2015-2016
Annual Assessment Report Template

For instructions and guidelines visit our **website**
or **contact us** for more help.

Report: Select...

Question 1: Program Learning Outcomes

Q1.1.
Which of the following Program Learning Outcomes (PLOs) and Sac State Baccalaureate Learning Goals (BLGs) **did you assess?** [**Check all that apply**]

- [x] 1. Critical Thinking
- [ ] 2. Information Literacy
- [ ] 3. Written Communication
- [ ] 4. Oral Communication
- [ ] 5. Quantitative Literacy
- [ ] 6. Inquiry and Analysis
- [ ] 7. Creative Thinking
- [ ] 8. Reading
- [ ] 9. Team Work
- [x] 10. Problem Solving
- [ ] 11. Civic Knowledge and Engagement
- [ ] 12. Intercultural Knowledge and Competency
- [ ] 13. Ethical Reasoning
- [ ] 14. Foundations and Skills for Lifelong Learning
- [ ] 15. Global Learning
- [ ] 16. Integrative and Applied Learning
- [ ] 17. Overall Competencies for GE Knowledge
- [x] 18. Overall Competencies in the Major/Discipline
- [ ] 19. Other, specify any assessed PLOs not included above:

a.
b.
c.

Q1.2.
Please provide more detailed background information about **EACH PLO** you checked above and other information such as how your specific PLOs are **explicitly** linked to the Sac State BLGs:

We assessed three PLOs for our undergraduate programs this semester:

1. Students will master a set of fundamental geologic concepts essential to understanding and solving geologic problems.

2. Students will be proficient in solving geologic problems

3. Students will be proficient in understanding and producing geologic maps

These align with the BLGS as shown:

Program Learning Outcomes (PLOs)	University Baccalaureate Learning Goals (BALGs)
1. Students will master a set of fundamental earth science concepts essential to understanding and solving geologic problems	Competence in the Disciplines Knowledge of Human Cultures and the Physical and Natural World
2. Students will be proficient in solving geologic problems	Competence in the Disciplines Knowledge of Human Cultures and the Physical and Natural World Intellectual and Practical Skills Integrative Learning
3. Students will be proficient in introductory skills of understanding and producing geologic maps	Competence in the Disciplines Knowledge of Human Cultures and the Physical and Natural World Intellectual and Practical Skills Personal and Social Responsibility Integrative Learning

Q1.2.1.
Do you have rubrics for your PLOs?

- (●) 1. Yes, for all PLOs
- ( ) 2. Yes, but for some PLOs
- ( ) 3. No rubrics for PLOs
- ( ) 4. N/A

○ 5. Other, specify:

Q1.3.
Are your PLOs closely aligned with the mission of the university?

◉ 1. Yes
○ 2. No
○ 3. Don't know

Q1.4.
Is your program externally accredited (other than through WASC Senior College and University Commission (WSCUC))?

○ 1. Yes
◉ 2. No (skip to **Q1.5**)
○ 3. Don't know (skip to **Q1.5**)

Q1.4.1.
If the answer to Q1.4 is **yes**, are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?

○ 1. Yes
○ 2. No
○ 3. Don't know

Q1.5.
Did your program use the *Degree Qualification Profile* (DQP) to develop your PLO(s)?

◉ 1. Yes
○ 2. No, but I know what the DQP is
○ 3. No, I don't know what the DQP is
○ 4. Don't know

Q1.6.
Did you use action verbs to make each PLO measurable?

◉ 1. Yes
○ 2. No
○ 3. Don't know

(**Remember**: Save your progress)

Question 2: Standard of Performance for the Selected PLO

Q2.1.
Select **ONE(1)** PLO here as an example to illustrate how you conducted assessment (be sure you *checked the correct box* for this PLO in Q1.1):

Overall Competencies in the Major/Disicpline

Q2.1.1.
Please provide more background information about the **specific PLO** you've chosen in Q2.1.

NOTE: we measured the SAME PLO for both of our BA programs, since the students take the same mapping course. So this report is identical to the BA Earth Science report. We did not disaggrate the data for students in each program due to the small number of students in each of our BA courses.

3. Students will be proficient in introductory skills of understanding and producing geologic maps

In past years we have measured mapping proficiency for our BS students in Geology 188. This year we measured proficiency in geologic mapping of our BA students in both the Geology and Earth Science programs.

Geologic mapping is the culmination of much the geological skills and knowledge developed over the coursework in each of our programs. In order to map, students must have mastered rock identification, rock interpretation, structural geology, origin of topographic features, among other skills.

Q2.2.
Has the program developed or adopted **explicit** standards of performance for this PLO?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know
- ( ) 4. N/A

Q2.3.
Please **provide the rubric(s)** and **standards of performance** that you have developed for this PLO here or in the appendix.

70% of the students score above an 80% in each category of the rubric.

