From:	Smith, Randy
To:	Mansfield, Becky
Cc:	Williams, Valarie; Smith, Randy; Griffiths, Rob; Reed, Katie; Miriti, Maria; Coleman, Mat; Vankeerbergen, Bernadette; Martin, Andrew; King, Ryan; Horn, David; Talbot, Ann; Warren, Adam; Eveland, Jessica
Subject:	Proposal to revise the Geography MA
Date:	Sunday, October 11, 2026 4:02:01 PM
Attachments:	image001.png

Becky:

The proposal from the Department of Geography to revise the Master of Arts in Geography was approved by the Council on Academic Affairs at its meeting on October 7, 2026. Thank you for attending the meeting to respond to questions/comments.

Since this proposal represents a significant change to the curriculum, the proposal will now be sent to the Board of Trustees for action at its meeting on December 3, 2026. If approved by the Board, the Graduate School will work with you on the submission process with the Ohio Department of Higher Education.

The Office of the University Registrar will work with you on any implementation issues.

Please keep a copy of this message for your file on the proposal and I will do the same for the file in the Office of Academic Affairs.

If you have any questions please contact the Chair of the Council, Professor Val Williams (.1415), or me.

Randy

THE OHIO STATE UNIVERSITY

W. Randy Smith, Ph.D.
Vice Provost for Academic Programs
Office of Academic Affairs
University Square South, 15 E. 15th Avenue, Columbus, OH 43201
614-292-5881 Office
smith.70@osu.edu
Assisted by:
Katie Reed
Executive Assistant
(614) 292-5672
reed.901@osu.edu

TO: Randy Smith, Vice Provost for Academic Programs

FROM: Graduate School Curriculum Services

DATE: 9/24/2026

RE: Proposal to Revise the Master of Arts In Geography in The College of Arts and Sciences

The Department of Geography in the College of Arts and Sciences is proposing a Revision to the Master of Arts in Geography.

The proposal was received by the Graduate School on 4/29/2026. The combined GS/CAA subcommittee first reviewed the proposal on 9/23/2026 and support its review by the Council on Academic Affairs.

Kowalsky, Lisa

From: Vankeerbergen, Bernadette
Sent: Monday, August 10, 2026 1:25 PM
To: Carpenter, TJ; Kowalsky, Lisa
Subject: FW: Revisions MA & PhD Geography
Attachments: Revision Master of Arts Geography Revision 04-28-2026.pdf; Revision PhD Geography Revision 04-28-2026.pdf; Revision Master of Arts Geography Letter of Motion.docx; Revision PhD Geography Letter of Motion.docx

Dear TJ and Lisa,

Just making sure that this proposal is on the docket at the Graduate School.

Many thanks,
Bernadette

THE OHIO STATE UNIV

Bernadette Vankeerbergen, Ph.D.
Assistant Dean, Curriculum
College of Arts and Sciences
114F University Hall, 230 North Oval Mall.
Columbus, OH 43210
Phone: 614-688-5679
http://asccas.osu.edu

From: Vankeerbergen, Bernadette
Sent: Tuesday, April 28, 2026 11:44 AM
To: Grad School Curriculum Services <Grad-SchoolCurriculum@osu.edu>; Miriti, Maria <miriti.1@osu.edu>; Carpenter, TJ <carpenter.1112@osu.edu>
Cc: Martin, Andrew <martin.1026@osu.edu>; Nagar, Ila <nagar.5@osu.edu>; Steele, Rachel <steele.682@osu.edu>
Subject: Revisions MA & PhD Geography

Dear Maria and TJ,

Please find attached proposals to revise the Geography MA and PhD. The ASC Curriculum Committee (ASCC) approved the proposals on Friday, April 24, 2026.

We are now advancing the proposals to be reviewed by the Graduate School. The attached documents are (1) the actual proposals & (2) for each revision, the Social and Behavioral Sciences Subcommittee cover letter to ASCC.

Please use this email as a cover letter indicating that the proposals have been duly reviewed and approved by the appropriate ASC curricular bodies (including the full ASC Curriculum Committee).

Please let me know if you have any questions.

My best,
Bernadette

THE OHIO STATE UNIVERSITY

Department of Geography
College of Arts and Sciences

1036 Derby Hall
154 North Oval Mall
Columbus, Ohio 43210
www.geography.osu.edu

Dr. Ila Nagar
Arts and Sciences Curriculum Committee, Chair
320 Hagerty Hall
1775 College Rd.
Columbus, OH 43210

February 10, 2026

Dear Dr. Nagar,

On behalf of the Department of Geography in the College of Arts and Sciences, I am pleased to submit two proposals to revise graduate degree programs in Geography—one for the master's and one for the Ph.D. We are also submitting proposals for 10 new graduate courses.

These modifications reformat our required master's and Ph.D. curriculum with the goal of updating and strengthening graduate seminar offerings in our unit. These revisions maintain the current credit-hour totals and time-to-degree expectations for both degrees while modernizing the curriculum to better meet student needs and employment prospects.

Executive Summary

Our proposals advance a modest but meaningful restructuring of the first-year core curriculum for both the master's and Ph.D. programs in Geography by introducing a set of focused one-credit courses devoted to foundational training, methods, writing, pedagogy, and professional development. These courses will replace the existing three-credit core courses and in so doing expand our instructional capacity to offer more specialized three-credit hour elective graduate seminars while retaining all major program requirements. The revised curriculum strengthens students' preparation across Geography's social science, physical science, and geospatial subfields; enhances professional development in funding, publishing, and teaching; and aligns more closely with the expectations outlined in our recent 10-year program review, conducted in SP2024. The proposed implementation date for these revisions is AU2027.

As outlined in our proposals, the revised curriculum reformats—rather than replaces—our existing graduate-level seminars. The newly proposed one-credit-hour seminars, which run sequentially across the autumn and spring semesters, consolidate content we already teach while deliberately streamlining workload and improving curricular coherence. Rather than introducing new material, these seminars strategically draw from multiple existing courses to better organize foundational content and distribute it more efficiently across the academic year. For example, the material taught in GEOG 7100.01 (Foundations and Integration I) and GEOG 7100.02 (Foundations and Integration II) is drawn primarily from GEOG 7101 (Research Design), with selected content from GEOG 8100 (Geographic Thought) and GEOG 8109 (Professionalization). This reformatting allows students to engage the same core material with greater focus and reduced redundancy, while preserving rigor and learning outcomes. The alignment between existing and proposed courses is detailed in Table 3 of our proposals.

