

# BA IN GEOLOGY

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## In Workflow

1. GEOL Committee Chair (hausback@csus.edu)
2. GEOL Chair (cornwell@csus.edu)
3. NSM College Committee Chair (tsk@csus.edu)
4. NSM Dean (datwyler@csus.edu)
5. Academic Services (torsetj@csus.edu;%20212408496@csus.edu;%20cnewsome@skymail.csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Faculty Senate Executive Committee Chair (kathy.garcia@csus.edu)
8. Faculty Senate Chair (kathy.garcia@csus.edu)
9. Dean of Undergraduate (james.german@csus.edu;%20celena.showers@csus.edu)
10. Dean of Graduate (cnewsome@skymail.csus.edu)
11. President (cely.smart@csus.edu)
12. Catalog Editor (212408496@csus.edu;%20torsetj@csus.edu;%20cnewsome@skymail.csus.edu)
13. Registrar's Office (wwd22@csus.edu;%20wlindsey@csus.edu;%20sac19595@csus.edu;%20danielle.ambrose@csus.edu;%20h.skocilich@csus.edu;%20205109584@csus.edu)

## Approval Path

1. Tue, 15 Oct 2019 23:03:32 GMT  
Brian Hausback (hausback): Approved for GEOL Committee Chair
2. Tue, 15 Oct 2019 23:05:31 GMT  
Kevin Cornwell (cornwell): Approved for GEOL Chair
3. Mon, 21 Oct 2019 22:21:29 GMT  
Thomas Krabacher (tsk): Approved for NSM College Committee Chair
4. Wed, 23 Oct 2019 18:00:36 GMT  
Shannon Datwyler (datwyler): Approved for NSM Dean

## History

1. May 2, 2018 by clmig-jwehrheim
2. Aug 13, 2018 by 212408496
3. Oct 2, 2018 by 212408496

Date Submitted: Tue, 15 Oct 2019 22:24:44 GMT

## Viewing: BA in Geology

**Last approved: Tue, 02 Oct 2018 20:21:20 GMT**

**Last edit: Tue, 15 Oct 2019 22:24:41 GMT**

Changes proposed by: Amy Wagner (216313696)

### Academic Group: (College)

Natural Sciences & Mathematics

### Academic Organization: (Department)

Geology

### Catalog Year Effective:

2020-2021 Catalog

### Individual(s) primarily responsible for drafting the proposed degree major program:

Name (First Last)	Email	Phone 999-999-9999
Brian Hausback	hausback@csus.edu	916-952-5129
Amy Wagner	amy.wagner@csus.edu	916-278-5136

### Type of Program Proposal:

Major

### Program Change Type:

Substantive

**Title of the Program:**

BA in Geology

**Designation: (degree terminology)**

Bachelor of Arts

**Briefly describe the program proposal (new or change) and provide a justification:**

Change the BA in Geology so that it is substantively different from our BS (previously they were the same, save one class). The new BA degree also brings the curriculum up-to-date with student needs in the workplace. The BA degree has less field geology and petrology requirements compared to the BS degree.

The degree program includes several new or modified classes that are being changed for the BA in Geology. There are Form A course proposals in the workflow for the following classes:

GEOL 11 Digital Methods in Geoscience  
GEOL 100 Earth Materials – Rocks and Minerals  
GEOL 189 Geology Colloquium

**Objectives of the degree program:**

The BA degree program is designed as a shorter, more flexible preparation for some geology jobs, earth science teaching in high school, and jobs such as park naturalist, environmentalist, geologic planning specialist, or in geology-related businesses.

The BA in Geology has the following program learning goals:

- 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 the scientific method
- IV. Students develop their technical communication skills: seeking and processing technical information; and communicating technical information and conclusions in both oral and written form
- V. Students develop the quantitative reasoning skills necessary to solve geologic problems

These goals lead to the following program learning outcomes:

- a. Students will develop a set of fundamental geologic concepts essential to understanding and solving geologic problems
- b. Students will be proficient in solving geologic problems
- c. Students will be proficient in using quantitative skills to solve geologic problems
- d. Students will be proficient in introductory skills of understanding and producing geologic maps
- e. Students will be proficient writers, skilled in the genres of scientific and technical writing
- f. Students will be proficient oral communicators, skilled in presenting scientific topics

**University Learning Goals**

**Undergraduate Learning Goals:**

Competence in the disciplines  
Knowledge of human cultures and the physical and natural world  
Intellectual and practical skills

**Will this program be required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?**

No

**Please attach a Comprehensive Program Assessment Plan (required)**

Geology Assessment Plan 2019 BA Geology.docx

**Please attach a Curriculum Map Matrix (required)**

BA Geology curriculum map.doc

**Please attach a five-year budget projection (required)**

BA in Geology 5 year budget.docx

**Do these changes impact the Smart Planner roadmap?**

Yes

**Please attach the Smart Planner roadmap:**

2018\_GEOL\_Geology BA-OLD.DOCX

**Briefly describe the change:**

We are adding a couple of required courses, updating the elective options and make the degree less field focused.

The degree program includes several new or modified classes that are being changed for the BA in Geology. There are Form A course proposals in the workflow for the following classes:

GEOL 11 Digital Methods in Geoscience  
 GEOL 100 Earth Materials – Rocks and Minerals  
 GEOL 189 Geology Colloquium

**Catalog Description:**

**Units required for Major: 66-69**  
**Total units required for BA: 120**

## Program Description

The BA degree program is designed as a shorter, more flexible preparation for some geology jobs, earth science teaching in high school, and jobs such as park naturalist, environmentalist, geologic planning specialist, or in geology-related businesses. The BA degree can be used in dual-track majors combining geology with biological sciences, chemistry, physics, or engineering.

