

The Ohio State University
environmental
science
graduate program handbook



Please visit our web site for more information.



Environmental Science Graduate Program
The Ohio State University
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<http://esgp.osu.edu>

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See most up-to-date list of core courses on the ESGP web site

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<http://esgp.osu.edu>

The Environmental Science Graduate Program (ESGP) is an interdisciplinary graduate program multi-college endeavor at The Ohio State University (OSU). It is affiliated with the Environmental Science Network (ESN) and is comprised of faculty from many departments within the colleges and schools throughout OSU. These include the colleges of Arts and Sciences; Engineering; Food, Agricultural, and Environmental Sciences; Law; Medicine; Public Affairs; Public Health; and Veterinary Medicine. The ESGP office is located at 3138A Smith Lab, 174 West 18th Ave. on the Main OSU Campus.

The purpose of this handbook is to familiarize graduate students with OSU's rules and recommendations in general and those that are specific to ESGP.

1. THE GRADUATE PROGRAM IN ENVIRONMENTAL SCIENCE

1.1 Relationship between the Graduate Council and the Graduate Program in Environmental Science

The Graduate Council is the legislative body of the Graduate School of The Ohio State University. Among its functions, the Council establishes rules governing all graduate programs and may revise such rules from time to time. These rules are published in The Ohio State University *Graduate School Handbook*. The graduate faculty in several departments at OSU conducts the Environmental Science Graduate Program (ESGP) through its elected Graduate Studies Committee (GSC). This handbook is a compilation of the policies, procedures, and requirements of ESGP as determined by the graduate faculty through its Graduate Studies Committee. Nothing in this handbook will be interpreted as replacing or superseding regulations set forth by the Graduate Council as published in the *Graduate School Handbook*.

1.2 Program Goals

The dominant problems of the next century will be those of the holistic world-ecological, economical, and political. The ecological issues, which involve environmental degradation and resource depletion, are often the ultimate cause of economic and political upheaval. It is important to understand the processes and principles of the environment--sometimes called *environmental science*--to deal with these issues. This understanding comes from research on the problems themselves and on the basic science underlying the problems. Some of the environmental issues that will continue to beg solutions in the 21st century include acid precipitation, hazardous waste disposal, global climatic change, water quality impairment of lakes and rivers, rain forest and wetland loss, toxic substances in our food chain, oil spills, loss of biodiversity, nonrenewable resource depletion, introduction and impact of non-indigenous species, and general deterioration of the biosphere.

Scientists and professionals are needed who, after achieving a solid disciplinary education in science-related fields as undergraduates, use integrated and interdisciplinary approaches to deal with these problems. Viewing the traditional structuring of academic institutions and curricula today at all educational levels, excessive disciplinary compartmentalization is often ill-suited to learning about and solving the environmental problems of the 21st century. The Ohio State University's ESGP is designed to cut across traditional academic disciplines and colleges and to provide sound and effective graduate education and research on these important environmental issues.

The Environmental Science Graduate Program emphasizes basic research on ecological processes and effects, and applied research and teaching that will contribute to solving the world's pressing environmental problems. Students graduating from our program will be able to:

- a. Demonstrate an understanding of major global environmental problems and how the biological, physical, and social sciences, and engineering contribute to the interdisciplinary study of these problems and their solutions.
- b. Demonstrate in-depth understanding of one area of expertise within the environmental sciences, including the ability to analyze, synthesize, and apply research to aid in the understanding of the complexity and interconnectedness of environmental problems and their solutions.
- c. Conduct original, environmental science research that may involve modeling, laboratory research, field-based experiments, and/or field research.
- d. Collaborate effectively as an environmental scientist in interdisciplinary project planning and research efforts that engage multiple stakeholders.
- e. Communicate environmental science theories, research and findings effectively in publications and oral presentations.

2. GRADUATE ADMISSION

2.1 Responsibility for Admission

The admission of students to the Graduate School and the ESGP is the dual responsibility of the GSC and the Graduate School. Following the review of a completed application, the GSC makes the final admission recommendation by posting an on-line admission decision to the admissions database in order to inform the Graduate School of their decision. That office, acting for the Graduate School, issues a letter of admission on behalf of The Ohio State University. This is the only official letter of admission sent to the applicant.

2.2 Admission Categories

Students are admitted to graduate programs in one of three categories: Regular, Conditional, and Graduate Non-degree.

2.3 Admissions Requirements for the Environmental Sciences Graduate Program

The following requirements are in addition to those of the Graduate School.

- a. An undergraduate degree from an accredited college or university. Applications from those in fields not normally deemed to be related to environmental science will be considered when special merit warrants. A minimal GPA grade of 3.0/4.0 is required, except as a conditional admission. A conditional admission must be accompanied by a justification letter from the GSC chair. This justification letter will be based on recommendation provided by the prospective student supervisor. The letter will be addressed to the Dean of the Graduate School who will review the justification and make a final decision.
- b. A minimum of four credits of college mathematics and/or statistics; seven credits in physical sciences; and three credits in biological sciences. Students with limited deficiencies may be admitted conditionally and must remove the deficiencies within a specified time.

- c.** All applicants must submit their scores on the verbal, quantitative, and analytical sections of the Graduate Record Exam (GRE). Applicants are generally expected to have a combined score of ≥ 1200 on the verbal and quantitative sections of the older GRE test and a score of ≥ 311 on the new format test given after August 2011.
- d.** International students whose first language is not English are required to take and submit their score for the Test of English as a Foreign Language (TOEFL). Current university standards do not permit admission of applicants with TOEFL scores below 79 except as conditional admits. Because recent experience is that students with TOEFL scores below 79 are at risk, the ESGP will not admit applicants with scores below that level.
- e.** An international student whose first language is not English may not be appointed to a teaching associateship until the SPEAK test has been successfully completed and other requirements specified by the university have been satisfied. Further, all international students whose first language is not English must successfully complete a series of English courses designed to enable them to comprehend lectures and discussions in their courses.
- f.** Students applying for admission to the doctoral program will normally have completed a M.S. or M.A. degree in a relevant field and should have already met the criteria listed above. Applicants with limited deficiencies may be admitted conditionally and must remove all deficiencies within their first two semesters in the program.
- g.** Students enrolled in the Master of Science Program in the ESGP who wish to be admitted to the doctoral program upon completion of their M.S. degree are expected to satisfy the same admission criteria as other applicants. They must make application by letter to the chair of the GSC who will establish an application file for the student, but no decision will be made until the applicant has completed his or her Master Examination. At that point, the applicant's Master Examination Committee will be asked by the chair of the GSC to make a recommendation as to the candidate's acceptability as a doctoral student. Upon receipt of this recommendation, the student's application will be activated. Student may be eligible for an additional year of GTA or GAA support from the ESGP (see section 8 for GA appointments details).
- h.** Students completing M.S. degrees in other programs at this university who wish to pursue doctoral study with the ESGP must initiate a Program Transfer process beginning in the Graduate School. They must also submit to the chair of the GSC a letter requesting admission, a Statement of Goals defining, in as much detail as possible, their career and life goals and how they intend to use the doctoral program in environmental science to pursue those goals, and a letter of recommendation from their advisors on their M.S. thesis research. Further, they are advised to fashion their applications in accordance with the mission of the doctoral program in environmental science. The same admission criteria applied to students entering from off-campus will be used in evaluating applicants receiving M.S. degrees from other programs on campus.
- i.** Upon petition to the GSC, superior students may be admitted directly into the doctoral program with the expectation of receiving the M.S. degree upon successful completion of the candidacy examination.
- j.** Students currently enrolled in the M.S. program who wish to transfer to the Ph.D. track without completion of the M.S. degree must formally request a transfer in writing to the GSC of the ESGP. This request must include a letter of concurrence signed by all of the members of the student's M.S. advisory committee, as well as justification on why the scope of the students' research has expanded so much to merit a Ph.D., etc. Upon a favorable decision by the GSC, the student will be admitted into the doctoral program with the expectation of receiving the M.S. degree upon successful completion of the candidacy examination. Such a transfer will not count as a new degree and will not grant the student new financial support (in the form of GAA, GTA, or Fay Fellowship) from the ESGP beyond what was originally committed when the student was first admitted to the Master of Science Program.

k. Applicants are required to identify an Environmental Science faculty member who is willing to serve as that student's advisor before final acceptance into the program. Applicants may be accepted conditionally, pending on identifying a faculty advisor, as an intermediate step in the admission process. A list of the current faculty is available on the web site of the ESGP and should be used when completing the autobiographical Statement of Purpose required for admission. Faculty members are notified about student applicants, but it is appropriate and often necessary for applicants to contact potential advisors prior to or while being considered for admission. **No student is admitted to the program without an advisor.**

2.4 Admission Dates

Admission to the ESGP is normally restricted to Autumn Semester. The applicant's potential advisor will admit students at other times of the year only under unusual circumstances and then only with the express approval of the GSC upon recommendation. Students admitted for Autumn may begin in the preceding Summer Session if the student's advisor supports request for such admission.

Successful applicants will receive an official acceptance letter from the Graduate School indicating the semester of admission. Accepted students may request that their admission be back-dated one semester or session, e.g. from Autumn semester to Summer session, or advanced one semester e.g. from Autumn to Spring semester. Students wishing to make such changes must petition the GSC in writing to have their admission dates changed. Restrictions noted above will apply in consideration of such petitions. Accepted students who cannot begin their studies in the semester of admission and who wish to advance their admission date more than one semester must reapply for admission in that semester. This can be done by a letter to the chair of the GSC.

2.5 Admission Procedures

Applications are received throughout the year, but the GSC does not normally begin reviewing applications until November for admission the following Autumn. Normally, decisions on admission and recommendations for teaching associateships are made by March 15. Applications received after March 15 will be reviewed only at the request of a member of the graduate faculty. No student is admitted to the program unless a faculty member has been identified in writing as that student's advisor. It is understood that admitted students may change advisors after they arrive on campus. This is usually done in consultation with both the new and the original advisors.

Members of the graduate faculty may request that particular applicants be reviewed for admission in the Spring semester, or Summer session. Upon receipt of such a request, the GSC will perform such a review and make a recommendation to the Graduate School.

Official applications for either the Master of Science or Doctor of Philosophy degree program must be submitted to the Graduate Admissions Office electronically. Upon receipt of the electronic application, a file is started in the ESGP office. Once Graduate Admissions has received an application, all official transcripts of previous academic work, GRE scores, and TOEFL scores, (when required) the application is ready for consideration by ESGP. The GSC makes admission recommendations to the Graduate School via the admissions on-line database. Additional supportive documents such as letters of recommendation or statement of purpose, can be received directly by the ESGP office, or printed from the on-line database and are then placed in the applicant's file. Original transcripts are required by ESGP in addition to those required by Graduate Admissions.

