GEOPHYSICS, BA

Banner Code: SC-BA-GEOG

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The Geography, BA 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), while also offering the requisite flexibility for those students seeking a multidisciplinary educational experience. 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 (http://catalog.gmu.edu/colleges-schools/science/geography-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 synthesis skills and broad base of knowledge that prepares them to be successful in an ever-evolving job market. For students who wish to pursue their interest in geography with a more technical curriculum, the department also offers a Geography, BS (http://catalog.gmu.edu/colleges-schools/science/geography-geoinformation-science/geography-bs/).

Admissions & Policies

Admissions

University-wide admissions policies can be found in the Undergraduate Admissions Policies (http://catalog.gmu.edu/policies/academic/undergraduate-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 (http://catalog.gmu.edu/policies/academic/undergraduate-policies/#text) including the Mason Core (http://catalog.gmu.edu/mason-core/). As outlined in the Requirements tab, students in this bachelor's program must also complete the additional College Requirements for the BA Degree.

GGS 415 Seminar in Geographic Thought and Methodology fulfills the writing intensive requirement.

For policies governing all undergraduate programs, see AP5 Undergraduate Policies (http://catalog.gmu.edu/policies/academic/undergraduate-policies/).

Requirements

Degree Requirements

Total credits: minimum 120

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

Candidates for a degree in geography must complete the approved GGS geography courses with a minimum GPA of 2.00.

Students must complete the Core, Systematic and Regional Geography, and GGS electives, then select one concentration or an additional program, and lastly complete the College Requirements for the BA Degree and the Mason Core and Elective Credits.

Geography Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 102</td>
<td>Physical Geography (Mason Core) (<a href="http://catalog.gmu.edu/mason-core/">http://catalog.gmu.edu/mason-core/</a>)</td>
<td>3-4</td>
</tr>
<tr>
<td>or GGS 121</td>
<td>Dynamic Atmosphere and Hydrosphere (Mason Core) (<a href="http://catalog.gmu.edu/mason-core/">http://catalog.gmu.edu/mason-core/</a>)</td>
<td></td>
</tr>
<tr>
<td>or GGS 122</td>
<td>Dynamic Geosphere and Ecosphere</td>
<td></td>
</tr>
<tr>
<td>GGS 103</td>
<td>Human Geography (Mason Core) (<a href="http://catalog.gmu.edu/mason-core/">http://catalog.gmu.edu/mason-core/</a>)</td>
<td>3</td>
</tr>
<tr>
<td>GGS 110</td>
<td>Introduction to Geoinformation Technologies</td>
<td>3</td>
</tr>
<tr>
<td>GGS 300</td>
<td>Quantitative Methods for Geographical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GGS 310</td>
<td>Cartographic Design</td>
<td>3</td>
</tr>
<tr>
<td>GGS 311</td>
<td>Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GGS 415</td>
<td>Seminar in Geographic Thought and Methodology</td>
<td>3</td>
</tr>
<tr>
<td>GGS 485</td>
<td>Capstone in Geography and Geoinformation Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 24-25

1 Fulfills writing intensive requirement.

Breadth and Experience Courses

Students must take one systematic course and one regional course from the list below.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic Courses</td>
<td>Select one from the following:</td>
<td>3</td>
</tr>
<tr>
<td>GGS 301</td>
<td>Political Geography (Mason Core) (<a href="http://catalog.gmu.edu/mason-core/">http://catalog.gmu.edu/mason-core/</a>)</td>
<td></td>
</tr>
<tr>
<td>GGS 302</td>
<td>Global Environmental Hazards</td>
<td></td>
</tr>
</tbody>
</table>
GGS 303  Geography of Resource Conservation
(Mason Core) (http://catalog.gmu.edu/mason-core/)

GGS 304  Population Geography (Mason Core) (http://catalog.gmu.edu/mason-core/)

GGS 305  Economic Geography

GGS 306  Urban Geography

GGS 307  Geographic Approaches for Sustainable Development

GGS 309  Introduction to Weather and Climate

GGS 312  Physical Climatology

GGS 314  Severe and Extreme Weather

GGS 321  Biogeography

GGS 340  Health Geography

GGS 344  Military Geography

GGS 357  Urban Planning

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 (Mason Core) (http://catalog.gmu.edu/mason-core/)