Review and Approval Process

This proposal was developed by the Graduate Studies Committee, led by the Director of Graduate Studies (Dr. Becky Mansfield), in close collaboration with me. The proposal went through multiple iterations via the department's Executive Committee—consisting of Dr. Jana Houser, Dr. Zhengyu Liu, Dr. Steven Quiring, and Dr. Mansfield and myself. The proposal was also vetted by the faculty at large during two faculty meetings in Spring 2025. The full faculty has approved the proposal, as noted above.

Concurrence

We are not seeking concurrence from other academic units because the proposed courses do not introduce new disciplinary content. Rather, the revised curriculum reorganizes and streamlines material that is already taught within our current graduate seminars. As noted above and in our proposals, our proposed courses consolidate content from existing Geography courses and are taught by the same faculty, using the same intellectual foundations and learning objectives.

Attachments: 2x program revision proposals: master's and Ph.D. in Geography, each containing advising sheets, course lists and curricular maps, and supporting materials as required by college and OAA guidelines.

Please let me know if any additional information or clarification would be helpful as ASCC reviews this proposal. We appreciate your consideration and look forward to advancing these program enhancements.

Sincerely,



Mat Coleman

Professor and Chair, Department of Geography, College of Social and Behavioral Sciences
http://u.osu.edu/coleman.373/
coleman.373@osu.edu

April 2026

MA program proposal: Response to SBS (in the bullets)

On Thursday, March 5th, the Social and Behavioral Sciences Subcommittee of the ASC Curriculum Committee reviewed a program revision for the Geography Master of Arts.

The Subcommittee approved the request with the following feedback:

Comment: The Subcommittee commends the department on their submission of a thoughtful and well-motivated program revision.

- Thank you

Contingency: All new course proposals submitted in conjunction with the program revision must be approved by the Subcommittee before the program revision itself can move forward.

- Understood

Contingency: The Subcommittee asks that the department provide further explanation behind the decision to replace the three to four required A–E graded courses (Geography 8100, Geography 7101, and Geography 7102 or Geography 8102) with courses graded Satisfactory/Unsatisfactory. While the proposal states that the new required courses will be more "focused and flexible" (p. 8), the Subcommittee is concerned that this shift would leave students with only a small number of electives and/or seminars contributing to their GPA as S/U-graded courses do not factor into GPA calculations. Additionally, the Subcommittee notes that this grading structure is not typical for required or core coursework in graduate programs at the University. The Subcommittee requests additional justification for this change and clarification regarding how the program will ensure that students have an adequate number of graded courses to support their post-graduation goals.

- We switched to letter grades for the core courses (Foundations, Keywords, and Methods: 7100.01, 7100.02, 7200.01, 7200.02, 7300.01, 7300.02).
- The professional development courses (Proposals, Writing, Pedagogy, and Teaching Practice: 7400, 7500, 7600, 7650) are still S/U.

Contingency: The Subcommittee asks that the department clarify whether students in the MA program will receive credit for thesis research. While Table 4 (p. 11) and Appendix 3 of the proposal list the thesis as a non-credit program requirement, Geography 7999 "Thesis Research" appears in the provided curriculum map (Appendix 2). The Subcommittee

requests clarification regarding whether students who choose the thesis option for their MA program will enroll in Geography 7999 for credit towards the MA requirements.

- Fascinating question! We have not been using the 7999 number recently: thesis credits have been treated as independent study. We will resume using it for the new curriculum. Information in the proposal (including Table 4 and Appendix 3) is updated to reflect this.

Contingency: The Subcommittee notes that the proposal describes Geography 7100.01, Geography 7200.01, and Geography 7300.01 as "year-long" courses (p. 9-10). While the Subcommittee recognizes that these courses are intended to be taken in sequence over the course of a single academic year, the Subcommittee requests that the department revise both the course descriptions (Table 3) and the second paragraph of p. 9 to remove references to single, year-long courses. The Subcommittee offers the friendly suggestion that the new course descriptions indicate that these are the first or second courses in a sequence.

- Done. Changed the language to that of sequences, rather than single courses.

Contingency: The Subcommittee requests that the department review the provided curriculum map (Appendix 2) to ensure that all course listings and numbers are accurate. For example, the Subcommittee notes that the curriculum map includes Geography 5950 "Atmospheric Thermodynamics." However, this course is not a Geography course but an Atmospheric Science course. Also, it is slated to be renumbered 5501 in Autumn 2026. Thus, if it needs to be included in the curriculum map, it should have the proper course listing and number (it is not clear whether it needs to be included since the header of the curriculum map mentions existing and proposed *Geography [GEOG]* graduate courses). Other courses are slated to change course listings and numbers in Autumn 2026 (for example, 5940, 5941, and 5942). Additionally, the Subcommittee notes that the curriculum map excludes Geography 6229 "Artificial Intelligence and Machine Learning for Geospatial Data Science." This course will become effective in Autumn 2026. The Subcommittee asks that the department revise the curriculum map accordingly. The Subcommittee also requests that the department clarify whether they intend for the courses that will be replaced (for example, 8100, 8102, 7101, 7102) to be included in the curriculum map.

- The curriculum map has been corrected: added 6229, removed 5921, 5922, 5940, 5941, 5942, 5950 because they are becoming ATMOSSCI courses (and some of them changing number, too)
- In terms of the courses being replaced, we will remove 7101 (research design) but we will keep the three others so that they can be used as potential elective

graduate seminars. 7101 is removed from the curriculum map and the others are updated accordingly.

Recommendation: The Subcommittee notes several inconsistences between the course descriptions provided in Table 3 of the proposal and the individual course descriptions in curriculum.osu.edu. The Subcommittee recommends that these be made consistent so that the most accurate information is available to students. While the Subcommittee recognizes the character limit imposed by curriculum.osu.edu, it notes that including references to key assignments (e.g., the CV workshop mentioned in the proposal's description of Geography 7100.01 but omitted from the curriculum.osu.edu description) may still be helpful to students.