Little Poleta grading rubric 2015.pdf
57.57 KB

No file attached

Q2.4. PLO	Q2.5. Stdrd	Q2.6. Rubric	Please indicate where you have published the **PLO**, the **standard** of performance, and the **rubric** that was used to measure the PLO:
☑	☐	☐	1. In **SOME** course syllabi/assignments in the program that address the PLO
☐	☐	☐	2. In **ALL** course syllabi/assignments in the program that address the PLO
☐	☐	☐	3. In the student handbook/advising handbook
☐	☐	☐	4. In the university catalogue
☐	☐	☐	5. On the academic unit website or in newsletters
☑	☑	☑	6. In the assessment or program review reports, plans, resources, or activities
☐	☐	☐	7. In new course proposal forms in the department/college/university
☐	☐	☐	8. In the department/college/university's strategic plans and other planning documents
☐	☐	☐	9. In the department/college/university's budget plans and other resource allocation documents
☐	☐	☐	10. Other, specify:

Question 3: Data Collection Methods and Evaluation of Data Quality for the Selected PLO

Q3.1.
Was assessment data/evidence **collected** for the selected PLO?

- (●) 1. Yes
- ( ) 2. No (skip to **Q6**)
- ( ) 3. Don't know (skip to **Q6**)
- ( ) 4. N/A (skip to **Q6**)

Q3.1.1.
How many assessment tools/methods/measures **in total** did you use to assess this PLO?

1

Q3.2.
Was the data **scored/evaluated** for this PLO?

- (●) 1. Yes
- ( ) 2. No (skip to **Q6**)
- ( ) 3. Don't know (skip to **Q6**)
- ( ) 4. N/A (skip to **Q6**)

Q3.2.1.
Please describe how you collected the assessment data for the selected PLO. For example, in what course(s) or by what means were data collected:

The data were collected in our junior level field mapping course, GEOL 111B.

(**Remember**: Save your progress)

Question 3A: Direct Measures (key assignments, projects, portfolios, etc.)

Q3.3.
Were direct measures (key assignments, projects, portfolios, course work, student tests, etc.) used to assess this PLO?

- (●) 1. Yes
- ( ) 2. No (skip to **Q3.7**)
- ( ) 3. Don't know (skip to **Q3.7**)

Q3.3.1.
Which of the following direct measures were used? [**Check all that apply**]

- [ ] 1. Capstone project (e.g. theses, senior theses), courses, or experiences
- [x] 2. Key assignments from required classes in the program
- [ ] 3. Key assignments from elective classes
- [ ] 4. Classroom based performance assessment such as simulations, comprehensive exams, or critiques
- [ ] 5. External performance assessments such as internships or other community-based projects

☐ 6. E-Portfolios

☐ 7. Other Portfolios

☐ 8. Other, specify:

Q3.3.2.
Please **explain** and **attach** the direct measure you used to collect data:

The data were collected in our junior level field mapping course, GEOL 111B. In this course, students map an area in Southern California. They submit a map and report. This work was graded by the two faculty members who taught the course. The grading rubrics for each student were copied and the data compiled into a spreadsheet. We then determined student scores by decile.

The rubric is attached above.

No file attached **No file attached**

Q3.4.
What tool was used to evaluate the data?

○ 1. **No** rubric is used to interpret the evidence (skip to **Q3.4.4.**)

○ 2. Used rubric developed/modified by the faculty who teaches the class (skip to **Q3.4.2.**)

◉ 3. Used rubric developed/modified by a group of faculty (skip to **Q3.4.2.**)

○ 4. Used rubric pilot-tested and refined by a group of faculty (skip to **Q3.4.2.**)

○ 5. The VALUE rubric(s) (skip to **Q3.4.2.**)

○ 6. Modified VALUE rubric(s) (skip to **Q3.4.2.**)

○ 7. Used other means (Answer **Q3.4.1.**)

Q3.4.1.
If you used other means, which of the following measures was used? [**Check all that apply**]

☐ 1. National disciplinary exams or state/professional licensure exams (skip to **Q3.4.4.**)

☐ 2. General knowledge and skills measures (e.g. CLA, ETS PP, etc.) (skip to **Q3.4.4.**)

☐ 3. Other standardized knowledge and skill exams (e.g. ETC, GRE, etc.) (skip to **Q3.4.4.**)

☐ 4. Other, specify: (skip to **Q3.4.4.**)

Q3.4.2.
Was the **rubric** aligned directly and explicitly **with the PLO**?

◉ 1. Yes

○ 2. No

○ 3. Don't know

○ 4. N/A

Q3.4.3.
Was the **direct measure** (e.g. assignment, thesis, etc.) aligned directly and explicitly **with the rubric**?

◉ 1. Yes

○ 2. No

○ 3. Don't know

○ 4. N/A

Q3.4.4.
Was the **direct measure** (e.g. assignment, thesis, etc.) aligned directly and explicitly **with the PLO**?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know
- ( ) 4. N/A

Q3.5.
How many faculty members participated in planning the assessment data **collection** of the selected PLO?

3

Q3.5.1.
How many faculty members participated in the **evaluation** of the assessment data for the selected PLO?

2

Q3.5.2.
If the data was evaluated by multiple scorers, was there a norming process (a procedure to make sure everyone was scoring similarly)?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know
- ( ) 4. N/A

Q3.6.
How did you **select** the sample of student work (papers, projects, portfolios, etc.)?

Work from all students in the class

Q3.6.1.
How did you **decide** how many samples of student work to review?

