

PROGRAM REVIEW Fall 2018

Program: Geology

Division: MSEPS

Date: August 17,2018

Writer(s): Ruth Hanna, Carol Edson

SLO/SAO Point-Person: Ruth Hanna

Audience: Deans, Vice Presidents of Student Services and Academic Services, All Planning and Allocation Committees. This document will be available to the public.

Uses: This Program Review will be used to inform the campus and community about your program. It will also be used in the processes of creating Division Summaries, determining College Planning Priorities and allocating resources. A final use is to document fulfillment of accreditation requirements.

Time Frame: This Program Review should reflect on program status during the 2017-18 academic year. It should describe plans starting now and continuing through 2018-19. This document also provides the opportunity to describe more long-term plans (optional).

Sections: The first section of this Program Review focuses on general program reflection and planning. The second section has specific questions to be filled out by all programs this year. The third section is an SLO/SAO update. The fourth section is a review of curriculum. Only programs with curriculum need to complete Section 4.

Topics: A list of topics of particular interest to Program Review readers can be found here:

<https://goo.gl/23jrxt>

Help: Contact Karin Spirm: kspirm@laspositascollege.edu

Instructions:

- 1) Please respond to each question as completely as possible.
- 2) If the requested information does not apply to your program, write "Not Applicable."
- 3) Optional: Meet with your dean to review this document before _____.
- 4) Send an electronic copy of this form to Karin Spirm and your Dean by _Oct 22____.

Links:

Program Review Home Page: <https://goo.gl/XATqjJ>

Fall 2017 Program Review Updates : <https://goo.gl/pkv76m>

Frequently Asked Questions: <https://goo.gl/ilhRtt>

Section One: Program Snapshot

No Significant Changes Option

Contact person: _____

By marking an X in the box above, the writers of this Program Review indicate that there have been no significant changes to their program or their program's needs in the past year. In this case, programs may opt not to complete Program Review Section One: Program Snapshot.

Programs must still complete all other sections (as applicable).

Please note: Choosing this option means that your program's information may not be included in the yearly Division Summary.

The No Significant Changes Option may only be used for two years in a row; after two years, programs must complete a full Program Review including the Program Snapshot. Our program's most recent Program Review was submitted in the following semester: Fall 20_____.

- A. Program Description: Briefly describe your program, including any information or special features of your program that will provide helpful context for readers of this Program Review.**

The Geology Program provides a Geology AS-T degree for Geology majors, a Geology certificate* to acknowledge students, and a range of lower division geology courses that are all available for both geology and non-science majors (who use the geology courses to satisfy GE requirements). Many geology lab courses are offered separately from the geology lecture courses to increase student scheduling flexibility. * The Geology Certificate has been approved by the state and will become active and available to students Fall 2019.

- B. Changes to Program and Needs: Describe any significant changes to your program or your program's needs since the previous Program Review Update (Fall 2017).**

Spring 2018, necessary assistance for the geology lab technician was acquired with additional lab and program support now being provided by a student assistant working 3-hours/week to assist with ongoing systematic repair and replacement of specimens in the vast (over 14000 specimens) LPC Geology rock, mineral and fossil sets and collections (that are used each semester by lab students).

Created Historical Geology 2, which aligns with the state's C-ID GEOL 111 (this will eventually replace LPC's old Geo 3/3L)

Created a Geology Certificate

Updated the Geology AS-T catalog description

The student-collaborative, interdisciplinary (engineering, physics, geology, geography, environmental sciences, etc.) AR Sandbox project moved forward, with the aggregation and acquisition of funding from four different sources (a C.A.R.E Grant, LPC Foundation Cycle Grant, IER grant, discipline budget, and division funds). It was entirely constructed by a team of students guided by Professor Travis White and Carol Edson, lab tech.

Replace the Lab Technician (Carol will be retiring~ August 2019).

Create an Environmental Geology 8 course that aligns with the state's C-ID GEOL 130 course, so that the new LPC Environmental Geology 8 can potentially be offered through the OEI Exchange. LPCs Environmental courses Geology 5 and 7 were accepted by the state of California now as equivalent to C-ID GEOL 130.