As applicant files are completed, the ESGP office will compile a list of applicants including pertinent information about their educational goals, grades, GRE scores, etc. This list will be updated regularly and sent to all members of the graduate faculty electronically. Faculty members may review the complete file for any graduate student at any time, but will be asked to pay special attention to such review during the months of January, February, and

March. Faculty members may provide written comments on files they review and will indicate their interest in serving as advisor.

Graduate Studies Committee members will review all files, make comments on acceptability, and suggest conditions where appropriate. The GSC will vote on the acceptability of each candidate. The admission process has two steps. First, suitable applicants are admitted by the GSC after a majority vote. This admission is conditional on finding a supervisor. Next, applicants are required to identify an Environmental Science faculty member who is willing to serve as that student's advisor before final acceptance into the program. Once a GSC decision is made, and a advisor is identified, the admission decision is then entered into the Graduate Admissions Office database. A student is only admitted pending the approval of The Graduate Admissions Office, which will issue the official letter of acceptance to the applicant. **Admission to the ESGP does not constitute an offer of financial support by the Program.**

The GSC will also submit nominations for university and OARDC Fellowships according to published deadlines and will rank graduate students for consideration for appointments as teaching associates in the ESGP. Applications that are completed before December 1 will be considered for fellowship nominations.

2.6 Conditional Admission

Because the ESGP is an interdisciplinary program, otherwise well-qualified applicants may have some deficiencies in undergraduate course work. Such applicants may be conditionally admitted. The specific conditions, including course or credit requirements and time limits, are spelled out in the Admission database and are included in the official letter of acceptance sent by the Graduate Admissions Office. Further non-traditional students occasionally have grade records that are not clear enough to enable the GSC to make a judgment about their likely success in our program. In such cases, applicants may also be admitted conditionally with the stipulation that they *must maintain a 3.0 or higher grade-point average during their first 15 credits of graded graduate course work*. Students admitted with such a condition may be terminated immediately if they fail to maintain the conditional GPA.

Students on Conditional status may petition the GSC to amend or remove some or all conditions. This must be done in writing to the chair and the reasons for the request must be clearly elaborated. A support letter from the student's advisor is recommended but not required. The GSC will act on such petitions within two months of the date they are received.

All conditions must be satisfied no later than the end of the second semester of the student's enrollment in the program. Failure to do so can result in a recommendation to the Dean of the Graduate School for dismissal based on failure to maintain "reasonable progress." The GSC will review the progress of all students on Conditional status each semester. When a student satisfies all conditions, the chair of the committee will inform the Graduate School and request that the student be removed from Conditional status. When a student has failed to satisfy all conditions by the end of the second semester in residence, further registration in the program may be denied until the conditions are satisfied.

Students admitted conditionally must be transferred to Regular status before they may make Application to Graduate, e.g. the chair of the GSC may not sign an Application to Graduate form for a student still on Conditional status.

In the case of part-time students, this time limit may be extended on a *pro rata* basis.

It is the student's responsibility to understand and satisfy the conditions of admission within the allotted time. Students wishing for clarification should consult with the chair of the GSC. Students should also be aware that

faculty advisors and graduate student committees could neither amend nor waive conditional requirements, including the two semester time limit.

2.7 Graduate Non-degree Status

Up to 7 hours of semester graduate credit earned while on Graduate Non-degree status may be subsequently approved for transfer to a graduate degree program at the discretion of the GSC upon written request from the graduate student and with approval of the student's advisor. Such requests will not be accepted until the student has been admitted to the graduate program.

Students wishing to apply for admission to Graduate Nondegree status must:

- a. Provide the chair of the GSC with evidence of successful completion of a baccalaureate or higher degree, and
- b. Obtain written permission from the chair of the GSC on the appropriate form for submission to the Graduate School.

The chair of the GSC is empowered to grant Graduate Non-degree admission without approval of the committee. Graduate Non-degree students wishing to enter the graduate program to pursue a degree must follow the formal application procedures of the program and the Graduate School.

2.8 Inquiries from Potential Students

The chair of the GSC will be responsible for responding to inquiries and conducting much of the correspondence with potential applicants. However, it is understood that faculty members are the most effective agents in graduate student recruitment, and graduate faculty members are encouraged to correspond directly with potential students and are asked to copy all correspondence to the chair of the GSC for inclusion in the students' files. It is especially important that outstanding candidates be identified early so they can be considered for Fellowship nominations and other funding opportunities.

3. STUDENT RECORDS

The ESGP, acting on behalf of the GSC, will maintain application files for all applicants to the ESGP and the official academic files of all students in the program. Student files may not be removed from the program office, but non-confidential materials may be copied or scanned from application files to assist in the review process.

Access to application files is open to all members of the graduate faculty. However, academic files for admitted students are closed and access is restricted to members of the GSC, the student's advisor, and others with permission of the chair of the GSC. Students may examine any item in their files.

The ESGP will maintain the academic files of students admitted to the program and who officially register for a period of not fewer than six years. However, the file of any admitted student who does not begin attending classes in the designated semester of acceptance may be destroyed one year after the beginning of that semester. The chair of the GSC is responsible for all aspects of student file maintenance. The Graduate School maintains the official records of student grades.

4. REGISTRATION

4.1 Course Loads

Normal full-time graduate course load per semester is 8 to 12 hours.

- a. Graduate Associates on 50% appointments must register for a minimum of 8 credits except during the Summer session, when the full-time status is 4 credits.
- b. Graduate Associates holding 25% appointments must register for a minimum of 4 credits.
- c. Doctoral students who have passed their Candidacy Examination (including those at 50% appointments) must register for at least 3 credits each term any appointment is held, including Summer session.
- d. Graduate Fellows must register for a minimum of 12 credits each semester and only 6 credits for Summer session.

Non-graduate credit course work may count toward the minimum requirements for GA and Fellowship eligibility (GSHB 5.1 - 3.1), but audited courses do not count (GSHB 11.5). Undergraduate and audited courses do not count toward these course loads. Graduate Associates whose appointments permit them to work full time on thesis or dissertation research must enroll for 12 graduate credits each semester the appointment is held.

Research credit reflects time spent by a graduate student pursuing thesis or dissertation research and time invested by faculty members in supervising such research. Therefore, students who in any semester or session are spending time on their thesis or dissertation research must register for appropriate numbers of research credit hours within the academic unit of their advisor.

4.2 Procedures for Registration

Graduate students are expected to register each semester or session by the on-line SIS system. They are encouraged to discuss their scheduling plans with their advisors, especially if they plan to take courses not on their Program of Study. Graduate students may take courses not in their Program of Study but may not graduate until all Program of Study courses have been completed (Sections 6.2 and 7.2). Students needing assistance with SIS or any other aspect of registration and scheduling may seek assistance from the ESGP office.

5. ACADEMIC STANDARDS

Students are responsible for being aware of and meeting all university, Graduate School, and ESGP requirements and deadlines.

5.1 Good Standing

Students will be considered to be in good standing as long as their graduate cumulative grade point average is 3.0 or higher and they are deemed to be making reasonable progress towards their degrees. Students on Conditional status must satisfy all specified conditions by the end of their second semester in the program (Section 2.6).

Students admitted on conditional status must satisfy all specified conditions by the end of their second semester in the program (Section 2.6).

5.2 Reasonable Progress

A student will be making "reasonable progress" if s/he maintains a 3.0 cumulative grade-point average, is in continuous enrollment, (two semesters or one semester and a summer session) and is meeting the research expectations of his or her Advisory Committee.

5.3 Degree Time Limits

Full-time students should normally complete all requirements for the Master's degree in no more than three years from the date of entry. Full-time doctoral students should normally complete the Candidacy Examination by the end of their third year in the Ph.D. program and complete and defend their dissertations in no more than an additional three years. Part-time students must complete the Master's degree in no more than four years from the date of entry. Both full- and part-time students may take longer only if they can demonstrate to the GSC that they are making "reasonable progress".

Students deemed to be making "reasonable progress" may remain in the master's program for as long as five years and in the pre-candidacy stage of the doctoral program for as long as five years with concurrence of their advisors, their committees, and the GSC.

5.4 Course Time Limit Five-Year Rule

Five years from the date of first enrollment in either the Master's or Ph.D. program in environmental science, course work begins to lose its timeliness. For Master's students, only courses taken within five years of the date of successful completion of the Master's Examination may be applied toward the degree. For doctoral students, only courses taken within five years of the date of successful completion of the Candidacy Examination and ten years prior to the completion of the Final Oral Examination may be applied toward the degree. This policy is applied without regard to the students' full- or part-time status.

Students who successfully complete the doctoral candidacy examination are required to be enrolled in every semester (summer session is excluded) until graduation. These students must be enrolled for at least 3 credits per semester. This policy is effective for all students who were admitted to the Graduate School Autumn Quarter 2008 and after. See The Graduate School Handbook for more information about the "continuous enrollment policy" for post candidacy students.

Should a student from either degree program depart the campus before completing all requirements for the degree, the five-year clock on coursework continues to run. Early during the second semester in which the student is NOT in continuous enrollment, the chair of the GSC will send a letter to the student informing him or her that "reasonable progress" may be maintained if, and only if, they:

- a. Maintain frequent and effective communication with their advisor,
- b. Demonstrate to the GSC that progress is being made toward his or her degree,
- c. Keep the Graduate School and the ESGP informed of his or her current mailing, address and respond promptly to correspondence,
- d. Comply with all relevant deadlines for completion of the Master's Examination, Candidacy Examination, and/or doctoral Final Oral Examination, and
- e. File annual reports of progress with his or her advisor and the GSC.

Failure to satisfy these conditions will, after 4 semesters of non-continuous enrollment, be considered evidence of "failure to maintain reasonable progress". And the GSC may recommend to the Graduate School that the student be denied further registration in the program. If such action is taken, the student may reenter the program only by making formal application to the GSC, which will consider the applications along with all other applications that year. It should be noted that in cases of reentry after being denied registration, the Graduate Admissions Office does become re-involved. The decision to allow or disallow reentry is entirely the responsibility of the GSC. The

Graduate School will automatically deactivate any student's registration after an absence of two full calendar years. To reenroll the student must petition the GSC for permission to be allowed further registration in the program. The GSC may recommend to The Graduate School to reactivate admission if there is just cause for the absence.

5.5 Probationary Status

If, after completing 9 hours of graduate credit, a student's cumulative grade point average falls below 3.0, that student will be placed on probation by the Dean of the Graduate School and will have one additional semester or summer session to raise his or her grade point average to 3.0. If this does not occur, the student may be denied further registration in the program or dismissed from the Graduate School.

5.6 Special Status

Students are placed on Special Status when they have met all Graduate School and GSC admission criteria but do not intend to get a degree.

5.7 Registration Denial or Dismissal

Students who remain on Probation for more than one semester or Session may be denied further registration or subject to dismissal from the Graduate School. The GSC will, in these circumstances, consult with the advisor and seek a written recommendation. Then, after due deliberation, the committee may recommend to the Dean of the Graduate School that the student be denied further registration or dismissed. The student, the advisor, and the director of the ESGP will be notified of the committee's action.