GGS 320  Geography of Europe

GGS 325  Geography of North Africa and the Middle East

GGS 326  Geography of Eastern Europe and Russia

GGS 333  Issues in Regional Geography

GGS 380  Geography of Virginia

Total Credits 6

Elective Courses
Code Title Credits
GGS 302  Global Environmental Hazards 3
GGS 307  Geographic Approaches for Sustainable Development
GGS 308  Field Mapping Techniques
GGS 309  Introduction to Weather and Climate
GGS 312  Physical Climatology
GGS 314  Severe and Extreme Weather
GGS 354  Data Analysis and Global Change Detection Techniques 3
or GGS 379  Remote Sensing
EVPP 336  Tackling Wicked Problems in Society the Environment 3
or EVPP 337  Environmental Policy Making in Developing Countries
or EVPP 377  Applied Ecology
GGS 399  Select Topics in GGS

Electives 6-7
Select at least 6 credits from the following options, 3 credits of which must be prefixed GGS:

GGS 302  Global Environmental Hazards
GGS 307  Geographic Approaches for Sustainable Development
GGS 308  Field Mapping Techniques
GGS 309  Introduction to Weather and Climate
GGS 312  Physical Climatology
GGS 314  Severe and Extreme Weather
GGS 354  Data Analysis and Global Change Detection Techniques 3
or GGS 379  Remote Sensing
EVPP 336  Tackling Wicked Problems in Society the Environment 3
or EVPP 337  Environmental Policy Making in Developing Countries
or EVPP 377  Applied Ecology
EVPP 421  Marine Conservation
EVPP 430  Fundamentals of Environmental Geographic Information Systems
EVPP 440  Field Environmental Science
EVPP 480  Sustainability in Action (Mason Core) (http://catalog.gmu.edu/mason-core/)
GEOL 305  Environmental Geology

Total Credits 15-16

Environmental Geography Concentration (EGEO)
The Environmental Geography concentration for the BA in Geography provides a unique opportunity for majors to take a broader, integrative science approach to studies of the environment. In collaboration with the Department of Environmental Science and Policy (http://catalog.gmu.edu/colleges-schools/science/environmental-policy/), BA in Geography majors have the opportunity to focus their studies on geographic approaches to climatology and global changes, environmental issues, policy matters, and sustainability topics.

Some courses may have prerequisite requirements:

Code Title Credits
GGS 303  Geography of Resource Conservation (Mason Core) (http://catalog.gmu.edu/mason-core/) 3

EVPP 336  Tackling Wicked Problems in Society the Environment
or EVPP 337  Environmental Policy Making in Developing Countries
or EVPP 377  Applied Ecology

Methods Course
GGS 354  Data Analysis and Global Change Detection Techniques 3
or GGS 379  Remote Sensing

Electives 6-7
Select at least 6 credits from the following options, 3 credits of which must be prefixed GGS:

GGS 302  Global Environmental Hazards
GGS 307  Geographic Approaches for Sustainable Development
GGS 308  Field Mapping Techniques
GGS 309  Introduction to Weather and Climate
GGS 312  Physical Climatology
GGS 314  Severe and Extreme Weather
GGS 354  Data Analysis and Global Change Detection Techniques 1
or GGS 379  Remote Sensing
EVPP 336  Tackling Wicked Problems in Society the Environment 1
or EVPP 337  Environmental Policy Making in Developing Countries 1
EVPP 361  Introduction to Environmental Policy
EVPP 362  Intermediate Environmental Policy
EVPP 377  Applied Ecology 1
EVPP 421  Marine Conservation
EVPP 430  Fundamentals of Environmental Geographic Information Systems
EVPP 440  Field Environmental Science
EVPP 480  Sustainability in Action (Mason Core) (http://catalog.gmu.edu/mason-core/)
GEOL 305  Environmental Geology

Total Credits 15-16

1 Course cannot be selected if previously selected as a core course.

Health Geography Concentration (HGEO)
The field of Health Geography addresses the role of place, location dynamics and geography in health, well-being, and disease. Public health patterns can vary significantly by physical and social characteristics of places both within and between regions, states, or countries. In collaboration with the Department of Global and Community Health (http://catalog.gmu.edu/colleges-schools/health-human-services/global-community-health/), BA in Geography majors get introduced to local and global health issues and develop their skill set in spatial and statistical analysis of diverse health outcomes in populations.

Some courses may have prerequisite requirements:

Code Title Credits
GGS 340  Health Geography 3
the environment as part of a global cultural system. Better versed in the theoretical constructs of anthropology that situate versed in systematic techniques and regional geography, to become better versed in the theoretical constructs of anthropology that situate the environment as part of a global cultural system.