Next, the Geology AS-T description and the Geology Certificate will both need to be revised to reflect the new LPC Historical Geology 2.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community Partnerships/Outreach	X	Facilities, Supplies and Equipment, Software	X	LPC Planning Priorities	X	Services to Students
X	Curriculum	X	Financial/Budgetary	X	LPC Collaborations		SLO/SAO Process
	Enrollment Management	X	Human Resources	X	Pedagogy	X	Technology Use
	External Factors		Learning Support		Professional Development		

C. Reflection: What plans from the [2017 Program Review](#) or any [previous Program Reviews/Updates](#) have been achieved and how? You may also describe achievements that were not planned in earlier Program Reviews.

Fall 2016: All Geology course outlines updated and the updated outlines were taken through the curriculum process.

Fall 2017: Historical Geology 2 Lecture with Lab, which aligns with the state's C-ID GEOL 111. Course outline created and taken through the curriculum approval process. Has been approved by the state.

Fall 2017: Geology certificate created and taken through the taken through the curriculum approval process. Has been approved by the state.

Fall 2017: Geology AS-T degree description revised and updated and taken through the taken through the curriculum approval process. Has been approved by the state.

Fall 2018 Environmental courses Geol 5 and 7 accepted by the state as equivalent to C-ID GEOL 130

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software	X	LPC Planning Priorities	X	Services to Students
X	Curriculum		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Enrollment Management		Human Resources	X	Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

D. IR Data Review: Describe any significant trends in your program’s data from the office of Institutional Research and Planning. (Note: this information will be available in August 2018. Not all Programs have IR data packets available; if your program does not have a data packet, you may note that in the response box). You may also discuss any other data generated for your program by the Office of Institutional Research and Planning.

Comparing Fall 2017 to Fall 2013 “Student Enrollment Status” data – there was an overall increase in the percentage of Returning Students (increased from 59-74%), and a decrease in First-Time Any College students (decreased from 25% to 12%). This trend was not present in the Spring data – comparing Spring 2014 and Spring 2018 data – the percentages were roughly constant.

The same trend was seen in the “Highest Educational Level of Students” for both Fall and Spring (for Fall, the trend was an increase in sophomores and a decrease in freshmen); and then no appreciable changes between Spring 2014 to Spring 2018.

The Student Performance: Grade Distribution data shows increases in student success from 71% to 81%. This increase in student success correlates with the increasing % of returning students & sophomores. This increase may also correlate with new pedagogical approaches for some of the geology laboratories; for example, instead of simply running one topic per lab, then the next topic the next lab, many of the labs are now configured so that students are introduced to several topics in the first lab, and then in subsequent labs, the lab exercises build on the concepts from earlier labs.

Comparing Fall 2017 to Fall 2013, there was an overall increase in “Students Using Distance Education”, which was 45% in Fall 2013 and increased to 62% by Fall 2017. This trend was also present in the Spring, with Spring 2014 having 49% of the students using Distance Education, and then increasing to 68% by Spring 2018. This is similar to what the entire college trend is for “Students Using Distance Education”.

The difference between the success rates for Face-to-Face (F2F = on-campus) classes and DE (online classes) has become smaller for Spring semesters, with the difference falling from 13% in Spring 2014 to 5% in Spring 2018.

The addition of lab sections (that had been cut due to campus & statewide budget issues in previous years) caused a slight decrease in program overall productivity. However, the productivities still ranged between 567-676 over Fall 2013-Fall 2017 and 605-634 for Spring 2014-Spring 2017.

Following along with the increased percentage of Returning Students and Sophomores (as compared to First-Time College Students and/or Freshmen – the Geology Program Fall 2017 and Spring 2018 data both show that – compared to the campus-wide percentages – the Geology courses have a higher

percentage of students who have completed college-level English and a higher percentage of students who have completed college level math.

Mark an X before each area that is addressed in your response.			Definitions of terms: https://goo.gl/23jrxt				
<input type="checkbox"/>	Community Partnerships/Outreach	<input type="checkbox"/>	Facilities, Supplies and Equipment, Software	<input type="checkbox"/>	LPC Planning Priorities	<input type="checkbox"/>	Services to Students
<input type="checkbox"/>	Curriculum	<input type="checkbox"/>	Financial/Budgetary	<input type="checkbox"/>	LPC Collaborations	<input type="checkbox"/>	SLO/SAO Process
<input checked="" type="checkbox"/>	Enrollment Management	<input type="checkbox"/>	Human Resources	<input type="checkbox"/>	Pedagogy	<input type="checkbox"/>	Technology Use
<input type="checkbox"/>	External Factors	<input type="checkbox"/>	Learning Support	<input type="checkbox"/>	Professional Development	<input type="checkbox"/>	

