Geography & Environmental Systems
University of Maryland, Baltmore County

GRADUATE STUDENT HANDBOOK

2026-2027

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1 How To Use The Handbook

This handbook is the primary guide for graduate students in Geography and Environmental Systems. It is intended to serve as a one-stop resource for understanding the structure of the program, departmental expectations, degree requirements, major milestones, and available forms of support.

Students should use this handbook throughout their time in the program. New students may find it helpful to read the handbook in full during their first semester. Continuing students will likely use it more often as a reference document when questions arise about advising, committees, coursework, exams, funding, forms, or graduation.

This handbook brings together information about departmental culture, advising, academic requirements, research expectations, professional development, financial support, and student progress. It is designed to help students understand both the overall path through the program and the specific requirements associated with particular stages of graduate study.

At the same time, some policies and procedures that affect graduate students are determined by UMBC or the Graduate School rather than by the department. In those cases, this handbook points students to the relevant university office, policy, or form rather than repeating all university materials in full. Students should therefore use this handbook together with official UMBC and Graduate School documents when appropriate.

Throughout the program, students will encounter two main types of forms: departmental forms and Graduate School forms. Departmental forms are available through the department website, while Graduate School forms are maintained separately by the Graduate School website. In general, Graduate School forms are online DocuSign forms, while departmental forms remain department documents. **Students are responsible for identifying and submitting the correct forms at the appropriate time.**

Students should pay particular attention to sections that describe deadlines, committee requirements, annual reports, examinations, proposal and thesis or dissertation procedures, registration expectations, and standards for good progress in the program. These sections are especially important because they affect a student's ability to remain on track toward the degree and, in some cases, may affect funding.

This handbook should also be read as a **guide** to where questions should go. Questions about academic progress, advising, committees, departmental expectations, and degree milestones should generally be directed first to a student's advisor and/or the Graduate Program Director. Questions involving broader university policies or processes may also require consultation with the appropriate UMBC or Graduate School office.

Because policies, forms, and administrative procedures can change, students should consult the most current university and department materials when making important decisions about registration, candidacy, graduation, employment, or funding. If anything is unclear, students should ask for clarification before acting.

In short, this handbook is meant to help students navigate the GES graduate program clearly, efficiently, and with a strong understanding of both departmental expectations and the wider university procedures that shape graduate student life.

2 Introduction

2.1 Graduate Program Committee

The Graduate Program Committee (GPC) advances the aims of the graduate program for all GES graduate students. The committee is composed of the Graduate Program Director (GPD) and four additional faculty members, who also hold a graduate faculty rank in the Graduate School, and who represent the department's specializations; the Department Chair serves as an ex officio (non-voting) member.

The GPC's responsibilities include:

- Publishing and regularly updating this handbook.
- Recruiting students to the program.
- Overseeing the evaluation of applications to the graduate program.
- Coordinating and overseeing the orientation of new students to the department, including guidance for students who are likely to be teaching assistants.
- Supporting and evaluating student progress through the program.
- Coordinating revisions to the graduate curriculum and working with campus bodies responsible for curricular oversight.
- Reviewing petitions and other special requests made by graduate students.
- Addressing ad hoc issues related to graduate students (including governance, academics, and awards) within and beyond the department.

For each academic year, the department communicates the current membership of the GPC to graduate students.

2.2 Graduate Program Director (GPD)

The Graduate Program Director is the primary administrative liaison between graduate students and the department, and between the department and the Graduate School. In this role, the GPD:

- Provides regular updates to students regarding administrative deadlines and important Graduate School dates.
- Alerts students to upcoming events relevant to their academic and professional development.
- Communicates announcements on behalf of the faculty related to graduate student progress.

The GPD also manages the day-to-day flow of graduate applications and compiles application information for review by the GPC and other faculty.

2.3 GES Graduate Student Organization

The GES Graduate Student Organization (GSO), a part of the Graduate Student Association (GSA), is the university-recognized organization representing graduate students in geography and environmental systems. All GES graduate students are members of the GSO.

The GSO:

- Serves the interests of the graduate student body and works to improve the experience of all graduate students in the department.
- Elects representatives who serve as non-voting participants in faculty meetings.
- Participates in electing a CAHSS representative to the Graduate Student Senate within GSA, which provides a forum for graduate students to raise concerns and discuss campus-wide issues.
- Assists with department functions, hosts events for the department and broader university community, and organizes social activities.

Participation in GSO meetings and activities is encouraged for all graduate students, and there are many opportunities to be involved throughout the academic year.

2.4 Department Chair

The Chair of the Department of Geography and Environmental Systems plays a key role in the graduate program. The Chair:

- Sets priorities for the GPC and reviews its recommendations on all aspects of graduate program policy.
- Makes final departmental decisions on graduate program matters.
- Serves as the department-level arbiter of disputes or problems involving faculty and graduate students.

Students should view the Chair as an important point of contact for issues that cannot be resolved through their advisor, committee, or the GPD.

3 Departmental Culture & Expectations

3.1 General Policies, Culture, Diversity, and Inclusion

The Department of Geography and Environmental Systems strives to create a vibrant intellectual environment that is conducive to learning and the free exchange of ideas in an open, accessible, collaborative, and supportive climate. The Department is committed to the pursuit of academic rigor while providing an environment that is free from all forms of discrimination, harassment, exploitation, or intimidation for every person. We welcome all individuals regardless of their age, ancestry, color, disability, gender identity or expression, genetic information, military status, national origin, caste, race, religious beliefs, sex, sexual orientation, veteran status, economic status, political views, or any other form of difference or identity.

We aim to foster a sense of shared experience and common purpose for everyone in the department, along with a collective responsibility for each other's well-being and for the well-being of the department as a whole. Academic rigor and intellectual exchange of ideas are integral parts of development as scholars. All exchanges among members of the department are to be conducted in a respectful, professional, collegial manner that is accepting of the diversity of backgrounds within the community.

Further, the Department is a space where we see difference as central to informing our research process, and our goal is to work openly to understand our own unique identities, experiences, and viewpoints in order to grow not only individually but collectively. We see difference as a strength that provides new perspectives and creative thinking. We acknowledge the need for continuous improvement to foster an environment that values self-reflection about, and ongoing adaptation to, the needs of the department and its members. We therefore seek to continually improve inclusion within our community and to foster a welcoming atmosphere for new students, faculty, postdocs, and staff.

The Department of Geography and Environmental Systems is committed to the constant work that is necessary to facilitate new frameworks, ideas, and paradigms, and new leaders within the discipline. We aim to sustain the highest level of research and teaching possible, and to cultivate discourse among diverse parties both within and beyond our classrooms, conferences, and publications.

The Department aims to extend to each member of the community the resources necessary to achieve the highest levels of distinction in their work and scholarship. While all members of our community are responsible for achieving these goals, we understand that power is embedded in the academy and those of us who possess it must use this power to create an inclusive community. The Department of Geography and Environmental Systems has a unique role and perspective within the College, the University, our community, and in the academy in its study of space, place, and environment. We thus acknowledge that the university was established upon the land of the Piscataway and Susquehannock peoples and that, over time, citizens of many more Indigenous nations have come to reside in this region. We also acknowledge the history of slavery and the slave trade in building Maryland and Baltimore, and the legacies of redlining and other forms of racial segregation here. We additionally acknowledge that the academy, along

with the discipline of geography itself, is historically bound to colonial aims and intentions and is still tied to and upholds imperialism, racism, cis-heteropatriarchy, and ableism today, among other sorts of violence based on the fabrication of hierarchies of difference. Therefore, it is our responsibility to confront and uproot these inequalities on behalf of social justice.

This statement on general departmental policy, culture, and inclusion is inspired by the work of other scholars and departments, and echoes the policies, statements, and sentiments of the University of Maryland Baltimore County. For support and additional information, please see:

- UMBC Mission and Values
- Sexual Misconduct Policy and Procedures, including sexual harassment, gender discrimination, interpersonal violence
- Discrimination and Equal Opportunity Policy
- Resources for Academic Support, including Student Disability Services
- Resources for Health and Wellbeing, including counseling, health services, sobriety support, and the Women's Center
- Title IX Counseling and Reporting

3.2 Community, Events, and Mental Health

3.2.1 Participation in departmental life

Graduate students are part of the broader intellectual and social life of the department and are expected to participate substantively in that community. The department, GSO, and other groups regularly organize seminars, colloquia, brown-bag presentations, poster sessions, and invited talks by scholars from UMBC and other institutions. Graduate students are expected to engage regularly in these events, recognizing that occasional conflicts may arise due to teaching or course schedules.