- We updated the formal descriptions of several courses (in the curriculum site), as well as changed the descriptions for a few in the program proposal.

Recommendation: The Subcommittee notes an inconsistency regarding staffing in the proposal. While p. 12 of the proposal states that the changes will be "staffing neutral," p. 4 indicates the proposed changes will free-up capacity for the department to offer additional three-credit seminars. The Subcommittee recommends that the department reconcile this discrepancy and standardize how the proposal addresses staffing.

- The text on page 4 was referring to discussion with the external review team, not to the actual proposal that we subsequently wrote and submitted. We have clarified on both page 4 and page 12: the new courses are staffing neutral (they do not free capacity) and our ability to offer seminars is due to hiring several full-time instructors for our undergraduate programs, freeing some faculty time for graduate courses.

Comment: The Subcommittee notes that the department may wish to withdraw the legacy courses that will no longer be taught (Geography 8100, Geography 7101, Geography 7102, and Geography 8102) after the program revision is implemented.

- Addressed above

Comment: The Subcommittee notes that the department may want to inform other units of the revisions to the program, particularly those whose graduate students frequently enroll in Geography 8100, Geography 7101, Geography 7102, and Geography 8102.

- Thank you for this reminder. We will check into this and follow up with relevant units.

OSU DEPARTMENT OF GEOGRAPHY
MASTER OF ARTS CURRICULUM PROPOSAL

Spring 2026

EXECUTIVE SUMMARY

The Department of Geography proposes a revision of its Geography MA program to modernize a curriculum that has remained largely unchanged for more than a decade and to better meet the academic, professional, and workforce needs of our graduate students. The overhaul introduces a flexible suite of required 1-credit core and professionalization courses—replacing the existing 3-credit requirements—to strengthen foundational training, expand methodological depth, and provide sustained professional development across a student's tenure in the program.

These changes respond directly to findings from our 2024 external program review, annual internal assessments, and student feedback, all of which highlight the need for expanded seminar offerings, improved preparation for non-academic careers, greater support for writing and funding success, and a curriculum that builds intellectual cohesion across our diverse subfields.

The proposed structure preserves existing time-to-degree and total credit hours while enabling the department to offer more graduate seminars and more effectively support students' research, pedagogical development, and career readiness.

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BACKGROUND

Overview

The Department of Geography currently offers five graduate degrees: MA and PhD in Geography, MS and PhD in Atmospheric Science, and Master of Geographic Information Sciences and Technology. We are proposing revisions to two of our five graduate degrees: the MA and PhD in Geography. Students in the two Geography graduate degree programs take the same set of courses. Currently, there are 28 students in the Geography PhD program and one in the MA program. We admit 5-10 students per year across both Geography programs.

The course offerings and curriculum for the Geography graduate degrees have not been substantially updated in over a decade, despite multiple assessments, formal and informal, of what students and faculty need from the curriculum. The revisions we propose here comprise changes to our current course requirements to better meet these needs. Throughout this proposal, when we describe our "current" programs we are referring to the programs as they have existed for the past several years, as outlined in our Graduate Handbook. Due to the accumulation of changes over time, our current programs differ from those that were approved in the last formal review, which occurred in 2011 for the 2012 transition to semesters. Thus, in addition to proposing a new curriculum, this proposal serves to update aspects of our programs that have changed over the past 15 years but are not changing from current practice. (See Appendix 1 for a summary of programmatic changes since semester conversion.) Given the extent of these changes, we consider the current proposal to be a change of greater than 50%, recognizing that this threshold triggers additional levels of approval.

The core of this proposal comprises the curricular changes. These replace our current set of required courses with a new suite of courses that we have designed to:

1. Better prepare students to achieve our expected learning outcomes (see more below).
2. Bring first-year students into the life of the department, build cohesion in the cohort, and provide an intellectual and professional foundation in geography
3. Provide course work that is interesting, accessible, and useful for students across our intellectually diverse program
4. Provide training for professional activities (e.g., funding, publishing, teaching), especially training that is available beyond a student's first year
5. Be of interest *as electives* to students in our Atmospheric Science and Geographic Information Science graduate programs

The proposal was developed by the Graduate Studies Committee (GSC) in collaboration with the Department Chair. The proposal builds on curricular ideas generated by a 2018 "Graduate Studies Plus" committee comprising faculty and graduate students, ideas from which were only partially implemented, and another set of curricular ideas developed by the GSC in the early 2020s that were also never implemented. The current proposal was discussed with the department's Executive Committee and with the whole faculty at meetings during Spring semester 2025.

In addition to this set of ongoing internal discussions about the Geography curriculum, formal and informal program assessment, both external and internal, inspired the decision to overhaul the Geography curriculum and the specific changes we are proposing.

Expected Learning Outcomes

We were not required to provide ELOs or an assessment plan for semester conversion. Moving forward, we propose to continue to use the ELOs that we assessed and on which we reported in Nuventive in 2024 and 2025 (see Table 1). The ELOs are almost identical for the MA and PhD program, with recognition that the extent of knowledge and skill will be different for MA students than it is for PhD students. A Curricular Map appears as part of Appendix 2. Our Assessment Plan is described later in the proposal.

Table 1. Expected Learning Outcomes for Geography graduate programs

Area	ELO
Knowledge Base	Students demonstrate broad knowledge about the field of Geography and their chosen subfields
Research Competency	Students conduct academic research from idea to dissemination, demonstrating the conceptual, methodological, and professional knowledge and skills necessary for research. (Masters students participate, PhD students lead)
Communication	Students effectively communicate scholarly information, orally, textually, and visually
Ethics	Students conduct themselves professionally, collegially, and ethically, demonstrating they understand the ethical implications of their research, teaching, and service
Career Development	Students understand the complexity of the professional environment and are well positioned for jobs in academia and beyond
Teaching Competency	Students can teach and mentor a wide range of students, demonstrating knowledge and skills in pedagogy, course design, and instruction

External Assessment

The Department of Geography underwent a 10-year program review in SP2024.

