

**M.A. in GEOGRAPHY without option (General Geography)**  
**M.S. in GEOGRAPHY without option (General Geography)**  
**M.S. in GEOGRAPHY with option in CARTOGRAPHY AND GIS**  
**M.S. in GEOGRAPHY with option in COMMUNITY AND ENVIRONMENTAL PLANNING**

**OVERVIEW**

The Department of Geography offers graduate study leading to the M.A. or M.S. degree. Students in General Geography may elect to pursue either degree (i.e., M.A. or M.S.). Students in either the Cartography & GIS Option (CGIS) or the Community and Environmental Planning Option (CEP) must complete the requirements of those options under the M.S. degree.

**Degree Options and Tracks**

For the **M.A or M.S. degrees, with or without option**, students are required to complete one of the following tracks:

- **Thesis track:** Successfully complete and defend a thesis or one or more papers (i.e., articles) of publishable quality before an examining committee.
- **Professional Paper track:** Successfully complete and defend a professional paper or one or more papers (i.e., articles) of publishable quality before an examining committee. The difference between a thesis and a professional paper is that while the thesis is directed toward advances in the discipline, the professional paper may be directed toward advances in the profession. A professional paper may also consist of one or more papers of publishable quality intended for publication in a peer-reviewed journal.
- **Non-thesis (Portfolio) track:** Requires **additional course work** consisting of at least 6 credits (see below), and the successful completion of a portfolio and written and oral **comprehensive examinations** described in the addendum attached at the rear of this document.

In consultation with their advisors, students must select from among the three tracks by the end of their first semester in residence. This allows for the proper configuration of programs of study that will best meet students' needs and interests.

**Degree Credit Minimum**

A minimum of

- M.A. or M.S. degree in General Geography:
  - 30 credits plus a thesis (typically 3-6 cr.) are required for the thesis and professional paper tracks.
  - 36 credits are required for the non-thesis (portfolio) track.
- M.S. CGIS Option:
  - 34 credits plus a thesis (typically 3-6 cr.) are required for the thesis or professional paper track.
  - 40 credits are required for the non-thesis track.
- M.S. CEP Option:
  - 33 to 34 credits plus a thesis (typically 3-6 cr.) are required for the thesis or professional paper track.
  - 39 credits are required for the non-thesis (portfolio) track.

See specific requirements for the *options* for additional information on the thesis, professional paper, and professional degree tracks.

**Background Credits (do not count toward the degree)**

Incoming students are expected to have appropriate undergraduate course work and skills needed to commence graduate studies in Geography. Students may need to take foundational courses, with credits not counting toward the graduate degree.

- All Geography graduate students are expected to have an understanding of Cartography and GIS (GPHY 284 or equivalent).
- Depending on course of study and program option, and with details determined by the advisor, courses may include one or a combination of the following:
  - Foreign language,
  - Quantitative methods,
  - Computer programming (GIS-related),
  - Upper-division systematic geography.

**Courses taken previously:** The same courses taken previously or similar courses taken elsewhere will be evaluated by the advisor in order to determine whether or not they satisfy any of the requirements. Criteria for such evaluations include the course content, the date that the course was taken, and the grade received. Gphy 284, Intro to GIS and Cartography, is primarily concerned with the discipline of cartography. Previous GIS training will generally not be considered in substitution for this course.

**Graduate School Requirements:** Of the minimum number of credits required for the M.A. and M.S. degrees, at least 20 semester credits (including those earned for the thesis or professional paper), will be in your major discipline, and at least 50% must be at the 500 or 600 level (excluding a combined total of 10 semester credits for thesis and research). Students must be continuously registered for a minimum of 3 credits per semester, including the final term during which they complete all degree requirements. Please see Graduate School Policies on *Credit Requirements* and *Continuous Registration*.

**M.A. and M.S. in GEOGRAPHY without option (General Geography)**

**Degree Orientation:** The M.A. degree in General Geography is most appropriate for students whose work is focused on training and research (if appropriate to the track followed) in the systematic areas of human geography (i.e., oriented more towards the social sciences and humanities). Conversely, the M.S. degree in General Geography is most appropriate for those whose work is focused in physical geography, community and environmental planning, and/or cartography and GIS.

**Tracks and Credit Requirements:** See pages 1 and 2 above.

**Required Core Courses (7-13 credits, depending on Track)**

- Gphy 500-R            Geography Graduate Colloquium (all students must register for colloquium each fall they are in residence).
- Gphy 504-1\*        Research Design in the Geographical Sciences I
- Gphy 505-2\*        Research Design in the Geographical Sciences II
- Seminars-5\*\*       One Geography seminar and one other (5 credits total)

Methods-3\*    A methods/techniques course based on the student’s professional and/or research interests, such as field methods, quantitative methods (i.e., STAT 451 or STAT 452, ECNS 403, PSYC 520, 521 or 522, SOCI 563, etc.), qualitative methods (i.e. SOCI 561, EVST 555, PUBH 595 ST on qualitative research methods, etc.), historical methods, survey methods, GIS courses in Geography, advanced computer methods, etc. The intent of the methods requirement is to provide students with a solid background in methodologies used for M.A. and M.S. professional work and/or thesis research.