Geoanthropology Concentration (GEA)
Anthropology, a social science, focuses on human activities—past, present, and future. Geography, positioned in the social science and STEM field, studies the physical features of the Earth and its atmosphere, and human activities as they affect and are affected by these, including the distribution of populations and resources, land use, urbanization and other topics. Just as anthropologists use insights from other disciplines to understand humans, geographers cross disciplinary boundaries to collect, store, analyze, model and visualize data. Such broad and inclusive disciplines and definitions yield a large number of possible themes in Geoanthropology. This concentration enables BA in Geography majors, versed in systematic techniques and regional geography, to become better versed in the theoretical constructs of anthropology that situate the environment as part of a global cultural system.

GGS 304 Population Geography (Mason Core) (http://catalog.gmu.edu/mason-core/) 3
ANTH 114 Introduction to Cultural Anthropology (Mason Core) (http://catalog.gmu.edu/mason-core/) 3
or ANTH 120 Unearthing the Past: Prehistory, Culture and Evolution (Mason Core) (http://catalog.gmu.edu/mason-core/)

Methods Course
GGS 308 Field Mapping Techniques 3
or GGS 379 Remote Sensing

Electives
Select at least 6 credits from the following options, 3 credits of which must be prefixed GGS:
GGS 302 Global Environmental Hazards
GGS 303 Geography of Resource Conservation (Mason Core) (http://catalog.gmu.edu/mason-core/)
GGS 304 Population Geography (Mason Core) (http://catalog.gmu.edu/mason-core/)
GGS 306 Urban Geography
GGS 321 Biogeography
GGS 354 Data Analysis and Global Change Detection Techniques
GGS 357 Urban Planning
GCH 205 Global Health (Mason Core) (http://catalog.gmu.edu/mason-core/)
GCH 332 Health and Environment
GCH 412 Fundamentals of Epidemiology
GCH 445 Social Determinants of Health
GCH 450 Culture, Sexuality and the Global AIDS Epidemic

Total Credits 15

Urban Planning (URBP)
Urban planners work to solve issues surrounding the built environment, examining spaces of everyday life in urban regions. While inherently spatial in nature, urban planners also develop transdisciplinary skills involving policy, analytical methods, and social sciences in order to create and maintain communities with high quality of life. Students pursuing the Urban Planning concentration build upon their GIS, cartographic, and
geospatial analysis skills through a focus on urban spaces and urban problems.

### Code Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 357</td>
<td>Urban Planning</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 103</td>
<td>Introduction to Architecture (Mason Core)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Methods Course

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 304</td>
<td>Population Geography (Mason Core)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Electives

Select at least 6 credits from the following options, 3 credits of which must be prefixed GGS: ¹

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 301</td>
<td>Political Geography (Mason Core)</td>
<td>3</td>
</tr>
<tr>
<td>GGS 302</td>
<td>Global Environmental Hazards</td>
<td>3</td>
</tr>
<tr>
<td>GGS 303</td>
<td>Geography of Resource Conservation (Mason Core)</td>
<td>3</td>
</tr>
<tr>
<td>GGS 305</td>
<td>Economic Geography</td>
<td>3</td>
</tr>
<tr>
<td>GGS 306</td>
<td>Urban Geography</td>
<td>3</td>
</tr>
<tr>
<td>GGS 307</td>
<td>Geographic Approaches for Sustainable Development</td>
<td>3</td>
</tr>
<tr>
<td>GGS 463</td>
<td>RS: GIS Analysis and Application</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 382</td>
<td>Urban Anthropology (Mason Core)</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 311</td>
<td>Design of Cities (Mason Core)</td>
<td>3</td>
</tr>
<tr>
<td>EVPP 490</td>
<td>Special Topics in Environmental Science and Policy (When the topic is “Urban Smart Growth Strategies”)</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 464</td>
<td>Issues in Public Policy and Administration (When title is “Urban Economic Development in Smart Growth Era”)</td>
<td>3</td>
</tr>
<tr>
<td>NUTR 435</td>
<td>Urban Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 332</td>
<td>The Urban World (Mason Core)</td>
<td>3</td>
</tr>
<tr>
<td>USST 390</td>
<td>Special Topics in Urban and Suburban Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

### Total Credits

15

¹ Other urban topics courses may be taken with advisor approval.