The external reviewers characterized our unit's instructional productivity and quality as 'exemplary' compared to peers at R1 institutions. This rating—at the graduate level— is in recognition of the substantive investment of energy and time that our faculty put into mentoring graduate students, as benchmarked by our impressive placement rates (see discussion below in 'Evidence of Workforce Relevance').

The external reviewers also identified several issues that merited a 'needs improvement' rating, mostly pertaining to our graduate degree programs. These include the need for more graduate seminars, more credit hours for student professionalization, and more training opportunities to prepare graduate students for non-academic careers (see summary in Table 2).

Table 2. Area rated as 'needs improvement' in our February 2024 external review

Review category	Details
4.7 Curriculum appropriate (contemporary, meets students' needs, etc.) at the graduate level	Expand seminar offerings beyond the core courses required for the Masters and Ph.D. degrees Faculty review of graduate student teaching, for TA appointments and instructorships More credit hours for student professionalization activities
4.8 Graduate students appropriately admitted, advised, and mentored (given limited positions in professoriate and students seeking non-academic positions)	More training required for non-academic or alt-academic careers
4.9 Credit hour production meets expectations of program and student needs	Credit hour production is skewed toward the unit's five undergraduate degrees; need to rededicate resources to graduate program credit hour production rather than sending students out of the department for training in other units

The issues summarized in Table 2 were not unexpected to the department's leadership team. In a self-assessment submitted to the external review committee in January 2024, we had already identified three key challenges in our graduate program that closely anticipated their findings.

First, we noted the difficulty of offering both subfield-specific and cross-cohort seminars within such a broad graduate program—spanning GIS, human geography, and physical geography. As we wrote at the time, our goal is "to develop a curriculum that provides graduate students with comprehensive, cohort-building learning experiences as well as focused, advanced subject-specific training."

Second, we acknowledged staffing pressures in our graduate curriculum, as our limited number of full-time faculty must also support undergraduate instruction across five majors.

Third, we pointed to low enrollment in some graduate courses, a consequence of relatively small incoming cohorts—typically five to ten students per year.

To address these issues, we proposed restructuring the graduate curriculum around credit-bearing units smaller than the standard three-credit format. This would allow us to deliver core program requirements through shorter, more focused courses, freeing capacity to offer additional three-credit subfield seminars. The external review team responded very positively to this idea. (Note that the current proposal differs from this in that the one-credit courses are neutral: neither freeing nor demanding extra capacity. We address this below, in the section on Program Implementation.)

Following their visit, both the Office of Academic Affairs—in a meeting held in July 2024 and a written report submitted in May 2025—and the Social and Behavioral Sciences divisional dean, Dr. Ryan King, encouraged us to make graduate program revision a top priority. In annual and spring

meetings with the department chair in both 2024 and 2025, Dr. King further emphasized rethinking the structure of our master's and doctoral programs to expand graduate training opportunities without compromising the strength of our undergraduate teaching.

Formal Internal Assessment

As part of our annual program assessment, we conduct a Spring Review every year. This review has several components:

- students fill out an online form about their activities for the year and submit a CV
- advisors and other faculty (e.g., GTA supervisors) fill out an online form evaluating each student's progress toward completing their degree and meeting our ELOs
- the Graduate Studies Committee compiles this information into an overview of each student *and* a summary of outcomes: e.g., percent that published a peer-reviewed paper that year
- the graduate faculty hold a retreat to discuss each student, identify areas where students are doing well and where they are not, and discuss ways to better support students to achieve their academic and professional goals

Over the past several years, the Spring Review has provided important feedback about progress through the program, and especially about professional development. We meet our goals for conference participation: almost all our students present at regional, national, and international conferences, and many win awards for their presentations. But Masters students do not have enough other professional experience. Even so, our graduates have been extremely successful at securing jobs related to their academic degree (see the above section on External Assessment).

Informal Internal Assessment

These formal assessments regarding professional development align with what we hear informally from our students and their advisors, including from the graduate representatives on the Graduate Studies Committee. We have been told that they wish the required courses were pitched more broadly, came at different moments in their program (not just their first year), and provided more training for professional development in funding, publishing, and teaching. Students also tell us that while they enjoy the opportunity to take advanced (8000-level) seminars in other departments, they wish more were taught within the department, to improve their geographical training.

Evidence of Workforce Relevance

Our STEM-designated master's degree in Geography serves students seeking advanced, practice-oriented training in spatial analysis, environmental science, human–environment dynamics, and geospatial technologies. The primary target audiences include:

- Recent undergraduates at Ohio State, in the state of Ohio and regionally, as well as nationally, in a variety of social and physical science fields who seek advanced analytical, technical, or field-based training.
- Working professionals in government, consulting, nonprofit organizations, environmental or urban planning agencies, and industry who need graduate-level geospatial, environmental, or data-science skills to advance or redirect their careers.

- Students pursuing applied research roles, including positions in environmental assessment, climate resilience planning, GIS and remote sensing analysis, hazard mitigation, transportation and land-use planning, and sustainability evaluation.
- Professionals seeking STEM-adjacent technical credentials, especially training in GIS, remote sensing, spatial statistics, and climate- or environment-related data interpretation.

Our master's graduates typically pursue careers in environmental consulting, public-sector planning and analysis, climate and hazard mitigation, geospatial technology, and applied research positions across public, private, and nonprofit sectors.

Alignment with Ohio's workforce priorities

Ohio's statewide workforce data demonstrate an accelerating need for workers trained in spatial analytics, environmental science, geospatial technologies, and data-driven decision-making. Ohio's "Top Jobs" list[1] and Labor Market Information (LMI) projections[2] identify multiple high-growth occupations that map directly onto the core competencies delivered through graduate training in Geography including geospatial analysis, environmental monitoring, urban and regional planning, hydrology, climatology, cartography, remote sensing, and applied data science.

