

Program Change Request

Date Submitted: 02/02/25 5:26 pm

Viewing: **SC-MS-GEOI : Geoinformatics and**

Geospatial Intelligence, MS

Last approved: 04/26/24 1:09 pm

Last edit: 02/02/25 5:26 pm

Changes proposed by: nburtch

Catalog Pages
Using this Program

[Geoinformatics and Geospatial Intelligence, MS](#)

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

No

Effective Catalog: 2025-2026

Program Level: Graduate

Program Type: Master's

Degree Type: Master of Science

Title:
Geoinformatics and Geospatial Intelligence, MS

Banner Title: Geoinformatics, MS

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

In Workflow

1. GGS Chair
2. SC Curriculum Committee
3. SC Assistant Dean
4. Assoc Provost-Graduate
5. Registrar-Programs

Approval Path

1. 02/19/25 1:04 pm
Nathan Burtch
(nburtch): Approved for GGS Chair

History

1. Nov 9, 2017 by clmig-jwehrheim
2. Jan 23, 2019 by Dieter Pfoser (dpfoser)
3. Jan 29, 2021 by Nathan Burtch (nburtch)
4. Feb 23, 2021 by jriemen
5. Mar 11, 2021 by jriemen
6. Dec 2, 2021 by Nathan Burtch (nburtch)
7. May 17, 2022 by Tory Sarro (vsarro)
8. May 8, 2023 by Tory Sarro (vsarro)

Concentration(s):

**Registrar/IRR Use
Only –
Concentration CIP
Code**

College/School: College of Science

**Department /
Academic Unit:** Geography & Geoinformation Science

**Jointly Owned
Program?** No

Justification

What: Removing GGS 550 from electives

Why: Most students no longer require a graduate level introductory geoinformation course prior to or in addition to coursework like GGS 553 and 579. The course is slated for deletion

What: Adding GGS 655 and GGS 632 to electives

Why: GGS 655 is a geovisualization course. Geovisualization is a needed skill for competitive work in geoinformatics. It is also mentioned as a skill in the BAM section. GGS 632 is a new modeling course that fits this elective category.

9. May 16, 2023 by
Tory Sarro (vsarro)
10. Apr 26, 2024 by
Jennifer Bazaz
Gettys (jbazaz)

**Total Credits
Required:** Total credits: 30

Registrar's Office Use Only - Program Code:
SC-MS-GEOI

**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. International students and students having earned international degrees should also refer to [Admission of International Students](#) for additional requirements.

Eligibility

In addition to the university-wide requirements, applicants for this master's should hold a BA or BS degree in a discipline related to the program's theme from an institution of higher education accredited by a Mason-recognized

U.S. institutional accrediting agency or international equivalent, including courses in differential and integral calculus. A working knowledge of a computer programming language is a plus.

When the background of an individual student does not meet the program's requirements, remedial or preparatory courses tailored to student's needs may be recommended.

Application Requirements

To apply for this program, prospective students should submit the [George Mason University Admissions Application](#) and its required supplemental documentation, two letters of recommendation, and a goals statement. GRE scores are not required for admission into this program, but are encouraged if the student is seeking internal funding.

Program-Specific Policies:

Policies

For policies governing all graduate programs, see [AP.6 Graduate Policies](#).

Transferring Previous Graduate Credit into this Program

Previously earned and relevant graduate credits may be eligible for transfer into this program; details can be found in the [Credit by Exam or Transfer](#) section of this catalog.

Secondary Program Options

Students enrolled in this master's program have the option of adding a secondary graduate certificate program. Depending upon the secondary program chosen, many courses may be applicable to both the certificate and the master's. Before adding a secondary program, students are advised to carefully review [AP.6.8 Requirements for Graduate Certificates](#) and [AP.6.9 Requirements for Master's Degrees](#). Faculty advisors should be contacted for further guidance and for graduate certificate program suggestions.