E. Other Data Review (Optional): Describe any significant findings based on other data regarding your program. Possible sources of relevant information might include, but are not limited to, the following:

- Data generated by your program
- CEMC Data
- Labor Market Data

Mark an X before each area that is addressed in your response.				Definitions of terms: https://goo.gl/23jrxt			
<input type="checkbox"/>	Community Partnerships/Outreach	<input type="checkbox"/>	Facilities, Supplies and Equipment, Software	<input type="checkbox"/>	LPC Planning Priorities	<input type="checkbox"/>	Services to Students
<input type="checkbox"/>	Curriculum	<input type="checkbox"/>	Financial/Budgetary	<input type="checkbox"/>	LPC Collaborations	<input type="checkbox"/>	SLO/SAO Process
<input type="checkbox"/>	Enrollment Management	<input type="checkbox"/>	Human Resources	<input type="checkbox"/>	Pedagogy	<input type="checkbox"/>	Technology Use
<input type="checkbox"/>	External Factors	<input type="checkbox"/>	Learning Support	<input type="checkbox"/>	Professional Development	<input type="checkbox"/>	

F. Impacts to Students (Optional): Discuss at least one example of how students have been impacted by the work of your program since the last Program Review Update (only if you did not already answer this in Questions B-E).

The creation of a Historical Geology 2 course will make Historical Geology available to more students and, this should, therefore increase enrollments for the Historical Geology course. Historically (pun intended) Hist Geol has struggled for enrollments because the traditional Hist Geol course required Geology 1 as a prerequisite. However, the state now offers a Hist Geol course outline that does not require Geology 1 as a prerequisite (and the Geo 1 prereq is not consistent at 4-year schools). Therefore, I just created the Hist Geol course for LPC, following the State's C-ID course outline. This course outline has gone through the LPC Curriculum process, and was subsequently validated by the state, so that we can now offer this new version of Historical Geology. This new version of Hist Geol should pull stronger numbers, and therefore be a geology course that will run without issue and allow geology majors to complete this AS-T degree required course.

The creation of a Geology Certificate will allow non-geology majors who complete several geology courses the reward of a certificate of achievement, as well as provide the Geology Program some tracking of student success.

We offered a successful Geology Late Start (second session) Environmental course, which had strong enrollments.

Mark an X before each area that is addressed in your response.			Definitions of terms: https://goo.gl/23jrxt				
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X	Curriculum		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
X	Enrollment Management		Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

G. Obstacles: What obstacles has your program faced in achieving plans and goals?

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	Curriculum		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Enrollment Management		Human Resources		Pedagogy		Technology Use
	External Factors		Learning Support		Professional Development		

H. Short Term Planning: What are your most important plans (either new or continuing) for next year? Describe plans starting now and continuing through AY 2018-19.

Complete the student-built AR Sandbox. This has been an important (and pedagogically exciting) project, that should be finished by Spring 2018. Note: this project is now essentially complete, and will be showcased during the Fall flex day.

Curriculum updates and/or new proposals:

- new Environmental Geology 8 (in alignment with the State’s Environmental Geology C-ID course outline)
- revise the Geology AS-T degree and the Geology Certificate – both need to be revised to reflect the new Historical Geology 2 course

Mark an X before each area that is addressed in your response.			Definitions of terms: https://goo.gl/23jrxt		
	Community Partnerships/Outreach	X	Facilities, Supplies and Equipment, Software	LPC Planning Priorities	Services to Students
X	Curriculum		Financial/Budgetary	LPC Collaborations	SLO/SAO Process
	Enrollment Management		Human Resources	Pedagogy	Technology Use
	External Factors		Learning Support	Professional Development	

I. Long Term Planning (Optional): Please detail any long-term plans for the next 3-5 years. (Only if you have significant plans, such as implementation of a grant project, creation of long-term initiatives including those using restricted funds such as Equity or SSSP, construction and outfitting of a new building).

We have plans to update the lighting in the 12 display cases in L1824 that will better showcase the wonderful rock, mineral, fossil, and model collections. The current lighting will be replaced with LED strip lighting. This will be more energy efficient, as well as creating far superior visibility.

We are planning to replace the 18+ year old Lab chairs in the second floor lab rooms and work spaces as their hardware is failing.