Statewide demand for these occupations is not only strong but structurally embedded in Ohio's economic priorities:

- Infrastructure modernization and transportation planning (ODOT, chip-driven regional development, climate resilience planning) require advanced GIS, spatial modeling, and environmental forecasting—all core skills for Geography graduate students.
- Climate and environmental risk management, including stormwater modeling, floodplain management, air-quality monitoring, and environmental remediation, directly drive demand for physical geographers and environmental analysts.
- The rapid growth of the geospatial technology sector, which serves agriculture, public health, logistics, insurance, emergency management, and utilities, drives sustained demand for graduates with advanced GIS, remote sensing, spatial statistics, and machine-learning/AI skills.
- Data science integration into public, private, and nonprofit decision-making expands the need for analysts trained to work with large spatial datasets, predictive models, and spatial-temporal analysis—capabilities at the core of our Geography master's and PhD curricula.

National BLS projections[3] complement these Ohio-specific trends, forecasting strong or above-average growth in:

[1] https://topjobs.ohio.gov/top-jobs-list
[2] https://ohiolmi.com/Home/Projections/ProjectionsHome
[3] https://www.bls.gov/ooh/life-physical-and-social-science/geographers.htm#tab-8

- Environmental scientists and specialists
- Urban and regional planners
- Geographers and cartographers
- Surveyors and geospatial technicians
- Data scientists and spatial-statistical analysts

These occupations are projected to expand not merely because of cyclical trends but due to long-term structural pressures: climate change adaptation, urbanization, infrastructure renewal, and the rapid expansion of geospatial data in nearly all industries.

Integrative workforce preparation

A distinguishing strength of our master's and doctoral programs is the integrative training students receive across the social sciences, physical sciences, and geosciences. Unlike many peer programs that silo students by subfield, our curriculum brings together human geographers, physical geographers, and GIScience students in shared core coursework. This integrated classroom model exposes students to multiple ways of understanding environmental change, spatial inequality, climate processes, and geospatial data, fostering cross-disciplinary dialogue and methodological breadth. By learning alongside peers trained in different traditions, students gain a holistic perspective on complex human–environment challenges and develop the ability to work effectively across disciplinary boundaries—an increasingly essential skill in both academic and applied workforce settings.

This interdisciplinarity ensures that our graduates meet cross-sector demand in ways that siloed STEM and social science fields cannot. Employers across the public, private, and nonprofit sectors are seeking professionals who can connect physical climate processes with social vulnerability, infrastructure risk, and policy design. Our graduates are particularly well-suited for this emerging demand because they are trained to analyze climate change mitigation and adaptation challenges through both scientific and social-contextual lenses. This includes modeling environmental change; assessing impacts on communities, infrastructure, and ecosystems; and developing data-supported strategies for resilience planning.

State and regional employer demand

Ohio's major employers—including Battelle, the Ohio EPA, ODOT, ODNR, MORPC, Nationwide, Cardinal Health, Cleveland Clinic, JobsOhio, AEP, and multiple city/county governments—all maintain internal GIS units, environmental analysis offices, or climate-risk teams. These agencies routinely hire graduates with:

- Advanced geospatial modeling and analytic capabilities
- Training in climate and environmental processes
- Experience with data visualization, dashboards, and spatial decision-support
- Skills in remote sensing, Python/R geospatial analysis, and machine learning

The demand for such expertise has increased as Ohio has faced recurring extreme-weather events, water-quality issues, urban redevelopment pressures, and major private-sector expansions. Geography graduate students are uniquely suited to fill these positions because their training integrates physical science, data science, social science, and geospatial technology.

CURRICULAR INFORMATION: THE PROPOSAL

This proposal includes a set of new courses and curricular requirements for both MA and PhD students. A list of all Geography courses at the 5000-level and up, including the new courses being proposed, is in Appendix 2. Proposals for all the new courses are being submitted with this program revision and are dependent on approval of this revision.

The proposed initial start date is AU 2027.

Overview of Main Proposal Features

Proposed changes (and note of the many things not changing) are summarized here and elaborated in the section below on Curricular Requirements and Sample Schedules, which also lays out the proposal in tables.

Changes to required courses with minimal change to required credit hours

In the *current curriculum* for both the master's and doctoral programs, students must take *three x 3-credit core courses*: 8100 Geographic Thought, 7101 Research Design, and a choice of methods course: 7102 Field Methods or 8102 Advanced Spatial Data Analysis. They also must take seminars, which they mainly take outside the department due to our lack of offerings. Detailed information on the current master's program is on pages 18-21 of our Graduate Handbook.

The *proposed curriculum* replaces these courses with *nine x 1-credit core and professionalization courses* that are more focused and flexible; see the list below. Students will still be required to take seminars, more of which we will offer in the department.

Students on GTA assignment will also be required to take a *1-credit hour* professionalization course focused on teaching; they could take this 1-4 times (dependent on GTA assignment). Students are welcome to repeat the professionalization courses.

The total number of credit hours in core courses is unchanged, at 9 credit hours, with an additional 1-4 credit hours for students funded as GTAs.

Beyond the foundational courses, students meet their total credit hour requirements with electives, including seminars and independent study (5193 and 7193).

No change to total credit hours, expected time degree, or most courses

There is no change to total credit hours or time to degree. Total credit hours for the MA is 30 and the normal length for completion is two academic years.

The proposed revisions make no changes to any 5000-level courses, which are also used in the undergraduate curriculum, or 6000-level courses, which are used our Master's in Geographic Information Science and Technology. Students in the Geography graduate programs can take 5000- and 6000-level courses as electives, but they are otherwise not part of the required curriculum.

New Foundations: 1-Credit Core and Professionalization Courses

The central component of the plan is to replace our required (non-seminar) 3-credit courses with more focused courses that are 1-credit per semester. The aims are to foster greater precision in what each course offers, to build student community across a full academic year of shared coursework, and increase flexibility beyond the first year.

The new 1-credit courses include six new core courses (these are arranged into three x two-semester sequences) and four repeatable professionalization courses. See Table 3 for a list of proposed course titles and descriptions, the semesters in which they will be offered, and the course each replaces.

Table 3. Core and Professionalization courses. Descriptions of each proposed 1-credit course, the semesters it would be offered, and which existing courses the proposed course replaces.