5.8 Letter of Warning

No student in the ESGP may be denied further registration or dismissed without first being warned by the Graduate School that such action is pending. The chair of the GSC will send copies of any letter of warning to the Director of the ESGP and to the student's advisor.

5.9 End of Semester or Session

A student who does not meet published graduation deadlines but who does complete all degree requirements by the last business day prior to the first day of classes for the following semester or summer session may graduate the following semester or session without registering or paying fees.

6. THE MASTER OF SCIENCE DEGREE

The Master of Science degree in the ESGP is designed to provide students with advanced knowledge and skills in the various fields of environmental science and opportunities to learn how to design and carry out research or other scholarly activities. Students may follow either of two programs, thesis (Plan A) or non-thesis (Plan B), and are guided by their advisors and committees.

6.1 Student's Committee

Each student's Advisory Committee should be appointed by the end of the first semester of full-time enrollment or after 12 credits of part-time graduate course work. The committee will be comprised of at least three members. The advisor and one other committee member must be ESGP faculty. The third member may be an OSU faculty

member outside ESGP or an ESGP Affiliated-Scientist. At least one member must be from outside the student's specialty area, but should have expertise appropriate and applicable to the student's thesis research problem. Unless significant changes in program direction occur or personal conflicts arise, the committee should remain unchanged throughout the duration of the student's program. The committee is responsible for approving the student's Program of Study (Section 6.2).

6.2 Program of Study

The Master's of Science degree in the ESGP offers considerable flexibility, enabling students, their advisors, and committee members to design a Program of Study that will satisfy the students' educational objectives. This Program of Study becomes the official degree requirements for the individual student. Therefore, it is important that the Program of Study for each student be approved early in that student's enrollment.

No later than the fifth week of the second semester of enrollment in the Master's program, each student must submit an approved Program of Study to the GSC. The advisor and all members of the committee must sign the Program of Study.

The Program of Study must form a cohesive body of course work, including but not limited to, specific classes described in the Core Curriculum of the ESGP.

Changes in the Program of Study must be approved by the student's advisor and committee and reported to the GSC prior to the semester or session in which the course changes are to be implemented. Requests for substitutions for core courses must be submitted in writing to the GSC and the advisor must submit supporting explanations in writing. Alteration of core requirements will be allowed only under extraordinary conditions.

The GSC receives and reviews each Program of Study and may raise questions with the student's advisor and committee. Final responsibility for approval of the Program of Study rests with the student's committee, as long as general program requirements are met.

6.3 Graduate Seminar and Select Core Course Requirements

a. Graduate Seminar

Each Master's student, whether pursuing the thesis or non-thesis option, is required to enroll to and attend the ESGP seminar for at least 3 semesters. During two of these semesters students are also expected to present a seminar. There are two types of seminar presentations: entry and exit presentations. The entry presentation should provide the student's tentative research plans, or the background to their work and hypotheses. The exit presentation should provide some results from their research work, which may be preliminary results from their research work, results and discussion from their technical paper (in the case of no-thesis students), or final results that are included in the thesis. Students must present one entry and one exit seminar. It is preferable that the entry presentation will take place during the first year of study, and that the exit presentation will take place at some point during the last 3 semesters before graduation. The exit seminar must be presented at a different and later semester than the entry seminar. The chair of the GSC will not approve the "Application to Graduate" until the exit seminar presentation is scheduled. Failure to present the research seminar will be considered "lack of reasonable progress" and permission to graduate will be rescinded. Under extraordinary circumstances, and pending a formal petition, the GSC may approve substituting an ESGP exit seminar presentation by a presentation made by the student at a different forum than the ESGP seminar.

b. Select Core Course requirements

All M.S. students are required to complete at least three academic credit points in each of the three select core areas:

1) SELECT CORE COURSES IN BIOLOGICAL SCIENCE -

The objective of this select core-course area is to ensure that students are familiar with the diversity and functioning of organisms and the interactions among species and between organisms and the environment. Because the environmental sciences focus on the relationships between living organisms and their environment, the basic principles of ecology and a solid understanding of ecosystems structure and function is the focus of the ESGP core. This understanding can be gained through coursework that focuses on a particular taxon or a particular kind of ecosystem, but must be broadly applicable to any environment.

2) SELECT CORE COURSES IN PHYSICAL SCIENCES AND ENGINEERING-

The objective of this core area is to provide an understanding of physical structure and processes in which ecosystems must function. Physical structure includes soil, water, air, geological media, climate, nutrients, and contaminants. Physical science processes include movement of “abiotic” matter and energy through ecosystems. Core courses must (1) study fundamental physical, hydrological, chemical, or biogeochemical processes and (2) study and emphasize the effects of physical structure and processes on ecosystem biotic components and function and the interactions between the biotic and abiotic components of the ecosystem.

3) SELECT CORE COURSES IN SOCIAL SCIENCES AND POLICY-

The objective of the social science core is to provide an understanding of concepts related to the study of human society and/or individuals and their relationships to the structure and function of the ecosystem(s) of which they are a part. Methodology includes a range of approaches, both qualitative and quantitative. Core social science courses must engage social science in a combined theoretical and/or applied study of a physical, cultural, regulatory, or economic relationship between humans and the natural and physical environment

A list of approved select-core courses in each area is provided in Appendix 1. Not all of the courses on the list may be offered every year. The GSC may approve adding or removing courses from the list. Course instructors may appeal to the GSC to add courses to a select core area. Courses must satisfy the objectives of the select-core course in the area they are to be added to.

In extraordinary circumstances, students may petition the GSC to accept an alternative course that was completed by the student but is not on the list of select-core courses in Appendix 1, as a select-core course for their graduation requirements.

6.4 Annual evaluation form

Each student must complete an annual evaluation form (Appendix 2) and submit it to the program office before the end of each academic year (May 1). The form includes information on the academic progress of the student and their achievements during the year.

6.5 Degree Plans

a. Thesis Option (30 credits)

The Thesis Option provides for depth of study with an emphasis on the research process; a thesis is required for completion of the program. No more than 20 credits of research hours may be applied toward the 30- credit minimum requirement for this degree. All ESGP students taking research hours should take them in their advisor's home department. Students intending to pursue doctoral work are advised to pursue the Thesis Option.

b. Non-thesis Option (37 credits)

The Non-thesis option provides an opportunity for students who are not primarily interested in research careers to pursue advanced study in environmental science. Students are required to produce an in-depth research paper that must be approved by the student's advisor and committee.

6.6 Thesis Option Requirements

a. Thesis Plan

No later than the end of the first full year of residence, each student will file with the GSC an approved thesis plan signed by the student and his or her advisor and committee members. This approved plan becomes an agreement between the student and the graduate faculty setting forth what the student is expected to do to satisfy the thesis research requirement. The plan should include a title and description of the research, as well as some major references to be used. It can be attached to the plan of study.

b. Thesis Form, Abstract and Approval

The thesis must be prepared in accordance with the rules and regulations of the Graduate School and a final electronic copy must be submitted to the Graduate School. The student must submit to the GSC, no later than the fifth working day of the semester or session in which the Final Master's Examination will be scheduled, a double-spaced 200 to 250-word abstract of the thesis. This will be submitted in hard copy for the student file. The final thesis is approved or rejected by the student's committee following a Final Master's Examination. The approved Master's thesis must be submitted to the Graduate School electronically as a PDF document to OhioLink, The Ohio Library and Information Network. Both the thesis and a signed copy of the Thesis Approval Form must be submitted by the Graduate School's published deadline. A photocopy of the signed forms must be given to the ESGP office.

c. Final Master Examination

Each student's Advisory Committee will serve as the Master Examination Committee and will conduct a final oral examination that centers on, but does not have to be restricted to, the thesis research. The advisor will chair the Examination Committee. The examination must be completed no later than sixteen days prior to graduation and must take place during announced university business hours, Monday through Friday. The vote in favor of passing the student must be unanimous.

Attendance at the Master's Examination is limited to the student and members of the student's committee, all of who must be present during the entire examination unless a video conference has been approved by the Graduate School. All members, including the chair, will vote. Once formal questioning has begun, the examination must continue to a voting conclusion. After a conclusion has been reached, committee members will indicate that conclusion on the Master's Examination form by signing at the appropriate places. It is the advisor's responsibility to report the results of the examination to the GSC and the Graduate School. This is done by submitting, separately, the appropriate copies of the Examination form to the ESGP and the original form to the Graduate School no later than Wednesday two weeks prior to graduation. Failure to submit either of these documents will result in immediate removal from the graduation list.

Upon recommendation by the Examination Committee, a student who has failed his or her final examination may retake that examination one time. The Examination Committee for the second examination will include the same faculty members as the first, unless the Dean of the Graduate School prior to the date of the second examination approves substitution. If the student fails the second examination, the GSC will inform the Dean of the Graduate School and the student will be denied further enrollment in the ESGP.

6.7 Non-thesis Option Requirements

a. Technical Paper Requirement

Students in the non-thesis option will write an in-depth research paper on a subject agreed upon by the student, advisor, and committee. The paper should be written in a style and format designated by a leading refereed journal in the student's field. The completed paper is to be evaluated by the advisor and committee to insure that it is rigorous and detailed analytical and scholarly work. Further, the student must demonstrate a thorough knowledge of the literature relevant to the topics. Copies of the completed paper must be delivered to all committee members at least three weeks before the students' exam.

b. Approved Plan for Paper and Final M.S. Examination

No later than the end of the first semester in residence, each student will file an approved plan (proposal of 2 pages with the format and content of the paper) for the required technical paper and the final M.S. examination with the GSC. The student, advisor, and committee members must sign the plan.

c. Paper Abstract

The student must submit to the GSC, no later than the fifth working day of the semester in which the Final Master's Examination will be scheduled, a double-spaced 200 to 250-word abstract of the technical paper. This will be submitted in hard copy or electronically as specified by the chair of the GSC.

d. Final Master Examination

A Final Master's Examination comprising written and oral portions will be conducted after the student has completed all requirements, including the technical paper (sec. 8.7.2). The examination must be completed no later than sixteen days prior to graduation and must take place during announced university business hours, Monday through Friday. The vote in favor of passing the student must be unanimous. The written portion of at least four hours duration will test the student's knowledge pertinent to the areas of research for the technical papers. The committee will formulate questions, and the advisor will administer the written portion. All committee members will evaluate the entire written portion of the examination and report their evaluations in writing to the advisor.

Following the written portion, the student must successfully complete an oral examination, no longer than two hours, also administered by the committee and chaired by the advisor. The oral portion of the Examination must take place during announced university business hours, Monday through Friday, and no later than seven days after the written exam. The vote in favor of passing the student must be unanimous.

Attendance at the oral portion of the Master's Examination is limited to the student and members of the student's committee, all of who must be present during the entire examination. All members, including the chair, will vote. After a conclusion has been reached, committee members will indicate that conclusion on the Master's Examination form by signing the appropriate places. It is the advisor's responsibility to report the results of the examination to the GSC and the Graduate School. This is done by submitting, separately, a photocopy of the Examination form to the ESGP and the original to the Graduate School no later than Wednesday two weeks prior to the graduation. Failure to submit either of these documents will result in immediate removal from the graduation list.