### Alternative to a Concentration

Students who are not selecting a concentration must choose an established minor or second major that provides 15 unique credits. If 15 unique credits are not available in the chosen minor or second major, additional GGS courses may be taken to fulfill this requirement; please consult with an advisor for details. ¹

### Mason Core and Elective Credits

In order to meet a minimum of 120 credits, this degree requires additional credits (specific credit counts by concentration are shown below), which may be applied toward any remaining Mason Core (http://catalog.gmu.edu/mason-core/) requirements (outlined below), Requirements for Bachelor's Degrees (http://catalog.gmu.edu/policies/academic/undergraduate-policies/#ap-5-3-2), College Requirements for the BA Degree (outlined below), and electives. Students are strongly encouraged to consult with their advisors to ensure that they fulfill all requirements.

- EGEO Concentration: 64-66 credits
- HGE0 Concentration: 64-66 credits
- GEA Concentration: 64-66 credits
- URBP Concentration: 64-66 credits
- Alternative to a Concentration: 64-66 credits

### Mason Core

Some Mason Core (http://catalog.gmu.edu/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 (http://catalog.gmu.edu/mason-core/) requirements.

Students who have completed the following credentials are eligible for a waiver of the Foundation and Exploration (lower level) requirement categories. The Integration category (upper level) is not waived under this policy. See Admissions (http://catalog.gmu.edu/admissions/undergraduate-policies/#transfertext) for more information.

- VCCS Uniform Certificate of General Studies
- VCCS or Richard Bland Associate of Science (A.S.), Associate of Arts (A.A.), Associate of Arts and Sciences (A.A.&S.), or Associate of Fine Arts (A.F.A.)

### Code | Title | Credits
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundation Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written Communication (ENGH 101)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Information Technology and Computing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Exploration Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Global History</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Global Understanding</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Natural Science (http://catalog.gmu.edu/mason-core/#natural-science)  
Social and Behavioral Sciences (http://catalog.gmu.edu/mason-core/#social-behavioral-science)  

Integration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communications (ENGH 302) (<a href="http://catalog.gmu.edu/mason-core/#written">http://catalog.gmu.edu/mason-core/#written</a>)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Writing-Intensive (<a href="http://catalog.gmu.edu/mason-core/#wi">http://catalog.gmu.edu/mason-core/#wi</a>)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Synthesis/Capstone (<a href="http://catalog.gmu.edu/mason-core/#synthesis-capstone">http://catalog.gmu.edu/mason-core/#synthesis-capstone</a>)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

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.

College Requirements for the BA Degree

In addition to the program requirements and the Mason Core (http://catalog.gmu.edu/mason-core/) requirements, students pursuing a BA degree must complete the coursework below. Except where expressly prohibited, a course used to fulfill the college-level requirement may also be used simultaneously to satisfy other requirements such as Mason Core (http://catalog.gmu.edu/mason-core/) requirements, other college-level requirements, or requirements for the major. In some cases, the requirements listed below may be superseded by requirements of the degree program and the Mason Core (http://catalog.gmu.edu/mason-core/).

Foundational Breadth

Choose two courses from approved Mason Core: Arts (http://catalog.gmu.edu/mason-core/#arts), Mason Core: Literature (http://catalog.gmu.edu/mason-core/#literature), Mason Core: Global Understanding (http://catalog.gmu.edu/mason-core/#global-understanding), and Mason Core: Social and Behavioral Sciences (http://catalog.gmu.edu/mason-core/#social-behavioral-science) courses in addition to those required by the Mason Core (http://catalog.gmu.edu/mason-core/). The two courses used to fulfill the college-level requirements must each be from different Mason Core categories. Additionally, they must be from different disciplines than the courses used to fulfill the University Mason Core requirements.

Natural Science

Choose one credit in addition to the Mason Core: Natural Science (http://catalog.gmu.edu/mason-core/#natural-science) requirement for a total of 8 credits1. This combined college-level and university requirement must be fulfilled by completing two of any approved Mason Core: Natural Science (http://catalog.gmu.edu/mason-core/#natural-science) courses that include a laboratory experience2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Select an additional Mason Core Natural Science course</td>
<td>1</td>
</tr>
</tbody>
</table>

1
For Geography, BA majors, this extra credit is not required.

2
BIOL 124 Human Anatomy and Physiology and BIOL 125 Human Anatomy and Physiology may not be used to fulfill this requirement.

Foreign Language

Code | Title                              | Credits |
-----|------------------------------------|---------|
      | Intermediate-level proficiency in one foreign language is required and may be fulfilled via one of the options below. | |
1 | 1. Completing a course in a foreign language numbered 202 (or its equivalent), or higher level courses taught in the language. | |
2 | 2. Achieving a satisfactory score on an approved proficiency test. | |
3 | 3. Completing a three course sequence in American Sign Language: EDSE 115 American Sign Language (ASL) I | |
   | EDSE 116 American Sign Language (ASL) II | |
   | EDSE 219 American Sign Language (ASL) III | |
4 | 4. Conferral of a baccalaureate degree. | |

1
Students who are already proficient in a second language may be eligible for a waiver of this requirement. Additional information on waivers can be found with the college's Office of Academic and Student Affairs (http://cosundergrad.gmu.edu/).