Number	Name	Description	Semester	Replace existing?
7100.01	Foundations and Integration I	A two-semester sequence for new masters and PhD students in Geography. It is designed to orient students to the demands and culture of academia; the department, campus, and community; and careers in geography. It includes attending colloquia and professional development activities, such as a CV workshop.	AU	Elements of 7101 (Research Design), 8100 (Geog Thought) and 8109 (Professionalization)
7100.02	Foundations and Integration II	See .01 version	SP	See .01 version
7200.01	Keywords in Geography I	A two-semester sequence for new students *and* non-geographers, introducing the foundational concepts of geographic thought, historical perspectives, and current trends in the field.	AU	8100 and elements of 7101
7200.02	Keywords in Geography II	See .01 version	SP	See .01 version
7300.01	Methods in Geography I	A two-semester sequence for new students *and* non-geographers, focusing on geographic methods and related debates. Draws on a broad range of methods relevant to GIS/cartography, physical geography, human geography,	AU	7102 (Field Methods), 8102 (Spatial Stats)

		and human-environment geography.		
7300.02	Methods in Geography II	See .01 version	SP	See .01 version
7400	Research Funding and Proposals	Open to all students, this repeatable course focuses on discovering funding opportunities, the process of applying for them, and learning how to write successful proposals. Students read and analyze real proposals and write their own.	SP	7101
7500	Writing Workshop	Open to all students, this repeatable course provides a supportive setting for any type of writing, including proposals, chapters, or papers. The first weeks of the semester include information and ideas about writing and giving feedback. The rest of the semester involves workshopping student writing.	AU/SP	Elements of 8109
7600	Teaching Pedagogy	Open to all students, this repeatable course explores pedagogy in Geography and Atmospheric Science. By engaging in hands-on learning, students will be prepared to design and teach courses independently.	AU	Elements of 8109
7650	Teaching Practice	Required for all pre-candidacy and master's students with GTA assignments and all students working as instructors. In situ engagement with grad students with respect to effective communication, student engagement, assessment methods, grading, and fostering an inclusive learning environment. Specific topics are determined by the enrolled students and their needs.	AU/SP	Elements of 8109

Seminars/ Special Topics Courses

In addition to the new suite of foundational 1-credit hour courses, we are re-committing to offering 3-credit graduate seminars, or 'special topics' classes. Our offerings of these courses have dropped significantly over the past five or so years, and students often meet their seminar requirement with courses from other programs. We will continue to encourage students to take courses in other programs and will welcome other students to our seminars.

These 7000- and 8000-level courses already exist and changes to them are not part of this proposal. These are highly specialized, research-oriented courses that involve in-depth study, advanced methodologies, and often include opportunities for original research and scholarly discourse at the highest academic level. These will be offered by different faculty members on a rotating basis.

Master of Arts Program Curricular Requirements and Sample Schedules

All Geography Master's students must take nine of the ten 1-credit courses; those hired as GTA's must also take the Teaching Practice course each semester they are on appointment. Master's student must also sign up for three thesis credits (GEOG 7999) We expect that in addition to the courses listed here, students will take elective courses (which can include Independent Study and repeating the professionalization courses) to reach the 30 credit-hour minimum requirement.

The Master of Arts in Geography curriculum is summarized in Table 4. The Master of Arts program is expected to take two academic years; a sample two-year schedule is provided in Table 5. A full advising sheet comprises Appendix 3.

Table 4. Curricular requirements for students in the Geography Master of Arts program

Requirement	Credits
Courses	
7100.01 Foundations and Integration (Autumn)	1
7100.02 Foundations and Integration, cont. (Spring)	1
7200.01 Keywords in Geography (Autumn)	1
7200.02 Keywords in Geography, cont. (Spring)	1
7300.01 Methods in Geography (Autumn)	1
7300.02 Methods in Geography, cont. (Spring)	1
7400 Research Funding and Proposals	1
7500 Writing Workshop	1
7600 Teaching Pedagogy	1
Elective seminar each semester (3 credits x 4 total)	12
7999 Thesis	3
Total (all students)	24
GTA's only	
7650 Teaching Practice	1-4
Total (students with GTA)	25-28
Non-credit program requirements	
Professional development activities, chosen by the student (see our Graduate Handbook for more info)	

Non-thesis written exam (for those choosing this option)	
Oral exam	
Electives	
By choice of the student; includes independent study	As needed to meet 30 credit hour requirement

Table 5. A sample two-year schedule for an MA student to complete the requirements

Year	Autumn	Spring
1	• Foundations and Integration 1 • Keywords in Geography 1 • Methods in Geography 1 • Teaching Pedagogy • Teaching Practice (for GTAs) • Seminar + Electives/Independent Study	• Foundations and Integration 2 • Keywords in Geography 2 • Methods in Geography 2 • Research Funding and Proposals • Teaching Practice (for GTAs) • Seminar + Electives/Independent Study
2	• Writing Workshop • Teaching Practice (for GTAs) • Seminar + Electives/Independent Study	• Writing Workshop • Teaching Practice (for GTAs) • Seminar + Independent Study MA defense

PROGRAM IMPLEMENTATION

These are long-established degree programs with procedures that will not need to change with the new curriculum. We inform potential students through information on our web page, social media, and word of mouth, and we encourage potential applicants to communicate with individual faculty, who provide program detail. The Geography program has an excellent national and international reputation that yields a pool of outstanding applicants every year.

Information about our curriculum is available to students on our website, and specific information is maintained in our Graduate Handbook. New cohorts are advised about curricular requirements as part of new student orientation, and students receive reminders and individual feedback about their progress toward meeting degree milestones as part of our annual Spring Review.

Because most students currently take the required coursework in the first year of their program, there should be no trouble with implementation: most continuing students will have completed the old curriculum while new students will enter with the new curriculum. If there is a situation in which a continuing student has not met one of the core requirements, we will offer individualized options for substitution.

Students outside the Geography graduate degree programs (in our other degree programs and in other departments) will be welcome to take most of these courses. As one-credit courses they might be attractive for background knowledge and professionalization. However, because the courses are designed for our own students and mainly replace existing courses, we envision very little impact on other units and we have not sought concurrence.