Work from all students in the class

Q3.6.2.

How many students were in the class or program?

30

Q3.6.3.
How many samples of student work did you evaluated?

30

Q3.6.4.
Was the sample size of student work for the direct measure adequate?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know

(**Remember**: Save your progress)

Question 3B: Indirect Measures (surveys, focus groups, interviews, etc.)

Q3.7.
Were indirect measures used to assess the PLO?

- ( ) 1. Yes
- (●) 2. No (skip to **Q3.8**)
- ( ) 3. Don't Know (skip to **Q3.8**)

Q3.7.1.
Which of the following indirect measures were used? [**Check all that apply**]

- [ ] 1. National student surveys (e.g. NSSE)
- [ ] 2. University conducted student surveys (e.g. OIR)
- [ ] 3. College/department/program student surveys or focus groups
- [ ] 4. Alumni surveys, focus groups, or interviews
- [ ] 5. Employer surveys, focus groups, or interviews
- [ ] 6. Advisory board surveys, focus groups, or interviews
- [ ] 7. Other, specify:

Q3.7.1.1.
Please explain and attach the indirect measure you used to collect data:

No file attached **No file attached**

Q3.7.2.
If surveys were used, how was the sample size **decided**?

Q3.7.3.
If surveys were used, how did you **select** your sample:

Q3.7.4.
If surveys were used, what was the response rate?

Question 3C: Other Measures (external benchmarking, licensing exams, standardized tests, etc.)

Q3.8.
Were external benchmarking data, such as licensing exams or standardized tests, used to assess the PLO?

- ○ 1. Yes
- ◉ 2. No (skip to **Q3.8.2**)
- ○ 3. Don't Know (skip to **Q3.8.2**)

Q3.8.1.
Which of the following measures was used? [**Check all that apply**]

- ☐ 1. National disciplinary exams or state/professional licensure exams
- ☐ 2. General knowledge and skills measures (e.g. CLA, ETS PP, etc.)
- ☐ 3. Other standardized knowledge and skill exams (e.g. ETC, GRE, etc.)
- ☐ 4. Other, specify:

Q3.8.2.
Were other measures used to assess the PLO?

- ○ 1. Yes
- ◉ 2. No (skip to **Q4.1**)
- ○ 3. Don't know (skip to **Q4.1**)

Q3.8.3.
If other measures were used, please specify:

No file attached No file attached

(**Remember**: Save your progress)

Question 4: Data, Findings, and Conclusions

Q4.1.
Please provide simple tables and/or graphs to summarize the assessment data, findings, and conclusions for the selected PLO for **Q2.1**:

Student reports were graded using the rubric attached in question 2.3. Results were plotted to show student performance in these areas: report format, geologic history, lithology descriptions, overall report, regional geology, stratigraphic section and structural geology. Results show student performance by decile as cumulative frequency plots.

Geology 111B Spring 2016 histogram.pdf
55.62 KB

No file attached

Q4.2.
Are students doing well and meeting the program standard? If not, how will the program work to improve student performance of the selected PLO?

Our target is to have 70% of the students score above 80% in each of the rubric categories. The summary shows these results:

Report format: 70% of the students scored 80% or higher (meets expectations).

Geologic history: 70% scored 70% or higher (does not meet expectations).

Lithologic descriptions: 70% of the students scored 80% or higher (meets expectations).

Overall report: 70% of the students scored 80% or higher (meets expectations).

Regional geology: 70% of the students scored 80% or higher (meets expectations).

Stratigraphic section: 70% of the students scored 70% or higher (does not meet expectations).

Structural geology: 70% of the students scored 60% or higher (does not meet expectations).

No file attached No file attached

Q4.3.
For the selected PLO, the student performance:

- ○ 1. **Exceeded** expectation/standard
- ○ 2. **Met** expectation/standard

- (●) 3. **Partially** met expectation/standard
- ( ) 4. Did not meet expectation/standard
- ( ) 5. No expectation/standard has been specified
- ( ) 6. Don't know

Question 4A: Alignment and Quality

Q4.4.
Did the data, including the direct measures, from all the different assessment tools/measures/methods directly align with the PLO?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know

Q4.5.
Were **all** the assessment tools/measures/methods that were used good measures of the PLO?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know

Question 5: Use of Assessment Data (Closing the Loop)

Q5.1.
As a result of the assessment effort and based on prior feedback from OAPA, do you anticipate *making any changes* for your program (e.g. course structure, course content, or modification of PLOs)?

- (●) 1. Yes
- ( ) 2. No (skip to **Q5.2**)
- ( ) 3. Don't know (skip to **Q5.2**)

Q5.1.1.
Please describe *what changes* you plan to make in your program as a result of your assessment of this PLO. Include a description of how you plan to assess the impact of these changes.

This is a work in progress. We used our mapping class to assess specific skills during the 2015 assessment cycle, and will continue to refine our teaching and presentation methods based on the 2016 results. Areas of concern are geologic histories, stratigraphic columns and structural geology. We will reinforce these basic concepts in the Junior level Geol 111A and Geol 111B classes next year. Expected changes include more introductory and background information to introduce these concepts, additional homework or in-class assignments in these areas, and group work in the field to connect field concepts to our expectations with written reports. Instructors in the senior level 110B and 188 classes will also monitor these results and will reinforce concepts as necessary.

