

Date Submitted: 12/14/18 10:59 am

# Viewing: **GEOGMS : Geography, Master of Science**

Last approved: 04/05/17 11:32 am

Last edit: 02/06/19 10:17 am

Changes proposed by: jatullis

Catalog Pages Using this Program

[Geosciences \(GEOS\)](#)

Submitter:	User ID:	jatullis	Phone:
5-8784			
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 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 a track?			
No			
Are you adding a focused study?			
No			
Effective Catalog Year	Fall 2020		
College/School Code	Fulbright College of Arts and Sciences (ARSC)		

## In Workflow

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

## Approval Path

1. 12/14/18 11:06 pm  
Jeannine Durdik (jdurdik): Approved for ARSC Dean Initial

## Department Code

Department of Geosciences(GEOS)

## Program Code

GEOGMS

## Degree

Master of Science

## CIP Code

2. 12/15/18 2:38 pm  
Pat Koski (pkoski):  
Approved for GRAD  
Dean Initial
3. 12/20/18 8:38 am  
Alice Griffin  
(agriffin): Approved  
for Director of  
Program  
Assessment and  
Review
4. 01/10/19 9:22 am  
Lisa Kulczak  
(lkulcza): Approved  
for Registrar Initial
5. 01/10/19 9:33 am  
Gary Gunderman  
(ggunderm):  
Approved for  
Institutional  
Research
6. 02/21/19 3:59 pm  
Christopher Liner  
(liner): Approved for  
GEOS Chair
7. 04/09/19 10:15 am  
Pearl Dowe  
(pkford): Approved  
for ARSC Curriculum  
Committee
8. 04/09/19 11:56 am  
Jeannine Durdik  
(jdurdik): Approved  
for ARSC Dean
9. 04/09/19 1:44 pm  
Leigh Ann Marshall  
(lamarsh): Approved  
for Global Campus
10. 04/12/19 8:23 am  
Terry Martin

(tmartin): Approved for Provost Review

### History

- 1. May 20, 2015 by jatullis
- 2. Mar 1, 2017 by jatullis
- 3. Mar 20, 2017 by Gina Daugherty (gdaugher)
- 4. Apr 5, 2017 by Charlie Alison (calison)

45.0701 - Geography.

Program Title

Geography, Master 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 hours needed to complete the program? **30**

## Program Requirements and Description

Requirements

**Admissions to Degree Program:** Applicants must be admitted to the Graduate School and meet the following requirements: 1) satisfactory undergraduate preparation in geography, 2) three letters from persons competent to judge the applicant’s potential for graduate studies, 3) satisfactory GRE scores, and 4) **a-completed**

departmental application. In addition to these requirements, students applying to the MS program should have adequate mathematical preparation at the undergraduate level, including statistics, algebra, and/or **calculus**. ~~calculus. Students who do not meet these requirements may be admitted conditionally. Students with course deficiencies may enroll concurrently in graduate courses. Students speaking English as a foreign language are encouraged to take the TOEFL with results reported to the department.~~ **Students who do not meet these requirements may be admitted conditionally. Students with course deficiencies may enroll concurrently in graduate courses. Students speaking English as a foreign language are encouraged to take the TOEFL with results reported to the department.**

**Degree Requirements:** Requires a total of 30 semester ~~hours.~~ **hours.** ~~A minimum of 24 semester hours of course work (including a 7-hour core and 6 hours of quantitative or computational electives), six semester hours of thesis, and a comprehensive examination (defense of thesis) conducted by the candidate's thesis committee are required for all students who obtain an M.S.~~ **A minimum of 24 semester hours of course work (including a 6-hour core and 6 hours of quantitative or computational electives as approved by the master's advisory committee), 6 semester hours of thesis, and a comprehensive examination (defense of thesis) conducted by the candidate's thesis committee are required for all students who obtain an MS in Geography.**

#### Core

<u>GEOS 5093</u>	History and Philosophy of Geography	3
<del>GEOS 5333</del>	<del>Research Methods and Materials in Geography</del>	<del>3</del>
<b>GEOS 5612</b>	<b>Research Methods in Geosciences</b>	<b>2</b>
<u>GEOS 5011</u>	Colloquium	1