The course changes are staffing neutral. One-credit courses will be bundled into sets of three, so that individual faculty will receive teaching credit for each bundle. Table 6 provides a sample distribution of ways to combine courses over a year. Our commitment to offer more graduate seminars is not staffing neutral; it is enabled by the recent addition of several full-time instructors teaching undergraduate courses, which frees some faculty time for graduate courses. . Staffing guidelines:

- The department chair and Director of Graduate Studies (DGS) are engaged in grad student teaching.
- All 1-credit course assignments are 'bundled' to sum 3 credit hours and are registered in the semester that the third credit hour is taught.
- Teaching assignments will be made by the chair in consultation with the DGS.
- The department will ensure an equitable distribution of seminars across specializations every academic year (physical geography, GIS/cartography, human/human-environment geography). The department will likewise ensure that professors across all ranks are teaching in the graduate curriculum.

Table 6. A sample distribution of ways to combine courses over a year into 3 credit hours.

Instructor	Sample distribution of coursework			CHs
FTE 1	Keywords 1 (AU)	Keywords 2 (SP)	Writing Workshop (AU)	3
FTE 2	Foundations 1 (AU)	Foundations 2 (SP)	Writing Workshop (SP)	3
FTE 3	Methods 1 (AU)	Methods 2 (SP)	Research and Funding Proposals (SP)	3
FTE 4	Teaching Pedagogy (AU)	Teaching Practice (AU)	Teaching Practice (SP)	3
Additional	Special topics seminar x2 (AU)	Special topics seminar x2 (SP)	--	12

ASSESSMENT PLAN

For about 15 years we have used the Annual Spring Review process, described above in the section on Formal Internal Assessment, as our main form of program assessment. It combines assessment of the progress of individual students with assessment of how well we are achieving our program goals.

In the 2024-25 academic year, we also worked with the ASC Curriculum and Assessment office to develop and implement a rubric that is to be filled out by advisors and committee members at the end of a student's program. We have yet to receive results from this program, because of low numbers, but we are hopeful that it will provide systematic feedback on our students' achievement of our key learning outcomes. Our measurement tools are summarized in Table 7.

Table 7. Measurement tools for program assessment

ELO	Measurement: MA
Students demonstrate broad knowledge about the field of Geography and their chosen subfields	Thesis/oral exam rubric
Students conduct academic research from idea to dissemination, demonstrating the conceptual, methodological, and professional knowledge and skills necessary for research. (Masters students participate, PhD students lead)	Thesis/oral exam rubric
Students effectively communicate scholarly information, orally, textually, and visually	Thesis/oral exam rubric
Students conduct themselves professionally, collegially, and ethically, demonstrating they understand the ethical implications of their research, teaching, and service	Thesis/oral exam rubric
Students understand the complexity of the professional environment and are well positioned for jobs in academia and beyond	CV rubric for graduating students Spring Review (described above): faculty feedback Job placements
Students can teach and mentor a wide range of students, demonstrating knowledge and skills in pedagogy, course design, and instruction	Spring Review (described above): GTA supervisor and/or advisor feedback

FISCAL IMPACT STATEMENT

Complete the table below to describe the financial plan/budget for the first four years of program operation. Be sure to complete a separate table for each program requested (copy and paste as needed for additional programs). Verification and signature by the Chief Financial Officer (CFO) is required.

	Year 1	**Year 2**	**Year 3**	**Year 4**
	New | Returning	New | Returning	New | Returning	New | Returning
I. Projected Enrollment*				
Head-count full time	1 | 4	1 | 4		
Head-count part time	0 | 0	0 | 0		
Total Full Time Equivalent (FTE) Enrollment	5	5		
*Describe the calculation used for retention below.	95%	95%		
II. Projected Program Revenue				
Tuition (paid by student or sponsor)	$9,586.28	$5,325.71		

Expected state subsidy	$10,210.48	$5,672.49		
Externally funded stipends, as applicable				
Other income (if applicable, describe in narrative section below)				
Total Projected Program Revenue	$19,796.76	$10,998.20		
III. Program Expenses*				
Personnel • Instruction (technical, professional and general education) Full ____ Part Time ____ • Non-instruction (indicate role(s) in narrative section below) Full ____ Part time ____	$18,901.52	$16,801.35		
Facilities and Administrative (F&A) costs				
Scholarship/stipend support (if applicable, describe in narrative section below)				
Additional library resources (if applicable, describe in narrative section below)				
Additional technology or equipment needs (if applicable, describe in narrative section below)				
Other expenses (if applicable, describe in the narrative section below)				
Total Projected Expenses	$18,901.52	$16,801.35		
Net Income**	$895.24	-$5,803.15		

*If faculty/staff are shared with other departments, provide the cost allocation for this program.

Provide justification for programs operating at a net loss in year four.**

Retention Calculation:

(Provide details, including applicable source(s) such as national data resources, regarding the retention calculation to determine the number of returning students for the projected enrollment. See National Data Resources: IPEDS: IPEDS Graduation and Retention Rates and National Student Clearing House. If the national retention rates were not used, provide rationale for the deviation.)

Budget Narrative:

(Use narrative to provide additional information as needed based on the responses provided above, including justification for a net loss in year four, if applicable).

Verification and Signature

(Insert name and title of the chief financial officer) verifies that the information in the fiscal impact statement is truthful and accurate.

_____

Signature of the Chief Financial Officer

APPENDICES

Appendix 1: Summary of programmatic changes since semester conversion

The Geography graduate curriculum was last evaluated and approved in 2011, for the 2012 transition to semesters (see the approved PhD and MA plans). In the 15 years since then, our graduate program has changed in a variety of ways. Our current practices are described in the 2025-2026 Geography Graduate Handbook. For most of these changes, it is unclear to us when they were made, but we estimate it was at least 12 years ago.

