes and one lab exercise will be averaged for each student to determine their average percentage for this outcome. The average of all the students will then be averaged to</p>	<p>2) The target for the average of the three quizzes and one exercise for all students in all lab sections is 65% or better.</p>	<p>2) The average of the three quizzes and one lab exercise is 72%. Therefore, the target was met.</p>	<p>1) One faculty member did not give a quiz for their section and so this section was not used in the analysis.</p> <p>2) Due to COVID-19, the contouring and karst exercises were not completed by students, so the rivers exercise was substituted.</p>	<p>quiz. No other improvements to the course seem necessary at this time based on Critical Thinking skills.</p> <p>2) Based on the results, if the target is met next cycle, the target should be raised to 70%. No other improvements to the course seem necessary at this time based on Critical Thinking skills.</p>
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	to determine if the target is met.	determine the final percentage. The proficient student will correctly answer a minimum of 65% of the questions correctly.				
Select One: <input checked="" type="checkbox"/> Empirical & Quantitative Skills <input type="checkbox"/> Teamwork <input type="checkbox"/> Social responsibility <input type="checkbox"/> Personal Responsibility	<p>1) A quiz will be given in each lecture section taught at Lamar University that will contain at least 10 questions related to empirical and quantitative reasoning. The instructors will create their own quiz. The average score for all the students in each section will be averaged and used to determine if the target has been met.</p> <p>2) Identification of various rock</p>	<p>1) The average percentage for all sections that took the quiz will be used to determine if the target is met. The proficient student will correctly answer a minimum of 65% of the questions correctly.</p> <p>2) The average of all the mineral, rock, contouring and topographic map quizzes for every student in each lab section on campus will be averaged to determine the final percentage.</p>	<p>1) The target for the average of all quizzes for all students in all sections is 65% or better.</p> <p>2) The target for the average of all quizzes for all students in all sections of lab is 65% or better.</p>	<p>1) The average of all quizzes for all sections reporting is 71%. Therefore, the target was met.</p> <p>2) The average of five of the six quizzes is 72%. Therefore, the target was met.</p>	<p>Students are meeting the expectations for their Empirical & Quantitative Skills.</p> <p>1) One faculty member did not give a quiz for their section and so this section was not used in the analysis.</p> <p>2) Only five quizzes were used to determine the average this year because the contour map exercise and quiz were not given due to COVID-19.</p>	<p>1) Based on the results, if the target is met next cycle, the target should be raised to 70% for the end of semester lecture quiz. No other improvements to the course seem necessary at this time based on Empirical & Quantitative skills.</p> <p>2) Based on the results, if the target is met next cycle, the target should be raised to 70% for the average of the six lab quizzes. No other improvements to</p>

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	and mineral properties, along with using these properties to identify the name of the rocks and minerals, use empirical thinking skills. Three rock quizzes and one mineral quiz test these skills. The topographic map and contouring quizzes utilize more of the students' quantitative thinking skills. These six quizzes will be averaged to determine if the target is met.	This percentage will be used to assess this measure. The proficient student will correctly answer a minimum of 65% of the questions correctly.				the course seem necessary at this time based on Empirical & Quantitative skills.
Select One: <input type="checkbox"/> Empirical & Quantitative Skills <input checked="" type="checkbox"/> Teamwork <input type="checkbox"/> Social responsibility <input type="checkbox"/> Personal Responsibility	Lab instructors will observe the interaction of students within their lab groups during the mineral and rock labs in all the lab sections on the Lamar campus. The	Target is met if the average score of all the students for each skill is greater than or equal to 2.0. Partially met if any one skill is less than 2.0. Not met if all skills are less than 2.0.	Average score for each skill is greater than or equal to 2.0. Note: Scores are calculated to three digits and rounded to two significant digits.	Average scores are as follows: Attitude: 1.9 <u>DOES NOT MEET</u> Target Ability to Focus on Task: 2.0 Meets Target Ability to Work with Others: 2.2 Meets Target	On average, the students' attitude towards teamwork was only slightly below expectations. However, since the target was not met for this skill, an action	Discuss with Lab Coordinator ways to improve students' attitude towards teamwork in lab or to try and determine why some students have a poor attitude regarding teamwork in lab.

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	<p>instructors will rate each student's level of achievement based on the Teamwork rubric.</p> <p>The score for each of three teamwork skills (attitude, ability to focus on the task, ability to work with others) for the mineral and rock lab exercises will be determined for each student by instructor observation. The scores are as follows: 1 = Below Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations. The total number of students that fall into each score will be added up for each skill for all lab sections</p>	<p>A proficient student is expected to average a score of 2.0 or better (meets or exceeds expectations) on the rubric.</p>			<p>plan was created to try and improve the student's attitude towards teamwork. In some cases, the student may prefer working alone. In other cases, the student may not like one or more of the team members or feel that one or more team members are not contributing as much as they are. There are numerous reasons for a poor attitude towards teamwork. If the reasons can be established and addressed early on, maybe the students' attitude can be improved.</p>	<p>Based on that discussion, develop an improvement plan.</p> <p>Instructors were encouraged to recommend that the lab students work in groups of two to four to improve interaction, help each other with ideas, and check each other's work, which will ultimately lead to better performance and a better grade. After students started working in groups more often, some instructors saw an improvement in grades.</p>
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	taught on campus. These total scores will be averaged for each skill and the average score for each skill will be used to determine if the target was met.					
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Table 2. Continuous Improvement Results Since Last Report

STAGE 4: ACT		
Actions/Goals based on data results <i>*copy last cycles actions/goals and report on progress toward continuous improvement on those here</i>	Status <i>C=Complete</i> <i>P=Progressing</i> <i>N=No action taken</i>	Discussion of status <i>If C, describe efforts that led to accomplishment of actions/goals</i> <i>If P, provide update on progress made toward accomplishing actions/goals and what tasks remain</i> <i>If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.</i>
<p>Discuss with Lab Coordinator ways to improve students' attitude towards team work in lab or to try and determine why some students have a poor attitude regarding team work in lab and based on that develop an improvement plan.</p>	<p>P</p>	<p>Discussions were conducted with the Lab Coordinator and a decision was made to try and convince students to work in teams of two to four in lab and explain why doing so would likely improve their grade. Grades have been on average higher in the labs since implementing this policy. Although a direct cause and effect can not be attributed to students working more in teams, it is likely that this new policy helped since no other changes were made in the lab portion of the course since Spring 2020.</p> <p>When the next assessment is completed, this theory will be tested, as well as the theory that being highly encouraged to work in teams of two to four students also improves the student's attitudes towards teamwork. If the average Attitude score on the rubric meets the Target of 2.0 or better, then the action plan will be complete. If not, it will still be in progress or modified to a different plan.</p>