The department and student organizations also host social events such as coffee hours, picnics, hikes, and an end-of-year awards and graduation reception. Graduate students are encouraged to attend these events as part of building supportive professional and social networks.

3.2.2 Mental health and wellbeing

Graduate school can be demanding and, at times, stressful, isolating, or anxiety-inducing. Students often balance multiple responsibilities while facing uncertainty about the future. Maintaining healthy relationships and routines, and building connections with other graduate students and members of the GES and UMBC communities, can be an important source of support.

Helpful practices can include setting and maintaining boundaries (for example, defining hours when you will not respond to email or do schoolwork), celebrating successes, communicating openly about expectations and limitations, and sharing struggles with trusted people. Feeling overwhelmed or anxious is not unusual and is not a sign of failure, and help is available.

Students are encouraged to speak with their advisor about challenges, particularly when these may affect academic progress. Fellow graduate students, committee members, the GPD, and other faculty can also be important sources of support. UMBC offers a range of resources for time management, stress, and anxiety, including the campus counseling center within Retriever Integrated Health.

3.3 Good Standing, Good Progress, and Your Responsibilities

The Graduate School considers a student to be in **good standing** if they maintain a cumulative GPA of at least 3.0. Students whose GPA falls below 3.0 may be placed on academic probation by the Graduate School. To avoid dismissal from the Graduate School, a student on probation must raise their cumulative GPA to at least 3.0 by the end of the following semester.

The Department of Geography and Environmental Systems maintains a departmental standard called **good progress**. Good progress includes academic performance, timely completion of program milestones, and active engagement in the life of the department. A student can be in Graduate School “good standing” (GPA ≥ 3.0) but still be judged by the department not to be making good progress.

3.3.1 What counts as “good progress”?

Students are considered to be making good progress through the GES program when they:

- Make timely progress through the basic milestones of their program.
    - These milestones include, but are not limited to: identifying an advisor, assembling a committee, writing a research proposal, completing candidacy (for PhD students), submitting drafts of written work to the advisor and committee, and defending the thesis or dissertation.
- Perform their teaching assistant (TA), research assistant (RA), or instructor responsibilities in a satisfactory and professional manner.
- Meet regularly with their advisor and committee, including required committee meetings.
- Apply for research funding or other support when appropriate for their field and stage.
- Present and, when appropriate, publish their research.
- Participate in the intellectual and social life of the department, for example by attending talks, seminars, and other departmental events.
- Maintain good grades (A or B) in their courses and clear any incompletes on a timeline agreed upon with the course instructor.

These expectations apply across both the master’s and PhD programs, with the specific milestones tailored to each degree.

3.3.2 When is a student not making “good progress”?

A student may be judged not to be making good progress even if their GPA is above 3.0. Some common (but not exclusive) reasons include:

- **Missing key milestones.** For PhD students, this includes not achieving candidacy on time. When a student passes their comprehensive exams, they must successfully defend their proposal by the end of the following semester. Failure to do so automatically means the student is no longer making good progress and will lose their TA funding.
- **Neglecting required committee meetings.** Failing to hold required meetings with the advisor and committee, or failing to submit the annual advising report, can lead to a finding of not making good progress.
- **Failing a course.** For the purposes of good progress, a “failure” is defined as earning a grade below B in a course. (Note that grades in the Graduate School utilize plus/minus grading, and a course grade of B- is equivalent to a 2.7, below the minimum standard of 3.0).

These are important examples, but they are **not** the only ways a student can fall short of good progress. Each year, the Graduate Program Director (GPD) reviews students’ annual reports and updated curriculum vitae. If there are signs that a student is not making good progress, the GPD will bring the case to the Graduate Program Committee (GPC), which may decide that the student is no longer making good progress.

3.3.3 What happens if I am not making “good progress”?

“Good progress” is a departmental designation and is directly tied to departmental funding. If you are judged not to be making good progress, you may lose your departmental funding, including TA support. This is a serious decision that the GPC does not take lightly, and the department’s aim is always to help students succeed.

Typically, the first step is:

- You will receive a letter from the GPD informing you that you are not making good progress.
- The letter will include a plan for performance improvement, outlining specific goals you must meet.
- You will normally be given one semester to meet these goals and get back on track.

If the student clearly is not making good progress, the GPC may reallocate departmental funding (such as a TA line) to another student who is making good progress.

If a student fails to meet the agreed-upon improvement goals within the specified time:

- The student may lose departmental funding support (including TA support).
- The student may also be denied further registration in the graduate program.

Because “good progress” has direct implications for funding and continued enrollment, students should take departmental expectations seriously, communicate proactively with advisors and the GPD, and seek guidance early if they anticipate challenges meeting milestones or other expectations.

4 Advising, Committees, and Progress

4.1 Advisors and advising relationships

The student–advisor relationship is central to graduate study in Geography and Environmental Systems. Your advisor serves as your intellectual guide, advocate, and professional model. Success in the program depends in large part on building and maintaining a productive mentoring relationship.

Incoming students typically identify an advisor prior to enrolling. At the PhD level, students are admitted only when a faculty member has already agreed to serve as advisor. At the master's level, it is possible, though uncommon, to enter without a predefined advisor.

Key expectations:

- Advisors must be Associate (for MS/PhD) or Regular (for Ph.D) graduate faculty members in the Department of Geography and Environmental Systems (check gradschool.umbc.edu/faculty).
- All students must identify an advisor by the end of their first semester in the program.
- Students may change advisors at any time, except when graduating or advancing to candidacy.
- Some faculty may be unavailable to advise due to other commitments or limited fit with a student's interests.

To change advisors, students should:

- Consult with the Graduate Program Director (GPD).
- Discuss the change with both the current and prospective advisor and seek their agreement.
- Inform the GPD once a mutual agreement is reached.

If either the current or prospective advisor objects to the change, the matter will be referred to the Graduate Program Committee (GPC) for review and a decision.

Students are expected to meet with their advisor at the start of each academic year to review the previous year's achievements and to set goals and expectations for the coming year. Students and advisors should meet at least once per semester and more frequently as needed. Students should keep their advisor informed about relevant aspects of their professional and academic activities so that advisors can effectively support and advocate for them.

A successful and productive mentor-mentee relationship is built on setting shared expectations. The Graduate School offers resources designed to cultivate and enrich this important relationship, including the COMPASS (Community on Optimizing Mentoring Practices and Advancing Student Success) workshops, and events found under the Graduate Student Professional Development (GSPD) program on the Graduate School website.

4.2 Co-advising

In some cases, it is appropriate for a student to have co-advisors. Co-advising requires the agreement of both advisors and the student.

When co-advising is used:

- The roles and expectations of each advisor should be discussed explicitly.
- Both advisors and the student should maintain clear, ongoing communication.
- The advisors must decide who will chair any formal examinations (such as comprehensive exams, candidacy exams, proposal defenses, or final defenses).

Co-advising can offer important benefits in interdisciplinary work but also increases the need for coordination and clear expectations.

4.3 Committees: purpose and composition

In addition to an advisor or co-advisors, students work with a committee that helps guide their progress through the program. Committee members should have demonstrated interest and/or expertise in aspects of the student's research.

When selecting committee members, students are encouraged to:

- Consider faculty with whom they have taken courses, when time and course offerings allow.
- Meet with potential committee members to discuss research interests, how the faculty member could contribute to the committee, and their availability.
- Discuss prospective committee members with their advisor.

General guidelines:

- Students in the thesis-track master's program and all PhD students should form a committee by the end of their first year.
- The number and composition of committee members depend on the degree and the stage of study (see below).
- Students should track how many members hold Regular or Associate status. UMBC requires a minimum number of regular graduate faculty on PhD committees.
- All committees must be approved by the GPD.