If, after evaluating the written portion of the Examination and the technical paper, the committee members see no possibility for a satisfactory overall performance on the Master's Examination, the student may waive the right to take the oral portion. The committee may not deny a student the opportunity to take the oral portion. If the

student decides to waive the right to take the oral portion, s/he must provide the committee with a written request for the waiver. In such cases, the committee records as unsatisfactory on the Master's Examination form and returns it with a copy of the student's waiver request to the Graduate School with a copy to the ESGP.

Upon recommendation by the Examination Committee, a student who has failed his or her final examination may retake that examination one time. The Examination Committee for the second examination will comprise the same faculty members as the first unless the Dean of the Graduate School prior to the date of the second examination approves substitution. If the student fails the second examination, the GSC will inform the Dean of the Graduate School and the student will be denied further enrollment in the ESGP.

6.8 Appeal and Review

If a student, thesis or non-thesis, is judged to have failed either the first or second oral examination, s/he or any member of the Examination Committee may appeal the decision, but only on the grounds that the "fairness and without prejudice" concept was violated. An appeal must be submitted in writing to the GSC for review. The GSC will conduct a hearing and then evaluate the Master's Examination according to the "fairness and without prejudice" concept. If the GSC cannot resolve the case, it will forward the appeal to the Dean of the Graduate School, who will refer it to the Policy and Standards Committee of the Council on Research and Graduate Studies for resolution. If either the GSC or the Policy and Standards Committee finds that the rules were not followed or that the examination was not "fair or without prejudice", the Dean may direct that a new examination be administered.

6.9 Application to Graduate

Each student must complete and submit an Application to Graduate form to the Graduate School no later than the third Friday of the semester (or third Friday of May session for summer session commencement) in which s/he expects to graduate. The application is valid only for that semester or session. By submitting this form, the student indicates that s/he expects to complete all degree requirements by the prescribed deadlines of that semester. The Application to Graduate form must be signed by the student, his or her advisor, and the chair of the GSC.

7. THE DOCTOR OF PHILOSOPHY DEGREE PROGRAM

The Doctor of Philosophy (Ph.D.) is a research degree that provides students with opportunities to achieve a high level of scholarly competence and to develop the ability to contribute to the knowledge and theory base in the field of environmental science. The program includes a coherent program of course work, a Candidacy Examination taken after all required course work is completed, a research dissertation, and a Final Examination. During the program, the student will be guided and assisted by his or her advisor and Advisory Committee. Upon completion of the degree, the student will be awarded the Doctor of Philosophy Degree.

7.1 Student Committees

a. Student Advisory Committee

As soon as possible after entering the doctoral program, the student and his or her advisor should select an Advisory Committee. No later than the end of the student's first semester in residence, s/he will submit the names of Advisory Committee members to the GSC.

The Student Advisory Committee comprises the student's advisor, who must be a Category P member of the ESGP, and at least three additional members of the graduate faculty with Category M or P appointments. Two of the three additional committee members must be ESGP faculty. One of the other members of the committee may be from outside ESGP but should be outside the student's speciality area. An outside faculty member or an ESGP

Affiliated Scientist may only serve as an additional or fifth member of the committee and must petition the ESGP Graduate Studies Committee and The Graduate School to be included. The Advisory Committee works with the student as s/he prepares the Program of Study and provides guidance during planning, design, and execution of the dissertation research. The Advisory Committee is also responsible for administering the Candidacy Examination.

b. Student Candidacy Examination Committee

Responsibility for administering the Candidacy Examination Committee rests with the student's Candidacy Examination Committee. All members, including the advisor and Graduate School representative, (if one has been assigned) must be present for the entire oral examination and all must vote. The Candidacy Examination Committee will comprise of the members of the student's Advisory Committee. A Graduate Faculty member can be appointed by the Graduate School if requested. Any changes in committee membership must be reported to the Chair of the GSC before the Candidacy Examination is scheduled. The advisor will chair all meetings of the Candidacy Examination Committee. Once the Candidacy Examination has been scheduled, the student must submit the Notification of Candidacy Examination form to the Graduate School. This must be done no fewer than two weeks prior to the date of the examination.

c. Student Dissertation Committee

The Dissertation Committee is established at a time decided appropriate by the student and his or her advisor. Although it should be formed as early as possible in the research process, the Dissertation Committee must be formed no later than the second Friday of the semester or session in which the student expects to graduate.

Normally, the Dissertation Committee will be the same as the Advisory Committee, although substitutions and additions may be made at the discretion of the advisor. Additional graduate faculty members may include Category M faculty. The advisor will submit the names of the Dissertation Committee members to the GSC no fewer than two weeks prior to the Final Oral Examination. The advisor chairs the Dissertation Committee.

d. Student Final Oral Examination Committee

Responsibility for conducting and evaluating the Final Oral Examination rests with the student's Final Oral Examination Committee. This committee comprises all Category M and P members of the student's Dissertation Committee plus a Graduate School representative. Additional Category M and P graduate faculty members may be added to the committee, subject to the rules of the ESGP. The advisor chairs the committee.

7.2 Program of Study

No later than the end of the second semester that the student is enrolled in the program, s/he must submit to the GSC an approved Program of Study. The Program of Study sets forth the detailed course and credit requirements for the degree. All courses listed on the Program of Study must be completed before the student may take the Candidacy Examination. The Program of Study must form a cohesive body of course work, including but not limited to specific classes described in the Core Curriculum of the ESGP. The student must work closely with his or her advisor and Advisory Committee in designing the Program of Study. The Program of Study must be approved and signed by all members of the Advisory Committee. While Programs of Study will vary among students with different scholarly interests, all should be designed to prepare the student for the Candidacy Examination and for the successful pursuit of dissertation research. Further, the Program of study must combine the depth and breadth of course work designed to foster research and scholarship in the student's specialty while enabling the student to relate his or her studies to those being done in allied academic areas. The Program of Study should provide ample opportunity through formal graded course work, directed independent study, or

research experience for each doctoral student to demonstrate expertise in the three general subject areas designated above under section 6.2.

Changes in the Program of Study must be approved by the student's advisor and Advisory Committee and reported to the GSC prior to the semester or session in which the course changes are to be implemented.

The GSC receives and reviews each Program of Study and may raise questions with the student's advisor and Advisory Committee. Final responsibility for approval of the Program of Study rests with the student's Advisory Committee, as long as general graduate program requirements are met.

7.3 Annual evaluation form

Each student must complete an annual evaluation form (Appendix 2) and submit it to the program office before the end of each academic year (May 1). The form includes information on the academic progress of the student and their achievements during the year.

7.4 Credits, Grade-point Average, Residency Requirements and Time Limits

A minimum of 80 graduate credit hours beyond the baccalaureate degree is required to earn a doctoral degree. If the student has earned a M.S. degree, then a minimum of 50 graduate credits beyond the M.S. degree is required. Further, if the M.S. degree was earned at another university, credits must be transferred to this university. This is done at time of admission. If done later there is a required form, "Request for Transfer of Graduate Credit," which is available both in the ESGP office or the Graduate School. It is the student's responsibility to initiate this process. No more than 30 credits of research hours may be applied toward the 80-credit minimum (or 50, if MS transfer credit isn't included) requirement for this degree. All ESGP students taking research hours should take them in their advisor's home department. Final official transcripts, that include the degree awarded, will be required. Students must have earned a cumulative grade-point average of 3.0 for all graduate course work completed at this university to qualify for graduation.

Residence at the university is required to afford the student an opportunity to engage in intensive study over an extended period of time in association with faculty members and other students in an atmosphere conducive to a high level of intellectual and scholarly activity. This requirement is met by completing all of the following conditions:

- a. A minimum of 24 graduate credit hours must be completed at this university,
- b. A minimum of two consecutive pre-candidacy semesters or one semester and a summer session with full time enrollment must be completed while at this university.
- c. A minimum of 6 graduate credits over a period of at least two semesters or one semester and a summer session must be completed after admission to candidacy.

Doctoral students should complete course work and take the Candidacy Examination by the end of their third year in the program and complete all degree requirements within an additional three years after the Candidacy Examination (Section 5.3). The Five-Year Rule applies to courses used to satisfy doctoral degree requirements (Section 5.4). See also Section 5.2 "Reasonable Progress".

7.5 Deactivation and Continuous Enrollment Policy

All students admitted to The Graduate School Autumn 2008 or after, who successfully complete the doctoral candidacy examination, will be required to be enrolled every semester of their candidacy (summer session

excluded) until graduation. Student must be enrolled for at least three credits per semester. (This policy does not apply to students admitted to the Graduate School prior to Autumn 2008.)

Post-candidacy students who do not enroll in a required semester will be withdrawn from active candidacy. To re-enroll, the student must first successfully petition the GSC for reactivation. If petition is approved the GSC will send the Graduate School a formal request to allow the student to resume studies and register. Non-enrollment does not interrupt a student's five year candidacy period. However, when student returns the student will be retroactively enrolled in every semester of missed enrollment for three credits of research hours under their advisor. The student will be required to pay the tuition as well as the current late registration penalty before the graduate school will approve their future enrollment.

All students will have their registration deactivated after an absence of two years and must petition the GSC to have their admission reactivated.

7.6 Candidacy Examination

The Candidacy Examination is a single examination consisting of two portions: written and oral. It is administered under the auspices of the GSC and is carried out by the student's Candidacy Examination Committee. The student's advisor chairs the Candidacy Examination Committee and is responsible for coordinating and conducting both the written and oral portions. The Candidacy Examination must take place during announced university business hours, Monday through Friday.

a. Purpose

The Candidacy Examination is a test of the doctoral student's knowledge of his or her field and allied areas of study, of the student's capacity to undertake independent research, and of his or her ability to think and express ideas clearly.

b. Schedule and Notification

The Candidacy Examination may be scheduled at any time thought appropriate by the student and his or her Advisory Committee, but it should not be taken until all course work on the Program of Study, excluding research hours, is completed. Further, it must be successfully completed no fewer than two semesters or one semester and a summer session before graduation. During the semester in which the examination is administered, the student must be in good standing (GPA 3.0 or higher) and registered for a minimum of three graduate credit hours.

