

**HANDBOOK OF GRADUATE DEGREE REQUIREMENTS**  
**DEPARTMENT OF GEOGRAPHICAL AND SUSTAINABILITY SCIENCES**  
**THE UNIVERSITY OF IOWA**

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## **1. TO THE GRADUATE STUDENT**

This Handbook sets forth the rules and procedures under which programs of study leading to graduate degrees in the Department of Geographical and Sustainability Sciences are being supervised and administered. These programs, the M.A. and Ph.D. degrees, are designed in relation to four major types of questions:

1. What should be the objectives of graduate study in Geographical and Sustainability Sciences at the University of Iowa?
2. What experiences can assist graduate students in attaining these objectives?
3. How can these experiences be organized effectively, formally or informally, to help graduate students realize their intellectual potential to the fullest?
4. How can the progress of graduate students best be evaluated at different stages in their graduate education?

This Handbook complements the University Catalog and the Graduate College Manual. It answers the question: "how do I meet the requirements set out for each degree in the University Catalog." Graduate students, as well as faculty members, are encouraged to make suggestions about how the department supervises the progress of students toward their degree objective.

Although the Handbook describes what may seem like an excessive number of rules and procedures, it is not the intent of the department to conduct its graduate programs in a rigid, lock-step manner. Quite the contrary, we treat each student as an individual. We encourage students to develop their own potential, and we strive to foster originality of thought and pioneering modes of inquiry. Many of these rules are necessary due to external circumstances, such as University grievance procedures and the requirements of granting agencies. Internally, we believe it is important for all to have a clear idea in advance of what is expected.

Graduate study requires hard work and is, on occasion, a stressful activity. If the norms are understood, conflicts can be minimized. Moreover, departures from those norms can be judged with greater clarity. Any graduate student may request to be exempted from any of the rules or regulations set forth in this Handbook. Such requests should be made in writing and should state clearly the reasons for exemption from a specific rule. The request will be presented to the faculty by the departmental chair to be acted upon at one of the regularly scheduled faculty meetings.

## **2. DEPARTMENTAL ADVISORY SYSTEM**

A. All incoming graduate students are assigned a temporary advisor as part of the admission process. This person may, subsequently, become the regular advisor for the student or the student may request that another member of the faculty to serve as their advisor. Usually, the advisor will be a faculty member working in the general area of the student's interest. It is understood that a student may change advisors during their course of study. However, there should be discussion between a student and their advisor before any change takes place. A student must formally choose an advisor and submit a form to that effect that outlines the expectations and agreements of both by January 1 or provide a written statement to the DEO explaining why they are delaying this step.

B. Continuing graduate students must meet with their faculty advisors prior to registration.

C. The faculty advisor-student relationship involves obligations on the part of the faculty to serve the intellectual needs of the student. The faculty advisor must be willing to work with the student, chair all examining committees, advise the student on their program of study, and direct the design and writing of the master's thesis or doctoral dissertation. The advisor should be available to meet with the student at all reasonable times and should, at any reasonable time, be willing to evaluate candidly and honestly the progress of the student toward his/her degree objective. If requested by the student, the faculty member should be willing to give this evaluation in writing. The advisor should read the work of the student and offer both critical and helpful comments in a timely manner. During term-time, a student should expect comments on his/her written work within two weeks of submitting it to the advisor.

The advisor should be a faithful spokesperson for the student at any meeting of the faculty where any decision with respect to the student is made. The advisor is responsible for gaining approval from the faculty for all of the examining committees of the student and is also responsible for soliciting and receiving comments by examining committee faculty on the student's work. The advisor is responsible for deciding when the work of the student is ready to be examined by their committee.

The faculty advisor-student relationship also involves obligations on the part of the student to consider the advice and counsel of the advisor. Students must submit their work to their advisor allowing the advisor adequate time to evaluate it and allowing themselves adequate time to perform revisions.

At all times a student must have a faculty advisor who has formally stated his/her willingness to advise them. If a faculty member decides that he/she is no longer able or willing to advise a student they will notify the student both orally and in writing that they will no longer serve as the student's advisor, and they will notify the department DEO to this effect in writing. The notifications must contain an explanation as to why the faculty person will no longer advise. The department DEO will then consult with the student and will notify them that within one semester they must find an alternative faculty advisor who has agreed to advise them for the remainder of their program. If a student fails to find a faculty advisor in this period, he/she will be dismissed.

### **3. STUDENT PROGRESS**

The faculty of the Department of Geographical and Sustainability Sciences is proud of the department's tradition of educating graduate students at the Masters and Ph.D. levels who become leading educators, researchers and professional geographers in the U.S. and throughout the world. This tradition started with the founding of the department in 1946. Central to this tradition is that students make consistent progress toward their degree. At least once annually the department assesses the progress of each student. Graduate students should become familiar with this concept, evaluate their own progress with respect to program expectations, and regularly consult their advisor about their progress.