Students may change committee membership at any point up to six months before their planned thesis or dissertation defense. All changes should be communicated to the GPD in writing as soon as they are made.

4.4 Committee size and membership requirements

Master's thesis committees:

- Three to five faculty members.
- At least two committee members must be faculty in the Department of Geography and Environmental Systems.

PhD comprehensive exam committees:

- At least four faculty members.

PhD proposal defense committees:

- At least five faculty members.
- At least three members must be Regular or Associate graduate faculty in the Department of Geography and Environmental Systems.
- At least three members must hold Regular graduate faculty status at UMBC.

PhD dissertation committees:

- At least five faculty members.
- One committee member must be external to GES (can be from another UMBC department, or external to UMBC, and must hold the terminal degree in the discipline)
- The majority of members must be faculty in the Department of Geography and Environmental Systems.
- At least three members must hold Regular graduate faculty status at UMBC.

Committee composition can evolve as a student progresses. For example, a student may work primarily with departmental faculty before candidacy and later add an external member who is a specialist in a particular area of the dissertation. Committee members for the final dissertation defense must be nominated at least six months prior to the defense; MS thesis defenses require nomination at least two months prior to the defense. The Associate Dean of the Graduate School will select a Dean's Representative from among the nominated committee members to report the status back to the College.

As committees become larger or more diverse in institutional affiliation, it can become more difficult to schedule meetings and examinations. Students are encouraged to balance the desire for an ideal "dream committee" with the logistical realities of coordinating busy schedules, especially when members are on sabbatical or located at other institutions.

4.5 Required committee meetings and annual advising reports

Regular meetings with one's committee are an important part of making good progress and ensuring that all committee members share an understanding of the student's goals and progress.

To maintain a status of "good progress" (see the section "Good Standing, Good Progress, and Your Responsibilities"), PhD students are required to hold the following committee meetings:

- An initial advisory meeting, to be completed by the end of the second semester.
- A pre-comprehensive-exam meeting, normally by the third semester, to determine readiness to proceed with comprehensive exams.
- A comprehensive exam defense, normally by the fourth semester.
- A dissertation proposal defense, to be completed by the end of the semester following the comprehensive exam. A successful proposal defense is the final step to officially advance to candidacy.
- A dissertation defense, which must be completed within four years of advancing to candidacy, in accordance with Graduate School rules. Extensions may be granted by the graduate school. See the graduate school website for more information about this timeline.

In addition:

- Graduate students must submit an annual advising report to the GPD by the end of each spring semester available on the GES website.
- Each required meeting involves specific forms, which are available through departmental and Graduate School websites.

Master's students:

- Non-thesis master's students do not have a committee and therefore do not hold committee meetings.
- The only required committee meeting for thesis-option master's students is the final thesis defense.

Since COVID, the Graduate School has allowed MS and PhD defenses to be either in person, 100% virtual, or mixed (hybrid) format.

Whenever possible, committee meetings should include all members. While it may not always be practical, especially when members are on leave or at other institutions, efforts should be made to convene the full committee. Failure to meet required committee meeting schedules may result in a finding that the student is not making good progress, with possible consequences for funding.

Committee meetings also have important pedagogical benefits. Meeting with the full committee:

- Allows members to jointly review and discuss the student's progress.
- Helps ensure that all members share a common understanding of expectations.
- Provides a forum for resolving differences of opinion among committee members, which can be intellectually productive but should not create confusion or undue stress for the student.

It is the advisor's responsibility to help mediate such discussions in a professional way that supports the student's development.

4.6 Progress reviews and good progress

Each year, students and advisors use the annual report and related meetings to plan and review progress. The Graduate Program Director reviews annual reports and updated curricula vitae and may bring cases of concern to the Graduate Program Committee.

The department's distinction between "good standing" and "good progress," and the consequences of not making good progress, are described in detail in the "Good Standing, Good Progress, and Your Responsibilities" section of this handbook. Students should consult that section for full definitions, expectations, and information about funding implications.

5 Academics

5.1 General policies

Our graduate programs are designed so that master's students typically complete their degree within two years, and doctoral students within four years. Detailed timelines, milestones, and funding expectations for each degree are described in the Master's Program and PhD Program sections of this handbook.

The department cannot guarantee funding beyond a master's student's second year or a PhD student's fourth year. Students who expect to take longer should plan ahead with their advisor, including applying for external funding where appropriate. Personal and professional circumstances may occasionally extend time in the program; in such cases, students should work closely with their advisor to plan for leave options, continuous enrollment requirements, and realistic schedules for completion.

In certain circumstances, students may pursue dual degrees. Students considering this option must obtain approval from the department and the Graduate School and must ensure that the Geography degree remains their top priority. Per Graduate School rules, students may double-count up to 9 credits when pursuing concurrent MS degrees, or one MS degree after another. These courses require both GPD and Graduate School approval.

The department and UMBC take academic integrity very seriously. All students are expected to be familiar with university policies on research and scholarly conduct, research misconduct, and academic misconduct, and to uphold the highest standards of honesty in coursework, research, and teaching.

5.2 Coursework overview

Course requirements are designed to:

- Prepare students for professional careers in geography and environmental systems.
- Ensure exposure to the breadth of inquiry in the field.
- Provide training in appropriate methodologies and methods.

The curriculum is deliberately flexible. Core and required courses create a shared foundation; electives allow students to tailor their training to their interests and research needs in consultation with their advisor and committee.

This section summarizes the minimum credit and coursework requirements for the PhD and MS programs, as well as the BS/MS 5-year pathway.

5.2.1 PhD requirements (minimum 44 credits)

The PhD requires a minimum of 44 graduate credits.

Core courses (7 credits):

- GES 701 – Introduction to Geography and Environmental Systems (3)

- GES 702 – Research Methods in Geography and Environmental Systems (3)
- GES 689 – Department Seminar (1; taken in the fall of the first semester)

Required courses (6-7 credits):

- One graduate-level statistics course (3). See the “Statistics-course requirement” section below
- One graduate-level GIS course (3-4). See the “GIS-course requirement” section below

The GIS and statistics requirements may be waived if a student has previously completed equivalent graduate-level coursework. Waivers require faculty evaluation of prior course syllabi. When a requirement is waived, the corresponding credits must be replaced with appropriate electives so that overall credit minimums are still met.

Electives (12 credits):

- Electives are chosen in consultation with the advisor and committee.
- At least one elective must be selected from one of the following areas: Social Science Methods, Remote Sensing, Computational Methods and Modeling, or Environmental Science Field and Laboratory Methods.
- Additional electives are chosen to prepare the student for their planned doctoral research; they may be taken in GES or in other departments where appropriate.

Dissertation research (18 credits):

- GES 899 – Dissertation Research (18 credits minimum, usually spread over at least two semesters after advancing to candidacy); must be continuously enrolled in 899 through the semester of graduation (not including summers).

Students entering the PhD program with a prior GES master’s:

- Students who completed required GES courses during a prior GES master’s program do not need to repeat those specific courses. However, they must still meet all PhD credit requirements: at least 26 credits prior to advancing to candidacy and at least 44 total credits to graduate.

5.2.2 MS requirements (minimum 30 credits)

The MS degree requires a minimum of 30 graduate credits and is offered in both Thesis and Non-Thesis options.

Core courses (7 credits):

- GES 701 – Introduction to Geography and Environmental Systems (3)
- GES 702 – Research Methods in Geography and Environmental Systems (3)
- GES 689 – Department Seminar (1; taken in the fall of the first year; students are expected to attend in subsequent semesters even when not registered for credit)

Required courses (6-7 credits):

- One graduate-level statistics course (3). See the “Statistics-course requirement” section below
- One graduate-level GIS course (3-4). See the “GIS-course requirement” section below

As with the PhD, the GIS and statistics requirements may be waived if equivalent graduate-level coursework has been completed previously, subject to faculty evaluation of syllabi. Waived requirements must be replaced with appropriate electives to maintain the overall credit minimum.

Electives:

- Thesis option: 10 elective credits.
- Non-thesis option: 16 elective credits.