We will impliment changes during the 2016/17 academic year, and will assess the impact of our changes in the 2016 assessment report.

Q5.1.2.
Do you have a plan to assess the *impact of the changes* that you anticipate making?

- (●) 1. Yes
- ( ) 2. No
- ( ) 3. Don't know

Q5.2.

How have the assessment data from the last annual assessment been used so far? [**Check all that apply**]	1. Very Much	2. Quite a Bit	3. Some	4. Not at All	5. N/A
1. Improving specific courses	◉	○	○	○	○
2. Modifying curriculum	○	○	◉	○	○
3. Improving advising and mentoring	○	○	◉	○	○
4. Revising learning outcomes/goals	○	○	○	◉	○
5. Revising rubrics and/or expectations	○	○	○	◉	○
6. Developing/updating assessment plan	○	○	○	◉	○
7. Annual assessment reports	◉	○	○	○	○
8. Program review	◉	○	○	○	○
9. Prospective student and family information	○	○	○	◉	○
10. Alumni communication	○	○	○	◉	○
11. WSCUC accreditation (regional accreditation)	○	○	○	○	◉
12. Program accreditation	○	○	○	○	◉
13. External accountability reporting requirement	○	○	○	○	◉
14. Trustee/Governing Board deliberations	○	○	○	○	◉
15. Strategic planning	○	○	○	◉	○
16. Institutional benchmarking	○	○	○	○	◉
17. Academic policy development or modifications	○	○	○	◉	○
18. Institutional improvement	○	○	○	◉	○
19. Resource allocation and budgeting	○	○	○	◉	○
20. New faculty hiring	○	○	○	◉	○
21. Professional development for faculty and staff	○	○	○	◉	○
22. Recruitment of new students	○	○	○	◉	○

23. Other, specify:

Q5.2.1.
Please provide a detailed example of how you used the assessment data above:

The instructors of our field courses have used the results to modify the curriculum across both the junior and senior field courses and the prerequisite courses. We are emphasizing areas of weakness that were identified by the assessment process.

(**Remember**: Save your progress)

Additional Assessment Activities

Q6.
Many academic units have collected assessment data on aspect of their program *that are not related to the PLOs* (i.e. impacts of an advising center, etc.). **If** your program/academic unit has collected data on program *elements*, please briefly report your results here:

No file attached No file attached

Q7.
What PLO(s) do you plan to assess next year? [**Check all that apply**]

- [ ] 1. Critical Thinking
- [ ] 2. Information Literacy
- [ ] 3. Written Communication
- [ ] 4. Oral Communication
- [ ] 5. Quantitative Literacy
- [ ] 6. Inquiry and Analysis
- [ ] 7. Creative Thinking
- [ ] 8. Reading
- [ ] 9. Team Work
- [x] 10. Problem Solving
- [ ] 11. Civic Knowledge and Engagement
- [ ] 12. Intercultural Knowledge and Competency
- [ ] 13. Ethical Reasoning
- [ ] 14. Foundations and Skills for Lifelong Learning
- [ ] 15. Global Learning
- [ ] 16. Integrative and Applied Learning
- [ ] 17. Overall Competencies for GE Knowledge
- [x] 18. Overall Competencies in the Major/Discipline
- [ ] 19. Other, specify any PLOs not included above:

a.
b.
c.

Q8. Please attach any additional files here:

No file attached No file attached No file attached No file attached

Q8.1.
Have you attached any files to this form? If yes, please list every attached file here:

Little Poleta grading rubric 2015.pdf

Geology 111B Spring 2016 histogram.pdf

Geology Assessment Plan Appendix 1 2013-14.docx

BA BS Geology Curriculum map.doc

Program Information (**Required**)

P1.
Program/Concentration Name(s): [by degree]
Select...

P1.1.
Program/Concentration Name(s): [by department]
Select...

P2.
Report Author(s):
Judi Kusnick There is no option in either dropdown for BA Geology

P2.1.
Department Chair/Program Director:
Tim Horner

P2.2.
Assessment Coordinator:
Judi Kusnick/Amelia Paukert

P3.
Department/Division/Program of Academic Unit
Geology

P4.
College:
College of Natural Science & Mathematics

P5.
Total enrollment for Academic Unit during assessment semester (see Departmental Fact Book):
98

P6.
Program Type:
- (●) 1. Undergraduate baccalaureate major
- ( ) 2. Credential
- ( ) 3. Master's Degree
- ( ) 4. Doctorate (Ph.D./Ed.D./Ed.S./D.P.T./etc.)
- ( ) 5. Other, specify:

P7. Number of **undergraduate degree programs** the academic unit has?
3

P7.1. List all the names:

BS Geology

BA Geology

BA Earth Science

P7.2. How many concentrations appear on the diploma for this undergraduate program?

0

P8. Number of **master's degree programs** the academic unit has?

1

P8.1. List all the names:

MS Geology

P8.2. How many concentrations appear on the diploma for this master's program?

0

P9. Number of **credential programs** the academic unit has?