A. Annually, all students must submit a progress report for their degree program at the end of the fall semester. This should include:

- 1) a description of the student's interests that clearly identifies the general area (or areas) within geography in which the student wishes to concentrate.
- 2) a list of courses the student intends to complete for the degree
- 3) a proposed timetable for completing required milestones. For example, Ph.D. students should include expected dates of completion for the area of concentration bibliography, written qualifying exam, dissertation proposal and oral comprehensive exam, and dissertation defense.

B. This progress report should be evaluated and revised accordingly at least once each year until the completion of the M.A. or the Ph.D. comprehensive examination, and a copy should be placed in the student's permanent file.

C. The progress report will be reviewed by the faculty of the department. The Graduate Program Committee (appointed by the DEO) may be asked to examine the plans of study of all graduate students during January and to submit a report to the faculty on student progress and on their compliance with departmental rules and expectations.

D. The Graduate Program Committee will recommend dismissal of students who are not making adequate progress in the graduate program, by failure to maintain an adequate grade point average or to meet target dates for the area of concentration bibliography, comprehensive examinations, dissertation proposal, or dissertation without justification by the advisor. The advisor may also ask this committee to review the student at any time that a problem with progress is perceived. The committee and procedure are described in Section 10.

E. The Graduate College also has a requirement for filing plans of study and the above departmental procedures are intended to supply the information so that formal Graduate College Plans of Study can be submitted expeditiously. These plans are brief summaries of the plan required by the department. The Graduate College specifies:

- 1) the applicant for a master's degree must file a Plan of Study approved by the advisor and the departmental executive within the session in which the degree is to be granted. Specific deadline dates are established each semester.
- 2) for the doctoral degree, a formal Plan of Study must accompany the department's request for the oral comprehensive examination.

#### 4. DOCTOR OF PHILOSOPHY (Ph.D.) PROGRAM

The Doctor of Philosophy program is designed to prepare students for positions in college and university teaching and for positions in the public or private sectors that require advanced research skills. It provides programs of study leading to (1) knowledge of the discipline of geography, (2) broad knowledge of a subfield of geography and its literature, and (3) a specific competence and special expertise in the subfield. The first provides a basis for communication with professional colleagues across the discipline. The second tends to represent the general area in which the Ph.D. holder seeks employment, and the third represents the area of most active research involvement. The Ph.D. is a research degree. Students usually identify themselves with the research areas of particular faculty members and discuss with them the particular areas of expertise that accomplished scholars in their area have.

The Ph.D. is a four to five year, post-baccalaureate program. Students can enter the program with advanced standing if they have had previous graduate training equivalent to that in the department's M.A. program. Students entering the program directly from the B.S. or B.A. must complete a minimum of 72 semester hours of graduate work, only 6 of which can be thesis hours. Students must take:

- GEOG: 5010 Fundamentals of Geography
- GEOG: 5050 Research and Writing in Geography
- GEOG: 7000 Geography Colloquium taken each semester
- 2 courses in Geography numbered above GEOG: 5001 [or equivalent]
- 2 research seminars from among GEOG:6500 – GEOG:6900 or GEOG:7550- GEOG:7950.

Each 5000+-level class is meant to provide breadth for students and provide insight into how research is done at a deep level on a particular topic. Each should provide opportunity for students who specialize in that area to do more in depth work while simultaneously providing an opportunity for students who are new to the topic to discover the nature of its questions and methodology and contribute from their perspectives. Research seminars are intended to engage students in cutting edge research either individually or in a team setting. Students who are not specialists in a particular area are encouraged to participate in research seminars in which they can contribute outside perspectives to team projects or develop new avenues of research on the topic themselves. Each semester they are in residence, students must register for the department's colloquium series, GEOG: 7000 Geography Colloquium. Students entering with an M.A. degree may be able to transfer credits that meet GSS requirements.

Before receiving the Ph.D. degree, students are expected to serve as both teaching assistants (possibly serve as a classroom instructor) and research assistants.

##### 4.1 AREA OF CONCENTRATION BIBLIOGRAPHY

A. The Ph.D. degree is the highest degree the University offers and is awarded only to those who demonstrate a high level of scholarship. This means that students must specialize in a fairly specific area of the discipline and demonstrate a high level of competence in that area. The department therefore requires that its Ph.D. students declare an *Area of Concentration*, give serious thought to the scope and current state of development in that area, demonstrate knowledge of the relevant literature, and be examined on their knowledge of the area of concentration.

B. As soon as possible, Ph.D. students should, in consultation with their faculty advisor, declare an area of concentration. Faculty should be informed of a student's area of concentration at the time a

dissertation committee is approved (Section 4.2B), and the area should be indicated on the Plan of Study.. Examples of areas of concentration include spatiotemporal data modeling, environmental modeling and simulation, spatial decision support systems, health environment interactions and disease outcomes, ecosystem services, ecological diversity and function, environmental remote sensing, and environmental hazards. The selection need not be restricted to the above areas. Areas of concentration that overlap and combine some of the above fields are also appropriate. It is important to consider that the area of concentration should reflect the research interests of the faculty.