Degree Requirements:

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

Core Courses

GGS 553	Geographic Information Systems	3
GGS 579	Remote Sensing	3
GGS 664	Spatial Data Structures	3
GGS 684	Selected Topics in Geospatial Intelligence	3
GGS 685	Capstone Course in Geoinformatics	3

GGS 787	Scientific Data Mining for Geoinformatics	3
-------------------------	---	---

Total Credits		18
---------------	--	----

Thesis or Non-thesis Option

Students choose the culminating experience of either a thesis or a project and a comprehensive exam (either must total 3 credits). The same graduate-level quality will be expected from either option: 3

Thesis Option

GGS 799	Thesis (3 credits)	
-------------------------	--------------------	--

Non-thesis Option

GGS 700	Comprehensive Exam (1 credit)	
-------------------------	-------------------------------	--

GGS 798	Master's Research Project (2 credits)	
-------------------------	---------------------------------------	--

Total Credits		3
---------------	--	---

Electives

Select three courses from the groupings below, with no more than two courses from a single group (courses must be taken from at least two groups): ¹ 9

Image Analysis:

GGS 562	Photogrammetry	
-------------------------	----------------	--

GGS 622	Drone Remote Sensing	
-------------------------	----------------------	--

GGS 626	Physical Fundamentals of Remote Sensing	
-------------------------	---	--

GGS 629	Remote Sensing of the Environment and Earth System	
-------------------------	--	--

GGS 680	Earth Image Processing	
-------------------------	------------------------	--

GGS 740	Hyperspectral Imaging Systems	
-------------------------	-------------------------------	--

GGS 760	Advanced Topics in Remote Sensing	
-------------------------	-----------------------------------	--

GGS 840	Hyperspectral Imaging Applications	
-------------------------	------------------------------------	--

Geographic Information Science:

GGS 550	Geospatial Science Fundamentals	
-------------------------	---	--

GGS 563	Advanced Geographic Information Systems	
-------------------------	---	--

GGS 653	GIS Analysis and Application	
-------------------------	------------------------------	--

GGS 655	Geovisualization	
-------------------------	----------------------------------	--

GGS 675	Location Science
GGS 791	Advanced Spatial Statistics
Computational Geoinformatics:	
GGS 631	Spatial Agent-Based Models of Human-Environment Interactions
GGS 632	Spatial Modeling for Public Health
GGS 650	Introduction to GIS Algorithms and Programming
GGS 681	Social Media Analysis
GGS 692	Web-based Geographic Information Systems
GGS 754	Earth Science Data and Advanced Data Analysis
GGS 773	Interoperability of Geographic Information Systems
GGS 788	Deep Learning for Geoinformation

Total Credits

9

1

Course selections must be approved by the program coordinator.

**Retroactive
Requirements
Updates:**

Plan of Study:

Program Outcomes

Additional Program Information

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

**Courses offered via
distance (if
applicable):**

**What is the
primary delivery
format for the
program?**

Both Face-to-Face and Distance

Does any portion of this program occur off-campus?

No

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

No

**Related
Departments**

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

No

Are you adding or removing a licensure component?

No

Additional SCHEV & SACSCOC Information

Is this change a simple retitling of an existing program, with no other changes, to any existing program content, curriculum requirements, etc?

No

Does this change represent a repackaging of content in an existing approved degree/certificate program at the same instructional level (i.e., baccalaureate, master's, or doctoral)?

No

Percentage of total credits containing new course content. ("New course content" is defined by SACSCOC as content that is not currently included in an existing approved degree/certificate program at the same instructional level. Do not exclude gen ed credits in calculations for undergraduate programs.)

0%-24%

Does this change include the addition of a distance education or face-to-face method of delivery for this program?

No

Does this change include the addition of a course/credit-based competency-based education delivery option?

No

Will any additional equipment/facilities be needed?

No

Will any additional faculty be required?

No

Will any additional financial resources be needed?

No

Additional library/learning resources needed?

No

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program? No

Does this program cover material which crosses into another department?

No

Additional Attachments

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

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

%wi_required.eshtml%