At least one elective must be chosen from among Social Science Methods, Remote Sensing, Computational Methods and Modeling, or Environmental Science Field and Laboratory Methods. Eligible courses are determined by the faculty and communicated to advisors and graduate students.

Research credits (thesis option):

- GES 799 – Master’s Thesis Research (6 credits), leading to successful completion and defense of the MS thesis.

Non-thesis option:

- Requires at least 18 credits in 600-level or higher courses and two scholarly papers approved by faculty; further details are provided in the Master’s Program section.

5.2.3 BS/MS Five-Year Pathway

The GES BS/MS Five-Year Pathway allows qualified undergraduates to begin graduate coursework during their senior year. This Pathway typically leads to an MS without thesis, requiring submission instead of two scholarly papers.

Key points:

- Interested students should consult their GES faculty advisor as early as possible in their undergraduate career.
- The advisor will determine whether the student’s progress and GPA is sufficient to permit graduate-level work during the senior year while completing the bachelor’s requirements.
- With advisor consent and approval by the GES Graduate Program Director, students in their junior year may secure permission to join the pathway and take up to 9 credits of graduate courses (including GES 701 and 702) in their senior year. If 400-level courses

are cross-listed as 600-level, Pathway students are required to enroll in the 600-level offering if they intend to count their course toward the MS degree.

- Permission to take graduate level courses as an undergraduate enrolled in the Pathway program requires submitting the appropriate form, signed by the GPD, to the Graduate School.
- In their senior year, pathway students apply separately for admission to the GES MS program through the regular graduate admissions process.

Paperwork and deadlines:

- By the end of the final undergraduate semester: submit the 5-year pathway advising report to the GPD.
- Early in the semester of intended master's graduation: apply to graduate via the Graduate School.
- No later than three weeks before the intended MS graduation date: submit the scholarly paper approval form to the GPD.
- Shortly before graduation: submit the Certificate of Completion of Master's Degree Requirements. The GPD will not sign this form until the scholarly paper approval form has been received.

5.24 MPS and PBC in GIS

The Master's in Professional Studies (MPS) in GIS degree requires a minimum of 30 graduate credits. The post-baccalaureate certificate (PBC or Graduate Certificate) requires a minimum of 18 credits, all from the core courses listed below. As a professional degree, there is no thesis.

Core courses (18 credits):

- GES 666 — Just Maps: Critical & Ethical Aspects of Mapping
- GES 668 — Building Spatial Datasets
- GES 673 — Processing Geographic Data
- GES 675 — Web-GIS Development
- GES 678 — GIS Project Leadership & Management
- GES 774 — Statistics for Geographers

Elective courses (12 credits, students may choose 4):

- GES 671 — Launching Spatial Databases
- GES 680 — Introduction to Satellite Image Analysis
- GES 700 — Special Topics

- GES 771 — Advanced Spatial Data Management
- GES 773 — GIS Modeling Techniques
- GES 775 — Advanced Web-GIS Development
- GES 776 — Application of Remote Sensing
- GES 777 — Public & Crowdsourced Spatial Data
- GES 778 — Digital Cartography & Visualization
- GES 779 — Spatial Regression & Advanced Statistics
- GES 780 — GIS Project Capstone

5.3 Courses outside the department

Students may take relevant courses outside GES, provided they meet program requirements and receive advisor approval. For example, courses may be taken in other departments at UMBC or at other institutions within the University System of Maryland.

MS-only students may request to transfer up to six (6) credits earned at an outside institution, that were NOT used toward earning a Bachelor's degree, toward their UMBC MS degree. Such courses require approval of the GPD and Graduate School. Up to six (6 credits) may also be transferred into the MS from a UMBC student who took them under Non-Degree-Seeking status. The GPD must approve use of these courses.

Students wishing to enroll in courses at another institution must complete the appropriate inter-institutional enrollment forms and ensure that such coursework does not conflict with departmental teaching assignments or other responsibilities.

5.4 Course load and enrollment requirements

Minimum enrollment requirements depend on funding status and program stage.

- Graduate assistants (TAs or RAs) must be enrolled full-time, which is typically defined as 9 credits per semester (fall and spring terms). The Graduate School, with GPD approval, can permit an exception to this full-time enrollment requirement to hold a GA, in the final semester.
- Students may combine regular coursework with "GRAD" placeholder credits (e.g., GRAD 600 [fixed at 3 credits] or GRAD 601 [fixed at 5 credits]) to reach full-time status. For example, a student taking 6 credits of coursework should enroll in GRAD 600 or GRAD 601 to reach 9 credits. GRAD courses do not carry content or grades; they are not transcripted; they are not used to determine financial aid; they do not incur tuition or fees; they exist solely to record part-time (GRAD 600) or full-time (GRAD 601) enrollment. If enrollment in GRAD 600/601 leads to more than full-time enrollment, overload enrollment permission is required from the Associate Dean in the Graduate School.

- Students who are pre-candidacy may enroll in pre-candidacy research credits GES 898, which is a variable credit option, 3-9 credits, and billable at a rate of ⅓. In this scenario, 9 credits of 898 would be billed as 3 credits.
- Students who have advanced to candidacy (ABD i.e. “All But Dissertation”) should enroll in 9 credits of GES 899 (Dissertation Research). In this scenario, and subject to university policies, 9 credits of 899 would be billed as 2 credits.
- Students must be enrolled in a minimum of 6 credits per semester in order to be eligible to receive financial aid.
- Overload enrollment (beyond 9 credits in a given semester) requires permission from the Associate Dean of the Graduate School.
- International students must be full-time enrolled each semester. Summer enrollment is generally not required, but students should first check with International Student and Scholar Services (ISSS). ISSS may permit a waiver for full-time enrollment in the final semester.
- Students wishing to make schedule adjustments beyond Day 10 (end of the schedule adjustment period) must seek approval from the Associate Dean of the Graduate School. These adjustments may incur additional tuition and fees. International students, in addition, must seek independent approval from ISSS.

Students generally take more coursework early in their program and increasingly shift to independent study or research credits (such as GES 691, 898, 899, or 799) as they focus on research, proposal writing, fieldwork, data analysis, and writing.

Graduate credit requirements refer to courses at the 600 level or above. Enrollment in undergraduate courses does not normally count toward graduate credit minimums, except in specific, pre-approved circumstances (e.g., certain 400-level courses, with prior consultation with the advisor and GPD).

5.5 Summer Enrollment

Summer enrollment is generally not required, for both domestic and international students.

If a student remains on a 12-month GA over the summer, the student may choose to enroll in a minimum of three (3) credits throughout summer, in order to remain FICA-exempt. (Without FICA exemption status, the student’s bi-weekly paycheck will be assessed 7.5% FICA).

Students may opt to use GRAD 603 (fixed at 2 credits) while on a summer GA, at no cost, to count towards their 3-credit FICA exemption.. The other credit must come from another course i.e. a credit of GES 691, a credit of GES 799, 3 credits of 898 (billable as one credit), or 9 credits of 899 (billable as two credits).

5.6 GIS-course requirement

Students must complete a graduate-level statistics course to satisfy the program's statistics requirement. There are multiple ways to meet this requirement.

Recommended options include:

- GES 686 – Introduction to Geographic Information Systems (4)
- GES 687 – Advanced Geographic Information Systems (3)
- GES 666 – Just Maps: Critical & Ethical Aspects of Mapping (3)
- GES 668 – Building Spatial Datasets (3)
- GES 673 – Processing Geographic Data (3)
- Other approved GIS courses offered within the GES department or other University System of Maryland campuses.

Students should consult with their advisor, the GPD, and/or course instructors before enrolling.

Students may also satisfy the statistics requirement through approved coursework at other Maryland institutions (using inter-institutional enrollment) or, in some cases, through a combination of an approved online course and an independent study, with prior approval from the GPD and advisor.

As with all requirements, any alternative plan must be approved in advance, and students remain responsible for ensuring that their plan satisfies both departmental and Graduate School expectations.

5.7 Statistics-course requirement

Students must complete a graduate-level statistics course to satisfy the program's statistics requirement. There are multiple ways to meet this requirement.