C. In most areas of concentration, it is possible to complete one or more formal courses that bear directly upon the topic, as well as courses on closely related themes and techniques. Beyond that, the student's preparation will be derived from graduate seminars and independent readings and research. As a rule, the formal courses are completed early in the student's graduate program so that the majority of work beyond the second year will be studies that lean heavily upon the student's interests with the guidance and approval of the advisor.

D. Students will prepare and submit an *Area of Concentration Bibliography* that consists of a 2-3 page written summary and a set of bibliographic entries. The *Area of Concentration Bibliography* should be logically organized into key areas or themes that represent the body of scholarship central to a student's research interests. The summary should explain the bibliography, putting the themes into a research context given the student's future research direction and identify research questions or problem areas deserving of further study.

The bibliography should be organized with a core set of articles that provides a synopsis of key research in each of the topical themes most relevant to a student's area of interest. This could be weighted heavily, but not exclusively, on the research theme to which the student hopes to make her/his greatest contribution. This core set might be comprised of 20-25 articles. Following this, an extended bibliography organized by theme provides the broader foundation for a dissertation. A typical range for a *Bibliography* is 60-100 papers. Students are required to meet with their dissertation committee members to receive suggestions on suitable papers to include in the various subsections of the *Bibliography*.

Members of the student's dissertation committee are given a minimum of three weeks to read and evaluate the *Area of Concentration Bibliography*. At least four out of five members of a student's dissertation committee must indicate that they find the *Bibliography* to be satisfactory to move on to the written qualifying exam. The *Area of Concentration Bibliography* will be the basis or central focus for this written exam. The scope of the qualifying exam, however, will not necessarily be limited to the readings covered in the *Area of Concentration Bibliography*. Students will be expected to take the comprehensive exam no later than the end of the semester following committee approval of the *Bibliography*.

#### 4.2 WRITTEN QUALIFYING EXAMINATION

A. A written qualifying examination ensures that a student is fully prepared to undertake a dissertation in their field of interest and complete their plan of study for a doctoral degree. This examination focuses on, but is not necessarily limited to, the student's area of concentration. A student must pass this qualifying exam in order to progress to the dissertation proposal and oral comprehensive examination.

B. The written qualifying examination committee is comprised of five members selected by the student with guidance from their advisor. This committee is typically comprised of the individuals who serve as the student's *Area of Concentration Bibliography* committee and will serve on their dissertation

committee. The majority of members must be faculty from the Department of Geographical and Sustainability Sciences and at least one member must be external, either from another department at UI, or from another university. External members should be recognized in a field closely related to the student's area of concentration. All UI faculty members must be members of the Graduate Faculty of the University. The GSS faculty must formally approve the examination committee.

C. The student's advisor is responsible for setting the dates of the written qualifying examination, and for preparing the examination. Other members of the examination committee are asked to contribute questions that are related to the student's area of concentration. Typically the written exam is completed within five business days, but must be completed within ten business days. Any major deviation from this format would need the approval of all committee members. Members of the committee are given three weeks to read and respond to the written examination. The written responses become a part of the candidate's permanent record.

An exam day will be 4, 6, or 8 hours in length. Committee members will stipulate whether their question(s) is (are) to be answered as a closed book exam (no Internet or other sources may be consulted), or an open book exam (written material from outside sources may be consulted). Advisors will communicate the schedule in advance so students can plan for their exam days. Candidates should come to the exam fully prepared for a day of writing. Faculty will specify the conditions (e.g., testing room) for the examination.

Time management for these exams is very important. Students may take breaks during their writing, but these come out of the total time allotted for the examination on that day. Students should plan their time carefully so they have sufficient time to fully complete all questions. If a student is a course TA, arrangements should be made with course instructors for any missed lab sections, etc. Similarly, the instructors of any courses for which a student is registered should be notified regarding planned absences for a written qualifying examination.

D. The responses to the questions are to be read by all members of the committee. At least four of the five members must pass the candidate on the written qualifying examination for the candidate to proceed to develop and defend their dissertation proposal.

E. A candidate who fails the written exam must wait at least four months before they may re-take the examination.

F. The candidate may take the written exam only twice. If s/he fails the second time, s/he may not proceed with her/his plan to study for the doctorate in Geography at the University of Iowa.

G. A doctoral student who will not continue with their doctoral plan of study, but who has completed the written qualifying examination, may undertake a portfolio review (see section 5.2C) to obtain an M.A. (non-thesis) degree. Appropriate Plans of Study and Degree Requests must be submitted.

H. When the written exam has been successfully completed, the candidate may proceed with their plan of study and undertake the presentation of their dissertation proposal and oral comprehensive exam for their doctoral thesis. For students who have entered the doctoral program directly from a Bachelor's degree, an M.A. degree may be awarded upon completion of the qualifying written exam, or completion and defense of an M.A. thesis assuming all other degree requirements are satisfied.

