

Date Submitted: 10/19/22 1:56 pm

## Viewing: **GEOSPH : Geosciences, Doctor of Philosophy**

Last approved: 03/13/20 2:19 pm

Last edit: 10/24/22 10:40 am

Changes proposed by: gsharman

Catalog Pages Using  
this Program

[Geosciences \(GEOS\)](#)

Submitter: User ID: calison Phone:  
479-575-6731

Program Status Active

Academic Level Graduate

Type of proposal Major/Field of Study

Select a reason for this modification

Making Minor Changes to an Existing Certificate, Degree or Program (including 15 or fewer hours, admission/graduation requirements, Focused Studies or Tracks)

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 2023

College/School Code

Fulbright College of Arts and Sciences (ARSC)

Department Code

Department of Geosciences (GEOS)

### In Workflow

1. ARSC Dean Initial
2. GRAD Dean Initial
3. Director of Curriculum Review and Program Assessment
4. Registrar Initial
5. Institutional Research
6. GEOS Chair
7. ARSC Curriculum Committee
8. ARSC Dean
9. Global Campus
10. Provost Review
11. Graduate Council
12. Faculty Senate
13. Provost Final
14. Registrar Final
15. Catalog Editor Final

### Approval Path

1. 10/19/22 3:45 pm  
Jeannie Hulen (jhulen): Approved for ARSC Dean Initial
2. 10/21/22 11:04 am  
Christa Hestekin (chesteki): Approved for GRAD Dean Initial
3. 10/21/22 1:33 pm  
Alice Griffin (agriffin): Approved for Director of Curriculum Review

Program Code	GEOSPH	and Program
Degree	Doctor of Philosophy	Assessment
CIP Code		4. 10/24/22 10:40 am
		Gina Daugherty
		(gdaugher):
		Approved for
		Registrar Initial
		5. 10/24/22 10:41 am
		Doug Miles
		(dmiles): Approved
		for Institutional
		Research
		6. 10/24/22 11:22 am
		Christopher Liner
		(liner): Approved for
		GEOS Chair
		7. 02/08/23 9:08 am
		Ryan Cochran
		(rcc003): Approved
		for ARSC Curriculum
		Committee
		8. 02/08/23 9:21 am
		Jeannie Hulen
		(jhulen): Approved
		for ARSC Dean
		9. 02/08/23 9:26 am
		Suzanne Kenner
		(skenner): Approved
		for Global Campus
		10. 02/08/23 9:47 am
		Jim Gigantino
		(jgiganti): Approved
		for Provost Review
		11. 02/20/23 9:24 am
		Christa Hestekin
		(chesteki):
		Approved for
		Graduate Council
		History

1. Mar 3, 2015 by Charlie Alison (calison)
2. Feb 8, 2017 by Charlie Alison (calison)
3. Apr 2, 2018 by Gina Daugherty (gdaugher)
4. Mar 13, 2020 by Jason Tullis (jatullis)

40.0601 - Geology/Earth Science, General.

Program Title

Geosciences, Doctor of Philosophy

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 72  
hours needed to  
complete the  
program?

## Program Requirements and Description

### Requirements

Geosciences-specific requirements are intended to be in harmony with those of the Graduate Catalog [admissions](#) and requirements for [Ph.D. degrees](#) as well as all other university-level requirements. Supplemental information can be found in Department of Geosciences Graduate Handbook. In case of conflict, university-level requirements prevail, followed by Geosciences program requirements found below. Exceptions to program requirements, in consultation with the adviser, must be approved by the Geosciences Ph.D. coordinator and the department chair.

### Admission Requirements:

Undergraduate and graduate GPA as well as GRE (Verbal, Quantitative, and Writing) will be reviewed on a competitive basis by the Geosciences Ph.D. admissions committee

Recommendations: Three (3) letters of recommendation from individuals qualified to assess the applicant's academic potential

Acceptance by an adviser

Current curriculum vitae

Statement of academic and research interests

Submit application by Jan. 15 for the fall semester to assure consideration

### Degree Requirements:

University-level requirements stipulate 42 credit ~~24-course~~ hours beyond the M.S. Geography, M.S. Geology, or an equivalent ~~master's~~ ~~master's~~ degree (or for those starting the program without a ~~master's~~, 72 credit ~~master's~~, ~~48 course~~ hours beyond a related bachelor's degree). ~~bachelor's degree~~ These credit hours must include the following:

GEOS 5612 Research Methods in Geosciences

GEOS 5011 Colloquium (may be repeated up to four times)

At least 12 hours of regularly offered GEOS courses; special problems, individual study classes, GEOS 5612, and GEOS 5011 are excluded from fulfilling this 12-hour requirement

~~GEOS-5011 Colloquium~~ At least 6 hours (two courses) ~~Two courses outside~~ of regularly offered (excluding special problems or individual study classes) courses outside of the department that supplement ~~are supplementary to~~ the student's research interests and dissertation topic as approved by the adviser; ~~topic;~~ these may be 3000- and/or 4000-level ~~3000-level~~ undergraduate courses ~~courses;~~ if approved by the ~~approved by the~~ advisory committee and the ~~the~~ Graduate School and International Education

Education: At least 18 hours and up to 30 hours of doctoral dissertation (GEOS 700V); no more than 6 hours of doctoral dissertation may be taken before being admitted to candidacy

~~No more than 3 course hours of special problems or independent study~~ The Ph.D. degree is primarily a research degree, but communication of that research is critical for extension and application of research results as well as professional development; in order to advance communication skills, each student is required to teach labs and/or a course for at least one semester and/or to present scientific results at one or more national or international professional meetings