Note:

\*\*One seminar in Geography and at least one other in Geography or closely allied field (all total a minimum of 5 credits) is required of all M.A. and M.S. General students. The content of seminars should be relevant to the student’s research interests.

**Table 1. Core Geography Courses for M.A. or M.S. General (without option, X = Required)**

Track/ Course	Gphy 500(2)	Gphy 504(1)	Gphy 505(2)	Seminars (5)	Methods(3+)
Thesis	X	X	X	X	X
Prof. Paper	X	X	X	X	X
Non Thesis*	X	Recommended	Recommended	X	Recommended

**Electives (minimum 17 credits):**

In consultation with the advisor, students in the Geography M.A. without option should select upper-division UG or graduate-level courses from the following:

- Regional Geography Courses
- Geographic Methods Courses
- Systematic Geography Courses from the fields of:
  - Geography and Society
  - Physical Geography
  - Human-Environment Interaction

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- Other Courses from Allied Disciplines

\*Students completing the non-thesis (portfolio) track are encouraged to complete both Gphy 504 and 505 (Research Design in the Geographical Sciences I & II) and an appropriate methods course pertaining to their professional interests in order to receive training appropriate to the master's degree.

**M.S. in GEOGRAPHY with option in CARTOGRAPHY & GIS**

**Tracks:** Those students choosing to pursue the option in CGIS may choose a

- thesis track (34 course credits plus a thesis, with typically 3-6 additional credits),
- professional paper track (34 course credits plus a professional paper, with typically 3-6 additional credits) ,
- or non-thesis degree track (40 course credits plus a portfolio, plus written and oral comprehensive exams; please see above OVERVIEW).

**Required Core Courses in the major: (4-10 credits, depending on Track)**

See Required Core Courses of the M.A. and M.S. described above, and Table 2 below.

**Table 2. Core Geography Courses for M.S. with option in CGIS (4-10 credits depending on Track; X = Required)**

Track/Course	Gphy 500(2)	Gphy 504(1)	Gphy 505(2)	Add'l Seminar(2)	Methods(3+)
Thesis	X	X	X	X	X
Prof. Paper	X	X	X	X	X
Non Thesis	X	Recommended	Recommended	X	Recommended

**Required Core Courses in the Option (14 credits)**

Gphy 487-3 Remote Sensing and Raster GIS

Gphy 489-1 Laboratory (coreq with Gphy 487)

Gphy 488-3 GIS Applications (formerly: Thematic Cartography and GIS)

Gphy 580-3 Seminar in GIS and Cartography (this qualifies as the Additional Graduate Seminar listed under Required Core Courses of the M.A. and M.S. General Degrees)

**Select one of the following two courses w. co-requisite lab (may take other course as elective; 4 credits)**

Gphy 486-3 Transport, Planning, and GIS

Gphy 489-1 Laboratory (coreq with Gphy 486)

Gphy 468-3 Community and Regional Analysis

Gphy 469-1 Laboratory (coreq with Gphy 468)

**Electives (10-21 credits depending on Track; be sure to observe 50% rule for 500 level coursework)**

Gphy 481-3 Advanced Cartographic Design

Gphy 485-3 Internet GIS

Gphy 489-1 Laboratory (with Gphy 485 Internet GIS)

Gphy 491-3 ST: Python Programming for GIS

Gphy 489-1 Laboratory (with Gphy 491 Python)

Gphy 564-3 Planning Design

Gphy 587-3 Digital Image Analysis and Modeling

Gphy 589-1 Laboratory (with Gphy 587)

Gphy 588-3 Spatial Analysis and Modeling (formerly: Vector GIS (Geog 588-3)

Gphy 589-1 Laboratory (with Gphy 588)

Gphy 598-3 Internship

Anty 452-3 GIS in Archeology

For 503-3 Predictive Distribution Modeling

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For 551-4 Digital Image Processing  
WBio 562-3 Wildlife Habitat Modeling  
Other electives may be chosen in consultation with the advisor

**Courses taken previously and course substitutions:** please see above OVERVIEW for courses previously taken. In general, professional training courses such as those offered by software companies may not be used to substitute for course requirements. Since GIS is so dependent on advances in technology, courses taken more than three years prior to beginning the program cannot generally be used to substitute for requirements (consult with advisor).

