

Date Submitted: 10/03/19 9:28 am

Viewing: **GEOLBS : Geology, Bachelor of Science**

Last approved: 09/29/15 2:53 pm

Last edit: 10/03/19 11:24 am

Changes proposed by: rcc003

Catalog Pages Using  
this Program[Geology\\_\(GEOL\)](#)Submitter: User ID: **rcc003 ersleaf1** Phone:  
**575-3701 575-6731**

Program Status Active

Academic Level Undergraduate

Type of proposal Major/Field of Study

Select a reason for this modification

Making Minor Changes to an Existing Degree (e.g. changing 15 or fewer hours,  
changing admission/graduation requirements, adding/changing Focused Study or  
Track)

Are you adding a concentration?

No

Are you adding or modifying a track?

No

Are you adding or modifying a focused study?

No

Effective Catalog Year Fall 2020

College/School Code

Fulbright College of Arts and Sciences (ARSC)

Department Code

Department of Geosciences (GEOS)

## In Workflow

1. ARSC Dean Initial
2. Director of Program Assessment and Review
3. Registrar Initial
4. Institutional Research
5. GEOS Chair
6. ARSC Curriculum Committee
7. ARSC Dean
8. Global Campus
9. Provost Review
10. University Course and Program Committee
11. Faculty Senate
12. Provost Final
13. Provost's Office-- Notification of Approval
14. Registrar Final
15. Catalog Editor Final

## Approval Path

1. 09/06/19 2:01 pm  
Jeannie Hulen (jhulen): Approved for ARSC Dean Initial
2. 09/11/19 2:08 pm  
Alice Griffin (agriffin): Rollback to Initiator
3. 10/03/19 11:57 am  
Jeannie Hulen

Program Code           GEOLBS  
 Degree                   Bachelor of Science  
 CIP Code

- (jhulen): Approved  
 for ARSC Dean  
 Initial
4. 10/08/19 3:24 pm  
 Alice Griffin  
 (agriffin): Approved  
 for Director of  
 Program  
 Assessment and  
 Review
  5. 10/08/19 4:38 pm  
 Lisa Kulczak  
 (lkulcza): Approved  
 for Registrar Initial
  6. 10/09/19 8:22 am  
 Gary Gunderman  
 (ggunderm):  
 Approved for  
 Institutional  
 Research
  7. 10/09/19 9:00 am  
 Christopher Liner  
 (liner): Approved for  
 GEOS Chair
  8. 11/06/19 11:48 am  
 Ryan Cochran  
 (rcc003): Approved  
 for ARSC Curriculum  
 Committee
  9. 11/06/19 3:13 pm  
 Jeannie Hulen  
 (jhulen): Approved  
 for ARSC Dean
  10. 11/06/19 4:01 pm  
 Suzanne Kenner  
 (skenner): Approved  
 for Global Campus
  11. 11/08/19 7:34 am  
 Terry Martin

(tmartin): Approved  
for Provost Review  
12. 11/22/19 4:28 pm  
Alice Griffin  
(agriffin): Approved  
for University  
Course and Program  
Committee

## History

1. Aug 15, 2014 by  
Leepfrog  
Administrator  
(clhelp)
2. Jan 23, 2015 by  
Donna Draper  
(ddraper)
3. Apr 1, 2015 by  
Charlie Alison  
(calison)
4. Jun 10, 2015 by  
Charlie Alison  
(calison)
5. Sep 29, 2015 by  
Charlie Alison  
(calison)

40.0601 - Geology/Earth Science, General.

### Program Title

Geology, Bachelor of Science

### Program Delivery

#### Method

On Campus

Is this program interdisciplinary?

No

Does this proposal impact any courses from another College/School?

**No**

What are the total **120**  
hours needed to  
complete the  
program?

## Program Requirements and Description

### Requirements

**Requirements for a Major in Geology leading to the B.S. Degree:** In addition to the [University Core requirements](#) and the [Fulbright College of Arts and Sciences Graduation Requirements](#), the following course requirements must be met. **Bolded** courses from the list below may be applied to portions of the University Core requirements.