2012 curriculum	**Current practice**	**Future curriculum, as proposed**
The MA program had three specializations, each with slightly different, but overlapping, required and elective courses	The MA has no specializations	No change from current practice
The MA and PhD had separate course requirements. MA course requirements differed by specialization but included a 5000-level GIS course, choices of methods courses spanning 5000-8000 level, choices of 5000-level courses, and choices of 8000-level seminars. PhD course requirements included an 8000-level Geographic Thought course, one of two 8000-level methods courses, and choices of advanced 8000-level seminars.	MA and PhD students have the same course requirements (described in the Curricular Information section above). Program differentiation occurs in the second year, when MA students focus on thesis research and writing while PhD students focus on writing a dissertation proposal and preparing for candidacy. PhD students who received their MA in our program do not repeat the courses.	No change from current practice
The MA curriculum included a list of courses from other departments students could use as electives.	There is no list of acceptable external courses; students choose external courses in consultation with their advisor. It is common for students to take external courses, especially in recent years when few 8000-level seminars have been offered.	No change from current practice, while also offering more advanced seminars inside the department.

There was an optional 1-credit professionalization course.	The 1-credit professionalization course no longer exists. For several years in the 2010s it was taught as a required 3-credit course. Circa 2019, we stopped teaching it, intending to incorporate material into the other required courses (especially 8100 and 7101) but the pandemic interrupted that effort.	Re-incorporating professionalization as an explicit part of the curriculum is a core goal of this proposal.
There were no formal program goals/ELOs or assessment plan	There are program goals and an assessment plan, as described in the main proposal.	No change from current practice.

Appendix 2: List and Curricular Map of all existing and proposed Geography (GEOG) graduate courses and non-course activities

B=Beginner, I=Intermediate, A=Advanced; *=repeatable

GEOG #	Course Name	Mode	ELO 1 know-ledge			ELO 2 research			ELO 3 Commu-nication			ELO 4 Ethics			ELO 5 Career			ELO 6 Teaching		
			B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A
5101	GIST Professionalism and Ethics	DL	X										X			X				
5103	Intermediate Spatial Data Analysis	H	X																	
5193*	Individual Studies in Geography	P																		
5194*	Group Studies in Geography	P																		
5200	Cartography and Map Design	H	X							X										
5200S	Cartography and Map Design Service Learning	P	X							X										
5201	GeoVisualization	H	X							X										
5210	Fundamentals of Geographic Information Systems	H	X			X				X										
5212	Geospatial Databases for GIS	H		X		X														
5222	GIS Algorithms and Programming	P		X		X														
5223	Design and Implementation of GIS	DL		X		X				X										
5225	Geographic Applications of Remote Sensing	H		X		X														
5229	Emerging Topics in GIS	P		X			X													
5300	Geography of Transportation	P	X																	
5301	Sustainable Transportation	P	X																	
5401	Economies, Space, and Society	P	X																	
5402	Land Use Geography	P	X																	
5501	Urban Spaces in the Global Economy	P	X																	
5502	Data Justice and the Right to a Smart City	P	X																	
5503	Urban China: Space, Place, and Urban Transformation	P	X																	
5700	Geography of Development	P	X																	
5797*	Study at a Foreign Institution	DL																		

5801	Environmental Conservation	P	X																	
5802	Globalization and Environment	P	X																	
5803	Sustainable Energy Geographies	P	X																	
5900	Weather, Climate, and Global Warming	DL	X																	
6020	Foundations of Data Driven Sustainable Energy Systems	P		X																
6223	Web GIS Development	DL		X						X										
6226	Spatial Simulation and Modeling in GIS	DL		X			X													
6229	Artificial Intelligence and Machine Learning for Geospatial Data Science	DL P		X			X													
6286	GIS in Social and Business Research	DL		X			X						X							
6299	GIS Capstone Project	P			X			X			X			X						
7100.01	Foundations and Integration I	P		X								X			X					
7100.02	Foundations and Integration II	P		X								X			X					
7102	Fieldwork in Human Geography	P			X			X					X							
7193*	Individual Studies in Geography	P																		
7194*	Group Studies in Geography	P																		
7200.01	Keywords in Geography I	P		X																
7200.02	Keywords in Geography II	P		X																
7300.01	Methods in Geography I	P		X			X			X										
7300.02	Methods in Geography II	P		X			X			X										
7400*	Research Funding and Proposals	P					X			X			X				X			
7500*	Writing Workshop	P								X							X			
7600*	Teaching Pedagogy	P																	X	
7650*	Teaching Practice	P																	X	
7999	Thesis Research	P			X			X			X			X						
8100	Development of Geographic Thought	P		X						X			X		X					
8102	Advanced Spatial Data Analysis	P		X			X													
8104*	Special Topics in Quantitative Geography	P			X		X			X										
8200*	Frontiers in Geographic Information Science	P			X		X													

8400*	Issues in Critical Human Geography	P			X		X						X						
8901*	Seminar: Problems in Climatology	P			X		X												
8902*	Applied Climatology	P			X		X												
8960*	Seminar: Special Problems in Physical Geography	P			X		X												
8999*	Research in Geography: Dissertation	P			X			X			X			X					
	PhD Candidacy Exam				X			X			X			X					
	PhD Dept Colloquium				X			X			X		X						
	Dissertation Oral defense				X			X			X			X					
	Prof Dev: Publications, Funding, Conferences				X			X			X			X			X		
	GTA: teaching assistant																	X	
	GTA: instructor																		X

Appendix 3: Geography Master of Arts Advising Sheet

Geography Master of Arts Advising Sheet		
Requirement	Credits (enter if blank)	Semester completed
Courses		
7100.01 Foundations and Integration (Autumn)	1	
7100.02 Foundations and Integration, cont. (Spring)	1	
7200.01 Keywords in Geography (Autumn)	1	
7200.02 Keywords in Geography, cont. (Spring)	1	
7300.01 Methods in Geography (Autumn)	1	
7300.02 Methods in Geography, cont. (Spring)	1	
7400 Research Funding and Proposals	1	
7500 Writing Workshop	1	
7600 Teaching Pedagogy	1	
7650 Teaching Practice (each semester you are a GTA)		
Seminar Semester 1 Name:		
Seminar Semester 2 Name:		
Seminar Semester 3 Name:		
Seminar Semester 4 Name:		
Subtotal:		
Enter electives here (includes 5193, Independent Study)		
7999 Thesis (required for thesis option)		
Total (must be at least 30 credits)		
Non-credit program requirements (see the Graduate Handbook)		
Professional development activities, chosen by the student		
Non-thesis written exam (for those choosing this option)		
Oral exam		