0

P9.1. List all the names:

P10. Number of **doctorate degree programs** the academic unit has?

0

P10.1. List all the names:

When was your **assessment plan**...	1. Before 2010-11	2. 2011-12	3. 2012-13	4. 2013-14	5. 2014-15	6. No Plan	7. Don't know
P11. developed?	◉	○	○	○	○	○	○
P11.1. last updated?	○	○	○	○	◉	○	○

P11.3.
Please attach your latest **assessment plan**:

Geology Assessment Plan Appendix 1 2013-14.docx
116.56 KB

P12.
Has your program developed a **curriculum map?**

◉ 1. Yes
○ 2. No
○ 3. Don't know

P12.1.
Please attach your latest **curriculum map**:

BA BS Geology curriculum map.doc
139.5 KB

P13.
Has your program indicated in the curriculum map where assessment **of student learning** occurs?

◉ 1. Yes
○ 2. No
○ 3. Don't know

P14.
Does your program have a capstone class?

○ 1. Yes, indicate:
◉ 2. No
○ 3. Don't know

P14.1.
Does your program have **any** capstone project?

○ 1. Yes
◉ 2. No
○ 3. Don't know

(**Remember**: Save your progress)

Name _____

Format (+15)

	5	4	3	2	1
overall presentation	_	_	_	_	_
plates	_	_	_	_	_
table of contents	_	_	_	_	_
headings, titles, fonts	_	_	_	_	_
page numbers	_	_	_	_	_
figure captions	_	_	_	_	_
introduction	_	_	_	_	_
location map	_	_	_	_	_
proofreading	_	_	_	_	_
technical writing style	_	_	_	_	_
other	_____				

_____

Regional Geology (+10)

	5	4	3	2	1
passive margin	_	_	_	_	_
Ant.-Sonoma Orogeny	_	_	_	_	_
Nevadan Orogeny	_	_	_	_	_
Basin & Range ext.	_	_	_	_	_

Lithologies (+30)

	5	4	3	2	1
intro summary	_	_	_	_	_
discuss oldest first	_	_	_	_	_
synthetic, not narrative	_	_	_	_	_
includes photographs	_	_	_	_	_
properly cites photos	_	_	_	_	_
cites strat column	_	_	_	_	_
CP6:					
quartzite description	_	_	_	_	_
other lithologies	_	_	_	_	_
bedding thickness	_	_	_	_	_
est. thickness	_	_	_	_	_
CP7 “lacy buff”:					
color	_	_	_	_	_
lacy algal mats	_	_	_	_	_
thickness	_	_	_	_	_
CP8 “big blue”:					
color	_	_	_	_	_
mottled bedding	_	_	_	_	_
oolites	_	_	_	_	_
thickness	_	_	_	_	_
Ch Harkless:					
siltstone/slate	_	_	_	_	_
thinly bedded	_	_	_	_	_
ls marker bed	_	_	_	_	_

Structural geology (+15)

	5	4	3	2	1
folds (2 major syncline, 2 major anticline)					
desc. all mapped folds	_	_	_	_	_
sync. and antic.	_	_	_	_	_
orientation of axis	_	_	_	_	_
overturned/vert limb	_	_	_	_	_
cites cross section	_	_	_	_	_
faults (4 major faults)					
type	_	_	_	_	_
orientation	_	_	_	_	_
dip (all vertical)	_	_	_	_	_
displacement	_	_	_	_	_

other_____

Geologic history (+20):

	5	4	3	2	1
chronological narrative	_	_	_	_	_
uses observations to…	_	_	_	_	_
…support interpretation	_	_	_	_	_
incorporates reference	_	_	_	_	_
age	_	_	_	_	_
marine deposition	_	_	_	_	_
change from silic. to ls.	_	_	_	_	_
change from ls. to silic.	_	_	_	_	_
sea level/sed supply	_	_	_	_	_
late deformation	_	_	_	_	_
age of folds v. faults	_	_	_	_	_
“big picture” Nevadan	_	_	_	_	_
overall quality	_	_	_	_	_

other_____

Strat. column (+10):

	5	4	3	2	1
headings and labels	_	_	_	_	_
height above base	_	_	_	_	_
appropriate unit thickness	_	_	_	_	_
appropriate lithologies	_	_	_	_	_