#### University/State Minimum Core **35**

CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) 4

& CHEM 1101L and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab)

CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) 4

& CHEM 1121L and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) 4

MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) 4

~~Six hours in a single world language at the 1013 Elementary II level or higher. 1~~ **6**

Select one physics sequence from the following: 8

PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture)

& PHYS 2011L and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab)

**PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture)**

**& PHYS 2031L and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab)**

or

PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034)

**PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture)**

**World language up to the Elementary II level 6**

A science elective 3000-level or higher as approved by advisor 3

~~A minimum of 40 semester hours of GEOS courses to include:~~

**A minimum of 45 credit hours of geology courses to include: 45**

GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture)

& GEOS 1111L and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab)

~~GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) 4~~

~~& GEOS 1131L and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab)~~

GEOS 2313 Mineralogy and Petrology

~~GEOS 3383 Principles of Landscape Evolution 3~~

GEOS 3413 Sedimentary Rocks & Fossils

<a href="#">GEOS 3514</a>	Structural Geology
<a href="#">GEOS 4873</a>	Geological Data Analysis
<b><a href="#">GEOS 4053</a></b>	<b>Geomorphology</b>
<a href="#">GEOS 4063</a>	Principles of Geochemistry
or <a href="#">GEOS 4433</a>	Geophysics
<a href="#">GEOS 4223</a>	Stratigraphy and Sedimentation
or <a href="#">GEOS 3313</a>	Igneous and Metamorphic Rocks
<a href="#">GEOS 4686</a>	Geology Field Camp
<a href="#">GEOS 4924</a>	Earth System History (ACTS Equivalency = PHSC 1104)

~~And an additional 9 hours of geology courses selected from GEOS courses numbered 3000 or higher.~~ **9**

**Nine credit hours of geology courses chosen from GEOS electives 3000-level or higher**

**General Electives** **7**

Total Hours **120**

~~± World language courses taken are dependent on placement level in sequence.~~

8-Semester Plan

## Geology B.S.

~~Nine-Semester Degree Program Students wishing to follow the nine-semester degree plan should see the University Core requirements~~  
**±Nine-Semester Degree Program**

**University/state minimum core requirements** ~~Core requirement hours~~ may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute **with a three-hour (or more) general electives. elective in place of a core area.** **Students should consult with their academic advisor.**

This program **requires** ~~does require~~ a summer field camp after the junior **year.**  
~~year.~~

First Year	Units
	FallSpringSummer
<a href="#">ENGL 1013</a> Composition I (ACTS Equivalency = ENGL 1013)	3
<a href="#">MATH 2554</a> Calculus I (ACTS Equivalency = MATH 2405)	4
<a href="#">GEOS 1113</a> General Geology (ACTS Equivalency = GEOL 1114 Lecture)	4
& <a href="#">GEOS 1111L</a> General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab)	
<a href="#">CHEM 1103</a> University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	4
& <a href="#">CHEM 1101L</a> University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab)	
<a href="#">ENGL 1023</a> Composition II (ACTS Equivalency = ENGL 1023)	3
<a href="#">MATH 2564</a> Calculus II (ACTS Equivalency = MATH 2505)	4
<a href="#">CHEM 1123</a> University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture)	4
& <a href="#">CHEM 1121L</a> University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)	

~~U.S. History University/State Minimum Core~~

~~GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) - 4 -~~

~~& GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab)~~

**U.S. History University/State Minimum Core 3**

**General Electives 1**

Year Total: 15 15

Second Year Units  
FallSpringSummer

GEOS 2313 Mineralogy and Petrology 3

Select one of the following: 4

PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034)

or PHYS 2013/2011L College Physics I (ACTS Equivalency = PHYS 2014 Lecture)

~~PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) - - -~~

~~& PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab)~~

Social Sciences University/State Minimum Core 3

Fine Arts University/State Minimum Core 3

World language at the Elementary I level 3

GEOS 3413 Sedimentary Rocks & Fossils 3

Select one of the following: 4

PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture)

or PHYS 2033/2031L College Physics II (ACTS Equivalency = PHYS 2024 Lecture)

