

Degree Program Name: Earth & Environmental Sciences Major **Contact Name and Email** Steve Aldrich (steve.aldrich@indstate.edu)

Before you complete the form below, review your outcomes library and curriculum map to ensure that they are accurate and up to date. If not, you may submit a new version along with this summary.

Note: This year assessment efforts in the Earth & Environmental Sciences Major focused primarily on the “Geoscience” concentration given the relative size of the major in comparison with the “Atmospheric & Surface Processes” concentration. **Part One**

<p>a. What learning outcomes did you assess this year?</p> <p>If this is a graduate program, indicate the Graduate Student Learning Outcome* each outcome aligns with.</p>	<p>b. (1) What method(s) did you use to determine how well your students attained the outcome? (2) In what course or other required experience did the assessment occur?</p>	<p>c. What expectations did you establish for achievement of the outcome?</p>	<p>d. What were the actual results?</p>	<p>e. (1) Who was responsible for collecting and analyzing the results? (2) How were they shared with the program’s faculty?</p>
<p>1. Demonstrate comprehension of geological principles, facts, and concepts</p>	<p>(1) Courses of concentration core, required exit exam.</p>	<p>Learning gain on pre-and-postcore exit exam/test.</p>	<p>All students (n=6) increased their percent correct on exit exam when compared with entry to the program. Average upon entry was 44% correct, and average upon application to graduate was 72%, an increase in performance of 39%.</p>	<p>(1) Geoscience concentration advisor (Brake) and Assessment Coordinator Aldrich. (2) Via circulation of this assessment report.</p>
<p>2. Identify, describe, and classify earth materials, formation, and structures, and interpret them in the context of geologic processes</p>	<p>(1) Courses of concentration core, required exit exam.</p>	<p>Learning gain on pre-and-postcore exit exam/test.</p>	<p>All students (n=6) increased their percent correct on exit exam when compared with entry to the program. Average upon entry was 44% correct, and average upon application to graduate was 72%, an increase in performance of 39%.</p>	<p>(1) Geoscience concentration advisor (Brake) and Assessment Coordinator Aldrich. (2) Via circulation of this assessment report.</p>
<p>3. Synthesize the geologic history of Earth as evidenced by the rock record</p>	<p>(1) Courses of concentration core, required exit exam.</p>	<p>Learning gain on pre-and-postcore exit exam/test.</p>	<p>All students (n=6) increased their percent correct on exit exam when compared with entry to the program. Average upon entry was 44% correct, and average upon application to graduate was 72%, an increase in</p>	<p>(1) Geoscience concentration advisor (Brake) and Assessment Coordinator Aldrich. (2) Via circulation of this assessment report.</p>

			performance of 39%.	
--	--	--	---------------------	--

Part Two

In no more than one page, summarize 1) the discoveries assessment has enabled you to make about your students' learning, the curriculum, departmental processes, and/or the assessment plan itself; 2) the changes and improvements you have made or will make in response to these discoveries and/or the coordinator's feedback on the previous summary; and 3) what your assessment plan will focus on in the coming year.

If you would like to reference any supporting materials (departmental meeting minutes, detailed assessment results, etc.), please provide the URL at which they can be found.

While our overall findings are that the learning outcomes assessed during this cycle are being adequately met, and that students are gaining skills they need to be successful in the job market and/or post-graduate education, we have come to realize a few things about our curriculum as we currently offer it. These realizations come, in at least a small part, from our assessment efforts.

First, we would like to make it clear that students very clearly exceed our learning outcomes, and our curriculum does educate competent professionals. Though the Earth & Environmental Sciences has done a good job making its core focus visible through degree headings, course names, etc. we have proposed moderate changes to the curriculum which we hope will go into effect for Fall 2018. The changes are meant to make the degree path somewhat more flexible, and allow students to take a few more topic-specific courses to broaden their expertise before graduation. We have also completely rewritten our assessment plan to correspond to that new curriculum (which will be implemented for the 2018-2019 academic year).

One goal of a new curriculum and accompanying learning outcomes and assessment is to integrate assessment activities more directly in our curricular process. As the plan is currently designed, outside of the Geoscience concentration, there are too many measures and too many assessment-specific (rather than education experience that can contribute to assessment) activities to generate these reports. The reports also rely on the actions of a very few department personnel. The assessment plan accompanying our curricular revision is meant to broaden the number of people actively involved in assessment in the department by integrating more assessment items explicitly into our curriculum.