Mark an X before to each area that is addressed in your response.			Definitions of terms: https://goo.gl/23jrxt		
	Community Partnerships/Outreach	X	Facilities, Supplies and Equipment, Software	LPC Planning Priorities	Services to Students
	Curriculum		Financial/Budgetary	LPC Collaborations	SLO/SAO Process
	Enrollment Management		Human Resources	Pedagogy	Technology Use
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Section Two: Current Topics (Required for All Programs)

- A. Educational Master Plan: A list of goals and strategies appears on page ii of the Educational Master Plan, which can be accessed here: (<https://goo.gl/1AefkX>). If applicable, describe how your program's upcoming plans reflect the goals described in the college's Educational Master Plan (your plans are described in Section 1, Questions H-I, or on a previous program review if you did not complete this year's Program Snapshot).**

The LPC Geology program reflects and supports the goal of Academic Excellence, particularly in sections A2, support existing programs by providing transferrable courses that satisfy the Geology AS-T degree, the Geology Certificate and Natural/Physical Science GE requirements. Section A3, create accessible class schedules by providing courses online, on-campus, during the morning, afternoon and evening, and by providing lectures and labs that may be taken separately (e.g., in different semesters). Section A7, provide student opportunities to be informed, ethical and engaged by providing Environmental geology courses, by providing laboratory courses, by providing online discussion forums, etc. For section D4, the LPC Geology Program has an online area in Canvas for Geology department staff info, materials and discussion forums, where geology staff can find answers to common questions and post questions for discussion.

- B. Program-Set Standard (Instructional Programs Only): Did your program meet its program-set standard for successful course completion? yes no**

(Note: this information will be available in August 2018)

If your program did not meet your program-set standard, discuss possible reasons and how this may affect program planning or resource requests.

- C. Facilities: Do you have any facilities needs that are currently unmet? If yes, please describe.**

The chairs in Rm 1828 will need to be either repaired or replaced in the coming years (many of the seats are ripped or torn). The second floor lab techs are pursuing a building equipment request.

- D. Professional Development**

Section 87153 of California Education Code specifies the type of Professional Development activities that may be funded by the Community College Professional Development Program. You can review these activities here: <https://goo.gl/w8sqBM>

D1. Summarize the aspects of professional development that have been working well for your program. This might include the process of obtaining funds, the types of training your program members have been attending, etc.

The professional development activities or sessions that work for me are the ones where we actually get to work on, and create, things. I like to learn experientially – learning by doing, and asking questions along the way if needed. Particularly important to me are the activities and sessions where I can actually create something, and I leave that session (or activity) with something useful that I can have created for my classes or for my program. Examples include – getting to learn, create and implement something in Canvas, or getting to work on the program review report with other department personnel, or getting to work on and discuss SLO/eLumen data with other department personnel present.

D2.

Summarize any needs, desires and visions your program has regarding professional development, as well as any challenges.

The opportunity to meet with department adjuncts on mandatory Flex Days during the times that the adjunct faculty normally come on campus for their classes. By design, program courses are scheduled at different times- this maximizes the 'course available time options' for students. However, it also means that when one instructor is in class, that's when another program instructor isn't. So when can we get together? Adjunct faculty are busy geologic professionals, with full-time jobs when they are not on campus. Mandatory flex days, when classes are cancelled, suddenly, and singularly, makes time available when all (or most) of the geo department faculty would be able to get together and discuss and work on department questions and issues (e.g., SLO's, class material development, dealing with course and classroom challenges, etc). Only allowing department meetings at 3pm on Mandatory Flex Days does not work when the adjunct faculty can only be on-campus in the morning. For departments like Geology, with only one full-time faculty, the opportunity to be able meet and work with several of the adjuncts and the lab tech at the same time would be extremely valuable and worthwhile.

E. Program Suggestions (optional): What questions or suggestions do you have regarding the Program Review forms or process?

Please include sessions throughout the flex days where folks can actively work on things and actively discuss things with other department personnel. Please include the activities and sessions where I can actually create something, and I leave that session (or activity) with something useful that I can have created for my classes or for my program. Examples include – getting to learn, create and implement something in Canvas, or getting to work on the program review report with other department personnel, or getting to work on and discuss SLO/eLumen data with other department personnel present. Please consider 2 hour work sessions in such cases, and please consider allowing these sessions to be scheduled during whatever times work for the adjunct faculty (e.g., at the times when they would have been in class).