2
This option is only available to students in the Biology, BA with a concentration in Biological Health who have already conferred a baccalaureate degree.

Honors

Honors in the Major

To graduate with departmental honors in Geography, students must have a minimum GPA of 3.50 in GGS courses, an overall GPA of 3.50, and complete the following courses each with a grade of 'B+' or above:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 463</td>
<td>RS: GIS Analysis and Application</td>
<td>3</td>
</tr>
<tr>
<td>GGS 499</td>
<td>GGS Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>3 credits of 500-699 level GGS courses (<a href="http://catalog.gmu.edu/courses/ggs/">http://catalog.gmu.edu/courses/ggs/</a>)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

1
Before registering for this course, students must have identified a topic under the guidance of a full-time faculty member following departmental guidelines.

2
Eligibility for these courses is restricted to students who obtain permission from the undergraduate coordinator or those in the Accelerated Master's program.
Accelerated Master's

Bachelor's Degree (any)/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 any Mason bachelor's degree 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. In the case of a 120 credit bachelor's program, this accelerated master's option can be completed as a 138 credit program (thesis option) or 145 credit program (comprehensive exam option). This accelerated pathway 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 bachelor's program 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 60 undergraduate credits. Additionally, students they must have completed the following courses with a combined GPA of 3.0 or better: GGS 300 Quantitative Methods for Geographical Analysis, GGS 311 Geographic Information Systems, and any one upper level GGS-prefixed course.

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 degree does not require GRE test scores, letters of recommendation, CV/resume, or a statement of interest.

While being undergraduate students, accelerated master's students must complete the graduate courses indicated on their Accelerated Master's Program Application (obtained from the Office of Academic and Student Affairs) with a minimum grade of B 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 75 undergraduate credits. It is recommended that students register for one of the following courses in their first semester of accelerated coursework:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 551</td>
<td>Cartographic Design</td>
<td>3</td>
</tr>
<tr>
<td>GGS 553</td>
<td>Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GGS 560</td>
<td>Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>GGS 579</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
</tbody>
</table>

Including the course chosen above, up to 12 credits of graduate coursework may be applied to both undergraduate degree and the master's degree. If students earn at least a B in these classes, they are granted advanced standing in the master's program and must then complete 18 (thesis option) or 25 (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. With 12 credits counted toward the undergraduate and graduate degrees plus the maximum 6 reserve credits, the credits necessary for the graduate degree can be reduced by up to 18. 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.

Bachelor's Degree (any)/Geoinformatics and Geospatial Intelligence, Accelerated MS

Overview
Offered by the Department of Geography and Geoinformation Sciences (GGS), this bachelor's/accelerated master's degree program enables highly qualified undergraduates to obtain any Mason bachelor's degree 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. In the case of a 120 credit bachelor's program, this accelerated master's option can be completed as a 141 credit program. This accelerated pathway 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 bachelor's program and the Geoinformatics and
Geospatial Intelligence, MS (http://catalog.gmu.edu/colleges-schools/science/geography-geoinformation-science/geoinformatics-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 (http://catalog.gmu.edu/policies/academic/graduate-policies/#ap-6-7).

**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 60 undergraduate credits. Additionally, students must have completed the following courses with a combined GPA of 3.0 or better: GGS 300 Quantitative Methods for Geographical Analysis, GGS 311 Geographic Information Systems, and any one upper level GGS-prefixed course.

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, letters of recommendation, CV/resume, or a statement of interest.

While being undergraduate students, accelerated master’s students must complete the graduate courses indicated on their Accelerated Master’s Program Application (obtained from the Office of Academic and Student Affairs) with a minimum grade of B 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 75 undergraduate credits. It is recommended that students register for one of the following courses in their first semester of accelerated coursework:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGS 550</td>
<td>Geospatial Science Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>GGS 553</td>
<td>Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GGS 579</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>GGS 684</td>
<td>Selected Topics in Geospatial Intelligence</td>
<td>3</td>
</tr>
</tbody>
</table>

Including the course chosen above, up to 12 credits of graduate coursework may be applied to both undergraduate degree and the master’s degree. If students earn at least a B in these classes, they are granted advanced standing in the master’s program and must then complete 21 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. With 12 credits counted toward the undergraduate