I. Students are strongly encouraged to read the Graduate College rules and regulations in addition to those stated above. They are to be found in the Manual of Rules and Regulations of the Graduate College and may be obtained from the Graduate Office (<http://www.grad.uiowa.edu/graduate-college-manual>).

#### 4.3 DOCTORAL DISSERTATION PROPOSAL and ORAL COMPREHENSIVE EXAMINATION

A. The research problem that forms the basis for a student's doctoral dissertation should evolve out of discussions with their departmental advisor. This topic should be based on knowledge of the area gained through a thorough search of the literature, in courses within the department and in related areas of study, seminars, independent research, and supervised reading in the area.

B. After passing the written qualifying examination, the student should develop a proposal for their dissertation in close cooperation with their advisor. Commonly such a proposal includes (1) a clear statement of the purpose of the research and research questions to be investigated, (2) a brief review of the literature in the area of the research that links to the literature presented in the *Area of Concentration Bibliography*, (3) a statement on how the student's research will contribute to the advancement of knowledge in the selected area of study and the novel contribution of this work, and (4a) the hypotheses to be tested, sources of data, and proposed procedures for analyzing the data, or (4b) the general nature of the theoretical or technical work to be undertaken. The expected format and length for a dissertation proposal should follow the National Science Foundation's Doctoral Dissertation Research Improvement (DDRI) grant guidelines. With the full committee's approval, a student's proposal may vary from these models as appropriate to the problem or topic to be researched. These guidelines, may be found at ([http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf14538](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf14538)).

C. A draft of the completed proposal should be circulated to the student's dissertation committee of five members (preferably the same individuals who served on the student's written qualifying examination committee). The student and their advisor will consider the comments of the committee members, and make changes in the research design as appropriate. After the student has addressed these comments, the advisor will schedule their oral dissertation proposal defense.

D. The dissertation proposal defense is a public presentation of the dissertation proposal as described above in section 4.3B. Members of the dissertation committee will be present for the proposal defense and this presentation portion is also open to the public. After the open presentation, the student and their dissertation committee will continue discussion of the proposal in a closed session. This closed session of questioning also comprises the student's oral comprehensive examination. During this session, the student will be expected to answer questions about their general field of interest, their specific area of concentration, and the study of Geography as it pertains to the dissertation proposal.

E. Based on the proposal for the dissertation and the oral examination, a successful dissertation proposal defense and oral comprehensive exam requires four out of five committee members to agree that the candidate has successfully passed.

If a candidate fails the dissertation proposal or oral examination, a period of four months must elapse before either can be re-taken. This will consist of a closed session that will be convened with the dissertation committee to discuss the proposal and/or to conduct the oral exam once again. This second defense will not involve an open presentation session. Candidates who fail a second time may not proceed with their plan of study for a doctorate in Geography at the University of Iowa.



F. After successful completion of the dissertation proposal defense, members of the dissertation committee will sign the faculty comment sheet that the candidate has passed the dissertation proposal defense and that the dissertation proposal is satisfactory. A copy of each committee member's written comments on the proposal, including a statement of approval or disapproval, will become a part of the student's permanent file. They will also sign the Report for Doctoral Comprehensive Examination sheet to indicate that the oral comprehensive examination has been satisfactory.

G. After the submission of the proposal and during the dissertation stage, any significant changes to the proposed research design should be made in consultation with the dissertation committee members.

H. Students, at any time, may request a change in the composition of their dissertation committee. Any faculty member of a student's committee may also request to be replaced. The faculty must approve changes to student dissertation committees.

PhD Timeline	Year 1			Year 2			Year 3			Year 4		
	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer
Coursework												
Area of Concentration Bibliography												
Written qualifying exam												
Dissertation proposal and oral defense												
Dissertation research and writing												
Dissertation defense												

**Figure 4.1. Doctoral degree timeline.** This timeline assumes previous graduate training or a completed MA degree. Note that comprehensive exams are likely to be held during either the fall or spring semester, but summers can be used for exam preparation as well as working on next steps for the dissertation.

#### 4.4 DOCTORAL DISSERTATION GENERAL CHARACTERISTICS

Dissertation topics vary greatly in their subject and their scope. An acceptable dissertation should demonstrate originality of thought, and yield new and significant results. It is the responsibility of the student proposing a dissertation topic to explain how its completion leads to the advancement of knowledge. It should, of course, be geographic in nature. Although dissertations have traditionally concentrated on one single topic, more recently, different contributions on related topics may make an acceptable dissertation topic providing they pass the test of contributing to knowledge.

Dissertations should lead in some way either through inductive or deductive methods of analysis, to the advancement of theory related to the geographic analysis of physical, economic, social or political phenomena; the geographic aspects of human behavior; or the interaction of people with their environment. A dissertation might also deal with the development and advancement of tools and techniques useful in geographic research or pedagogy. Doctoral dissertations must, of necessity, be limited in scope so as to permit their development and completion within a reasonable length of time and at reasonable expense.