~~PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) - - -~~

~~& PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab)~~

**GEOS 4873 Geological Data Analysis 3**

Social Sciences University/State Minimum Core 3

World language at the Elementary II level 3

~~2003 Intermediate I world language course (or higher level) - 3 -~~

Year Total: 16 16

Third Year Units  
FallSpringSummer

~~GEOS 3383 Principles of Landscape Evolution 1,2 3 - -~~

**GEOS 4223 Stratigraphy and Sedimentation 3**

or **GEOS 3313 Igneous and Metamorphic Rocks**

GEOS elective 3000-level or higher 3

Social Sciences University/State Minimum Core 3

General Electives 6

GEOS 3514 Structural Geology 4

~~GEOS 4223 Stratigraphy and Sedimentation 1,2 - 3 -~~

~~GEOS 4873 Geological Data Analysis 1,2 - 3 -~~

~~GEOS 4053 Geomorphology 3~~

<del>GEOS 4055</del> <b>GEOMORPHOLOGY</b>	3		
Humanities University/State Minimum Core	3		
<b>General Electives</b>	<b>5</b>		
<u>GEOS 4686</u> Geology Field Camp			6
Year Total:	15	15	6
Fourth Year			
	Units		
	Fall	Spring	Summer
<u>GEOS 4063</u> Principles of Geochemistry or <u>GEOS 4433</u> Geophysics	3		
<del>GEOS electives numbered 3000 or above 1,2</del>	<del>6</del>	<del>-</del>	<del>-</del>
GEOS electives 3000-level or higher	3		
<b>Science elective 3000-level or higher</b>	<b>3</b>		
<b>General Electives</b>	<b>6</b>		
<u>GEOS 4924</u> Earth System History (ACTS Equivalency = PHSC 1104)		4	
<del>GEOS electives numbered 3000 or above 1,2</del>	<del>-</del>	<del>6</del>	<del>-</del>
<del>General Electives (students who completed GEOS 1113/GEOS 1111L will need to complete only 2 hours of general electives; students who completed GEOS 3052 will need to complete 4 hours)</del>	<del>-</del>	<del>2</del>	<del>-</del>
<b>GEOS electives 3000-level or higher</b>		<b>3</b>	
Year Total:	15	7	
Total Units in Sequence:			120

~~1 Meets 40-hour advanced credit hour requirement. See College Academic Regulations.~~  
~~2 Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.~~

Are Similar Programs available in the area?

Yes

List institutions in Arkansas offering similar programs

N/A existing program

Why is the Program needed if offered at other institutions?

N/A existing program

Estimated Student Demand for Program n/a

Scheduled Program **2020-2021** ~~n/a~~

Review Date

Program Goals and Objectives

**Program Goals and Objectives**

The goal of the program leading to the Bachelor of Science degree in geology is to provide students with a broad spectrum of the various subdisciplines of geology, while at the same time honoring an emphasis in the traditional areas of mineralogy, igneous, metamorphic and sedimentary petrology, structural geology and stratigraphic principles. This curriculum will prepare students to enter graduate programs without deficiencies at the University of Arkansas or other established programs. ~~n/a-existing-program~~

Learning Outcomes

**Learning Outcomes**

Students earning the BS in Geology will:

- Have an appreciation for the environmental aspects of earth systems and potential impacts and hazards associated with human occupation.
- Understand the mineralogy and petrology of the earth.
- Be able to conceptualize the stratigraphic character of rocks in outcrop and from subsurface data.
- Recognize and understand the structural features of the earth in outcrop and in the subsurface.
- Have the ability to map these features and prepare cross-sections of the earth, and interpret the forces that caused the deformation of the rocks.
- Understand the geomorphic characteristics of the earth’s surface and the mechanisms forming the earth’s surface features.
- Understand the concepts of geologic time, the succession of life on earth through geologic time, and the tectonic forces acting on earth through geologic time.
- Have sufficient mathematical, chemistry and physics knowledge to be able to apply these fields to geologic settings and problems, as well as resource identification, development and management.
- Have the ability to communicate results of their efforts in written reports and orally to diverse audiences. ~~n/a-existing-program~~

Description and justification of the request

<b>Description of specific change</b>	<b>Justification for this change</b>
Added GEOS 3313 Igneous and Metamorphic Petrology as an either/or choice for the GEOS 4223 Stratigraphy and Sedimentation requirement.	Reintroducing this course on the teaching schedule. Assigning it to our program requirements will drive its enrollment and give students more options for degree completion.



Description of specific change	Justification for this change
Removed GEOS 3383 Principles of Landscape Evolution and replaced it with GEOS 4053 Geomorphology.	GEOS 3383 hasn't been taught in years and will be deleted.
Removed GEOS 1133/1131L Earth Science from the program requirements, reducing the overall GEOL hours from 49 to 45.	Want to reduce some of the burden of the high number of required hours in the major to provide flexibility for the students.

Upload attachments

Reviewer Comments

**Alice Griffin (agriffin) (09/09/19 10:05 am):** Insert scheduled program review date, along with program goals and student learning outcomes from 2017 assessment plan.

**Alice Griffin (agriffin) (09/11/19 2:08 pm):** Rollback: Per submitter's request to make edits to program requirements layout.

Key: 427