other_____

Comments

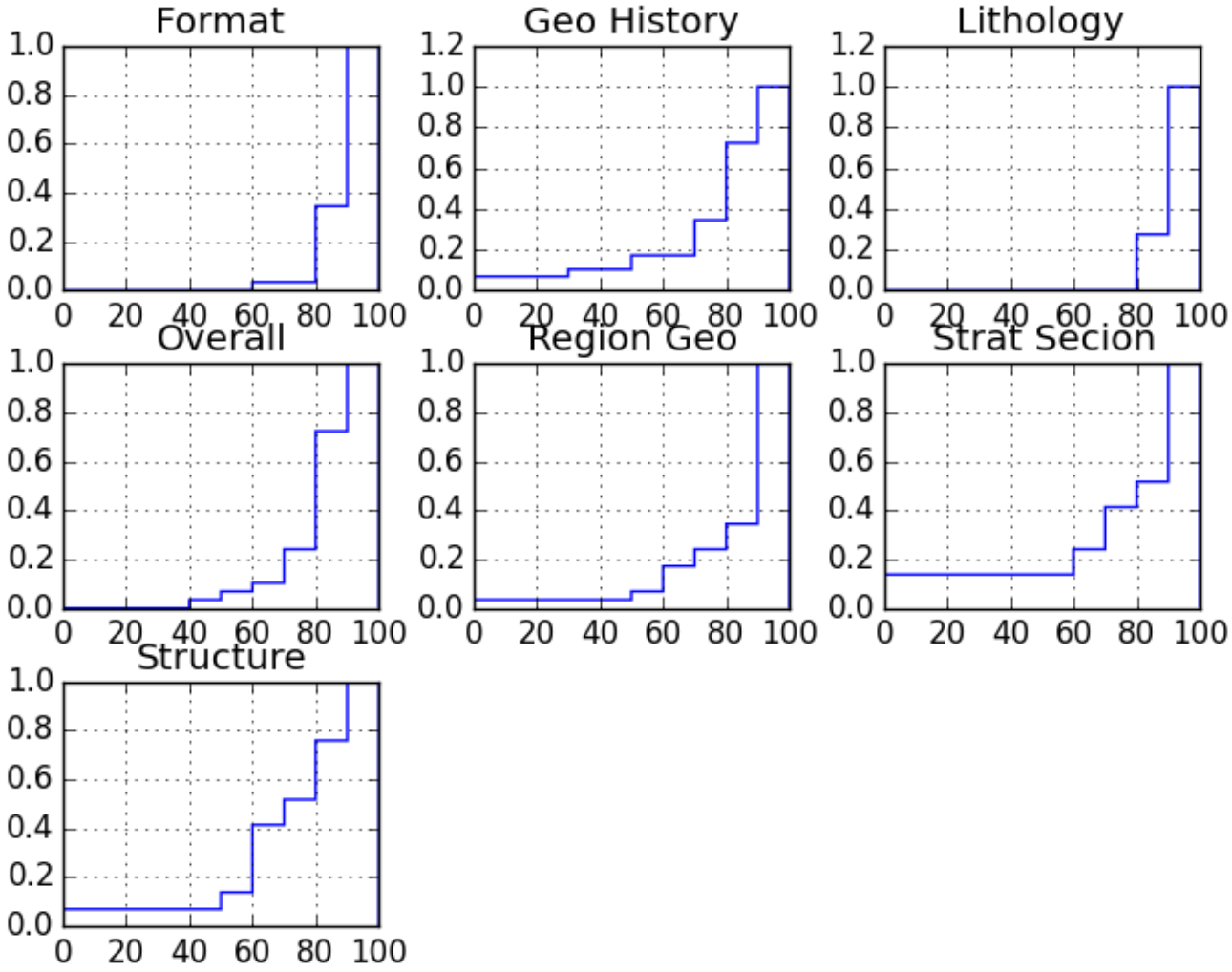
_____

_____

_____

Total score: _____/100 (Report)

Map:_____ XS:_____


Format
Geo History
Lithology
Overall
Region Geo
Strat Secion
Structure

Appendix 1

Overall Program Goals for All Programs of the Geology Dept.

I. Students are prepared for professional and /or graduate study involving the geosciences;
II. Students develop a deep understanding of Earth systems: how Earth systems work and how they interact;
III. Students develop their ability to solve geologic problems through the use of scientific method;
IV. Students develop a deep curiosity about how the Earth works, and a lifelong appreciation of the Earth's place in space and time; and
V. Students develop their technical communication skills: seeking and processing technical information; and communicating technical information and conclusions in both oral and written form.

Summary of Assessment Data:

- Student Knowledge Inventory
- Geology 188 field maps and assignments
- Geology 111B field maps and assignments
- Embedded assignments from majors courses
- Writing rubrics from required assignments
- CSET scores

Summary of Assessment Tasks for 2014-2019

Year	Periodic Tasks	Yearly Tasks
2014-15	Geology 188 review	1. Administer SKI in Fall semester; compile results & review. 2. Collect Geology 188 rubrics, cross-sections and select maps 3. Collect Geology 111B rubrics, cross-sections and maps. 4. Collect writing rubrics 5. Collect embedded assignments from one course. 6. Collect CSET data from Earth Science majors.
2015-16	Geology 111B review	
2016-17	Embedded assessment review Geology 188 review	
2017-18	Writing review Geology 111B review	
2018-19	SKI longitudinal review	

Appendix 1

BS in Geology

Program Learning Outcome	Assessment Method(s)	Performance Standard	Assessment Schedule
Students will master a set of fundamental geologic concepts essential to understanding and solving geologic problems	Student Knowledge Inventory	70% of seniors answer questions in each domain correctly	Every Fall, administered in Geology 100 and Geology 102. Collect data yearly, review annual data yearly, do longitudinal review once every five years.
	Embedded assignments, select exam problems/questions	70 % of students answer questions/work problems correctly	Sample one course every year. Analyze data once in 5-year cycle.
Students will be proficient in solving geologic problems	Field assignments from Geology 188	TBD	Collect every year, review every other year. 2014-15 2016-17 2018-19
Students will be proficient in understanding and producing geologic maps.	Field assignments from Geology 188.	TBD	Collect every year, review every other year 2014-15 2016-17 2017-18
Students will be proficient writers, skilled in the genres of scientific and technical writing	Review rubrics from required writing assignments: • Field report from Geology 111B • Literature review from an elective course	70% of students demonstrate Milestone 2 on revised Written Communication VALUE Rubric	Review once in 5-year cycle.