As defined by policy <http://www.csus.edu/umannual/acadaff/fsm00010.htm>, a change in units constitutes a substantive change to the program. If your changes constitute a substantive change, please refer back to the "Program Change Type" field above to ensure that "Substantive" is selected.

**Program Requirements: (If new courses are being created as part of a new program, it will be useful to propose courses first.)**

## Program Requirements

Code	Title	Units
<b>Required Lower Division Courses (22-25 Units)</b>		
CHEM 1A	General Chemistry I	5
GEOL 5	Geology Of Mexico <sup>1</sup>	4
or GEOL 10 & 10L	Physical Geology Physical Geology Lab	
GEOL 11	Course GEOL 11 Not Found(Three hour lab)	1
GEOL 12	Historical Geology	3
GEOL 12L	Historical Geology Lab	1
MATH 26A	Calculus I for the Social and Life Sciences <sup>1</sup>	4 - 7
or MATH 29 & MATH 30	Pre-Calculus Mathematics Calculus I	
PHYS 5A	General Physics: Mechanics, Heat, Sound	4
or PHYS 11A	General Physics: Mechanics	
<b>Required Upper Division Courses (44 Units)</b>		
GEOL 100	Earth Materials - Rocks and Minerals	4
GEOL 103	Sedimentology/Stratigraphy	4
GEOL 110A	Structural Geology and Tectonics	4
GEOL 110B	Structural Geology Field	1
GEOL 111A	Field Geology	2
GEOL 111B	Field Techniques	2
GEOL 121	Geology of California	3
GEOL 130	Oceanography	3
or GEOL 180	Water Planet	
GEOL 140	Geology and the Environment <sup>1</sup>	3
GEOL 189	Course GEOL 189 Not Found(1 unit class must be taken twice for a total of 2 units)	2
Select at least 16 units of the following:		16
GEOL 101	Course GEOL 101 Not Found	
GEOL 102	Igneous and Metamorphic Petrology	
GEOL 105	Paleontology	
GEOL 112	Geophysics For Geologists	
GEOL 114	Volcanology	
GEOL 120	Surficial Processes	
GEOL 123	Geochemistry	
GEOL 125	Metallic Ore Deposits	
GEOL 126	Environmental Field Methods	
GEOL 127	Hydrogeology	
GEOL 132	Marine Geology	
GEOL 150	Computer Mapping in Geology	

GEOL 171	Petroleum Geology
GEOL 190A	Geology and Tectonic Development of California Seminar
GEOL 193C	Engineering Geology
GEOL 198A	Senior Research Preparation
GEOL 198B	Senior Research Project
GEOL 188	Advanced Geologic Mapping

Total Units 66-69

<sup>1</sup> Course also satisfies General Education (GE)/Graduation Requirement.

## General Education Requirements <sup>1</sup>

Code	Title	Units
<b>Area A: Basic Subjects (9 Units)</b>		
A1 - Oral Communication		3
A2 - Written Communication		3
A3 - Critical Thinking		3
<b>Area B: Physical Universe and Its Life Forms (6 Units)</b>		
B1 - Physical Science <sup>2</sup>		0
B2 - Life Forms		3
B3 - Lab (Note: Lab experience to be taken with one of the following: B1, B2 or B5) <sup>2</sup>		0
B4 - Math Concepts <sup>2</sup>		0
B5 - Additional Course (Any B to reach 12 units) - Take upper-division course to complete Area & upper division requirements.		3
<b>Area C: Arts and Humanities (12 Units)</b>		
C1 - Arts		3
C2 - Humanities		3
C1/C2 - Area C Course		3
C1/C2 - Area C Course - Take upper-division course to complete Area & upper division requirements.		3
<b>Area D: The Individual and Society (12 Units)</b>		
Area D Course		3
Area D Course		3
Area D Course		3
Area D Course - Take upper-division course to complete Area & upper division requirements.		3
<b>Area E: Understanding Personal Development (3 Units)</b>		
Area E Course		3
Total Units		42

<sup>1</sup> To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<http://catalog.csus.edu/colleges/academic-affairs/general-education/>).

**Note:** There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email ([advising@csus.edu](mailto:advising@csus.edu)).

<sup>2</sup> Required in Major; also satisfies GE.

## Graduation Requirements <sup>1</sup>

Code	Title	Units
<b>Graduation Requirements (required by CSU) (9 Units)</b>		
American Institutions: U.S. History		3
American Institutions: U.S. Constitution & CA Government		3
Writing Intensive (WI)		3
<b>Graduation Requirements (required by Sacramento State) (12 Units)</b>		
English Composition II		3
Race and Ethnicity in American Society (RE)		3
Foreign Language Proficiency Requirement <sup>2</sup>		6

<sup>1</sup> To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<http://catalog.csus.edu/colleges/academic-affairs/general-education/>).

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<sup>2</sup> If not satisfied before entering Sacramento State, it may be satisfied in General Education Area C2 (Humanities). "C- or better required." The alternative methods for satisfying the Foreign Language Proficiency Requirement are described here: <https://www.csus.edu/wll/flgr/>

### **Fiscal Impact to Change an Existing Program**

**Indicate programmatic or fiscal impact which this change will have on other academic units' programs, and describe the consultation that has occurred with affected units:**

There is no fiscal impact on other academic programs.

**Provide a fiscal analysis of the proposed changes:**

N/A

**How will the above changes be accommodated within the department/College existing fiscal resources?**

N/A

**Will the proposed changes require additional resources?**

No

**What additional space, equipment, operating expenses, library, computer, or media resources, clerical/technical support, or other resources will be needed?**

N/A

Key: 211