Once the Candidacy Examination has been scheduled, the student must submit a Notification of Candidacy Examination form to the Graduate School (Section 7.1.b). This must be done no fewer than two weeks prior to the date of the oral portion of the examination. The form is countersigned by the Chair of the GSC to verify that the GSC has been notified of the dates of the written portion and the date, time, and location of the oral portion of the examination and the names of the Advisory Committee members prior to the beginning of the written portion.

c. Graduate School Representative

A Graduate School Representative is no longer routinely assigned to each candidacy exam. A Graduate Faculty Representative may be assigned to an initial candidacy exam at the request of the student and advisor. In this situation upon receipt of the Notification of Candidacy Examination Form by the Graduate School, the Dean of the Graduate School will appoint a representative of the Graduate School to the Candidacy Examination Committee. The Graduate School representative will be a Category P graduate faculty member who is neither a member of the ESGP nor a member of the student's Advisory Committee. Copies of all written exam papers

must be distributed to the Graduate School Representative no later than one week in advance of the oral portion. The Graduate School representative is a voting member of the Candidacy Examination Committee. The Graduate School Representative will submit a report to the Graduate School judging the quality of the examination. The Graduate School representative also reports to the Council on Graduate Studies.

d. Candidacy Examination Report

Once the Candidacy Examination Committee has been approved by the Dean of the Graduate School the Candidacy Examination Report form is sent to the advisor.

e. Written Portion

The Candidacy Examination Committee can choose between a traditional written exam and a grant proposal-based exam.

i. A traditional written exam is intended to assess the student's command of ideas, information, and methods related to the student's coursework, general background in science, and thesis research. It is expected that the written questions will test the student's capacity for independent thought and for integration of ideas and information across disciplines, as appropriate to an interdisciplinary graduate program. Portions of the written exam can be open or closed book questions at the discretion of each Candidacy Examination Committee member. It is expected that the student be able to answer the written questions submitted by each committee member in two days or less.

The written exams are evaluated and marked by the respective Candidacy Examination Committee members, but copies of all written exam papers must be distributed to all Committee members. Marked exam papers are returned to the student at least ten days prior to the scheduling of the oral examination. The student should meet with each Examination Committee member to review his or her performance on the written exam. Students should expect weaknesses in their written exam to be one of the focuses of questioning in the oral exam. The advisor should contact the Examination Committee members to establish whether the student's performance on the written exam is satisfactory or not.

ii. A grant proposal-based exam is intended to test the student's ability to explore and critically examine an area of literature, integrate information from different subject areas, and develop a formal plan of research using modern research tools and techniques. A member other than the student's advisor of the Candidacy Examination Committee is selected to formulate the topic of the research proposal in consultation with other Committee members. The research topic should reflect the student's general research area or interests, but it should not be closely related to the student's thesis research. The grant-based exam should not be construed as an opportunity for the student to write his or her thesis research proposal. The student may be invited to suggest research proposal topics. The student has 30 to 40 days to complete the written proposal. The proposal should follow the general format and style adopted by NSF, USDA, or other federal granting agencies. The proposal must be organized in such a way that it contains at least the following sections: abstract, background and significance, hypothesis, research objectives, experimental design and methods, anticipated problems and alternative approaches, and references. If in doubt about the style and organization, the student should consult the committee member who prepared the research topic. The body of the proposal is limited to 20 pages (double spaced) excluding the references. After completion, the student must give a copy of the proposal to each committee member along with an evaluation form at least ten days prior to the scheduling of the oral examination. The committee members will have one week to evaluate the merits and scientific content of the proposal. Copies of the marked proposal and the evaluation forms are returned to the advisor who will make them available to the student and make the evaluation forms available to each committee member. Using the evaluation forms, the committee members may request revisions or clarifications of the proposal document before the oral portion is scheduled. Such action does not constitute an unsatisfactory written portion of the Candidacy Examination.

When the evaluations are positive, the student can proceed to give the Graduate School the required two-week notice for the Oral Portion of the Candidacy Examination.

iii. If any Candidacy Examination Committee member rates the written portion of the Candidacy Examination as unsatisfactory, the advisor should discuss the situation with the student. If the advisor and the student come to a mutual understanding that not taking the oral part of the exam under these circumstances is to the best interest of the student, the student may want to delay the oral exam until he or she re-takes the failed exam and receives a satisfactory mark. However, the student has the right to take the Oral Portion of the Candidacy Examination even if the written portion is deemed unsatisfactory.

iv. Waiver: If, based on evaluation of the written portion, the Advisory Committee members see no possibility for a satisfactory performance on the Candidacy Examination, the student may waive the right to take the oral portion. The committee may not deny a student the opportunity to take the oral portion. If the student decides to waive the right to take the oral portion, he or she must provide the committee with a written request for the waiver. In such cases, the committee records an "unsatisfactory" on the Candidacy Examination Report and returns it with a copy of the student's waiver request to the Graduate School with a copy to the ESGP.

f. Oral Portion

The oral portion of the Candidacy Examination, normally two hours long, must be completed within one month of the conclusion of the written portion.

i. Attendance: Attendance at the oral portion of the Candidacy Examination is limited to the student and members of the Candidacy Examination Committee. All members of the committee must be in attendance during the entire oral examination, unless video conferencing has been approved by The Graduate School, and are expected to participate fully in the questioning, discussion, and decision-making.

ii. Postponement: The oral portion of the Candidacy Examination is expected to be held as scheduled. Circumstances, may force postponement. Before taking this action, the advisor must consult the student and the members of the Candidacy Examination Committee and must then notify the Dean of the Graduate School and the GSC of the new date, time, and location for the examination. Once formal questioning has begun, the examination must proceed to a voting conclusion.

g. Candidacy Examination Results

The decision regarding the outcome of the Candidacy Examination (including both written and oral portions) is reached by the full Candidacy Examination Committee at the conclusion of the oral portion in the absence of the student. After discussion, the satisfactory/unsatisfactory decision is made by vote.

i. Satisfactory: The student is considered to have completed the Candidacy Examination successfully only when the decision of the Examination committee is unanimously affirmative.

ii. Unsatisfactory: If there are one or more negative votes, the student's performance will be judged unsatisfactory. In such cases, the Candidacy Examination Committee must decide if the student will be permitted to take a second examination. This decision must be reported on the Candidacy Examination Report.

Members of the Examination Committee indicate their concurrence with the decision by signing the Candidacy Examination Report in the appropriate places, e.g. Satisfactory or Unsatisfactory. The Candidacy Examination Report is then submitted by the advisor to the Graduate School with a copy to the Chair of the GSC.

h. Second Candidacy Examination

The Candidacy Examination Committee will determine the nature of the second examination. The Examination Committee must be the same as for the original examination, unless the Dean of the Graduate School approves a substitution in advance. The second Candidacy Examination must be completed no later than two semesters or one semester and one summer session before graduation.

i. Repeat Examinations

No student is permitted to take the Candidacy Examination more than twice. Any student whose performance is recorded as unsatisfactory on two attempts at the Candidacy Examination is not permitted to continue enrollment in the ESGP or in any other doctoral program at The Ohio State University.

j. Review

On written appeal by the student or a member of the Candidacy Examination Committee, the Dean of the Graduate School will ask the Graduate School Grievance Committee to review the Candidacy Examination to ensure that it was conducted fairly and without prejudice to the student and according to the rules of the ESGP and the rules of the Graduate School as explained in the Graduate School Handbook.

7.7 Candidacy

Provided that the student is in good standing (Section 5.1) at the end of the semester or summer session in which the Candidacy Examination is completed, satisfactory completion of that examination admits the student to candidacy for the doctoral degree at the end of that semester or summer session. Candidacy signifies that the student is judged to be prepared to undertake work on the dissertation.

a. Time Limit

If a student fails to submit the approved final copy of his or her dissertation to the Graduate School within five years of being admitted to candidacy, candidacy is cancelled. In such cases, with the approval of the advisor, Advisory Committee, and GSC, the student may take a Supplemental Candidacy Examination. If this Supplemental Candidacy Examination is passed, the student is readmitted to candidacy and must then complete the degree within two years.

b. Candidacy Examination Report

Once the Candidacy Examination Committee has been approved by the Dean of the Graduate School the Candidacy Examination Report form is sent to the advisor.

7.8 Dissertation

The dissertation is a scholarly contribution to knowledge in the student's area of specialized research. Throughout the process of dissertation research and writing, the student is expected to demonstrate a high level of knowledge and the capability to function as an independent scholar.

a. Dissertation Plan

No later than the end of the semester or session in which the Candidacy Examination is passed, each student must file an approved dissertation plan signed by the student's advisor and all Dissertation Committee members with the GSC. The plan should be a one-page abstract.

b. Draft Approval and Notification of Final Oral Examination

The student must submit a completed, typed dissertation draft to his or her Dissertation Committee (Section 7.1.c) for review no fewer than three weeks prior to the date of the Final Oral Examination (Section 7.9). Approval of the dissertation draft indicates that the members of the Dissertation Committee judge it to be of sufficient quality to warrant holding the Final Oral Examination. Each Dissertation Committee member indicates approval of the dissertation draft by signing the Draft Approval/Notification of Final Oral Examination form that must be submitted to the Graduate School no later than two weeks before the date of the Final Oral Examination. Processing this form is the responsibility of the advisor. Once the Dean of the Graduate School approves the Final Oral Examination Committee, the Final Oral Examination Report is sent to the advisor (Section 9.9.4).

c. Format Review

The student must present the complete, typed dissertation draft to the Graduate School for format review at the time the Draft Approval form is submitted. The dissertation must conform to Graduate School format requirements as described in the *Guidelines for Preparing and Submitting Theses, Dissertations and D.M.A. Documents* available at the Graduate School.

7.9 Final Oral Examination

The Final Oral Examination tests originality, independence of thought, ability to synthesize and interpret, quality of research presented and contribution to the body of knowledge. The examination includes, but is not restricted to, discussion of the dissertation and will cover principles and historic perspectives as well as data.

The Final Oral Examination must be completed no fewer than sixteen days before graduation. The examination is administered by the Final Oral Examination Committee (Section 7.1.d), which is chaired by the advisor. It must take place during announced university business hours, Monday through Friday, and should last no more than two hours. The student must be registered for at least three credits during the semester or session in which the Final Oral Examination is administered and in the semester or session of graduation.

a. Graduate School Representative

Once the Final Oral Examination is scheduled, the Dean of the Graduate School appoints a Graduate School representative. This representative will be a Category P member who holds no faculty status in the ESGP and is not a member of the Dissertation Committee. No less than one week before the Final Oral Examination, the advisor must provide the Graduate School representative with a typed dissertation draft. In addition to being a full voting member of the Final Oral Examination Committee, the Graduate School representative reports his or her judgment on the quality of the examination, the dissertation and the student's performance to the Graduate School.

If the Graduate School representative judges the dissertation to be unsatisfactory, s/he will notify the student's advisor and the Dean of the Graduate School of that fact no later than one day prior to the Final Oral Examination. After consulting with the student and the members of the Dissertation Committee, the advisor may elect to hold the Final Oral Examination as scheduled or postpone it until the situation is resolved.

