GEOGRAPHY, BS

Banner Code: SC-BS-GEOG

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The Geography, BS is designed to offer students the opportunity to study the integrated social and environmental processes that continuously shape and reshape the world we live in. This major provides students with broad training across the core subdisciplines of geography (human, physical, and GIScience), emphasizing application and technique-driven coursework, in addition to a rigorous science and mathematics curriculum. Students will find numerous opportunities for employment in both the private and public sectors, as well as in academia. Given their interdisciplinary approach and uniquely spatial perspective, geographers are well suited to address important local, regional, and global challenges in today's world.

The Department of Geography and Geoinformation Science fosters a supportive, active learning environment in which students are encouraged to work closely with both faculty and peers. The curriculum in this major provides students with the analytical, technical, and practical training that prepares them to be successful in an ever-evolving job market. For students who wish to pursue their interest in geography via a more flexible degree program, the department also offers a Geography, BA.

Admissions & Policies

Admissions

University-wide admissions policies can be found in the Undergraduate Admissions Policies section of this catalog.

To apply for this program, please complete the George Mason University Admissions Application (https://www2.gmu.edu/admissions-aid/apply-now).

Policies

Students must fulfill all Requirements for Bachelor's Degrees including the Mason Core.

GGS 415 Seminar in Geography fulfills the writing intensive requirement.

For policies governing all undergraduate programs, see AP.5 Undergraduate Policies.

Requirements

Degree Requirements

Total credits: minimum 120

Students should refer to the Admissions & Policies tab for specific policies related to this program.

Geography

Candidates for the Geography, BS degree must complete the following Core, Breadth and Experience, and Geography Elective courses with a minimum GPA of 2.00:

Core Courses

Code	Title	Credits
GGS 102	Physical Geography (Mason Core)	3-4
or GGS 121	Dynamic Atmosphere and Hydrosphere (Mason Core)	
GGS 103	Human Geography (Mason Core)	3
GGS 110	Introduction to Geoinformation Technologies	3
or GGS 210	Introduction to Spatial Computing	
GGS 300	Quantitative Methods for Geographical Analysis	3
GGS 310	Introduction to Digital Cartography	3
GGS 311	Introduction to Geographic Information Systems	3
GGS 379	Remote Sensing	3
GGS 400	Colloquium in Geoinformation Science	1
GGS 415	Seminar in Geography [1]	3
Total Credits		25-26

[1] Fulfills the writing intensive requirement.

Breadth and Experience Courses

Code	Title	Credits
Advanced Technique Courses		
Select three from the following:		9
GGS 308	Field Mapping Techniques	
GGS 354	Data Analysis and Global Change Detection Techniques	
GGS 410	Introduction to Hyperspectral Imaging	
GGS 411	Advanced Digital Cartography	
GGS 412	Air Photography Interpretation	
GGS 416	Satellite Image Analysis	
GGS 462	Web Mapping	
GGS 463	RS: Applied Geographic Information Systems	
GGS 470	Special Topics in Geographic Techniques	
Systematic Courses		
Select one from the following:		3
GGS 301	Political Geography	
GGS 302	Global Environmental Hazards	
GGS 303	Geography of Resource Conservation (Mason Core)	
GGS 304	Population Geography (Mason Core)	
GGS 305	Economic Geography	
GGS 306	Urban Geography	

GGS 307	Geographic Approaches on Sustainable Development	
GGS 309	Meteorology and Climate	
GGS 312	Physical Climatology	
GGS 314	Severe and Extreme Weather	
GGS 319	Air Pollution	
GGS 321	Biogeography	
GGS 322	Issues in Global Change	
GGS 357	Urban Planning	
GGS 398	Selected Topics in Global Change	
GGS 399	Select Topics in GGS	
Regional Courses		
Select one from the following:		3
GGS 315	Geography of the United States	
GGS 316	Geography of Latin America	
GGS 317	Geography of China	
GGS 320	Geography of Europe	
GGS 325	Geography of North Africa and the Middle East	
GGS 330	Geography of the Soviet Succession States	
GGS 333	Issues in Regional Geography	
GGS 380	Geography of Virginia	
Total Credits		15

Geography Electives

Code	Title	Credits
Select 3 credits of undergraduate-level GGS courses		3
Select 6 credits of 300 or 400-level GGS courses		6
Total Credits		9