Preparing a dissertation is a demanding and time-consuming task. Ideally, it should be completed in the course of an academic year after the necessary data have been obtained. Various fellowships and grants

for travel and research are available to qualified students. Students should plan well ahead toward the securing of financial aid that will enable them to support themselves during the research and writing period, and to finance the field study that is a part of many programs of Geography. Rules governing the type and mechanics of thesis writing, typing, and assembling are available from the Graduate College (<http://www.grad.uiowa.edu/theses-and-dissertations/submission?portal=faculty-and-staff>). Students should consult with their advisors concerning these matters.

Throughout the period of preparation of the dissertation, students are urged to consult frequently with their advisor and committee members. In that way, one can often avoid misdirected efforts. Also, be sure to consult the Manual of Rules and Regulations of the Graduate College regarding the dissertation for the Ph.D. degree and the dissertation fee. Dates for submitting the thesis at different stages of its completion are posted by the department at the beginning of each academic year.

#### *4.5 CALENDAR FOR Ph.D. DISSERTATIONS*

Candidates for the Ph.D. degree must adhere to certain deadlines with respect to submission of dissertations if they expect to receive their degree at a particular commencement.

A. A digital copy of the complete dissertation in readable, but not necessarily finished, form must be submitted to the candidate's advisor at least ten weeks in advance of the date for final deposit of the dissertation published by the Graduate College, normally during the last week of classes. Dissertations will not be given to the committee at this time unless the advisor agrees. If a committee member requests a hardcopy version of the dissertation, it is the responsibility of the student to provide it

B. Members of the Final Examination Committee are given three weeks in which to read and respond in writing to the dissertation. These three weeks should be within the period of the academic year. Students who submit their work outside of the academic year schedule may have to wait until the academic year for faculty written reaction to their work.

C. A digital copy of the complete, finished dissertation must be presented to the Graduate College for the first deposit and checking by a date published by the Graduate College, which is normally four weeks prior to the end of classes; see the official schedule published by the Graduate College for dates.

D. The Final Examination must be held prior to a date established and published each semester by the Graduate College. Members of the Examining Committee must each receive a copy of the dissertation in revised or final form at least three weeks prior to the date of the Final Examination. One copy of the dissertation must be made available in the department's office. Any faculty member or student can check out the dissertation. Notice of the final exam will be made and all faculty and students are invited to attend all but the committee deliberation section of the exam.

E. The above deadlines are meant to apply to the academic year only, and cannot be guaranteed for the Commencement at the end of the summer session. Members of the faculty are frequently not on staff during the summer session and have other obligations that result in an inability to adhere to all the above deadlines.

## 5. MASTER OF ARTS PROGRAM

An M.A. with thesis requires a minimum of 30 semester hours of graduate work and typically is completed in four semesters. Students are expected to earn 15 s.h. from courses numbered 5000 and above, where only 2 s.h. can be GEOG: 7000 Geography Colloquium, and not more than 9 s.h. are thesis hours. The professional M.A. (non-thesis), requires a minimum of 32 semester hours (see section 5.2). Students often accumulate more semester hours of graduate credit when completing the M.A., e.g., 40 to 48 s.h. Students are advised to use these additional hours to increase their breadth of knowledge of geography and to tailor their program of study to their individual interests. Additional semester hours may also be accrued while undertaking a graduate certificate, for example, the Geoinformatics Certificate (see section 5.3).

Competence in a specific area of geography (e.g., GIScience or health geography), across the breadth of geography, and in geographic methods is demonstrated by completion of either an appropriate course sequence for an area of specialization (e.g., health geography), plus the completion of an M.A. thesis, or for a professional M.A., a portfolio review.

Committees for students seeking an M.A. degree with thesis will consist of three members of the graduate faculty. At least two of these must be from the Department of Geographical and Sustainability Sciences who are members of the University of Iowa tenure-track faculty. If the student's program consists of considerable courses in another department, a faculty member from that department may be invited to serve as a member of the examining committee. The committee and its chair (normally the student's advisor) will be appointed by the DEO with approval by the faculty.

Dates for filing (a) the Request for Final Examination and (b) the Application for Degree forms are established and announced each semester by the Graduate College. Those expecting to receive the M.A. degree are responsible for completing these requirements by the dates specified. Students should consult the announcements of the Graduate College regarding these deadlines at the beginning of the semester in which they expect to receive the degree. All course requirements as outlined in the Plan of Study should be complete or underway as part of the final semester.

### 5.1. *M.A. Degree (with thesis)*

A. Choosing a research topic for an M.A. thesis should evolve from discussions with the student's departmental advisor. The thesis should be based on knowledge of the area gained through supervised reading of related literature, taking courses in the department and in related areas of study, and independent research. Upon completion of their research, M.A. (with thesis) students must submit a readable copy of their thesis to each committee member at least three weeks prior to the date of the thesis defense. A defense of the thesis serves as the final examination of the student.

B. Two unsatisfactory votes by the M.A. committee results in the candidate failing the thesis defense. Candidates may present themselves for re-examination, but not sooner than the following semester. The examination may be repeated only once.