In reviewing our rubric from last year (AY2015-2016) we were surprised to note that we were marked "Little reflection is offered about previous results or plans" in the "Engagement & Improvement" category given the effort we have put into considering adjustments to our curricular and assessment revisions. The other aspects of the rubric are certainly valid, but it is not clear what action can be taken to increase the efforts of faculty who are currently mostly disengaged from assessment efforts. One aspect of the rubric evaluation where enhanced feedback would have been useful to us in rethinking assessment would be about what measures would be considered "appropriate."

Student Learning Summary Report Rubric :: Office of Assessment & Accreditation :: Indiana State University

Degree Program: BS in Earth & Environmental Sciences Date: 01.15.18

	Level 0 – Undeveloped	Level 1 – Developing	Level 2 – Mature	Level 3 – Exemplary
1. Student Learning Outcomes	<input type="checkbox"/> No outcomes were identified. <input type="checkbox"/> No Curriculum Map was provided.	<input type="checkbox"/> Outcomes were identified. <input type="checkbox"/> Some of the outcomes are specific, measurable, student-centered, program-level outcomes. <input type="checkbox"/> A Curriculum Map was provided.	<input type="checkbox"/> Outcomes are specific, measurable, student-centered, program-level outcomes. <input checked="" type="checkbox"/> Outcomes at least indirectly support Foundational Studies Learning Outcomes or the Graduate Learning Goals. <input type="checkbox"/> The Curriculum Map identifies where/to what extent each outcome is addressed. <input type="checkbox"/> At least one outcome was assessed in this cycle.	<input checked="" type="checkbox"/> Outcomes are important, specific, measurable, student-centered program-level outcomes that span multiple learning domains. <input type="checkbox"/> Outcomes directly integrate with Foundational Studies Learning Outcomes or the Graduate Learning Goals. <input type="checkbox"/> Outcomes reflect the most important results of program completion (as established by an accreditor or other professional organization). <input type="checkbox"/> Learning outcomes are consistent across different modes of delivery (face-to-face and online.) <input type="checkbox"/> Outcomes are regularly reviewed (and revised, if necessary) by the faculty and other stakeholders. <input checked="" type="checkbox"/> The Curriculum Map identifies where/to what extent each outcome is addressed and offers evidence that students have sufficient opportunity to

				<p>master the associated learning outcomes.</p> <p><input checked="" type="checkbox"/> Two or more outcomes were assessed in this cycle.</p>
<p>2. Measures & Performance Goals</p>	<p><input type="checkbox"/> No measures are provided.</p> <p><input type="checkbox"/> No goals for student performance are identified.</p>	<p><input checked="" type="checkbox"/> Measures are provided, but some are vague and/or do not clearly assess the associated outcomes.</p> <p><input type="checkbox"/> Measures are primarily indirect.</p> <p><input checked="" type="checkbox"/> Performance goals are identified, but they are unclear or inappropriate.</p> <p><input type="checkbox"/> Some performance goals are based on course and/or assignment grades, but there is no evidence that grades are calibrated to the outcomes.</p>	<p><input checked="" type="checkbox"/> At least one direct measure was provided for each outcome.</p> <p><input type="checkbox"/> Some information is provided to suggest that measures are appropriate to the outcomes being assessed.</p> <p><input type="checkbox"/> Clear and appropriate standards for performance are identified.</p> <p><input type="checkbox"/> Some performance goals are based on course and/or assignment grades, and general information is provided to demonstrate that grades are calibrated to the outcomes.</p> <p><input type="checkbox"/> Mechanisms used to assess student performance (rubrics, checklists, exam keys, etc.) were provided.</p>	<p><input type="checkbox"/> Multiple measures were employed, and most are direct.</p> <p><input type="checkbox"/> Detailed information is provided to show that measures are appropriate to the outcomes being assessed.</p> <p><input type="checkbox"/> Measures assess some high impact practices (internships, capstone course projects, undergraduate research, etc.)</p> <p><input type="checkbox"/> If students are required to pass a certification or licensure exam to practice in the field, this was included as a measure.</p> <p><input type="checkbox"/> Some measures allow performance to be gauged over time, not just in a single course.</p> <p><input type="checkbox"/> If a measure is used to assess more than one outcome, a clear explanation is offered to substantiate that this is appropriate.</p> <p><input type="checkbox"/> Clear and appropriate standards for performance are identified and justified.</p> <p><input type="checkbox"/> Mechanisms used to assess student performance (rubrics,</p>

