

Program Change Request

Date Submitted: 10/08/20 10:54 am

Viewing: **SC-CERG-GISC : Geographic Information Science Graduate Certificate**

Last approved: 03/06/20 2:37 pm

Last edit: 11/22/20 11:12 pm

Changes proposed by: tleslie

Catalog Pages

Using this Program

[Geographic Information Science Graduate Certificate](#)

In Workflow

1. Registrar-Programs:Workflow Review
2. GGS Chair
3. SC Curriculum Committee
4. SC Associate Dean
5. SC CAT Editor
6. Assoc Provost-Graduate
7. Registrar-Programs

Approval Path

1. 10/09/20 9:35 am
Tory Sarro (vsarro): Approved for Registrar-Programs:Workflow Review
2. 11/17/20 1:06 pm
Nathan Burtch (nburtch): Approved for GGS Chair

History

1. Nov 8, 2017 by clmig-jwehrheim
2. Mar 6, 2020 by pxiong

2021 2022
Rationale for

Are you completing this form on someone else's behalf?

Yes

Requestor:

| Name | Extension | Email |
|-----------|-----------|----------------|
| Matt Rice | 3-1212 | mrice4@gmu.edu |

Effective Catalog: 2021-2022

Program Level: Graduate

Program Type: Certificate

Degree Type: Graduate Certificate

Title: Geographic Information Science Graduate Certificate

Banner Title: **GIS Certificate**

Is this a retitling of an existing

Existing Program

Registrar/OAPI Use Only – SCHEV Status Approved

Registrar’s Office Use Only – Program Start Term

Registrar/OAPI Use Only – SCHEV Letter

Registrar/OAPI Use Only – SACSCOC Status

Concentration(s):

INTO Major(s):

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Geography & Geoinformation Science

Jointly Owned Program? No

Participating

Participating

Justification

What: Updated the Banner title. Adding GGS 550 as a required core course and moving GGS 563 as an optional core course. Additionally, broadening the optional core course options and modifying elective course options. Elective count reduced to maintain same total credit requirement.

Why: GGS 550 has been restructured within the last few academic years, and is now a course

that will broadly introduce concepts essential to GIS and spatial sciences. Especially for certificate seekers that lack GIS background, this course builds content regarding datums, projections, and other fundamentals. Even those with GIS background can use a more thorough, graduate level course on these topics. This will make GGS 563 an optional core.

We are creating choice of a third core GIS course. This reflects the diversity of directions that GIS certificate seekers can go for the next-level GIS course after GGS 553. These options include an advanced GIS course, GIS algorithms, applied GIS, and web GIS.

These changes necessitated updating the list and total number of elective credits. This reflects more regular course offerings for GIS certificate seekers.

Catalog Published Information

Total Credits Required: Total credits: 15

Registrar's Office Use Only - Program Code:
SC-CERG-GISC

Registrar/IRR Use Only – Program CIP Code

Admission Requirements:

Admissions

University-wide admissions policies can be found in the [Graduate Admissions Policies](#) section of this catalog. To apply for this program, please complete the [George Mason University Admissions Application](#). Applicants to this certificate program must submit a current résumé. GRE scores and letters of recommendation are not required but will strengthen an application, if available. TOEFL scores are required of all international applicants.

All applicants should have a working knowledge of, or prior education or training in, computer technology. Knowledge of GIS, remote sensing technology, and cartography are preferred. Students from any discipline are welcome to apply.

Program-Specific Policies:

Policies

For policies governing all graduate certificates, see [AP.6.8 Requirements for Graduate Certificates](#)

Premium Tuition Rate

This professional certificate program charges students at a differential (premium) tuition rate. This rate applies to all students who enroll in this certificate program, regardless of in-state or out-of-state status. The differential tuition will be used to fund continuing improvements in the departmental computational facilities used to support the certificate program.

Degree Requirements:

This certificate may be pursued on a full-or part-time basis.

Students should refer to the [Admissions & Policies](#) tab for specific policies related to this program.