**M.S. in GEOGRAPHY with option in COMMUNITY & ENVIRONMENTAL PLANNING**

**Tracks:**

Those students choosing to pursue the option in Community & Environmental Planning may choose a

- thesis track (33 to 34 course credits plus a thesis, with typically 3-6 additional credits),
- professional paper track (33 to 34 course credits plus a professional paper, with typically 3-6 additional credits) ,
- or non-thesis degree track (39 course credits plus a portfolio, plus written and oral comprehensive exams; please see above OVERVIEW).

Those students choosing to pursue the option in CEP may choose a thesis, professional paper, or non-thesis degree track (the thesis and professional paper tracks must include 3-6 credits of thesis hours that are in addition to the 33 credit minimum - please see above OVERVIEW).

**Required Core Courses in the major (4-10 credits, depending on Track)**

See Required Core Courses of the M.A. and M.S. described above, and Table 3 below.

**Table 3. Core Geography Courses for M.S. with option in CEP (4-10 credits depending on Track; X = Required)**

Track/Course	Gphy 500(2)	Gphy 504(1)	Gphy 505(2)	Add'l Seminar(2)	Methods(3+)
Thesis	X	X	X	X	X
Prof. Paper	X	X	X	X	X
Non Thesis	X	Recommended	Recommended	X	Recommended

**Required Courses in the option (minimum 22 credits)**

- Gphy 465-3 Planning Principles and Processes (Geog 465-3)
- Gphy 466-3 Environmental Planning (Geog 466-3)
- Gphy 468-3 Community and Regional Analysis (Geog 468-3)
- Gphy 469-1 Laboratory with Gphy 468
- Gphy 560-3 Seminar in Planning (Geog 560-3) (this qualifies as the Additional Graduate Seminar listed under Required Core Courses of the M.A. and M.S.)
- Gphy 561-3 Land Use Law (Geog 561-3)
- Gphy 564-3 Planning Design (Geog 564-3)

**Select at least one of the following courses (3-4 credits):**

- Gphy 421-3 Sustainable Cities
- Gphy 486-3 Transport, Planning & GIS (with Gphy 489-1 Laboratory)

**Highly recommended:**

- Gphy 598-R3 Internship (maximum 6 cr.)
- Gphy 562-2 Land Use Planning Clinic

**Electives**

For electives that pertain to Community Planning, Environmental Planning, Planning & GIScience, Native American Communities, Natural Resources and Environmental Policy, and others, see Catalog listings for Anthropology, Communication Studies, Environmental Studies, Forestry, Geography, Law, Native American Studies, Political Science, and other relevant departments and programs.

**Courses taken previously and course substitutions:** please see above OVERVIEW for courses previously taken.



**-ADDENDUM-**

**Geography MA and MS Non-thesis Track: Portfolio and Comprehensive Examination Guidelines**

Other than required coursework, there are three components of the non-thesis track corresponding to the Cartography & GIS and the Community & Environmental Planning Options. These include:

- 1) The preparation of a **portfolio containing significant professional works** by the M.S. candidate (e.g., reports, research papers, posters, proposals, etc., drawn from graduate coursework, internship activities, and/or actual professional activity completed while in residence) to be reviewed by an **examination committee**. Typically early in the **semester before** the student intends to graduate, she/he consults with the advisor about the ideal content of the portfolio. The portfolio must include an introductory preamble that discusses how the works contained in the portfolio are significant to the career aspirations of the candidate, and a curriculum vitae, and must be identified and prepared for dissemination to the committee by the start of the semester in which the candidate intends to graduate. The examination committee reviewing the portfolio will be composed of two Geography Department faculty members (the candidate's advisor and another person), and may additionally include a faculty member from another department or unit on campus or other appropriately qualified individual (this will be decided by the advisor and candidate in advance).
- 2) A **written examination** consisting of approximately four questions coming from the examination committee. The candidate and the advisor, who will chair the committee, will determine in advance the **format** of the written examination (i.e., take-home & open-book, or closed-book and administered in the Department). The amount of **time** given to the candidate for the preparation of responses to the questions will depend on the format (i.e., approximately one week for open-book examinations, approximately two four- to eight-hour days for closed-book examinations). The committee members will review the written responses to the questions to determine if the candidate can progress to the next phase.
- 3) An **oral examination** in which the candidate and examination committee discuss the written examination and in which the candidate discusses the significance of the professional works of the portfolio (No. 1 above). The committee will then meet in private to discuss whether the candidate has passed the comprehensive examination.

**Note:** Because the comprehensive examination represents a significant undertaking on the part of the candidate and the committee, it is important that the candidate **must** submit the significant professional work by the start of the semester in which she/he intends to graduate. She/he must plan for scheduling written and oral examinations so that they are completed **prior to finals week** of that semester.