Appendix 1

BA in Geology

Program Learning Outcome	Assessment Method(s)	Performance Standard	Assessment Schedule
Students will master a set of fundamental geologic concepts essential to understanding and solving geologic problems	Student Knowledge Inventory	70% of students answer questions in each domain correctly	Every Fall, administered in Geology 100 and Geology 102
	Embedded assignments	70 % of students answer questions/work problems correctly	Sample one course every year. Analyze data once in 5-year cycle.
Students will be proficient in solving geologic problems	Field assignments from Geology 111B.	TBD	Collect every year, review every other year. 2015-16 2017-18 2018-19
Students will be proficient in introductory skills of understanding and producing geologic maps.	Field assignments from Geology 111B.	TBD	Collect every year, review every other year. 2015-16 2017-18 2018-19
Students will be proficient writers, skilled in the genres of scientific and technical writing	Review rubrics from required writing assignments: • Field report from Geology 111 • Literature review from an elective course	70% of students demonstrate Milestone 2 on revised Written Communication VALUE Rubric	Review once in 5-year cycle.

Appendix 1

BA in Earth Science

Program Learning Outcome	Assessment Method(s)	Performance Standard	Assessment Schedule
Students will master a set of fundamental earth science concepts essential to understanding and solving geologic problems	Student Knowledge Inventory	70% of students answer questions in each domain correctly	Every Fall, administered in Geology 100 and Geology 102
	CSET scores	70% of students will pass Science Subtest #1 on the first try	Collect data yearly, review once every five years
Students will be proficient in solving geologic problems	Field assignments from Geology 111B.	TBD	Collect every year, review every other year. 2015-16 2017-18 2018-19
Students will be proficient in introductory skills of understanding and producing geologic maps.	Field assignments from Geology 111B.	TBD	Collect every year, review every other year. 2015-16 2017-18 2018-19
Students will be proficient writers, skilled in the genres of scientific and technical writing	Review rubrics from required writing assignments: • Field report from Geology 111 • Literature review from an elective course	70% of students demonstrate Milestone 2 on revised Written Communication VALUE Rubric	Review once in 5-year cycle.

Curriculum Map: Geology BS and BA

Linking Program Learning Outcomes[1] (PLO) to Each Course in the Curriculum (number of Learning Outcomes varies per program)

Outcomes (PLOs) / **Courses**	**Outcome 1:** Students will master a set of fundamental geologic concepts essential to understanding and solving geologic problems	**Outcome 2:** Students will be proficient in solving geologic problems	**Outcome 3:** Students will be proficient in (BA: introductory) skills of understanding and producing geologic maps	**Outcome 4:** Students will be proficient writers, skilled in the genres of scientific and technical writing	**Outcome 5:**	**Outcome 6:**	**Outcome 7:**	**Outcome 8:**
Required Courses								
GEOL 10	I	I						
GEOL 10L	I	I	I					
GEOL 12	I	I		I				
GEOL 12L	I	I	I					
GEOL 100	D	D						
GEOL 102	D	D						
GEOL 103	D	D	D	D				
GEOL 110A	D	D	D					
GEOL 110B	D	D	D	D				
GEOL 111A	D	D	D					
GEOL 111B	M	M	M	M				
(GEOL 188 – only in BS)	M	M	M	M				
Elective Courses								
GEOL 105	M	M		D				
GEOL 112	M	M						
GEOL 114	M	M		D				
GEOL 120	M	M						
GEOL 123	M	M						
GEOL 125	M	M						
GEOL 127	M	M						
GEOL 150	M	M	M					

GEOL 171	M	M						
GEOL 190A	M	M						
GEOL 190C	M	M						
GEOL 198A	M	M		M				
GEOL 198B	M	M		M				

[1] use “I” for “Introduced”, “D” for “Developed”, and “M” for “Mastered”.

Table 2.5b: Curriculum Map: Earth Science BA

Linking Program Learning Outcomes[1] (PLO) to Each Course in the Curriculum (number of Learning Outcomes varies per program)