Core Courses

| | | |
|---|---|----------|
| GGS 550 | Geospatial Science Fundamentals | 3 |
| <u>GGS 553</u> | Geographic Information Systems | 3 |
| Select 3 credits from the following: | | 3 |
| <u>GGS 563</u> | Advanced Geographic Information Systems | |
| GGS 650 | Introduction to GIS Algorithms and Programming | |
| GGS 653 | GIS Analysis and Application | |
| GGS 692 | Web-based Geographic Information Systems | |
| Total Credits | | 9 |

Electives

| | | |
|---|---|----------|
| Select 9 credits from the following: | | 9 |
| Select an additional 6 credits from the following: | | 6 |
| <u>GGS 505</u> | Transportation Geography | |
| <u>GGS 531</u> | Land-Use Modeling Techniques and Applications | |
| <u>GGS 551</u> | Cartographic Design | |
| <u>GGS 560</u> | Spatial Quantitative Methods | |
| GGS 563 | Advanced Geographic Information Systems | |
| <u>GGS 579</u> | Remote Sensing | |
| <u>GGS 605</u> | Systematic Applications of GIS | |
| <u>GGS 631</u> | Spatial Agent-Based Modeling | |
| <u>GGS 650</u> | Introduction to GIS Algorithms and Programming | |
| <u>GGS 653</u> | GIS Analysis and Application | |
| <u>GGS 655</u> | Geovisualization | |
| <u>GGS 658</u> | Terrain Mapping | |
| GGS 660 | Automated Cartography | |
| GGS 661 | Map Projections and Coordinate Systems | |
| <u>GGS 664</u> | Spatial Data Structures | |
| <u>GGS 671</u> | Algorithms and Modeling in GIS | |

| | |
|--------------------------------|--|
| <u>GGS 675</u> | Location Science |
| <u>GGS 692</u> | Web-based Geographic Information Systems |
| <u>GGS 772</u> | Cloud Geographic Information Systems |
| <u>GGS 773</u> | Interoperability of Geographic Information Systems |
| <u>GGS 787</u> | Scientific Data Mining for Geoinformatics |

Total Credits

6

**Retroactive
Requirements
Updates:**

Plan of Study:

Honors
Information:

Accelerated
Description/Dual
Degree
Description:

INTO-Mason
Requirements:

College
Requirements &
Policies:

Department /
Academic Unit
Requirements &
Policies:

Program Outcomes

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via
distance (if
applicable):

Indicate whether
students are able
to pursue on a: Both Full and Part-time basis

What is the
primary delivery
format for the
program? **Face-to-Face Only**

Does any portion of this program occur off-campus?

No

Off-campus details:

Are you working with a vendor / other collaborators to offer your program?

No

Please explain:

**Related
Departments**

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

No

Please explain:

Are you adding or removing a licensure component?

No

Please explain:

Additional SCHEV & SACSCOC Information

Are you changing the total number of credits required for this program?

No

Are you changing the delivery format in any way (e.g adding an online option)?

No

Are you adding/removing a licensure option which was approved by SCHEV?

No

Will any portion of this program be offered at an off-campus location?

No

What off-campus location(s)? List all

What percentage of credits toward this program are offered at the off-campus location? Please list percentages by site (i.e. 15% at Site A, 35% at Site B etc.)

Will this program change affect any specialized accreditation?

No

Is the content of the new program closely related to that of an existing approved program?

No

Which existing approved program(s)?

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

No

Which existing approved program(s)?

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

No

Which existing approved program(s)?

Does this change represent a repackaging of content in an existing approved degree/certificate program?

No

Which existing approved program(s)?

Percentage of total credits containing new course content, excluding gen ed courses for undergraduate program: ("New content" means content that is not currently included in an existing approved degree/certificate program.) Please choose a percentage (i.e. 0%-100%)

less than 25%

Are the total credits for the program increasing or decreasing by more than 3 credits?

No

Will any additional equipment/facilities be needed?

No

Description of institutional impact:

Will any additional faculty be required?

No

Description of institutional impact:

Will any additional financial resources be needed?

No

Description of institutional impact:

Will any additional library/learning resources needed?

No

Description of institutional impact:

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program? No

Green Leaf

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated

Relationship to

Relationship to

List sustainability-focused courses currently required

Sustainability-related academic programs either require at least one sustainability-related

List sustainability-related courses currently required in the degree

Does this program cover material which crosses into another department?

No

Impacted

Additional Attachments

SCHFV Proposal Executive Summary

**Reviewer
Comments**

**Additional
Comments**

Is this course required of all students in this degree program?

%wi_required.eshtml%

Attached

Key: 208