Recommended options include:

- GES 688 – Spatial Statistics
- GES 608 – Field Ecology (when used to meet the statistics requirement as approved)
- GES 774 – Statistics for Geographers
- SOCY/PUBL 604 – Statistical Analysis (cross-listed course)
- Other approved statistics courses offered by UMBC departments or other University System of Maryland campuses.

Many statistics department courses require prior training in probability theory and may not be appropriate for all GES students. Students should consult with their advisor, the GPD, and/or course instructors before enrolling.

Students may also satisfy the statistics requirement through approved coursework at other Maryland institutions (using inter-institutional enrollment) or, in some cases, through a

combination of an approved online course and an independent study, with prior approval from the GPD and advisor.

As with all requirements, any alternative plan must be approved in advance, and students remain responsible for ensuring that their plan satisfies both departmental and Graduate School expectations.

6 Research, Conferences, and Publications

6.1 Research in the graduate program

Research is the core endeavor of the graduate program. At the master's level, students must demonstrate their capacity to conduct research by:

- Identifying a research problem.
- Designing and carrying out an appropriate research approach.
- Analyzing data or evidence.
- Writing up their findings.

At the doctoral level, students are expected to use their research skills to address a gap in their field and to produce original knowledge. Doctoral research should be grounded in appropriate theory and empirical evidence and should situate the student's work within broader scholarly conversations.

6.2 Research proposals

Most master's students and all PhD students are required to prepare a research proposal.

- Master's students: A proposal is usually necessary if the student plans to seek research support from sources outside the department.
- PhD students: A formal dissertation proposal is required. To maintain "good progress," the dissertation proposal must be defended the semester after the comprehensive (candidacy) examination.

Proposal formats vary across subfields. Advisors will guide students toward appropriate models and expectations. Proposals from successful former students can be helpful references, and students are encouraged to consult them when available.

Writing proposals is a central graduate skill, useful not only for degree requirements but also for applying for grants, fellowships, and other opportunities in academic and non-academic careers.

6.3 Financial support for research

Students are strongly encouraged to seek external support for their research whenever possible. Research funding can help cover expenses such as travel, data collection, lab work, or fieldwork.

Common sources of research funding include:

- Internal funding opportunities through UMBC, including graduate school or departmental research awards.
- External (extramural) funding from regional, state, national, or international organizations and agencies.

For PhD students, external funding opportunities often grow in size and prestige and may include, for example, major fellowships and dissertation research awards. These applications typically require a tailored research proposal, curriculum vitae, cover letter, and letters of recommendation.

Many grant deadlines fall between October and February, and preparing a competitive application takes time. Students should begin working with their advisor early—ideally in their first year—to identify appropriate funding sources and plan application timelines.

6.4 Human subjects and the Institutional Review Board (IRB)

Students whose research involves human subjects or designated animal subjects must obtain approval from UMBC's Institutional Review Board (IRB) before beginning data collection.

Key points:

- IRB requirements and procedures can change, so students must consult current campus IRB resources.
- UMBC requires IRB training for those seeking to submit a proposal; their advisors must also have taken training.
- Preparing an IRB application often takes at least a week, and more time may be needed for international research or complex projects.
- Students should begin the IRB process at least two months before they plan to start data collection to allow time for review and possible revisions.

Students should speak with their advisor and other students who have completed IRB applications, and when possible, review successful previous applications as models.

6.5 Conferences and professional presentations

Conferences play an important role in professional development. They allow students to:

- Share their work with other scholars.
- Receive feedback from experts in their field.
- Build professional networks and learn about current research.

Students should work with their advisor to identify appropriate local, regional, national, or international conferences. For PhD students, presenting at major disciplinary conferences is especially important.

Conference planning typically begins months before the event. Students should:

- Track deadlines for abstracts, registration, and travel arrangements.
- Practice their presentations with their advisor, peers, and research group.
- Remember that, when presenting, they represent both themselves and the department.

The department and other campus units, such as the Graduate Student Association (GSA), may offer financial support for conference travel; details are described in the Financial Support and Employment section of this handbook.

6.6 Publications

Publishing research is valuable for all graduate students, regardless of their intended career path, and is expected of doctoral students.

Common pathways to publication include:

- Developing articles from master's theses and PhD dissertations.
- Adapting strong course or seminar papers into manuscripts.
- Co-authoring papers with advisors or other collaborators.

Initial publications are often co-authored with an advisor. Over time, students, especially PhD students, are expected to take increasing leadership in writing and to publish as first or sole authors where appropriate.

Students who plan to publish from their thesis or dissertation may wish to request that the Graduate School delay online dissemination of the document for a limited period (for example, up to six years), to allow time for journal publication. Graduate School policies and procedures apply to such requests.

Students should discuss publication strategies regularly with their advisor and committee, including appropriate journals or outlets, authorship order, and timelines.

7 Master's Program

7.1 Overview

The master's program is designed to demonstrate that you can identify a research problem and use appropriate conceptual and methodological tools to address it. The Graduate School sets the minimum requirement at 30 graduate credits; the specific course and credit requirements for the GES master's program are summarized in the Academics section of this handbook.

In this section, you will find information about expected timelines, recommended sequences of activities, thesis and non-thesis options, examinations, and pathways from the master's to the PhD program.

7.2 Timely completion of the degree

Within GES, students are expected to complete the master's degree by the end of their second year in the program. An additional summer or a third year may be needed when a thesis involves substantial fieldwork or other time-intensive components. Graduate School rules require that the thesis be successfully defended no more than five years after matriculation.

If obstacles arise that will delay completion, students should:

- Discuss the situation as early as possible with their advisor.
- Develop a revised plan for completion that remains within Graduate School limits (currently up to the end of the fourth complete academic year for the master's). Any appeal for additional time beyond the Graduate School's five-year deadline - applicable only in very extenuating circumstances - must be made to the Graduate School Associate Dean. This action also requires advisor and GPD approval.
- Consider any implications for funding, visas, employment, or other commitments.

The expectations for good progress outlined earlier in this handbook apply to master's students as well as PhD students. Timely completion of milestones is one factor considered in evaluating good progress.

7.3 Recommended timeline

The following is a recommended sequence to complete the master's degree within two years. Individual paths may differ, but substantial deviations should be planned carefully with your advisor.

Year 1 – Fall

- Meet with your (interim) advisor to plan coursework.
- Begin identifying broad areas of interest for potential thesis or scholarly papers.
- Attend departmental seminars and events to learn about ongoing research in GES.

Year 1 – Spring

- Form your committee by the end of the semester (for thesis-option students).
- Refine your research topic and, if pursuing the thesis option, begin planning a proposal.
- Apply for research grants or other support as needed.
- Meet with your advisor and at least one committee member to discuss your plans; internal documentation for this meeting is available on the department website.

Summer between Year 1 and Year 2

- Conduct research (e.g., fieldwork, data collection, analysis, or intensive reading and writing), as appropriate for your project and option.
- Stay in communication with your advisor about progress and any challenges.

Year 2 – Fall

- Continue research and data analysis.
- Report on your summer progress to your advisor and committee, especially if you are pursuing the thesis option.
- If you are interested in continuing on to the PhD, begin preparing PhD applications during this period.

Year 2 – Spring

- Complete data analysis and focus on writing your thesis or scholarly papers.
- For thesis-option students, plan to have a complete draft ready for your committee by early March (exact dates vary each year based on Graduate School deadlines).
- Defend your thesis (thesis option) or complete and submit your scholarly papers (non-thesis option).
- Submit final paperwork to the Graduate School and Graduate Program Director by the relevant deadlines.

7.4 Thesis and non-thesis options

Students must choose between two approaches to the master's degree: a **Thesis** option or a **Non-Thesis** option. The decision is made in consultation with the advisor, usually early in the program.

Thesis option:

- Involves a substantial research project designed, in most cases, to be publishable as a journal article.
- Requires enrollment in master's thesis research credits (see Academics for details).

- Culminates in a written thesis that is defended in an oral examination before a committee of at least three faculty members.