### Examination for Candidacy: ~~meetings.~~

~~In addition, each student will present a departmental colloquium on the dissertation topic. Examination~~

~~for Candidacy:~~ Two ~~Two~~ candidacy exams should be taken within the first two years of graduate study and after completion of 12 hours of graduate study, including Research Methods in Geosciences and Colloquium (see above). The candidacy exams are administered by the advisory committee (consisting of the adviser plus 3-5 additional faculty members) during full-semester classes. The first exam is a review paper written using the format and length of a specified refereed journal. The committee will assign the paper topic and journal style, and the paper will be due 30 days later. The advisory committee will determine whether the quality of the review paper demonstrates sufficient preparation for independent dissertation research. The second candidacy exam is an oral defense of a written dissertation proposal. The format of the written dissertation proposal will be specified by the advisory committee. The defense must demonstrate to the advisory committee that the student is prepared to move to the independent dissertation-research stage. Upon successful admission to candidacy, the advisory committee is dissolved, and a dissertation committee (adviser plus 2-4 additional faculty members) may then be formed.

Are Similar Programs available in the area?

No

Estimated Student      NA  
Demand for Program

Scheduled Program      2020-2021  
Review Date

Program Goals and  
Objectives

#### Program Goals and Objectives

The goal of the PhD Geosciences is to prepare students for research-based employment in geography, geology, and other geoscience disciplines. The program will help students develop expertise in select areas of the geosciences. These include but are not limited to the physical, chemical, and biological processes that act upon Earth and other planets, human activity as it affects and is affected by these processes, and advances in the geographic information sciences.

Learning Outcomes

#### Learning Outcomes

PhD Geosciences graduates will learn strong scholarly written, verbal, and visual communication skills and will develop a suite of analytical techniques that may be based in field work, laboratory work, remote sensing, geographic information systems, geovisualization, quantitative or qualitative techniques, etc. to address problems across the geosciences. Students will complete a doctoral dissertation that advances understanding on a research frontier.

Description and justification of the request

Description of specific change	Justification for this change
<p>The degree requirements have been modified to:</p> <p>(1) Clearly state the number of required credit hours in the Catalog instead of specifying the number of course hours</p> <p>(2) allow GEOS 5011 Colloquium to be repeated up to four times</p> <p>(3) specify the requirement of “at least 12 hours of regularly offered (not special problems or individual study) graduate level GEOS courses”</p> <p>(4) specify “at least 6 hours of regularly offered (not special problems or individual study) courses outside the department”</p>	<p>(1) The existing wording in the catalog lacks clarity. The proposed changes more clearly state how many total credits are required and what mixture of courses and dissertation hours is needed.</p> <p>(2) Participation in the department colloquium is an important component of a Ph.D. student’s education. Although only one semester (1 credit hour) of Colloquium is required, allowing this course to be taken additional times for credit would promote attendance and engagement.</p> <p>(3) Graduate level course requirements are currently much higher than peer universities and</p>

Description of specific change	Justification for this change
<p>(5) clarify the number of doctoral dissertation hours that may be counted towards degree requirement</p> <p>(6) allow up to 6 hours of doctoral dissertation to be taken before being admitted to candidacy</p> <p>(7) remove the restriction that “no more than 3 course hours of special problems or independent study” be counted for Ph.D. degree requirements</p> <p>(8) eliminate the requirement for the student to present a departmental colloquium.</p>	<p>are a burden on student research productivity. The current Catalog does not specify a minimum number of GEOS graduate courses, and we now specify 12 hours of regularly taught (not special problems) courses as a reasonable minimum.</p> <p>(4) The current catalog specifies that two courses be taken outside of the department but specifying 6 hours is more specific and consistent with other hour-based requirements.</p> <p>(5) Per conversation with Jim Gigantino, departments have flexibility in deciding how many dissertation hours are allowable, up to a maximum of ~40 hours. Current requirements only allow 18 hours (the minimum number required by the state), but allowing additional doctoral dissertation hours will help reduce burdensome course loads and promote research productivity.</p> <p>(6) Students are expected to conduct research during their first two years (prior to admission to candidacy). Preparation for the qualifying examination also requires time. There is no university rule that dissertation hours only be taken after admission to candidacy, and feedback from students has indicated that taking dissertation hours before candidacy would be helpful.</p> <p>(7) By specifying the required number of regularly offered graduate level courses, we believe there is no need to restrict the number of special problems hours. There are no university-wide regulations that restrict the number of course hours that are special problems or independent study. Feedback from current PhD students has indicated that the restriction on Special Problems is problematic, as many regularly offered classes</p>

Description of specific change	Justification for this change
	<p>are offered as Special Problems (either 510V or 560V). Other Special Problems courses include graduate-level seminars that can offer an important educational value to students.</p> <p>(8) The current Catalog specifies that Ph.D. students must present at department colloquium, but this requirement seems to lack compliance and enforcement. Although presenting at colloquium is beneficial (and thus worthy of being encouraged), the curriculum committee did not believe that this should rise to the level of a requirement.</p>

Upload attachments

Reviewer Comments

**Alice Griffin (agriffin) (10/21/22 1:31 pm):** Hyperlinked courses in text for easy access to course title and course details.

**Gina Daugherty (gdaugher) (10/24/22 10:40 am):** Removed Undergraduate Council from workflow.

Key: 315