### 5.2 *PROFESSIONAL M.A. (non-thesis)*

A. A professional M.A. is a degree program to be completed through coursework, typically over a 2-year period. The program builds skills across a range of topics in our department in the first year and further

develops these in particular application areas in the second year. It requires a minimum of 32 s.h. of graduate work, of which 15 s.h. must be earned in courses numbered 5000 and above.

B. The final step in the professional M.A. is for the student to provide the committee with a portfolio of coursework completed in the program. A portfolio typically includes at least four and up to eight examples of coursework or research that illustrate the core of what the student has accomplished during their Master's program. These works are collected into a single document and presented before the committee. The committee will conduct an oral review of the content of the portfolio with the student.

C. Example coursework for M.A. with specialization in GIScience. The coursework consists of:

- GEOG: 5050 Research and Writing in Geography
- \*GEOG: 7000 Geography Colloquium

And the following as suggested courses (15 s.h. hours must earned in courses numbered 200 and above):

- GEOG 3540 Introduction to geographic visualization
- GEOG 4570 Spatial analysis and location models
- GEOG 4520 GIS for environmental studies: application
- GEOG 3560 Spatial analyses of wind energy
- GEOG 4150 Health and environment: GIS applications
- GEOG 4580 Introduction to geographic databases
- GEOG 4650 Simulations in environmental geography
- GEOG 4500 Applications in geographic remote sensing
- GEOG 3570 Light detection and ranging (LiDAR): Principles and Applications
- GEOG 3340 Ecosystem services: human dependence on natural systems
- GEOG 4020 Field methods: mapping and mobile computing
- GEOG 4870 Applied Geostatistics
- GEOG 5001 Readings
- GEOG 5650) Simulations in landscape ecology
- \*\*GEOG 5060 Topics in geographic information science
- \*\*GEOG 6500 Seminar in spatial analysis and modeling
- \*\*GEOG: 7550 Research in spatial analysis and modeling

A 2-semester sequence in statistics equivalent to:

- BIOS 5110 Introduction to biostatistics
- BIOS 5120 Design and analysis of biomedical studies

or

- STAT 4200 Statistical methods and computing
- STAT 3200 Applied regression

\* Taken every semester

\*\* May possibly be taken more than once

Additional courses including courses from other departments may also be taken and with approval by department chair, counted for the degree.

### *5.3. INTERDISCIPLINARY GRADUATE CERTIFICATE IN GEOINFORMATICS*

The Geoinformatics Certificate program is a subprogram option within the Interdisciplinary Graduate Program in Informatics (IGPI). All students enrolled in IGPI subprograms must complete the Foundation of Informatics core requirements. These requirements include introductory informatics coursework (3 s.h), programming coursework (3 s.h), data handling coursework (3 s.h.) and if no prior experience with GIS and GIScience, an introductory GIS course for graduate students (3 s.h.). For the remaining 9 s.h., students in consultation with their geoinformatics advisor and committee will select courses from participating departments including Geographical and Sustainability Sciences, Urban and Regional Planning, Computer Science, Geosciences, and Statistics and Actuarial Science

## 6. REGISTRATION OF GRADUATE STUDENTS

- A. Students are asked to consult Section II, Registration, in the Manual of Rules and Regulations of the Graduate College, as well as the statement regarding residence requirements for the doctorate, Section XII. Attention should be given to the section on Prerequisites. Courses taken to fulfill deficiencies in prerequisites may not count toward departmental minimums.
- B. All graduate students supported by the Department of Geographical and Sustainability Sciences (teaching and research assistants) must be registered each semester as full-time students (9 or more semester hours) except those who have passed the oral comprehensive exam.
- C. Residence Requirement: Ph.D. students are expected to have completed at least three years of residence in the Graduate College. At least part of this residence must be spent in full-time involvement in one's discipline, at this university, beyond the first 24 s.h. of graduate work; this requirement can be met either by: (1) enrollment as a full-time student (9 s.h. minimum) in each of two semesters, or (2) enrollment for a minimum of 6 s.h. in each of three semesters during which the student holds at least a one-third-time assistantship certified by the Department as contributing to the student's doctoral program. For purposes of record and assessment of fees, student registration should reflect accurately the amount and kind of work undertaken in the Graduate College. All doctoral programs, including acceptable transfer credit, will contain a minimum of 72 s.h. of graduate work.
- D. All Ph.D. students are required to register each semester after passing their comprehensive examination until the degree is awarded (see Graduate Manual, Section XII, Item K). All Department of Geographical and Sustainability Sciences post-comprehensive students who are working on their dissertations and expect help from their advisors and other faculty members are expected to register. Post-comp students in residency making satisfactory progress must register for a minimum of two s.h. of credit. In residency is defined as living in Iowa. All students must be registered for credit during the semester in which they graduate.
- E. These registration regulations are required of students off-campus as well as those who live locally.
- F. To continue registration in the graduate programs requires a 2.7 grade point average for students in the Master's program and 3.0 for students in the Doctoral program. (See section *Academic Dismissal of Graduate Students* for particulars of dismissal and retention.)