				<p>checklists, exam keys, etc.) were summarized as well as provided to demonstrate that the measure provides specific evidence of what students know/can do.</p> <p><input type="checkbox"/> If performance goals are based on course and/or assignment grades, specific evidence is provided to demonstrate that grades are calibrated to the outcomes.</p>
3. Results	<p><input type="checkbox"/> No data are being collected.</p> <p><input type="checkbox"/> No information is provided about the data collection process.</p> <p><input type="checkbox"/> No results are provided.</p> <p><input type="checkbox"/> Students are meeting few of the performance standards set for them.</p>	<p><input checked="" type="checkbox"/> Some data are being collected and analyzed.</p> <p><input type="checkbox"/> Some results are provided.</p> <p><input type="checkbox"/> Insufficient information is offered to demonstrate that data collection, analysis, and interpretation processes are valid.</p> <p><input type="checkbox"/> Students are achieving some of the performance standards expected of them.</p>	<p><input type="checkbox"/> Data are being collected and analyzed.</p> <p><input checked="" type="checkbox"/> Results are provided.</p> <p><input checked="" type="checkbox"/> Some information is offered to demonstrate that data collection, analysis, and interpretation processes are valid and meaningful.</p> <p><input checked="" type="checkbox"/> Students generally are achieving the performance standards expected of them.</p>	<p><input type="checkbox"/> Clear, specific, and complete details about data collection, analysis, and interpretation of results are provided to demonstrate the validity and usefulness of the assessment process.</p> <p><input type="checkbox"/> Students generally are achieving the performance standards expected of them and demonstrate continuous improvement on standards they have yet to achieve/achieve less well.</p> <p><input type="checkbox"/> If students are required to pass a certification or licensure exam to practice in the field, the pass rate meets the established benchmark.</p>
4. Engagement & Improvement	<p><input type="checkbox"/> No one is assigned responsibility for assessing individual measures.</p> <p><input type="checkbox"/> Assessment primarily is</p>	<p><input type="checkbox"/> The same faculty member is responsible for collecting and analyzing most/all assessment results.</p>	<p><input checked="" type="checkbox"/> Multiple faculty members are engaged in collecting and analyzing results.</p> <p><input checked="" type="checkbox"/> Results regularly are shared</p>	<p><input type="checkbox"/> All program faculty members are engaged in collecting and analyzing results.</p> <p><input type="checkbox"/> Faculty regularly and</p>

	<p>the responsibility of the program chair.</p> <p><input type="checkbox"/> No improvements (planned or actual) are identified.</p> <p><input type="checkbox"/> No reflection is offered about previous results or plans.</p>	<p><input type="checkbox"/> It is not clear that results are shared with the faculty as a whole on a regular basis.</p> <p><input type="checkbox"/> Plans for improvement are provided, but they are not specific and/or do not clearly connect to the results.</p> <p><input type="checkbox"/> Little reflection is offered about previous results or plans.</p>	<p>with the faculty.</p> <p><input checked="" type="checkbox"/> The faculty regularly engages in meaningful discussions about the results of assessment.</p> <p><input checked="" type="checkbox"/> These discussions lead to the development of specific, relevant plans for improvement.</p> <p><input checked="" type="checkbox"/> Improvements in student learning have occurred as the result of assessment.</p>	<p>specifically reflect on students' recent achievement of performance goals and implement plans to adjust activities, expectations, outcomes, etc. according to established timelines.</p> <p><input type="checkbox"/> Faculty and other important stakeholders reflect on the history and impact of previous plans, actions, and results, and participate in the development of recommendations for improvement.</p> <p><input type="checkbox"/> Continuous improvement in student learning occurs as the result of assessment.</p> <p><input type="checkbox"/> Outcomes and results are easily accessible to stakeholders on/from the program website.</p> <p><input type="checkbox"/> Assessment is integrated with teaching and learning.</p>
Overall Rating	<input type="checkbox"/> Level 0 – Undeveloped	<input checked="" type="checkbox"/> Level 1 - Developing	<input type="checkbox"/> Level 2 – Mature	<input type="checkbox"/> Level 3 – Exemplary

The program assessed three clear, measurable, important outcomes this past year using a single measure, the exit exam. Are the exam questions keyed to the outcomes so that scorers can determine which ones students achieved well/less well? This kind of analysis would provide specific information that could be used to guide plans to improve performance. I also would note that an exam, by itself, may not provide the most reliable evidence of students' ability to perform more complicated actions such as synthesizing information. What hands-on learning activity might you include in your assessment plan? Also, no specific expectations for performance were identified, just the general goal that post-test scores will show improvement over pre-test scores. Students met this expectation. If the exam questions were keyed to the outcomes, the expectation might be something like "85% of students will successfully answer items 3, 14, and 22 on the exit exam." It is clear from Part Two that the faculty take student learning seriously and have made changes to the curriculum and the assessment program to support their students. But I also would like to see reflection on and analysis of specific assessment results—again, what exactly do your students know/what can they do well and less well, and how will you use this information to improve future students' learning? Thank you for submitting your Student Learning Summary Report!