#### **Quantitative and Computational Electives** **6**

<del>GEOS 5043</del>	<del>Foundations of Geospatial Data Analysis</del>
<del>GEOS 5083</del>	<del>Geospatial Data Mining</del>
<del>GEOS 5513</del>	<del>Introduction to GIS Programming</del>
<del>GEOS 5863</del>	<del>Quantitative Techniques in Geosciences</del>
<del>GEOS 5033</del>	<del>Advanced Vector Geographic Information Systems</del>
<del>GEOS 510V</del>	<del>Special Problems in Physical Geosciences</del>
<del>ECON 4743</del>	<del>Introduction to Econometrics</del>
<del>CSCE 4523</del>	<del>Database Management Systems</del>
<del>CSCE 4613</del>	<del>Artificial Intelligence</del>
<del>MATH 4153</del>	<del>Mathematical Modeling</del>
<del>MATH 4503</del>	<del>Differential Geometry</del>
<del>MATH 5213</del>	<del>Advanced Calculus I (formerly MATH 4513)</del>
<del>MATH 5223</del>	<del>Advanced Calculus II (formerly MATH 4523)</del>
<del>MATH 5383</del>	<del>Numerical Analysis (formerly MATH 4363)</del>
<del>MATH 5393</del>	<del>Numerical Linear Algebra (formerly MATH 4353)</del>
<del>STAT 4003</del>	<del>Statistical Methods</del>
<del>STAT 5413</del>	<del>Spatial Statistics</del>

~~Other courses as approved by a Department of Geosciences Chair-appointed committee.~~

#### **Quantitative or Computational Electives**

<b>Quantitative or computational courses approved by master's advisory committee</b>	<b>6</b>
<b>Other Electives</b>	
<b>Courses in consultation with master's advisory committee</b>	<b>12</b>
<b>Thesis</b>	
<u>GEOS 600V</u> Master's Thesis	6
<b>Total Hours</b>	<b>30</b>

~~in Geography~~ Students should also be aware of Graduate School requirements with regard to master's degrees.

Are Similar Programs available in the area?

No

Estimated Student Demand for Program                      30

Scheduled Program Review Date                      Spring 2024

Program Goals and Objectives

**Program Goals and Objectives**

The goal of the MS Geography is to prepare students for doctoral research or employment in geography or related disciplines. The program will help students develop expertise in key areas of geography. These include physical, environmental, human, and regional studies, as well as cartography, remote sensing, photogrammetry, and computational aspects of geographic information science (**GIScience**). ~~(GIS) or geoinformatics.~~

Learning Outcomes

**Learning Outcomes**

MS Geography graduates will have geographic science skills to solve problems using a combination of scholarly written and verbal communication, geographic information systems (GIS) and related computational resources, and quantitative reasoning.

Description and justification of the request

<b>Description of specific change</b>	<b>Justification for this change</b>
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Description of specific change	Justification for this change
<p>1) Original wording suggested the student should draw 6 hours of quantitative/computational electives from a lengthy list of such courses across campus, and that they could draw from other courses as approved by a Chair-appointed committee; this proposed change eliminates this lengthy list (which is too difficult to maintain in the catalog) and specifies that the 6 hours of quantitative/computational electives must be approved by the MS Geography student's master's advisory committee. 2) Instead of GEOS 5333 Research Methods and Materials in Geography, GEOS 5612 Research Methods in Geosciences is proposed as part of the required core (now 6 hours instead of 7). 3) Department no longer accepts "department application" which is vague (all application materials go through Graduate School. 4) Very minor changes to description to keep wording consistent (e.g., "MS instead of "M.S."), and adjustment of table of courses showing all of the requirements adding up to 30.</p>	<p>1) While the original approval for electives is reasonable, it makes more sense for the student to make curricular determinations in close consultation with his or her MS Geography master's advisory committee (which is already tasked with supporting the student's curricular decision making process). This can make the approval process more tailored to the student's background and interests, and leverages the existing structure and forms required by the Graduate School. 2) The department made a decision last year to offer one 2-hour research methods course for both MS Geography and MS Geology students, and this change reflects that evolution. 3) The wording on "department application" was vague and students have been confused about the process; currently the department simply reviews the application materials submitted to the Graduate School. 4) Other minor changes for consistency in wording and completeness of course list.</p> <p>We understand that the Faculty Senate may only consider minor program changes once per year (in December). However, request for approval in the Fall 2019 Catalog of Studies allows nine months to approve. A delay until Fall 2020 (21 months to approve) may result in students and faculty having unclear information about GEOGMS. The department advisory board is currently raising 450K GeoVision funds specifically targeted to benefit future GEOGMS students, and this effort should coincide with accurate information in the catalog as soon as is reasonably possible. Thank you very much for considering these minor changes and for any assistance you can provide to ensure they can be included in the Fall 2019 catalog.</p>

Upload attachments

Reviewer Comments

**Ryan Cochran (rcc003) (02/06/19 10:17 am):** Changed effective date to Fall 2020.

Key: 309