Non-thesis option:

- Requires additional coursework and two scholarly papers whose topics are developed with a faculty advisor.
- Papers must be approved by at least two faculty members in the department.
- Does not require a formal thesis defense, but still requires satisfying all Graduate School and departmental requirements for graduation.

Students considering PhD study often choose the thesis option, but a strong non-thesis record may also position students well for further graduate work or professional paths. Advisors can help students weigh options in light of their goals.

7.5 Master's thesis examination

Thesis-option students must successfully complete an oral defense of their thesis. The examination focuses on the thesis itself as well as the broader literature and methods that inform the project.

Key points:

- The committee normally consists of three to five faculty members, at least two of whom are in GES.
- The outcome of the exam determines whether the thesis and defense satisfy degree requirements.

The process includes several required forms, some from the Graduate School and some from the department. Students must follow current Graduate School deadlines; the following sequence reflects the existing expectations (exact dates are set each year):

- Apply for the master's diploma early in the terminal semester.
- Nominate the members of the final examination committee at least two months before the defense.
- Provide the thesis to the advisor at least 20 business days before the defense.
- Provide the thesis to the full committee at least 10 business days before the defense.
- Ensure that all Graduate School and departmental certification and defense forms are submitted by the deadlines relative to commencement.

Your thesis must reach the committee roughly eleven weeks before graduation (around March 1 for spring graduation, June 1 for summer, and October 1 for fall, subject to yearly calendars).

If you expect to miss that deadline (for example, finishing a thesis on May 1 while hoping to graduate in spring), you will need to plan for a summer graduation instead. In many cases, you

will not have to register for summer credits if you were enrolled in the preceding spring, but you must verify current rules with the Graduate School.

7.5.1 Outcomes and revisions

At the conclusion of the defense, the committee:

- Decides whether you pass the examination (failure occurs if more than one committee member finds the thesis or defense unsatisfactory).
- Decides whether the thesis itself is satisfactory.
- Specifies any required revisions.

Revisions may be:

- **Minor**, often editorial changes that do not alter the meaning of the thesis. Typically the advisor alone confirms that these are completed.
- **Major**, substantive changes that may require review by some or all committee members before final submission to the Graduate School.

A student is considered to have passed the exam if they engage thoughtfully with questions, demonstrate command of relevant concepts, and can articulate the strengths and limits of their work.

7.6 Internal application to the PhD program

Master's students who wish to pursue a PhD in GES must apply formally to the PhD program. Their applications are evaluated alongside all other PhD applications and according to the same criteria (including academic performance and fit with departmental strengths).

The Graduate Program Committee, in consultation with the faculty, typically completes admissions decisions by mid-February. All applications receive thorough review by multiple faculty members.

7.7 Moving from master's to PhD without completing the master's

In rare cases, a student may transfer from the master's program into the PhD program before completing the master's degree. This path is not generally recommended but can be appropriate under specific circumstances.

To transfer from the master's to the PhD program:

- The student must complete at least one full year of master's-level coursework in GES.
- After that year, the student convenes a meeting with a committee of at least three GES faculty members. The committee must unanimously agree that the student should move from the master's to the PhD program without completing the master's degree.
- If the committee supports the transfer, the advisor writes a letter of recommendation explaining the rationale.

- The Graduate Program Committee reviews the student's transcript and the advisor's letter; the student and/or advisor may be invited to discuss the request.
- If the Graduate Program Committee approves (by majority vote), the student may transfer into the PhD program.

Students contemplating this option should discuss it carefully with their advisor, since it has implications for timelines, expectations, and credentials.

8 PhD Program

8.1 Overview

The purpose of the PhD program is to train students to become broadly knowledgeable in Geography and Environmental Systems while also developing expertise in a particular subfield. The PhD culminates in the production of original research that is theoretically and empirically rigorous.

The PhD progresses through three broad stages:

- Coursework
- Candidacy
- Dissertation research and writing

The specific credit requirements for the PhD are described in the Academics section of this handbook. This section focuses on the sequence of the program, major milestones, candidacy, dissertation work, and timely completion.

8.2 Coursework and progress toward candidacy

Students must complete the required coursework for the PhD before advancing to candidacy. As described in the Academics section, the PhD requires a minimum of 44 total credits, including core courses, required methods courses, electives, and dissertation research credits.

Before advancing to candidacy, students must complete at least 26 credits of coursework. After advancing to candidacy, students enroll in GES 899 Dissertation Research and must complete at least 18 dissertation research credits.

To advance to candidacy, students must:

- Complete the required coursework.
- Pass the comprehensive examination.
- Pass the dissertation proposal defense.

Students should consult the Academics section for course and credit requirements, and the Advising, Committees, and Progress section for committee composition and required meetings.

8.3 Comprehensive examination

The comprehensive examination is intended to demonstrate that the student has developed sufficient expertise in their identified areas of specialization and is prepared to move toward independent dissertation research.

The format of the comprehensive examination is determined by the student’s committee. It is designed to assess the student’s command of the relevant literature, theory, and methods in their field.

The comprehensive examination committee must consist of at least four faculty members.

8.3.1 Purpose

The comprehensive examination is intended to ensure that the student possesses:

- Expertise in the subject matter of their area of specialization.
- Working knowledge of relevant theory and methodology.
- The ability to express ideas clearly and effectively in spoken and written English.
- Overall competence to undertake the independent research required for the dissertation.

8.3.2 Timing

Comprehensive examinations are generally taken at the end of the second year.

The department expects students to complete the candidacy examination by the end of the third year. If the examination is not taken by that time, the student may no longer be considered to be making good progress and may lose eligibility for fourth-year funding.

Failure to complete the candidacy examination within four years of entry into the PhD program will result in dismissal from the program. A formal exception may be filed the graduate school.

8.3.3 Format

The comprehensive examination has two parts:

- A written portion.
- An oral portion.

The committee determines the specific format and schedule of the written examination. The advisor must communicate the format and date of the examination in writing to the Graduate Program Coordinator and the Chair of the Graduate Studies Committee.

The written examination may be completed in one day or over a period of up to ten working days. Practice varies across the department, so students should discuss expectations with their advisor and committee well in advance, ideally beginning in the second year.

At the end of the written examination period, the student distributes their responses to the committee. If the committee concludes that the written portion leaves no possibility of an overall satisfactory performance, the student may waive the oral portion.

The oral portion of the comprehensive exam lasts two hours. During the oral exam, committee members question the student about their written responses and related areas of expertise.

Attendance at the comprehensive examination is limited to the student and the committee.

8.3.4 Results

Following the oral examination, the advisor and committee submit the required report on the doctoral comprehensive examination.

The student fails the examination if more than one committee member votes “unsatisfactory.”

If a failure is recorded, the student may be allowed to take a second examination if the committee recommends this. The format of the second examination is determined by the committee, but it must include an oral component.

Failure to pass the comprehensive examination a second time results in dismissal from the program.

8.4 Dissertation proposal defense

After passing the comprehensive examination, the student must defend a dissertation proposal. A successful proposal defense is what allows the student to advance formally to candidacy and become ABD.

The proposal defense committee must consist of at least five faculty members, in keeping with the committee requirements described in the Advising, Committees, and Progress section.

8.4.1 Timing

The proposal defense must be completed by the end of the semester following the successful comprehensive examination.

Failure to complete the proposal defense by that deadline means the student is no longer considered to be making “good progress” toward the degree and may lose departmental funding, including a teaching assistantship.

8.4.2 Format and outcome

The exact format and length of the dissertation proposal are determined by the student, advisor, and committee.

The proposal defense is a closed-door examination. The student schedules the time and location of the defense in consultation with the committee.

After the defense, the committee votes. Each member records a vote of satisfactory or unsatisfactory.

The student passes if no more than one unsatisfactory vote is recorded.

If the student does not pass, the committee may either:

- Recommend dismissal from the program, or
- Permit the student to defend again after meeting conditions set by the committee.

If the student fails the proposal defense a second time, they will be asked to leave the program.

If the student passes the proposal defense, they must complete the Graduate School’s Application for Admission to Candidacy for the Degree of Doctor of Philosophy. Once that form is approved, the student officially advances to candidacy. This will be officially recorded as a milestone achieved on the graduate transcript.