Outside Requirements

Code	Title	Credits
GGS 400	Colloquium in Geoinformation Science	1
CDS 130	Computing for Scientists (Mason Core)	3
MATH 113	Analytic Geometry and Calculus I (Mason Core)	4
MATH 114	Analytic Geometry and Calculus II	3-4
or IT 207	Applied IT Programming	
or STAT 250	Introductory Statistics I (Mason Core)	
Total Credits		11-12

Mason Core and Elective Credits

In order to meet a minimum of 120 credits, this degree requires an additional 58-60 credits, which may be applied toward any remaining Mason Core requirements, Requirements for Bachelor's Degrees, and elective courses. Students are strongly encouraged to consult with their advisors to ensure that they fulfill all requirements.

Mason Core

Some Mason Core requirements may already be fulfilled by the major requirements listed above. Students are strongly encouraged to consult their advisors to ensure they fulfill all remaining Mason Core requirements.

Code	Title	Credits
Foundation Requirements		
Written Communication (ENGH 101)		3
Oral Communication		3
Quantitative Reasoning		3
Information Technology and Computing		3
Exploration Requirements		
Arts		3
Global Understanding		3
Literature		3
Natural Science		7
Social and Behavioral Sciences		3
Western Civilization/World History		3
Integration Requirements		
Written Communications (ENGH 302)		3
Writing-Intensive [1]		3
Synthesis/Capstone [2]		3
Total Credits		40

1 Most programs include the writing-intensive course designated for the major as part of the major requirements; this course is therefore not counted towards the total required for Mason Core.

2 Minimum 3 credits required.

Accelerated Master's

Geography, BS/Geographic and Cartographic Sciences, Accelerated MS

Overview

Offered by the Department of Geography and Geoinformation Sciences (GGS) in the College of Science, this bachelor's/accelerated master's degree program enables highly qualified undergraduates to obtain the Geography, BS and the Geographic and Cartographic Sciences, MS degrees within an accelerated timeframe. The program strategy enables students to undertake graduate coursework during their final year in the bachelor's degree. This 144 credit program (thesis option) or 151 credit program (comprehensive exam option) prepares students for professional careers where geoinformation management, geographic analysis, and geospatial visualization are of importance.

Students in this accelerated degree program must fulfill all university requirements for the Geography, BS and the Geographic and Cartographic Sciences, MS. While the information below is largely comprehensive, students are strongly encouraged to also review AP.6.7 Bachelor's/Accelerated Master's Degrees.

Application Requirements

Students with an overall GPA of at least 3.0 may apply for provisional acceptance into this accelerated master's program after completing at least 90 undergraduate credits. Additionally, they must have completed the following courses with a GPA of 3.0 or better: GGS 102 Physical Geography (Mason Core) or GGS 121 Dynamic Atmosphere and Hydrosphere (Mason Core) or GGS 122 Dynamic Geosphere and Ecosphere, GGS 103 Human Geography (Mason Core), GGS 110 Introduction to Geoinformation Technologies, GGS 300 Quantitative Methods for Geographical Analysis, GGS 310 Introduction to Digital

Cartography, GGS 311 Introduction to Geographic Information Systems, GGS 412 Air Photography Interpretation, MATH 113 Analytic Geometry and Calculus I (Mason Core), and MATH 114 Analytic Geometry and Calculus II or IT 207 Applied IT Programming or STAT 250 Introductory Statistics I (Mason Core) .

Applicants to all graduate programs at Mason must meet the admission standards and application requirements for graduate study as specified in the Admissions section of this catalog. However, this accelerated master's does not require GRE test scores.

While being undergraduate students, accelerated master's students must complete the two graduate courses indicated on their Accelerated Master's Program Application (obtained from the Office of Academic and Student Affairs) with a minimum grade of 3.0 in each course. They must maintain a minimum GPA of 3.0 in all coursework and in coursework applied to their major.

At the beginning of their final undergraduate semester, they must submit the Bachelor's/Accelerated Master's Transition Form (found on the Office of the University Registrar website). Students must begin their master's program in the semester immediately following the term of undergraduate degree conferral. Students should consult with their faculty advisor in the Department of Geography and Geoinformation Science and the Office of Academic and Student Affairs to obtain further guidance.

Accelerated Option Requirements

Students admitted to this program may start taking graduate courses after completing 90 undergraduate credits. Up to 6 credits of graduate coursework may be applied to both undergraduate degree and the master's degree. If students earn at least a 3.0 in these classes, they are granted advanced standing in the master's program and must then complete 24 (thesis option) or 31 (comprehensive exam option) additional credits to receive the master's degree. All other master's degree requirements must be met.