In cases where the Final Oral Examination is reviewed, the Graduate School representative reports to the Graduate Council on the fairness of the conduct of the examination and its conformity to Graduate School rules.

b. Postponement

Unless circumstances prompt the advisor to postpone it, the Final Oral Examination must be held at the time and place scheduled. Before taking such action, the advisor must consult with the student and the members of the Dissertation Committee, including the Graduate School representative and inform the GSC and the Dean of the Graduate School.

c. Attendance

All members of the Final Oral examination Committee must be present during the entire examination, unless permission to video conference has been approved by the Graduate School, and are expected to participate fully in questioning and discussion during the course of the examinations and in the decision on results at the end of the examination. Other faculty members and graduate students may attend the examination and ask questions but may not participate in the decision on performance.

d. Results

Immediately after the Final Oral Examination, the Examining Committee will meet alone to discuss the student's performance and determine the outcome. A decision on satisfactory or unsatisfactory performance will be determined by vote. Each examiner will indicate his or her judgment by signing the Final Oral Examination Report form in the appropriate place. This form is to be submitted by the advisor to the Graduate School with a photocopy to the GSC no later than the Wednesday two weeks prior to commencement. Failure to meet this deadline will result in the student being removed from the graduation list.

i. Satisfactory: The student is considered to have completed the Final Oral Examination successfully only when the decision of the Final Oral Examination committee is unanimously affirmative.

ii. Unsatisfactory: If one vote is negative, the student is considered to have performed unsatisfactorily. In such cases, the Committee must determine if a second Final Oral Examination will be permitted and what format that examination will take. This decision must be recorded on the Final Oral Examination Report form.

iii. Should the Graduate Faculty Representative cast the only negative vote, or find that the examination doesn't meet the required standards, the exam should be halted and referred to the Graduate School for review. The examination may then be rescheduled without prejudice to the student once the issues raised by the GFR have been satisfactorily resolved. (II.6.13.11.3)

e. Second Final Oral Examination

If a second Final Oral Examination is held, the Final Oral Examination Committee must be the same as the first Final Oral Examination unless the Dean of the Graduate School approves a substitution in advance. The second examination need not be open to persons other than the Final Oral Examination Committee.

f. Repeat Examinations

No student is permitted to take the Final Oral Examination more than twice. A student whose performance is recorded as unsatisfactory on two attempts at the Final Oral Examination is not permitted to be a doctoral candidate in the ESGP or in any other graduate program at The Ohio State University.

g. Review

On written appeal by the student or a member of the Final Oral Examination Committee, the Dean of the Graduate School will ask the Graduate School Grievance Committee to review the Final Oral Examination to ensure that it was conducted in conformity with the rules of the ESGP and the Graduate School, fairly and

without prejudice to the student. The Graduate Council has established review procedures that are available in the Graduate School.

7.10 Dissertation - Final

a. Approval

The final approval of the dissertation cannot occur until the Final Oral Examination has been completed satisfactorily and all changes required by the Final Oral Examination Committee have been incorporated. Each member of the Dissertation Committee indicates approval by signing the Final Approval form in the appropriate place. The advisor must submit this form to the Graduate School, with a photocopy to the GSC, no later than one week before commencement. The advisor must also sign the title page of the final copy of the dissertation.

b. Restricted Material

Dissertations must not contain material restricted from publication.

c. Submission

Beginning Autumn Quarter 2002, electronic submission is the only option for the Ph.D. dissertation.

One copy of the dissertation must be submitted to the Graduate School no later than one week before commencement. The dissertation must be submitted to the graduate school electronically through OhioLink. All dissertations are also archived with ProQuest/UMI. The student must also submit to the graduate school an abstract of 500 words or less for entry onto the OhioLink submission screen.

d. Abstract

A dissertation abstract of 500 words or less containing the principal findings of the student's research, must be submitted to the chair of the GSC no later than the fifth working day of the semester or session in which the Final Oral Exam will be scheduled. A hard copy of this abstract is to be submitted to the GSC of ESGP.

e. Fees

Fees for the doctoral hood, microfilming, and binding must be paid no later than one week before commencement and according to the procedure required by The Graduate School.

7.11 Research Seminar Requirement

Each doctoral student is required enroll to and attend the ESGP seminar for at least 3 semesters. During two of these semesters students are also expected to present a seminar. There are two types of seminar presentations: entry and exit presentations. The entry presentation should provide the student's tentative research plans, or the background to their work and hypotheses. The exit presentation should provide some results from their research work, which may be preliminary results from their research work, results and discussion from a technical paper they published, or final results that are included in the thesis. Students must present one entry and one exit seminar. It is preferable that the entry presentation will take place during the first year of study, and that the exit presentation will take place at some point during the last 3 semesters before graduation. The exit seminar must be presented at a different and later semester than the entry seminar. The chair of the GSC will not approve the "Application to Graduate" until the exit seminar presentation is scheduled. Failure to present the research seminar will be considered "lack of reasonable progress" and permission to graduate will be rescinded. Under

extraordinary circumstances, and pending a formal petition, the GSC may approve substituting an ESGP exit seminar presentation by a presentation made by the student at a different forum than the ESGP seminar.

7.12 Select Core Course Requirements

All Ph.D. students are required to complete at least six academic credits in each of the three select core areas:

1) SELECT CORE COURSES IN BIOLOGICAL SCIENCE -

The objective of this select core-course area is to ensure that students are familiar with the diversity and functioning of organisms and the interactions among species and between organisms and the environment. Because the environmental sciences focus on the relationships between living organisms and their environment, the basic principles of ecology and a solid understanding of ecosystems structure and function is the focus of the ESGP core. This understanding can be gained through coursework that focuses on a particular taxon or a particular kind of ecosystem, but must be broadly applicable to any environment.

2) SELECT CORE COURSES IN PHYSICAL SCIENCES AND ENGINEERING-

The objective of this core area is to provide an understanding of physical structure and processes in which ecosystems must function. Physical structure includes soil, water, air, geological media, climate, nutrients, and contaminants. Physical science processes include movement of “abiotic” matter and energy through ecosystems. Core courses must (1) study fundamental physical, hydrological, chemical, or biogeochemical processes and (2) study and emphasize the effects of physical structure and processes on ecosystem biotic components and function and the interactions between the biotic and abiotic components of the ecosystem.

3) SELECT CORE COURSES IN SOCIAL SCIENCES AND POLICY-

The objective of the social science core is to provide an understanding of concepts related to the study of human society and/or individuals and their relationships to the structure and function of the ecosystem(s) of which they are a part. Methodology includes a range of approaches, both qualitative and quantitative. Core social science courses must engage social science in a combined theoretical and/or applied study of a physical, cultural, regulatory, or economic relationship between humans and the natural and physical environment

A list of approved select-core courses in each area is provided in Appendix 1. Not all the courses on the list may be offered every year. The GSC may approve adding or removing courses from the list. Course instructors may appeal to the GSC to add courses to a select core area. Courses must satisfy the objectives of the select-core course in the area they are to be added to.

In extraordinary circumstances, students may petition the GSC to accept an alternative course that was completed by the student but is not on the list of select-core courses in Appendix 1, as a select-core course for their graduation requirements.

7.13 Application to Graduate

Any student planning to graduate must complete and submit the Application to Graduate form to the Graduate School no later than the third Friday of the semester (or third Friday of May session for summer session) in which graduation is expected. The application is good for that semester or session only. Submitting this application indicates that the student expects to complete all degree requirements by the end of that semester or session, including meeting all time deadlines. The student, his or her advisor, and the chair of the GSC must sign the application. The names of the members of the Dissertation Committee must be listed on the application.

7.14 Other Graduation Requirements

To qualify for graduation, students, must:

- a. Have fulfilled all requirements of the Graduate School and the ESGP as published in this handbook and the Graduate School Handbook, and
- b. Have final grades for all courses received in the Graduate School by the deadline published in the Master Schedule of Classes, and

8. GRADUATE ASSOCIATES

A Graduate Associate (GA) is a currently enrolled, full-time graduate student who holds an appointment calling for the performance of services such as classroom or laboratory instruction, advising or supervision of students, grading papers and examinations, research, developing curriculum materials, administrative duties, etc. Graduate Associates may be Teaching Associates (GTA), Research Associates (GRA), or Administrative Associates (GAA) according to the duties assigned. The employer determines GA duties. The instructor of the specific course to which an individual is assigned will determine the responsibilities and duties of a GTA. We expect that GTA appointments will be made at the department of the student's supervisor, and in a course that is agreeable by the supervisor and is appropriate to the student's background and skills. We expect the ESGP GTAs to carry all the responsibilities and privileges as the other GTAs at the department in which they are assigned to teach. GTA salary, in exception to the above, is set for all ESGP students and may not be equal to that of other department's students.

Normally, GA appointments will be at the 50% of full-time level with a service expectation of 20 hours per week. Under certain circumstances, appointments ranging from 25% to 75% are possible.

The ESGP will provide the funds for one year of GAA or GTA appointment for each graduate student during their degree program. In this context, a year of support includes 2 semesters of GA appointment and one summer fee waiver that is applicable only if the 2-semester appointment was done during the Fall and Spring semesters, consecutively, prior to the summer for which the waiver is sought (see terms of appointment, section 8.3, 8.7). This support is conditional upon:

- a. The availability of funds
- b. Good academic standing of the student
- c. A signed financial plan by the student's supervisor. Financial plans should be finalized before the final admission of the student. In order to qualify for ESGP funding of GA support, the supervisor must guarantee support for the student receiving the GA support during 2 years (for Ph.D. students) or 1 year (for M.S. students) additional to the 1-year GA support by the ESGP. ESGP-mediated fellowships (such as Fay, University Fellowships, or OARDC) are additional to and not in lieu of other ESGP GTA/GAA and supervisor commitments. Supervisor support may be in the form of Graduate Research Assistantship (GRA) or GTA in the supervisor's department.

8.1 Graduate Associate Needs

Faculty members should make known their needs for GTAs no later than February 1 proceeding the academic year in which the demand will occur. They are also encouraged to assume advocacy positions with the GSC and the ESGP administration in promoting the appointment of their advisees and other deserving students.

8.2 Procedures for Selecting Graduate Associates

Each year, before March 15, the GSC will review the credentials of all applicants and all continuing graduate students wishing GA appointments and provide the Director of the ESGP with a recommendation in the form of a ranked list of GA candidates. The GSC will also compile a file of GA applications and make it available to the

Director. Under normal conditions, the administration will make appointments according to the rank recommendations of the GSC, selecting the top student from the list who has the knowledge and skills needed in a particular position.

8.3 Term of Appointment

Normally, GAs are appointed for two semesters: Autumn, and Spring. The ESGP is unable to give students more than 2 semesters of GA support during their MS or Ph.D. tenure. Students should make an effort to get an RA with their advisor for as much as their tenure as possible.

Students who received 2 semesters of GTA or GAA support during their MS tenure would be eligible for additional 2 semesters if they continued into the doctoral program. This award is not automatic; such students must reapply for GA support once they enter the doctoral program, and must have completed all the M. S. thesis program requirements. They should reapply in writing to the Director of the ESGP no later than March 1 preceding the August that the appointment would take place. Summer session TA support is not available. The possibility of fee waiver for the summer session following a GA appointment is explained in section 8.7.

ESGP funds are not available for appointments as GRAs except in extraordinary circumstances, approved by the program director and following a written agreement between the program director and the student's advisor, that list the goals of the GRA, and the justification for funding from the ESGP.