Outcomes (PLOs) / **Courses**	**Outcome 1:** Students will master a set of fundamental earth science concepts essential to understanding and solving geologic problems	**Outcome 2:** Students will be proficient in solving geologic problems	**Outcome 3:** Students will be proficient in introductory skills of understanding and producing geologic maps	**Outcome 4:** Students will be proficient writers, skilled in the genres of scientific and technical writing	**Outcome 5:**	**Outcome 6:**	**Outcome 7:**	**Outcome 8:**
Required Courses								
GEOL 5, GEOL 7, GEOL 8 or GEOL 10	I	I						
GEOL 8L or 10L	I	I	I					
ASTR 4B & ASTR 6								
BIO 1 & BIO 2; OR BIO 7								
CHEM 1A OR CHEM 6A								
GEOL 12	I	I		I				
GEOL 12L	I	I	I					
GEOL 17 (currently being changed to GEOL)	D	D						
MATH 26A	I							
PHYS 5A & PHYS 5B	I, D							
GEOG 111	D							
GEOL 103	D	D	D	D				
GEOL 111A	D	D	D					
GEOL 111B	M	M	M	M				
GEOL 130	D	D		M				
Elective Courses								
GEOL 105	M	M		D				
GEOL 110A	M	M	M					
GEOL 114	M	M		D				
GEOL 120	M	M						

GEOL 140	M	M		M				
GEOL 184	I	M	I					
ANTH 124	D							
ANTH 151	D		M					
ENGL 120P				M				
GEOG 113	D							
GEOG 116	D							
GEOG 117	D			M				
GEOG 161	D			M				
JOUR 131				M				
PHIL 125	D							
RPTA 153	D							

[1] use “I” for “Introduced”, “D” for “Developed”, and “M” for “Mastered”.

Table 2.5c: Curriculum Map: Geology MS

Linking Program Learning Outcomes[1] (PLO) to Each Course in the Curriculum (number of Learning Outcomes varies per program)

Outcomes (PLOs) / Courses	**Outcome 1:** Students will be able to read and digest complex scientific papers in the discipline, assess competing hypotheses and reach rational and logical conclusions.	**Outcome 2:** Students will be able to evaluate and interpret real-world data sets and use discipline-specific analytical tools to generate insight into discipline specific geologic problems.	**Outcome 3:** Students will develop presentation skills and the ability to relay technical data and scientific concepts to diverse audiences.	**Outcome 4:** Students will demonstrate the ability to obtain, assess, and analyze information from a variety of sources.	**Outcome 5:** Students will demonstrate an understanding of professional integrity.	**Outcome 6:** Students will demonstrate relevant knowledge and application of intercultural and/or global perspectives.	**Outcome 7:**	**Outcome 8:**
Required Courses								
GEOL 200	X	X	X		X	X		
GEOL 275	X	X	X	X				
GEOL 290	X	X	X	X	X			
Elective Courses								
GEOL 202	X	X	X	X	X			
GEOL 208	X	X	X	X	X			
GEOL 212	X		X	X	X	X		
GEOL 213	X	X	X	X	X	X		
GEOL 218	X	X	X	X				
GEOL 220	X	X	X	X	X	X		
GEOL 227	X	X	X	X	X			
GEOL 240C	X		X	X	X	X		
GEOL 500	X	X	X	X	X	X		
GEOL 596	X	X	X	X				

[1] Note: currently courses are marked with an "X" to indicate which ones contain PLOs. Eventually course map will include "I" for "Introduced", "D" for "Developed", and "M" for "Mastered", but those determinations are still in progress.

Appendix I: Sacramento State Baccalaureate Learning Goals (BALGs) for the 21st Century & AAC&U's 16 VALUE Rubrics
http://www.aacu.org/value/rubrics/index_p.cfm?CFID=38420924&CFTOKEN=68367906

1. **Competence in the Disciplines**: The ability to demonstrate the competencies and values listed below in *at least one major field of study* and to demonstrate informed understandings of other fields, drawing on the knowledge and skills of disciplines outside the major.

2. **Knowledge of Human Cultures and the Physical and Natural World** through study in the *sciences and mathematics, social sciences, humanities, histories, languages, and the arts.* Focused by engagement with big questions, contemporary and enduring.

3. **Intellectual and Practical Skills, Including:** *inquiry and analysis, critical, philosophical, and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork and problem solving,* practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.
   3.1 Critical thinking (Second VALUE rubric)
   3.2 Written communication (Fourth VALUE rubric)
   3.3 Oral communication (Fifth VALUE rubric)
   3.4 Quantitative literacy (Seventh VALUE rubric)
   3.5 Information literacy (Eighth VALUE rubric)
   3.6 Inquiry and analysis (First VALUE rubric)
   3.7 Creative thinking (Third VALUE rubric)
   3.8 Reading (Sixth VALUE rubric)
   3.9 Teamwork (Ninth VALUE rubric)
   3.10 Problem solving (Tenth VALUE rubric)

4. **Personal and Social Responsibility (Values), including:** *civic knowledge and engagement—local and global, intercultural knowledge and competence, ethical reasoning and action, foundations and skills for lifelong learning* anchored through active involvement with diverse communities and real-world challenges.
   4.1 Civic knowledge and engagement—local and global (Eleventh VALUE rubric)
   4.2 Intercultural knowledge and competence (Twelfth VALUE rubric)
   4.3 Ethical reasoning (Thirteenth VALUE rubric)
   4.4 Foundations and skills for lifelong learning (Fourteenth VALUE rubric)
   4.5 Global Learning (The Fifteenth VALUE Rubric)

5. **Integrative Learning, including:** *synthesis and advanced accomplishment* across general and specialized studies.
   5.1 Integrative and applied learning (Sixteenth VALUE rubric)