Reserve Graduate Credit

During the bachelor's degree status, students may take up to 6 graduate credits as reserve graduate credit. These credits do not apply to the undergraduate degree, but will reduce the subsequent master's degree credits accordingly (e.g., with 6 credits counted towards undergraduate degree plus the maximum 6 reserve credits, the master's degree can be completed with 18 (thesis option) or 25 (comprehensive exam option) graduate credits). The ability to take courses for reserve graduate credit is available to all high achieving undergraduates with the permission of the department. To apply the reserved credits to the master's degree, students must request their transfer from the undergraduate degree to the graduate degree via the Bachelor's/Accelerated Master's Transition Form found on the Office of the University Registrar website.

Geography, BS/Geoinformatics and Geospatial Intelligence, Accelerated MS

Overview

Offered by the Department of Geography and Geoinformation Sciences (GGS) in the College of Science, this bachelor's/accelerated master's degree program enables highly qualified undergraduates to obtain the Geography, BS and the Geoinformatics and Geospatial Intelligence,MS degrees within an accelerated timeframe. The program strategy enables students to undertake graduate coursework during their final year in the bachelor's degree. This 147 credit program prepares students for professional careers where geoinformation management, geographic analysis, and geointelligence and geovisualization are of importance.

Students in this accelerated degree program must fulfill all university requirements for the Geography, BS and the Geoinformatics and Geospatial Intelligence,MS. While the information below is largely comprehensive, students are strongly encouraged to also review AP.6.7 Bachelor's/Accelerated Master's Degrees.

Application Requirements

Students with an overall GPA of at least 3.0 may apply for provisional acceptance into this accelerated master's program after completing at least 90 undergraduate credits. Additionally, they must have completed the following courses with a GPA of 3.0 or better: GGS 102 Physical Geography (Mason Core) or GGS 121 Dynamic Atmosphere and Hydrosphere (Mason Core) , GGS 103 Human Geography (Mason Core), GGS 110 Introduction to Geoinformation Technologies, GGS 300 Quantitative Methods for Geographical Analysis, GGS 310 Introduction to Digital Cartography, GGS 311 Introduction to Geographic Information Systems, GGS 412 Air Photography Interpretation, MATH 113 Analytic Geometry and Calculus I (Mason Core), and MATH 114 Analytic Geometry and Calculus II or IT 207 Applied IT Programming or STAT 250 Introductory Statistics I (Mason Core) .

Applicants to all graduate programs at Mason must meet the admission standards and application requirements for graduate study as specified in the Admissions section of this catalog. However, this accelerated master's does not require GRE test scores.

While being undergraduate students, accelerated master's students must complete the two graduate courses indicated on their Accelerated Master's Program Application (obtained from the Office of Academic and Student Affairs) with a minimum grade of 3.0 in each course. They must maintain a minimum GPA of 3.0 in all coursework and in coursework applied to their major.

At the beginning of their final undergraduate semester, they must submit the Bachelor's/Accelerated Master's Transition Form (found on the Office of the University Registrar website). Students must begin their master's program in the semester immediately following the term of undergraduate degree conferral. Students should consult with their faculty advisor in the Department of Geography and Geoinformation Science and the Office of Academic and Student Affairs to obtain further guidance.

Accelerated Option Requirements

Students admitted to this program may start taking graduate courses after completing 90 undergraduate credits. Up to 6 credits of graduate coursework may be applied to both undergraduate degree and the master's degree. If students earn at least a 3.0 in these classes, they are granted advanced standing in the master's program and must then complete 27 additional credits to receive the master's degree. All other master's degree requirements must be met.

Reserve Graduate Credit

During the bachelor's degree status, students may take up to 6 graduate credits as reserve graduate credit. These credits do not apply to the undergraduate degree, but will reduce the subsequent master's degree credits accordingly (e.g., with 6 credits counted towards undergraduate degree plus the maximum 6 reserve credits, the master's degree can be completed with 21 graduate credits). The ability to take courses for reserve graduate credit is available to all high achieving undergraduates

with the permission of the department. To apply the reserved credits to the master's degree, students must request their transfer from the undergraduate degree to the graduate degree via the Bachelor's/Accelerated Master's Transition Form found on the Office of the University Registrar website.