8.4 Deadlines

The Director of the ESGP will make offers of GA positions in writing at the earliest practical date. A student receiving an offer must respond in writing to the Director within two weeks after receiving the offer, indicating his or her decision to accept or decline the offer. If no response is received from the student within this period, it will be assumed that the student has declined the offer.

8.5 Appointments and Reappointments

Once employment offers have been made and accepted, letters of appointment will be provided describing the terms of employment in greater detail. Subsequent reappointments will be based on satisfactory performance of assigned duties, academic good standing and reasonable progress, availability of funds, and will be in conformity with the rules of the Graduate School.

Students may not be appointed or reappointed to GAs if they are on probation at the time the appointment would become effective. A student holding a letter of appointment promising support for more than one semester may continue to hold the GA during the appointment period of that letter event if s/he is on probation after the initial appointment semester. Waiver of minimum eligibility requirements requires approval of the GSC and the Graduate School. Students desiring such waivers must petition the GSC.

The Director of the ESGP will notify the graduate student as soon as possible if a reappointment is not to be made and will indicate the reasons for the non-reappointment. In such cases, the student has two weeks to appeal the decision to the Director.

8.6 Stipends

Stipends offered to GAs will be consistent with policies adopted by the Graduate School and the ESGP. General practice has been to affect any raises on July 1 or when funds are available. An effort will be made to equalize Teaching, Research, and Administrative Associate stipend levels. Graduate faculty who are supporting graduate

students on RAs are urged to follow the pay scales used by the ESGP to minimize stipend differentials between ESGP-supported and grant- or contract-supported GAs.

It is the policy of ESGP that GAs are evaluated at the end of each semester of employment. Each GA is assigned an immediate supervisor who is required to provide a written evaluation at the end of each semester of service.

8.7 Fee Waivers

Students supported as GAs from school funds or funds coming from research grants and contracts carrying full overhead will be granted fee waivers during the semesters of appointments. A summer session full fee authorization will be available to graduate students holding a 50% or greater GA appointment for two consecutive semesters immediately prior to the summer session without being on appointment. Student must be enrolled at least 4 hours to use fee authorization in the summer with the exception of the post-candidacy student who is only required to be enrolled 3 hours. A graduate student who elects not to enroll during the summer session may not defer the use of the summer fee authorization. All students may enroll for up to three credit hours for the May session without charge if they were enrolled full time for the spring semester.

8.8 Working Days

GAs appointed for the academic year are expected to be available for duty 20 hours per week beginning one week before classes begin in August and until the end of the day Spring semester grades are due. GAs appointed on a one semester basis will be available for duty one week before the beginning of the semester of appointment and until the end of the day grades are due that semester.

GAs will receive all legal holidays as identified in the university calendar. Other arrangements can be made for special religious days not recognized by the calendar by consulting with their immediate supervisor and the Director of the ESGP. Additional rescheduling of workload may be accomplished by consulting in a timely manner with their immediate supervisor and the Director of the School.

8.9 Termination of Appointment

The appointment of a GA may be terminated if:

- a. S/he is no longer enrolled as a graduate student hours or is carrying fewer than eight graduate credits. (or 4 credits in the summer session, or 3 credits post candidacy).
- b. S/he completes the graduate program before his or her appointment expires,
- c. His or her performance is determined to be unsatisfactory, or
- d. There are insufficient funds to fund the position.

i. Early Termination of GA Appointment

Under extraordinary circumstances, a GA appointment may be terminated early (i.e. before the end of the appointment period). Section II.8.6.7 of the Graduate School Handbook sets forth the circumstances under which this can occur. Because such terminations can have serious consequences for the GA—loss of income, loss of medical benefits, loss of fee authorization support—the Graduate School wants to ensure that such actions are taken only after careful consideration and appropriate notice. GA appointments may be terminated prior to the end of the appointment period only with the written approval of the Graduate School.

8.10 Rights and Privileges

The constitutional rights of each graduate student, including GAs, are protected by due process. The Grievance Process has been established to protect those rights. Students should consult Section 10.2 for a description of the Grievance Process. The chair of the GSC is the initial point of contact for problem resolution and should be consulted for assistance with problems. Each student also has the right to consult with the University Ombudsman and officials of the ESGP and the Graduate School. Grievances should be resolved at the lowest administrative level.

9. PETITIONS AND GRIEVANCE PROCEDURES AND GUIDELINES

9.1 Petitions

A student may petition for relaxation of or modification to any rules in the handbook by first submitting a written petition to the GSC. Such a petition should contain at least the signature of the advisor; a letter of support from the advisor would strengthen the petition. If the GSC does not approve the petition, the student may make use of the petition procedures of the Graduate School (GSHB 11.8 and 12.1).

9.2 Grievance Procedures

Should any graduate student, advisor, or supervisor of a GA have a complaint, a thorough attempt should be made to resolve the problem through informal discussions. Thereafter, the following grievance procedure should be implemented:

a. If a problem remains after exhausting the informal process between the parties involved, the person having the unresolved complaint may file a grievance with the GSC. This is done by submitting a statement to the chair of the GSC describing the grievance. The GSC will then serve as the Graduate Studies Grievance Committee. The chair of the GSC will chair the Graduate Studies Grievance Committee unless personally involved, in which case the chair will be excluded from all deliberations on the matter, and the committee will select a chair from its remaining faculty members. Similarly, members of the GSC directly involved in the case will be disqualified from sitting on the panel for that specific case. In such circumstances, the Director of the ESGP will designate an alternate, when possible from the same area of expertise as the disqualified member. Student members will continue to serve as voting members of any grievance hearing and vote as prescribed for members of the GSC.

The chair of the Grievance Committee will set a hearing date no longer than two weeks after the grievance statement is received. All parties involved will be notified in writing of both the nature of the grievance and the date of the hearing.

b. At least 72 hours prior to a hearing, the chair of the Graduate Studies Grievance Committee will provide the following to all parties involved:

- i.** A written statement of the particular grievance,
- ii.** A written notification of the time and place of the hearing, and
- iii.** A copy of documents relevant to the grievance hearing.

c. Each party will appear in person to present his or her case. Each party is entitled to activate representation by counsel and may call witnesses in his or her behalf.

d. All parties will be entitled to an expeditious hearing. In emergency situations, as agreed upon after case review by the GSC, hearings will be as immediate as possible.

9.3 Graduate Studies Grievance Committee Decisions and Actions

The final decision of the Grievance Committee will be reported in writing to the parties involved and the Director of the ESGP no later than two weeks after the hearing. This report will detail the grievance and the subsequent findings, including a finding of either:

- a. **No Probable Cause:** There having been established no probable cause to credit the grievance, or
- b. **Probable Cause:** There having been established probable cause to credit the grievance.

The Director of the ESGP will direct the implementation of the resolution stipulated by the Grievance Committee.

9.4 Appeal of Decisions

Any appeal statement should be filed with the Director of the ESGP, the chair of the Grievance Committee, and the Dean of the Graduate School no later than two weeks following the issuance of the decision of the Grievance Committee. The appeal hearing will then be conducted in accordance with the rules and procedures of the Graduate School.

9.5 Scholarly and Research Misconduct by Graduate Students

a. **Scholarly Misconduct:** Falsification of research, deliberate misuse of facilities and data, plagiarism, and abuse of confidentiality within the context of research are examples of scholarly misconduct. The context is understood to include, but not be limited, to: dissertation research, thesis research, and research pursued as part of a fellowship while employed as a GA or while funded on any grant or contract.

The Graduate School, in coordination with the Graduate Council, has developed rules covering scholarly misconduct by graduate students. Students working as GRAs on projects using state or federal resources should be extremely attentive to the ideals and ethical principles of their disciplines and never put themselves into compromising positions that later might call into question their ethics and potentially result in the ruination of their careers.

Accusations of research misconduct by a graduate student should first be brought to the attention of the Dean of The Graduate School who appoints an Investigation Committee. If the Investigation Committee reports sufficient evidence indicating research misconduct to the Dean of the Graduate School, the Dean will forward their report to the Coordinator of the Committee on Academic Misconduct in the Office of Academic Affairs for a hearing.

Accusations of academic misconduct against students are reviewed by the University's Committee on Academic Misconduct, in the Office of Academic Affairs. *The Code of Student Conduct* (available on their web site) defines the expectations of students in the area of academic honesty.

b. **Academic Misconduct** includes, but is not limited to, cheating in a course(s) and on examinations, plagiarism in course work, violation of course rules, and the altering of course grades within the context of classroom and course work activities. Academic misconduct may occur in the following contexts: taking classes as a student, employment as a GTA (including teaching classes and grading tests/papers, etc.), and while completing the written section of Final Master's and Candidacy Examinations.

GA's are obliged to formally report all incidents of academic misconduct accordance with established university procedures. It is against the rules of the university faculty for anyone to issue failing grades for academic misconduct or to impose any other sanction before the full review process as required by Faculty Rules has been followed to completion. No faculty member shall expect or require any other behavior from any GTA. Accusations of academic misconduct by graduate students will be resolved according to the rules of the Committee on Academic Misconduct.

10. MISCELLANEOUS

10.1 Financial Assistance

Financial aids to graduate students are of two general types:

- a. Fellowships and Traineeships, national and local, administered through the Graduate School, and
- b. Administrative, Research, and Teaching Associateships administered by the ESGP or other department or unit on campus.

Each student who applies for admission to the Graduate School may simultaneously apply for an Associateship and Fellowship. This is done by indicating in the appropriate place on the application that financial assistance is requested. Students are also encouraged to write directly to faculty members for advice and information on the availability of research funds and other assistance.

10.2 Fellowships

Fellowship competitions are highly competitive and are largely restricted to entering graduate students. Successful candidates usually have overall grade-point averages above 3.6 on a 4-point scale and high scores on the Graduate Record Examination (GRE). Fellows pursue a full-time schedule of courses or research (12 hours per semester except summer session which is a 6 hour minimum) and are not required to teach or provide other services. Furthermore, they must maintain scholastic standards required to be in good standing and may not work on or off campus during the period of the fellowship. More than one fellowship may not be held simultaneously.

10.3 Graduate Associates

Graduate Teaching, Research, and Administrative Associate positions are described in Section 8.

10.4 International Student Finances

The U. S. Immigration and Naturalization Service (INS) requires the University Admissions office to certify the following for every international student:

- a. Student costs for educational expenses and year-round maintenance, and
- b. Funds available to the student through bank accounts (statements are required), affidavits of support, or financial awards made by the university

When financial awards are to be made to international students, either as fellowships, traineeships, or associateships, such information is to be communicated via the admissions database as soon as possible in order to allow students time to prove they have sufficient funds to study in the U.S.

Unless the international student applicant can provide documentation of sufficient funds either from personal resources or from the university they will not be formally admitted by The Graduate School.