8.5 Timely completion of the degree

Per the Graduate School, the PhD must be completed within nine academic years. This includes a maximum limit of five years reaching candidacy, and four years to pass the final dissertation defense. An individual's timing may vary depending on the nature of the research, external funding applications, fieldwork, and other professional or personal circumstances.

Any appeal for additional time beyond the Graduate School's deadlines (applicable only in very extenuating circumstances) must be made to the Graduate School Associate Dean. This action also requires advisor and GPD approval.

Within GES, students are expected to:

- Complete coursework and prepare for comprehensive examinations in the first two years.
- Complete the comprehensive examination by the end of the second year.
- Complete the proposal defense in the semester after the successful defense of the comprehensive exam, in accordance with departmental expectations for good progress.
- Move steadily through dissertation research and writing following advancement to candidacy.

The following departmental time limits apply:

- Students must complete the candidacy examination by the end of the third year to remain on track for funding.
- The department does not guarantee funding beyond the fourth year.
- Failure to complete the candidacy examination within five years of entry into the program results in dismissal.
- The final copy of the dissertation must be submitted within four years of admission to candidacy, or candidacy will be canceled under Graduate School policy.

Students should discuss any anticipated delays with their advisor as early as possible and develop a realistic plan for completion.

8.6 Dissertation

Writing and defending the dissertation is the culminating stage of the PhD. The dissertation should present original research that makes a meaningful contribution to the field.

The specific format and length of the dissertation are determined in consultation with the advisor and committee.

The student first prepares a working draft for the advisor and/or committee. Multiple rounds of revision should be expected. Once the advisor determines that the dissertation is ready, it is distributed to the full committee for the final defense.

A successful proposal defense may still result in required revisions to the proposal, and a successful dissertation defense may also require revisions before final submission to the Graduate School.

8.7 Dissertation defense

The dissertation defense includes both a public presentation and a private examination.

8.7.1 Public presentation

The student presents the dissertation research in a public forum, and members of the department are encouraged to attend. The presentation, including questions from the audience, should last no more than one hour.

At least one week before the defense, the student must send the abstract, date, and time of the defense to the Graduate Program Director or program office for circulation to the department.

8.7.2 Private examination

After the public presentation, all visitors leave and the student remains with the committee for the private portion of the defense.

This closed portion of the defense is the main evaluative component. Committee members question the student about the dissertation and its broader context. Near the end of the examination, the student leaves the room while the committee discusses the result. The student is then invited back and informed of the outcome.

If needed and with prior Graduate School approval, a committee member may participate remotely by video conference.

As with earlier milestones, the student passes if no more than one committee member records an unsatisfactory vote.

It is common for the committee to require revisions at this stage. The student and advisor are responsible for ensuring that all required revisions are completed before final submission to the Graduate School.

8.8 Final paperwork

After all required revisions have been completed, the student must submit the final dissertation to the Graduate School and ensure that all required approval forms are signed.

The final defense process includes both Graduate School and departmental forms. Students must follow current Graduate School and departmental deadlines, including deadlines related to:

- Application for diploma.
- Nomination of the final examination committee.
- Distribution of the dissertation to readers and committee members.

- Public announcement of the dissertation defense.
- Certification of completion of the doctoral dissertation.
- Approval sheets and final submission requirements.

Students should plan well in advance, since some deadlines occur months before the defense and others are tied closely to the intended date of graduation.

9 Financial Support and Employment

9.1 Overview

The department recognizes the importance of reducing the financial burden of graduate education and makes every effort to provide qualified students with financial assistance. Graduate funding in GES typically takes the form of assistantships, though the structure and source of funding may vary.

Funding is tied to continued good progress in the program. Students should therefore read this section together with the sections on Advising, Committees, and Progress and on Good Standing and Good Progress.

9.2 Types of graduate support

Graduate students are typically supported in one of two main ways:

- Graduate Research Assistantships (GRAs)
- Graduate Teaching Assistantships (GTAs)

Some students may also receive opportunities to serve as graders and instructors of record once they have advanced sufficiently in the program.

9.2.1 Graduate Research Assistantships

Graduate Research Assistants work on faculty research projects. Their responsibilities and methods of evaluation are determined by the project supervisor on a semester-by-semester basis. The source of financial support may include new faculty start-up funds, extramural grants, or some combination of these.

Research assistant work can include activities such as:

- Literature reviews
- Lab work
- Data collection
- Data analysis
- Other research-related tasks connected to the funded project

Students holding GRA appointments should approach these positions with the same professionalism expected in any other employment setting. Expectations for duties, communication, and supervision should be discussed clearly at the beginning of the appointment.

Students who have advanced to candidacy should follow the enrollment expectations for post-candidacy doctoral students described in the Academics section.

9.2.2 Graduate Teaching Assistantships

Graduate Teaching Assistant responsibilities vary by assignment. In many cases, GTAs support an instructor of record in a course and may assist with grading, labs, discussion sections, logistics, or other instructional work. In some cases, GTAs may split their work across two courses.

Because instructional needs vary from course to course, the amount and type of work associated with a GTA assignment can differ. Workload can vary significantly through the semester. The department recognizes these differences and will make assignments with those variations in mind whenever possible.

At the beginning of each semester, GTAs and supervising instructors should discuss:

- The goals and content of the course
- Specific responsibilities and division of labor
- Expectations for communication, availability, and feedback

These expectations should be documented clearly in the GTA contract so that both parties share a common understanding of the appointment.

9.2.3 Instructor appointments

Doctoral students in good standing who have passed candidacy may be assigned to teach introductory or mid-level undergraduate courses as instructors of record.

The department recognizes that independent teaching experience is important for students pursuing academic careers and will try to provide such opportunities to post-candidacy PhD students when possible. However, these opportunities cannot be guaranteed.

Because teaching a course independently requires substantial time and effort, full-course teaching assignments are typically limited to students who have already advanced to candidacy.

Students serving as instructors are evaluated through the university’s student evaluation system and any additional departmental processes that apply.

9.3 Work expectations and professionalism

Strong working relationships in both teaching and research roles depend on communication, clearly defined expectations, regular contact, and constructive feedback.

At the start of an appointment, the student and supervisor should discuss:

- The purpose of the appointment
- Duties and responsibilities
- Expected timelines and workload
- Communication norms and supervision practices

As the semester proceeds, regular check-ins help keep expectations clear and provide opportunities for mentoring and professional development.

Any breach or abuse of expectations by either party should be brought to the attention of the Graduate Program Director or Department Chair as soon as possible.

New GAs are required to attend the Graduate School's new GA orientation held at the beginning of each academic semester. As employees of UMBC, they are also required to complete mandatory Title IX training.

Graduate assistants, instructors, and research assistants are also covered by university policies described in the UMBC Graduate School GA handbook. Students should consult that handbook, available on the Graduate School website, for questions related to employment policy, benefits, and university-level expectations.

All GAs at UMBC are eligible to participate in USM's Meet and Confer events administered by the Graduate School Dean and GA Advisory Committee (GAAC) of the GSA. Once per academic year, elected student officers of the GAAC invite all GAs to regularly attend Town Halls within their respective colleges and senior Graduate School leadership, to discuss grievances, concerns and to seek clarification about GA policies. The GAAC serves as a point of contact for concerns throughout the year for all GAs.

9.4 Registration requirements

Enrollment expectations related to assistantships and post-candidacy status are described in the Academics section of this handbook.

Students are responsible for maintaining the level of enrollment required for their funding status and program stage. These requirements apply during any semester in which the student holds an assistantship or other qualifying appointment.

Students should verify their enrollment each term and consult the Graduate School and department if they are unsure whether they are registered appropriately.

9.5 Stipends

A stipend is the compensation paid to graduate students for assistantship work. Stipends for GTAs follow established guidelines. Even when students are paid at the same rate, take-home pay may differ because of payroll deductions, taxes, or benefit elections.

Stipends are generally paid on a biweekly basis over a ten-month period, typically from August through June.

Stipends for GRAs are often comparable to those for GTAs, but they may vary depending on the requirements and budget structure of the grant supporting the appointment.