Section Three: SLOs/SAOs (Required for All Programs)

A. In the box below, copy and paste your “Plans for Analysis of SLO/SAO Data” from last year’s Program Review. This plan can be found in the [2017 Program Review](#) Section 1 Question L.

(If discussing multiple PSLO/SAOs copy the box below as needed.)

Circle One: <input checked="" type="radio"/> CSLO <input type="radio"/> PSLO <input type="radio"/> SAO
Course, Program Name, or Student Service Area: Geology
Text of CSLO/PSLO/SAO: <p>The CSLOs in red (below) were assessed Spring and/or Summer 2017 and Fall 2017 and data was entered into elumen. All sections of the courses conducted and entered data for the same CSLOs. The SLOs highlighted in green are being assessed Spring, Summer and Fall 2018.</p> <p>GEOL1 - Physical Geology</p> <ul style="list-style-type: none">• Upon completion of Geology 1, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.• Upon completion of Geology 1, students will be able to identify and define the basic properties of minerals.• Upon completion of Geology 1, students will be able to identify and differentiate the basic ages of the Geologic Time Scale. <p>GEOL1L - Physical Geology Laboratory</p> <ul style="list-style-type: none">• Upon completion of Geology 1 laboratory, students will be able to evaluate and differentiate mineral samples• Upon completion of Geology 1 laboratory, students will be able to evaluate and differentiate rock samples• Upon completion of Geology 1 laboratory, students will be able to evaluate and interpret geologic diagrams encapsulating geologic histories. <p>GEOL3 - Historical Geology – <i>this course is only offered once every 2-3 years. The course was offered Fall 2015 and is slated to be offered again Spring 2018, when data for all 3 SLOs will be entered into elumen.</i></p> <ul style="list-style-type: none">• Upon completion of Geology 3, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.• Upon completion of Geology 3, students will be able to evaluate and interpret geologic diagrams encapsulating geologic histories (sequences of events).• Upon completion of Geology 3, students will be able to identify and differentiate the types and methods of fossilization. <p>GEOL3L - Historical Geology Laboratory - <i>this course is only offered once every 2-3 years. When it is offered, data is entered for all elumen SLOs</i></p> <ul style="list-style-type: none">• Upon completion of Geology 3 laboratory, students will be able to evaluate and/or interpret geologic diagrams encapsulating geologic histories (sequences of events).• Upon completion of Geology 3 laboratory, students will be able to identify and differentiate fossil samples.• Upon completion of Geology 3 laboratory, students will be able to interpret, analyze and/or explain complex geologic concepts and principles through geologic cross-sections. <p>GEOL5 - ENVIRON.GEOL:HAZARDS/DISASTERS – <i>this course is only offered once every other year; so when it is offered, data is entered for all elumen SLOs</i></p> <ul style="list-style-type: none">• Upon completion of Geology 5, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.• Upon completion of Geology 5, students will be able to identify and/or explain the fundamentals of stream systems, including flooding.• Upon completion of Geology 5, students will be able to identify and/or explain volcanic geohazards. <p>GEOL7 - ENVI GEOL:RESC/USE IMPACT/POLL - <i>this course is only offered once every other year; so when it is offered, data is entered for all elumen SLOs</i></p> <ul style="list-style-type: none">• Upon completion of Geology 7, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.• Upon completion of Geology 7, students will be able to identify and differentiate the various types of fossil fuels.• Upon completion of Geology 7, students will be able to identify and/or evaluate the various methods of groundwater pollution. <p>GEOL12 - Introduction to Oceanography</p> <ul style="list-style-type: none">• Upon completion of Geology 12, students will be able to analyze, differentiate and/or identify the basic marine life habitats.• Upon completion of Geology 12, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.• Upon completion of Geology 12, students will be able to identify and differentiate basic marine geomorphologies (e.g., seamounts, guyots, continental shelf, submarine canyons, etc.) <p>GEOL12L - Intro to Oceanography</p>

Lab

- Upon completion of Geology 12 laboratory, students will be able to construct bathymetric contours
- Upon completion of Geology 12 laboratory, students will be able to evaluate (test and identify) sea floor samples
- Upon completion of Geology 12 laboratory, students will be able to interpret bathymetric maps

If you plan to analyze a PSLO, identify the courses that are mapped to the PSLO.