## **7. DEPARTMENTAL TEACHING AND RESEARCH ASSISTANTS**

A. All graduate appointments are made for a term of no more than one academic year. To be considered for renewal, teaching and research assistants must maintain an overall grade point average of 3.0, be effective in their teaching or research assignments, and be making acceptable progress towards the degree.

B. Graduate appointments in the Department of Geographical and Sustainability Sciences are of two kinds: teaching assistantships and research assistantships. Teaching Assistantships serve two purposes: a) assistance in the instructional program of the University, and b) the preparation of future college teachers. Research Assistants provide research services to faculty, thus gaining apprenticeship experience.

C. Teaching and research assistantships are granted on the basis of merit and academic preparation for teaching a particular class.

D. Departmental Teaching Assistants are normally assigned to one of the several introductory level courses. Assistants serve principally as discussion or laboratory leaders. More advanced graduate students may be asked to be responsible for an introductory course in their area of specialization under the supervision of a member of the faculty.

E. Teaching assistants must be able to communicate effectively with undergraduate students, understand the goals and content of the course to which they are assigned, and be willing to abide by the policies of the College of Liberal Arts and Sciences and the Department of Geographical and Sustainability Sciences. An ACE Online evaluation will be administered for each course a teaching assistant is responsible for.. The evaluation results will be shared with each TA and will be placed in a locked file.

F. Teaching assistants may be asked to attend class lectures, assume responsibility for from four to six student contact hours per week, and assist the instructor in the administration of assigned classes. Course TAs must offer 3 hours of office hours each week for their students. A ½-time TA appointment is based on 20 hours per week for their assistantship duties, while a ¼-time TA is 10 hours per week. Responsibilities begin 3 full workdays before the opening of classes each semester and end with the closing of examination week or as soon thereafter as grades for a particular course have been submitted to the departmental office.

G. Graduate students whose native language is not English or who come to the University of Iowa from colleges or universities where English is not the language of instruction are required to demonstrate proficiency in English. Upon arrival, students are required to take an English Speaking Proficiency Assessment (ESPA) test and eventually the English Language Performance Test (ELPT) (<http://clas.uiowa.edu/esl/tape>). Graduate students in the Department of Geographical and Sustainability Sciences are required to be fully certified via the ELPT before the beginning of their fourth semester in order to be considered for funding in the fifth and following semesters. The details of the tests are given at <http://clas.uiowa.edu/esl/tape/testing-schedule>. Students who do not pass these tests are required to take the TAPE program courses until they are proficient (B level or higher).

H. Research Assistants aid faculty members in research projects and are expected to allocate 10-20 hours per week to their duties based on ¼-time or ½-time appointments.

I. Provided they are making acceptable progress in their degree programs, M.A. and Ph.D. students holding departmental teaching or research appointments can have their appointments renewed for periods totaling two and four academic years, respectively. In exceptional cases, appointments for students who have completed their comprehensive examinations may be extended into the fifth year. Appointments as research assistants on non-departmental projects beyond the fourth year are not subject to this four-year limitation.

J. The department is obligated to make its graduate appointments consistent with COGS union agreements. Consistent with these agreements, however, the department notes that its decision to fund or to continue funding graduate assistantships is based both on its assessment of the capabilities of the student to complete the work of the assistantship and its assessment that the student is making acceptable progress toward earning his/her graduate degree. Every year, typically in the spring, each student who has applied for a departmental appointment will receive a letter that will describe the status of their appointment for the following academic year. If the status of their appointment is dependent on their progress toward the degree, this letter will describe this dependence and what is expected of them. It will also describe the date at which the student's committee will assess the progress made toward satisfying their program goals.



## **8. DOCTORAL CANDIDATES OFF-CAMPUS**

There are times when, for one reason or another, candidates for the doctoral degree may leave campus before completing their dissertations. In the long run, this may work to the disadvantage of the student, as well as the faculty. A department changes with time -- in terms of its goals, structure, requirements, and faculty. Students must satisfy those who are present at the time they complete their dissertations, not those who may no longer be members of the faculty. It is expected that students may leave to complete field research, but the timing should be planned judiciously with an advisor.

All students who have passed the comprehensive examination must register according to the continuous registration guidelines as stipulated by the Graduate College. No faculty member is responsible for meeting deadlines for the return of student papers/theses unless the student is so registered. The calendar of Ph.D. dissertations set forth in this Handbook does not pertain to students who are not registered as part-time or full-time students. Thus students who are not registered as a part-time or full-time student cannot expect that their dissertations submitted for advanced reading will be returned in the three-week period as described in Section 4.7.