Students with questions about pay accuracy or payroll issues should consult the department's administrators, including the Graduate Program Director and the Department Chair.

9.6 Fees and benefits

In general:

- GTA fees are covered by the department.
- GRA fees may or may not be covered, depending on the conditions of the grant that supports the student.

Graduate assistants should consult current Graduate School guidance i.e. the GA Handbook, regarding benefits, including student employee benefits and health insurance.

Health insurance for eligible graduate assistants may include medical, dental, vision, and prescription coverage. Coverage structures, payroll deductions, and eligibility rules are determined by the Graduate School and may change over time. Students should verify current details through UMBC's official benefits and student health insurance resources.

9.7 Reappointment and contracts

The department is committed to supporting students throughout their graduate careers at UMBC, provided they continue to make good academic progress and funding remains available.

Students who are admitted with funding typically receive an offer letter outlining the department's intentions regarding support. This letter reflects the department's plan and commitment to support the student if conditions are met, but it is not itself a binding employment contract.

Actual appointments are confirmed through formal contracts, typically issued through DocuSign.

Important points:

- Contracts may be issued for a semester or an academic year.
- Students can generally expect to receive contracts beginning about two months before the term of appointment.
- Students on one-semester appointments are normally notified about reappointment approximately one month before the end of the semester.
- Students with multi-year funding expectations may only be notified if there is a reason they will not be reappointed.

Reappointment depends on continued good progress, as reviewed through the annual departmental process. If a student is not making good progress, their appointment may not be renewed. The Graduate School's GA Handbook outlines the formal process that the department and Graduate School undertake when GA employment becomes unsatisfactory.

9.8 Travel and research support

The department encourages students to travel for research and professional presentation and provides limited financial support when possible. Students are also encouraged to seek

additional support from faculty, student organizations such as the GSA Travel and Research Fund, and external funding sources.

All expenditures must comply with university policies and procedures.

9.9 Departmental support for conference presentations

The department provides up to $500 per year to support graduate students presenting their research at one academic conference relevant to their work.

To receive departmental conference support:

- Travel must be approved in writing by the Graduate Program Director and Department Chair before arrangements are made.
- Students must complete any required university travel pre-approval processes before departure.
- Students should work with departmental administrative staff to arrange travel and complete required paperwork.

Faculty may also provide additional travel or research support for their students at their discretion and with departmental approval.

9.10 Travel procedures

UMBC requires advance approval for university-sponsored travel. Students should begin the travel approval process as soon as they know they will travel. Travel must be approved before the trip takes place.

Students should not assume that reimbursement after the trip is the best option. Although out-of-pocket payment followed by reimbursement is possible, reimbursements may be taxable and may take time to process.

Whenever possible, students are encouraged to coordinate major expenses such as flights, hotels, and conference registration through departmental administrative staff in advance rather than paying first and seeking reimbursement later.

Some expenses, such as per diem, may still require reimbursement later, but planning ahead can reduce delays and tax complications.

Students should also remember that departmental administrative staff handle travel and reimbursement for many students and faculty. Courtesy, patience, and professionalism are expected in all travel-related communications.

10 Forms, Procedures, and Grievances

10.1 Overview

Graduate study in GES involves a number of administrative steps, including committee approvals, examinations, and graduation. Many of these require specific forms and adherence to Graduate School and departmental procedures. This section summarizes where to find those forms, how they are used, and what to do if problems arise.

10.2 Departmental and Graduate School forms

Throughout your program, you will encounter two main kinds of forms:

- **Departmental forms**
- **Graduate School forms**

Departmental forms:

- Are created and maintained by the Department of Geography and Environmental Systems.
- Include items such as internal advising reports, internal documentation of committee meetings, and departmental exam reporting forms.
- Are generally Word or PDF documents that you complete and submit to the department (often to the Graduate Program Director or program staff).

Graduate School forms:

- Are created and maintained by the UMBC Graduate School.
- Include items such as applications for admission to candidacy, nomination of examination committees, certification of thesis or dissertation completion, and graduation forms.
- Are increasingly handled through online systems (often via electronic signature workflows such as DocuSign).

Students are responsible for:

- Using the most current versions of all forms.
- Completing forms accurately and obtaining all required signatures.
- Submitting forms by the deadlines associated with examinations and intended graduation dates.

When in doubt about which form you need, consult your advisor, the Graduate Program Director, or departmental staff.

10.2.1 Key processes and where forms fit

Forms appear at several key points in your progress:

- **Committee formation** (Master's thesis and PhD committees)
- **Comprehensive examinations** (PhD)
- **Proposal defenses** (PhD)
- **Thesis and dissertation defenses** (Master's and PhD)
- **Admission to candidacy** (PhD)
- **Applications to graduate** (Master's and PhD)

General expectations:

- Committee nominations must be submitted and approved before exams or defenses are scheduled.
- Written work (thesis or dissertation) must be provided to advisors and committees within the time frames specified earlier in this handbook.
- Certification and final approval forms must be submitted to the Graduate School and department by their respective deadlines for the semester in which you intend to graduate.

Students should maintain a personal checklist of required forms and deadlines for their particular program and anticipated graduation term.

10.2.2 Annual review and advising reports

Each year, all students submit an annual report to the Graduate Program Director, along with an updated curriculum vitae. This process:

- Helps you and your advisor plan for the coming year.
- Allows the department to monitor progress and identify issues early.
- Provides a basis for funding and reappointment decisions.

The annual report uses a departmental form available from GES. Students are expected to complete it carefully and to discuss it with their advisor before submission.

10.3 Grievances

10.3.1 Grievance procedures within the department

Most concerns and conflicts can be addressed through direct conversation with advisors, committee members, the Graduate Program Director, or the Department Chair. When problems arise, students are encouraged to seek informal resolution first.

If an issue cannot be resolved informally, the department has formal grievance procedures for addressing concerns about academic or professional matters.

To file a formal grievance within GES:

- The student should submit a written grievance to the Graduate Program Director. The written grievance should include:
    - Student name
    - Department
    - Position (if applicable; e.g., RA, TA)
    - Faculty advisor
    - Statement of grievance
    - Resolution requested
- The Graduate Program Director and Department Chair review the information to determine whether a valid grievance exists and how it might be resolved.
- All steps and outcomes are documented in writing and included in the student's academic file. The student receives a copy of this documentation.

Some types of issues (such as grade appeals, sexual harassment, academic misconduct, or other forms of misconduct) may fall under separate university or Graduate School policies. In such cases, students may be referred to the appropriate university office or process. For instance, Allegation of Arbitrary and Capricious Grading, appeal of Academic Misconduct and Appeal of Academic Dismissal are Graduate School processes administered by the Associate Dean.

10.3.2 Escalation to the Graduate School

If efforts at the departmental level do not resolve the grievance to the student's satisfaction, the student may appeal to the Graduate School.

In general:

- The student submits a written statement to the Associate Dean, describing the situation, outlining what was done at the program level to seek resolution, and specifying the remedy being requested.
- This must usually be done within a set time frame (for example, within 30 days of issuance of a course grade); students should consult current Graduate School guidance for exact timelines.
- The Associate Dean may request written information from the department and others involved in the case.

- A designated committee convened under the Graduate Council may review the materials and makes a recommendation or decision.
- The Associate Dean communicates the decision in writing to the student, the department, and any other relevant parties.
- The student may have recourse of final appeal to the Graduate School Dean.

Time lines for grievance handling may be shortened when decisions affect advancement or other time-sensitive matters, or extended when circumstances make it impossible to meet standard deadlines. The Associate Dean determines these adjustments.

Students are encouraged to keep copies of all correspondence and documentation related to any grievance.

10.4 When other policies apply

Not all conflicts or concerns are handled through the departmental grievance process. For instance, cases involving:

- Sexual harassment or sexual misconduct, discrimination or bias.
- Other forms of serious misconduct, including research misconduct.

are typically governed by separate university policies and handled by the Office of Equity and Inclusion or Office of the Vice Provost for Research, respectively. Students should use the relevant university procedures in those cases, and may seek guidance from the Graduate Program Director, Department Chair, or appropriate campus office about where to start.