B. Below, report on your program's progress on the plan described in Question (A) above.

Text of CSLO/PSLO/SAO:

The CSLOs in red (below) were assessed Spring and/or Summer 2017 and Fall 2017 and data was entered into elumen. All sections of the courses conducted and entered data for the same CSLOs. The SLOs highlighted in green are being assessed Spring, Summer and Fall 2018.

GEOL1 - Physical Geology

- Upon completion of Geology 1, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
- Upon completion of Geology 1, students will be able to identify and define the basic properties of minerals.
- Upon completion of Geology 1, students will be able to identify and differentiate the basic ages of the Geologic Time Scale.

GEOL1L - Physical Geology Laboratory

- Upon completion of Geology 1 laboratory, students will be able to evaluate and differentiate mineral samples
- Upon completion of Geology 1 laboratory, students will be able to evaluate and differentiate rock samples
- Upon completion of Geology 1 laboratory, students will be able to evaluate and interpret geologic diagrams encapsulating geologic histories.

GEOL3 - Historical Geology – *this course is only offered once every 2-3 years. The course was offered Fall 2015 and is slated to be offered again Spring 2018, when data for all 3 SLOs will be entered into elumen.*

- Upon completion of Geology 3, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
- Upon completion of Geology 3, students will be able to evaluate and interpret geologic diagrams encapsulating geologic histories (sequences of events).
- Upon completion of Geology 3, students will be able to identify and differentiate the types and methods of fossilization.

GEOL3L - Historical Geology Laboratory - *this course is only offered once every 2-3 years. When it is offered, data is entered for all elumen SLOs*

- Upon completion of Geology 3 laboratory, students will be able to evaluate and/or interpret geologic diagrams encapsulating geologic histories (sequences of events).
- Upon completion of Geology 3 laboratory, students will be able to identify and differentiate fossil samples.
- Upon completion of Geology 3 laboratory, students will be able to interpret, analyze and/or explain complex geologic concepts and principles through geologic cross-sections.

GEOL5 - ENVIRON.GEOL:HAZARDS/DISASTERS – *this course is only offered once every other year; so when it is offered, data is entered for all elumen SLOs*

- Upon completion of Geology 5, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
- Upon completion of Geology 5, students will be able to identify and/or explain the fundamentals of stream systems, including flooding.
- Upon completion of Geology 5, students will be able to identify and/or explain volcanic geohazards.

GEOL7 - ENVI GEOL:RESC/USE IMPACT/POLL - *this course is only offered once every other year; so when it is offered, data is entered for all elumen SLOs*

- Upon completion of Geology 7, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
- Upon completion of Geology 7, students will be able to identify and differentiate the various types of fossil fuels.
- Upon completion of Geology 7, students will be able to identify and/or evaluate the various methods of groundwater pollution.

GEOL12 - Introduction to Oceanography

- Upon completion of Geology 12, students will be able to analyze, differentiate and/or identify the basic marine life habitats.
- Upon completion of Geology 12, students will be able to define and identify the geology of divergent, convergent and transform plate tectonic environments.
- Upon completion of Geology 12, students will be able to identify and differentiate basic marine geomorphologies (e.g., seamounts, guyots, continental shelf, submarine canyons, etc.)

GEOL12L - Intro to Oceanography

Lab

<ul style="list-style-type: none"> • Upon completion of Geology 12 laboratory, students will be able to construct bathymetric contours • Upon completion of Geology 12 laboratory, students will be able to evaluate (test and identify) sea floor samples • Upon completion of Geology 12 laboratory, students will be able to interpret bathymetric maps
<p>SLOs: Assessment data collected from ___28___ sections over Fall, Summer, Spring semesters.</p> <p>SAOs: Assessment data collected from _____ students over _____ semesters.</p>
<p>Describe the quantitative or qualitative results: In general, student results typically had 70-90% of the class with at least passing performances on the assessments under study. In general, instructors found that the results indicated that the students were learning the required content, and were able to perform well on class quizzes and assignments.</p>
<p>Discuss and reflect upon student achievement for this CSLO/PSLO/SAO. Discuss any actions taken so far (and results, if known) and your action plan for the future: In general, instructor evaluation of the student results were that the students were doing well on the assessed topics. In a few cases, instructors stated that they felt that they (the instructor) needed to post more reminders about upcoming exams and quizzes. In a few other cases, instructors are considering adding additional practice quizzes, assignments or activities.</p>
<p>What changes in student achievement are evident across the semesters you analyzed? What are some possible explanations for these changes?</p>
<p>DO you plan to continue tracking this SLO in the next year? Explain. The Geology Program assessed (tracked and entered data for) the SLOs highlighted in red Spring-Summer-Fall 17, and we are currently tracking data for the SLOs highlighted in green Spring-Summer-Fall 18. Next we will track data for the remaining (unhighlighted) SLOs Spring-Summer-Fall 19.</p>

