

Meaning of the Degree	Suggestions and References
<p><b>This section is about the structure of the degree, its components and its expectations.</b></p>	<p><b>1. The <i>Geology BS Degree</i> targets three Emphasis Areas: <i>Geology, Geophysics/Earth Exploration, and Environmental Resources</i> to provide a global perspective for problem solving and decision making in a changing world. The <i>Geophysics and Environmental</i> emphases distinguish our program from other southern California CSU Geology Departments</b></p>
<p>This section represents your program's ambition:</p> <ol style="list-style-type: none"> <li>1. Describe the generic degree and what makes your degree at CPP distinct.</li> <li>2. Describe how the degree aligns with the university vision, values, and outcomes.</li> <li>3. Describe your entering students' abilities and your graduates' culminating skills.</li> <li>4. Provide a link to your website where those interested can find additional information.</li> </ol>	<p><b>2. Through 'learn-by-doing' methods (e.g., field trips, applied laboratories) faculty-mentored research, and exposure to current technology, our students acquire skills applicable to careers in the Geosciences and related disciplines. We aspire to match student skills to the current job trends or placement in the best of graduate programs. We are dedicated to interdisciplinary learning and practical interactions between students, faculty, and industry or government professionals. Our Geology BS program promotes the University's polytechnic vision to inspire creativity and innovation, embrace local and global challenges, and transform lives. It also addresses the values and outcomes posted on the CPP web site.</b></p> <p><b>3. Entering students</b> should have general interests in the geosciences. Transfer applicants must have satisfied the lower division GE requirements; we also recommend they take a year of geology, calculus, and some chemistry before beginning at Cal Poly Pomona.</p> <p><b>Culminating skills sets</b> achieved by all BS graduates include quantitative, analytical, and critical thinking abilities, self-discipline, report-writing skills, expertise with field and laboratory equipment, and ability to function effectively in a field setting with limited supervision.</p> <p><b>4. For further information, see:</b></p>

	<a href="https://www.cpp.edu/~sci/geological-sciences/index.shtml">https://www.cpp.edu/~sci/geological-sciences/index.shtml</a>
<b>Quality of the Degree</b>	
<b>This section is about the alignment of the degree program with the expectations.</b>	<b>1. The Geology BS curriculum balances classroom theory, modern technology and laboratory application with field experiences that incorporate industry-standard equipment obtained through faculty research grants. High impact practices include field trips, faculty-mentored research, student coauthored presentations at professional conferences, and internships arranged through industry partners. Our applied approach to learning and career training is directed by faculty who provide personal guidance specific to each student. Our students gain valuable and practical skills while learning to work individually and in teams.</b>
<ol style="list-style-type: none"> <li>1. Describe how your program helps students engage and master the key learning outcomes that represent what your graduates take away from their study.</li> <li>2. Provide a link to your website where those interested can find information about curricular requirements, learning outcomes, and other aspects of your program.</li> </ol>	<b>2. Our strategic location in one of the world's most geologically dynamic areas provides a natural laboratory to study natural disasters and other active Earth processes, scarce resources, and their historical context. The web links below show our Geology majors in action:</b> <a href="https://www.cpp.edu/~sci/geological-sciences/students/index.shtml">https://www.cpp.edu/~sci/geological-sciences/students/index.shtml</a> <a href="https://www.cpp.edu/~sci/geological-sciences/students/geology-field-trips.shtml">https://www.cpp.edu/~sci/geological-sciences/students/geology-field-trips.shtml</a> <a href="https://www.cpp.edu/~sci/geological-sciences/students/student-stories.shtml">https://www.cpp.edu/~sci/geological-sciences/students/student-stories.shtml</a>
<b>Integrity of the Degree</b>	
<b>This section is about the assurance that the degree is meeting the expectations.</b>	<b>1. Individual faculty members use direct observations analyzed through embedded exam questions, pre-test/post-test results, and rubrics applied to student presentations and homework sets to evaluate student achievement of learning</b>
<ol style="list-style-type: none"> <li>1. Describe how your faculty members know that their program effectively delivers what its designers promise.</li> </ol>	

2. Give examples of recent learning outcome assessments, what they demonstrate, and how the department uses its assessment procedures to help students learn.
3. Provide a link to your website where those interested can learn more about your assessment procedures, findings, and how your faculty use assessment to help students learn.