10.5 Other Financial Assistance

The Student Financial Aids Office, administrates student employment, the work-study program, and loans. The Student Financial Aids Office serves only registered students and their spouses. Students in need of financial assistance should contact a counselor at the Student Financial Aids Office, 1st Floor, SAS Bldg., 281 W. Lane Ave. Columbus, OH 43210. Specific programs include:

a. The College Work-Study Program under the Economic Opportunity Act of 1964 provides financial aid through employment to college students who, without such assistance, would not be able to attain a higher education. Detailed information and applications are available in:

4th Floor, SAS Bldg.
281 W. Lane Ave.
Columbus, OH 43210

b. Veteran's Administration Educational Benefits are available to veterans. Interested students should write to:

Veterans Administration
Federal Office Building
1240 East Ninth Street
Cleveland, OH 44199

<http://www.vba.va.gov/ro/central/cleve/index.htm>
cleveland.query@vba.va.gov

Or visit his or her local Veterans Administration office. Veterans should proceed with registration in the university in the same manner as prescribed for all students. Further information may be obtained from:

The Office of Veterans Affairs
The Ohio State University
1590 N High St, Suite 300
Columbus, OH 43210

Veterans wishing assistance with other programs are encouraged to consult with the Office of Veterans Affairs.

10.6 Office for Disability Services

Students with any disabilities who may require special assistance are encouraged to contact:

The Office for Disability Services
150 Pomerene Hall
1760 Neil Avenue
Columbus, OH 43210

This office coordinates physical and academic support services and accommodations for individuals who have special needs as a result of a permanent or temporary disability. Individuals eligible for service include, but are not limited to, those with mobility, hearing, visual, speech, or learning disabilities.

10.7 Nondiscrimination Policy

The policy of The Ohio State University, both traditionally and currently, is that discrimination against any individual for reasons of race, color, creed, religion, sex, sexual orientation, national origin, age, handicap or Vietnam-era veteran status is specifically prohibited.

Most recent handbook update: June, 2014

Appendix I - Select Core Courses

This list may grow in size. Any faculty member who would like to request a course be added to the ESGP core course list is asked to submit a current course outline to the ESGP office for consideration by The Graduate Studies Committee. Students may also suggest courses as long as they have informed the instructor of their intention and it meets with the instructor's approval. The student also must submit a course outline to the ESGP office for consideration by The Graduate Studies Committee. Those submitting requests should also state in their request how the course meets the requirements as listed under each core area.

SELECT CORE COURSES IN BIOLOGICAL SCIENCE

The objective of this select core course area is to ensure that students are familiar with the diversity and functioning of organisms and the interactions among species and between organisms and the environment. Because the environmental sciences focus on the relationships between living organisms and their environment, the basic principles of ecology and a solid understanding of ecosystems structure and function is the focus of the ESGP core. This understanding can be gained through coursework that focuses on a particular taxon or a particular kind of ecosystem, but must be broadly applicable to any environment.

Agricultural Systems Management

ASM 5786, Environmental Issues in East Asia, Sp semester, 3 semester hrs

Environment and Natural Resources

ENR 5250.01, Wetland Ecology Restoration, 3 semester hrs and ENR 5250.02 Wetland Field Laboratory, 1 semester hr. Au semester

ENR 7333, Successional Dynamics of Forests, Sp semester 2014, 3 semester hrs

ENR 5560, Rehabilitation/Restoration of Ecosystems, Au semester, 3 semester hrs

ENR 6610, Soil and Environmental Biochemistry, Sp semester, 2 semester hrs

ENR 5225, Ecosystems Modeling, 3 semester hrs

ENR 5263, Biology of Soil Ecosystems, Sp semester, 3 semester hrs

Entomology

ENTMLGY 6410, Insect Ecology and Evolutionary Processes, Au semester, 3 semester hrs

ENTMLGY 6701, Biodiversity Analysis for Ecosystem Sustainability and Resilience, Au semester, 2 semester hrs

ENTMLGY 6704, System Analysis, from Molecules to Ecosystems, 2 semester hrs

Environmental Engineering

ENVENG 7217, Applied Mathematical Ecology, 4 semester hrs

Public Health

PUBH EHS 6320, Global Health and Environmental Microbiology, Au semester, 3 semester hrs

PUBH EHS 7360, Water Contamination: Sources and Health Impact, 3 semester hrs

Evolution, Ecology and Organismal Biology

EEOB 5420, Aquatic Ecosystems - Ecology of Inland Waters, 4 semester hrs

EEOB 5470, Community and Ecosystem Ecology, Sp semester, 3 semester hrs

EEOB 4410, Conservation Biology, Sp semester, 3 semester hrs

EEOB 6210, Ecotoxicology, 3 semester hrs

Microbiology

MICRO 5150, Microbial Ecology, Au semester, 3 semester hrs

MICRO 5155, Environmental Microbiology, 3 semester hrs

Horticulture and Crop Science

HCS 5602, The Ecology of Agriculture, Au semester, 3 semester hrs

SELECT CORE COURSES IN PHYSICAL SCIENCES AND ENGINEERING

The objective of this select core area is to provide an understanding of physical structure and processes in which ecosystems must function. Physical structure includes soil, water, air, geological media, climate, nutrients, and contaminants. Physical science processes include movement of “abiotic” matter and energy through ecosystems. Core courses must (1) study fundamental physical, hydrological, chemical, or biogeochemical processes and (2) study and emphasize the effects of physical structure and processes on ecosystem biotic components and function and the interactions between the biotic and abiotic components of the ecosystem.

Environment and Natural Resources

ENR 5222/FABENG 5310/ENVENG 5180 , Ecological Engineering and Ecosystems Restoration, Sp semester, 3 semester hrs

ENR 5273, Environment Fate and Impact of Contaminants in Soil and Water, Sp semester, 3 semester hrs

ENR 5261, Environmental Soil Physics, Sp semester, 3 semester hrs

ENR 5262, Soil Chemical Process and Environmental Quality, Au semester, 3 semester hrs

ENR 5260, Soil Landscapes: Morphology, Genesis and Classification, Au semester, 3 semester hrs

ENR 5268, Soils and Climate Change, Sp semester, 2 semester hrs.

Food, Agriculture and Biological Engineering

FABENG 5310/ENR 5222/ENVENG 5180, Ecological Engineering and Science, 3 semester hrs

FABENG 5550, Design of Sustainable Waste Management Systems, Sp semester, 3 semester hrs

FABENG 5320, Agroecosystems, Sp semester, 3 semester hrs

Geography

GEOG 5900, Climatology, Sp semester, 3 semester hrs

Earth Sciences

EARTHSCI 5651, Hydrogeology, Au semester, 4 semester hrs

EARTHSCI 5621, Introduction to Geochemistry, Au semester, 3 semester hrs

EARTHSCI 5718, Aquatic Geochemistry, 3 semester hrs

Civil and Environmental Engineering

CIVENV 5130, Applied Hydrology, 3 semester hrs

ENVENG 5110, Environmental Biotechnology, 3 semester hrs

ENVENG 6100, Analytical Methods in Environmental Engineering, Sp semester, 3 semester hrs

ENVENG 5180/FABENG 5310/ENR 5222, Ecological Engineering and Science, 3 semester hrs

ENVENG 5410, Hazardous Waste Management and Remediation, 2 semester hrs

ENVENG 5430, Principles of Risk Assessment, Sp semester, 3 semester hrs

Chemical and Biomolecular Engineering

CBE 5771, Air Pollution, 3 semester hrs

Chemistry

CHEM 6550, Atmospheric Chemistry, 3 semester hrs

SELECT CORE COURSES IN SOCIAL SCIENCES AND POLICY

The objective of the social science select core is to provide an understanding of concepts related to the study of human society and/or individuals and their relationships to the structure and function of the ecosystem(s) of which they are a part. Methodology includes a range of approaches, both qualitative and quantitative. Core social science courses must engage social science in a combined theoretical and/or applied study of a physical, cultural, regulatory, or economic relationship between humans and the natural and physical environment

Environment and Natural Resources

ENR 7520, Environmental Science and Law, Au semester, 3 semester hrs

ENR 5451, Water Law, Sp semester, 3 semester hrs

ENR 7500/CRP 7500, Resolving Social Conflicts, Au semester, 3 semester hrs

ENR 7380, Climate and Society, Au semester, 3 semester hrs

ENR 8350, Ecosystems Management Policy, Au semester, 3 semester hrs

ENR 5325, Public Forest and Lands Policy, Sp semester 2014 (even years only), 3 semester hrs

ENR 7400 Communicating Environmental Risk, Sp semester, 2 semester hrs

RURLSOC 5530, Sociology of Agriculture and Food Systems, Au semester, 3 semester credits

RURLSOC 7560, Environmental Sociology, Sp semester, 3 semester hrs

RURLSOC 7550, Rural Community Development in Theory and Practice, Sp semester, 3 semester hrs

Agricultural, Environmental and Developmental Economics

AEDECON 6300/ENR 5310, Environmental and Resources Economics, Sp semester, 3 semester hrs

AEDECON 5330, Benefit-Cost Analysis, Au semester, 3 semester hrs

Public Affairs

PUBAFRS 6000, Public Policy Formulation and Implementation, Sp semester, 4 semester hrs

PUBAFRS 6080, Public Affairs Program Evaluation, Sp semester, 4 semester hrs

City and Regional Planning

CRPLAN 6300, Law and Planning I: Land Use, Sp semester, 3 semester hrs

CRPLAN 6310, Law and Planning II: Environment and Society, Sp semester, 3 semester hrs

CRPLAN 6410, Planning for Sustainable Development, Au semester, 3 semester hrs

CRPLAN 6400, Site Planning and Development, Au semester, 3 semester hrs

CRPLAN 7500/ENR 7500, Resolving Social Conflicts, Au semester, 3 semester hrs

CRPLAN 7270, Environmental and Energy Modeling, 3 semester hrs

Anthropology

ANTHROP 5623, Environmental Anthropology

ANTHROP 5614, Ethnobotany

Last updated 6/22/14

Appendix II: ESGP Annual Evaluation Form

Student: _____
 Date Audit Completed: _____

Required:

Masters = 3 seminars attended, entry + exit presentation; a total of 3 semester credit hours from each core;
 30 total credit hours

PhD = 3 seminars attended, entry + exit presentation; a total of 6 semester credit hours from each core;
 80 total credit hours

Semester attended:

ESGP Seminar 1 (7899)	ESGP Seminar 2 (7899)	ESGP Seminar 3 (7899)

Proposal presentation date _____ Exit presentation date _____

Biological Sciences	Semester/ Yr.	Physical Sciences & Engineering	Semester/ Yr.	Social Sciences & Policy	Semester/ Yr.

Total course credit hours completed (+currently attended) to date: _____

Total research credit hours completed (+currently attended) to date: _____

Conference presentations/publications in current academic year:

Fellowships and awards in current academic year:

Benchmark dates (include if relevant and completed):

Advising report submitted	Qualifying exam	Planned thesis defense

Advisor: _____
 Department Name Signature Date