C. Planning: What are your future plans (either new or continuing) for SLO/SAO analysis for next year? Identify the PSLOs, CSLOs, or SAOs that your program plans to focus on the upcoming year with subsequent analysis (next year's program review). (Copy the box below as needed.)

<p>Circle One:</p> <p><input checked="" type="radio"/> CSLO <input type="radio"/> PSLO <input type="radio"/> SAO</p>
<p>Course, Program Name, or Student Service Area: Geology</p>
<p>Text of CSLO/PSLO/SAO:</p> <p>The Geology Program assessed (tracked and entered data for) the SLOs highlighted in red Spring-Summer-Fall 17, and we are currently tracking data for the SLOs highlighted in green</p>

Spring-Summer-Fall 18. Next we will track data for the remaining (unhighlighted) SLOs
Spring-Summer-Fall 19. (see full list included in the section above)

If you plan to analyze a PSLO, identify the courses that are mapped to the PSLO.

D. SLO/SAO Suggestions (optional): What questions or suggestions do you have regarding SLO/SAO planning, assessment and reporting?

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**Section Four: Curriculum Review
(Programs with Courses Only)**

The following questions ask you to review your program’s curriculum. To see the last outline revision date and revision due date:

1. Log in to CurricUNET
2. Select “Course Outline Report” under "Reports/Interfaces"
3. Select the report as an Excel file or as HTML

Curriculum Updates

A. Title V Updates: Are any of your courses requiring an update to stay within the 5 year cycle? List courses needing updates below.

Course Outline Report		
Course	Last Outline Revision	Revision Due Date
GEOL 1 Physical Geology (Active)	11/21/2016	11/21/2021
GEOL 12 Introduction to Oceanography (Active)	11/22/2016	11/22/2021
GEOL 12L Intro to Oceanography Lab (Active)	11/21/2016	11/21/2021
GEOL 1L Physical Geology Laboratory (Active)	11/21/2016	11/21/2021
GEOL 3 Historical Geology (Active)	11/21/2016	11/21/2021
GEOL 3L Historical Geology Laboratory (Active)	11/21/2016	11/21/2021
GEOL 5 Environmental Geology: Hazards & Disasters (Active)	11/21/2016	11/21/2021
GEOL 7 Environmental Geology: Resources, Use Impact & Pollution (Active)	11/21/2016	11/21/2021
<p>New for Fall 2017: Historical Geology 2 Lecture with Lab (equivalent to the state’s C-ID GEOL 111) went through the Curriculum process and approval, including state approval. The course will be available for us to offer starting Fall 2019. Once we can offer LPC’s new Historical Geology 2, we will ‘retire’ LPC’s old Geology 3 & 3 lab.</p> <p>None of the Geology outlines will need updating this year.</p>		

B. Degree/Certificate Updates: Are any degrees/certificates requiring an update to do changes to courses (title, units) or addition/deactivation of courses? List needed changes below.

The new Historical Geology 3 will require that we update/revise the Geology AS-T and the Geology Certificate to reflect Geology 2 (instead of Geology 3/3L) starting Fall 2019.

C. DE Courses/Degrees/Certificates: Detail your department's plans, if any, for adding DE courses, degrees, and/or certificates. For new DE degrees and/or certificates (those offered completely online), please include a brief rationale as to why the degree/certificate will be offered online.

Created an Environmental Geology 8 course that aligns with the state's C-ID GEOL 130 course, so that the new LPC Environmental Geology 8 can potentially be offered through the OEI Exchange. We currently offer Environmental Geology in two separate courses, Geology 5 & 7, and these have been very successful in the DE format. However, in order to offer a course through the OEI exchange, the course needs to align with a state C-ID course outline (if I understand the OEI exchange correctly). Therefore, in order to allow for the potential to offer Environmental Geology through the OEI Exchange, we need to have a new Environmental Geology course that aligns with the state's C-ID GEOL 130.