*outcomes. Indirect assessment tools include:*

- *One-on-one advising of each Geology major each quarter. New advising worksheets developed enable students to track progress toward degree. Our personalized advising efforts allow faculty to make suggestions for efficient scheduling, and rectify academic performance problems.*
- *Seminars focused on how to apply for internships and graduate school*
- *Tracking of BS graduate placement. The majority of our graduates are placed in industry jobs related to the geosciences. Approximately 10-20% continue on to graduate school, including some very prestigious institutions*
- *Regular lunchtime seminars that facilitate interaction between Geology faculty and majors*
- *Constructive discussions among Geology faculty about our curricular goals in light of the semester conversion*

*2. Program assessment results are discussed in fall and spring faculty meetings. Topics include: anecdotes of student successes and potential curricular roadblocks; progress to degree; maintenance of Geology teaching standards; accommodation of burgeoning Geology major population; course scheduling issues; program revision for semester conversion. Geology faculty collectively develop new mechanisms to improve the BS program. In addition, --Each faculty member analyzes data yielded by various assessment tools to gauge student achievement and knowledge gaps that can be addressed in future course offerings.*

*--Interactions with alumni at our annual reunion are very informative, and commonly lead to job opportunities for our students.*

*3. Please refer to the web links below:*

*<https://www.cpp.edu/~sci/geological-sciences/about/academic-goals.shtml>*

*A Self-Study Report associated with our most recent academic program review may be accessed at:*

*[Geological Sciences Academic Program Review 2010-11](#) (PDF)*

*Positive comments by external evaluators are available upon request.*

**California State Polytechnic University, Pomona  
Inventory of Educational Effectiveness Indicators**

<b>College/ Department</b>	Science / Geological Sciences
<b>Program</b>	Geology BS
<b>Have formal learning outcomes been developed? Yes/No</b>	Yes
<b>Where are these learning outcomes published? (e.g., catalog, syllabi, other materials)</b>	Program Learning Objectives are published on the Department Website. <a href="http://www.cpp.edu/~sci/geological-sciences/about/academic-goals.shtml">http://www.cpp.edu/~sci/geological-sciences/about/academic-goals.shtml</a> Individual GSC Course learning outcomes are published at: <a href="http://www.cpp.edu/~sci/geological-sciences/docs/academics/LearningOutcomes2014Compilation.pdf">http://www.cpp.edu/~sci/geological-sciences/docs/academics/LearningOutcomes2014Compilation.pdf</a>
<b>Has a Curriculum Map been developed? Yes/No</b>	Yes
<b>Where is this curriculum map published?</b>	The curriculum map is published on the Department Website. <a href="http://www.cpp.edu/~sci/geological-sciences/docs/academics/GeologyMatrixCoursesVsOutcomes.doc">http://www.cpp.edu/~sci/geological-sciences/docs/academics/GeologyMatrixCoursesVsOutcomes.doc</a>
<b>What direct evidence/data are used to determine that graduates have achieved stated outcomes for the degree?</b>	Individual faculty members use direct observations analyzed through embedded exam questions, pre-test/post-test results, and rubrics applied to student presentations and homework sets to evaluate student achievement of learning outcomes.  The tools that have been especially informative include: <ul style="list-style-type: none"> <li>• Mapping of specific GSC courses against Program Learning Outcomes</li> <li>• Development and piloting of rubrics for our GE Area B1 and B5 classes</li> <li>• Development of rubrics for the senior thesis presentations (GSC 462) and other courses requiring student presentations (GSC 120, GSC 145L, GSC 300, GSC 304, GSC 321, GSC 335, GSC 350; GSC 410, GSC 444, GSC 450)</li> <li>• Pre-test / Post-test analyses conducted in several classes</li> </ul>
<b>What indirect evidence/data are used to determine that graduates have achieved stated outcomes for the degree?</b>	<ul style="list-style-type: none"> <li>• Advising efforts that include one-on-one advising of each Geology major each quarter. New advising worksheets developed during 2014-15 and refined in 2015-16 enable students to track student progress toward degree. Our personalized advising efforts allow faculty to make suggestions for efficient scheduling, and rectify academic performance problems before they become untenable.</li> <li>• Seminars focused on how to apply for internships and graduate school</li> <li>• Tracking of BS graduate placement. The majority of our graduates are placed in industry jobs related to the geosciences. Approximately 10-20% continue on to</li> </ul>

	<p>graduate school, including some very prestigious institutions</p> <ul style="list-style-type: none"> <li>• Regular lunchtime seminars that facilitate interaction between Geology faculty and majors</li> <li>• Constructive discussions among Geology faculty about our curricular goals in light of the semester conversion</li> </ul>
<p><b>Who interprets the evidence? What is the process?</b></p>	<p>Program assessment is addressed in fall and spring meetings of all full time GSC faculty members. Topics include: anecdotes of student successes and potential roadblocks; progress to degree; maintenance of Geology teaching standards; accommodation of burgeoning Geology major population; course scheduling issues; program revision for semester conversion. Geology faculty collectively develop new mechanisms to improve the BS program.</p>
<p><b>How are the findings used?</b></p>	<ul style="list-style-type: none"> <li>• Each faculty member analyzes data yielded by various assessment tools to gauge student achievement and knowledge gaps that can be addressed in future course offerings.</li> <li>• Interactions with alumni at our annual reunion are very informative, and commonly lead to job opportunities for our students.</li> <li>• Feedback from employers that hire our BS graduates indicates that students perform at a high level in the workplace.</li> </ul>