## **9. PARTICIPATION IN DEPARTMENTAL AFFAIRS**

Graduate students are invited to participate in the development of departmental policies and in the implementation of these policies. They may elect two representatives to participate in all faculty meetings except those designated as executive sessions. Each has a vote in departmental affairs that come before the faculty excepting votes pertaining to appointment or retention of faculty, or appointment or retention of students. In addition to this formal participation in the operation of the department, an informal exchange of opinion is encouraged.

Student participation in departmental affairs may be summarized as follows:

- A. Students are consulted in decisions regarding the development of programs of study, and the establishment of new programs. Students may express their views with respect to course loads and degree requirements.
- B. Students are consulted on the development of mechanisms to assess the value of courses or seminars, and to make suggestions as to their direction. They may at all times express their view on the form and conduct of a class or seminar they have taken and are encouraged to do so.
- C. Students are given an opportunity to interview, personally and in groups, and to make known their views on candidates being considered for appointment to the faculty. All candidates are expected to discuss some area of interest before the Kohn colloquium in order for students and faculty members to become acquainted with their research interests and abilities, and to evaluate the quality of their presentation.
- D. Students may be given opportunities through their advisors or other faculty members or by departmental evaluation instruments to indicate their evaluation of a faculty member who is being considered for reappointment, promotion or tenure.
- E. Students may be heard with respect to the grading system of the faculty members.
- F. Teaching and research assistants are encouraged to discuss their assignments, responsibilities, and working conditions with their immediate supervisors or departmental chairperson. Assistants have a voice in the planning of courses in which they are involved.
- G. At all times, graduate students have the right to free inquiry and expression. Only in this way will they learn that they are custodians of academic freedom.

## 10. ACADEMIC DISMISSAL OF GRADUATE STUDENTS

*It is expected that graduate students will conform to the requirements set forth in the Manual of Rules and Regulations of the Graduate College and follow, as closely as possible, the program design as outlined in this Handbook. See <https://www.grad.uiowa.edu/manual-part-1-the-academic-program>. with attention to Section IV.*

There are several instances where dismissal of graduate students from the department's program of study is inferred. To make these as explicit as possible, the student's attention is called to the following situations:

- A. Students must maintain an acceptable grade point average. The minimum is 2.75 for MA students and 3.00 for doctoral students. If after 8 s.h. or more of graduate work at UI the GPA falls below the minimum the student will be placed on probation; if after an additional 8 s.h. of graduate work at UI the GPA is still below this minimum, the student will be denied permission to enroll and will be dismissed. See the *Manual of Rules and Regulations of the Graduate College*.
- B. Graduate students who, at any time after their first year, do not have a faculty member who has formally stated his/her willingness to advise them; or if the student wishes to change advisors but has not found another willing; or if an advisor no longer wishes or is able to advise the student, then after one semester the student will be denied permission to enroll and will be dismissed.
- C. Students must be fully certified in English before the beginning of their fourth semester to be considered for funding in the fifth and following semesters. Graduate students who do not become certified in English by the beginning of their sixth regular (non-summer) semester will be dismissed from the graduate program.
- D. The summary dismissals above can be appealed to a committee for academic review and dismissal.
- E. Graduate students who do not make adequate progress toward the degree, as specified in section 3, will be reviewed by the committee for potential dismissal.

## 11. RESPONSIBLE CONDUCT OF RESEARCH

### Training

All students must complete GEOG: 5050 Research and Writing in Geography, which addresses best practices of the research mission as it applies to geography and the social sciences in general. Discussion of integrity and misconduct extends to the broad endeavor of research planning and practice, including human subjects, professional relationships, writing and reviewing. Reading and discussion covers the range of topics appropriate for university-wide responsible conduct of research.

### Plagiarism

Plagiarism consists of copying, paraphrasing or otherwise making use of ideas, research results or other scholarly products of others without giving proper credit to their originator. Plagiarism is one of the most serious academic offenses that can be committed.

Plagiarism is serious because it is theft. In fact, it is two forms of theft. First, it is theft of intellectual property. The products of an individual's research are his or her property and often are essential tools of his or her professional activity. In ethical terms, there is no difference between the theft of an academic's intellectual property and the theft of an artist's paints and paintings or a craftsman's tools and products. Second, plagiarism is theft of reputation and, thereby, of professional opportunities and rewards. In academic work, an individual's professional reputation depends heavily on the products of his or her research. Reputation is important because it has a strong influence on professional opportunities and rewards. Plagiarism, therefore, can result in loss of professional opportunities and rewards as well as theft of intellectual property. Finally, plagiarism can have serious effects on academic institutions. Academic hiring decisions are based on expectations of future productivity that are derived from information about an individual's past work. A plagiarist creates expectations of performance that are unlikely to be fulfilled because he or she did not do the work on which the expectations are based. An organization that hires such a person is damaged as a result.

Students should be careful to avoid plagiarism. No work of others should be copied, paraphrased or in any way *borrowed* for use in one's own papers or presentations without giving proper credit to their sources.

The penalties for plagiarism are severe. Depending on the context of the offense, they may include failure of a course, loss of an assistantship, and dismissal from the graduate program.