State University of New York
College of Environmental Science and Forestry

GRADUATE PROGRAM
IN
ENVIRONMENTAL SCIENCE

Doctor of Philosophy
(Ph.D.)
Degree

HANDBOOK

2004 - 2005

TABLE OF CONTENTS

I. INTRODUCTION

Welcome to the Graduate Program in Environmental Science (GPES) which, along with the undergraduate Environmental Studies Program, and the Randolph G. Pack Environmental Institute, is managed by the Faculty of Environmental Studies. We are delighted that you have joined a unique set of graduate students, faculty, and researchers who share a deep concern for the development and application of multidisciplinary approaches to the stewardship of our natural and built environments.

The operation of GPES is moderately complex. This is a result of the diversity of student backgrounds, the participation of faculty from across the College and Syracuse University, and the curricula design which balances a Core, with Area-of- Study depth, and individualized synthesis.

Hierarchically, the State Education Department and S.U.N.Y. establish basic policy for all graduate programs. Within E.S.F, a comprehensive set of Graduate Policies have been adopted by the College Faculty. These are published in the College Catalog. The policies and the procedures which implement College policy are contained in "Graduate Academic Policies and Procedures - Faculty Handbook" (GAPP). These are available for review with your major professor. Internally GPES has evolved a number of specific policies, procedures, and guidelines for the effective delivery of the program.

This Handbook is intended as our primary guide to GPES for both students and faculty. In keeping with the policy orientation of our program it is appropriate and desirable for all participants to periodically both question why a certain requirement or procedure exists, and to offer constructive criticism through the Faculty's governance structure or informally via discussion. It is only through this dynamic exchange that GPES will continue to evolve and prosper.

Please Note: as of Academic Year 2001-2002 there is a new Ph.D. ONLY area-of-study: Environmental and Natural Resource Policy which is described at the beginning of Appendix B. This area-of-study shares the resources of both the Faculty of Environmental Studies and Forest and Natural Resources Management.

II. REQUIREMENTS FOR THE Ph.D. DEGREE

This guide summarizes program requirements and advice for students in the Environmental Policy and Democratic Processes (EPDP) study area of the Graduate Program in Environmental Science (GPES). It may be used as a guideline for program planning for doctoral students in other GPES study areas.

Definition

A. Policy - A formal written statement of organizational purpose and course of action.

B. Procedure - A formal written set of required steps to implement a policy.

C. College Policy and Procedures - Described in the College Catalog 2004-2005.

D. G.P.E.S. Policy and Procedures - These are contained in this document. Changes to policy are by formal approval of the study area faculty. Individual modifications of the policy may be done by formal petition.

E. Guideline - These are recommendations, not requirements. They may be interpreted by the Major Professor and steering committee as best fits the individual situation without petitions.

Academic Planning

The development of an academic plan is a continuing responsibility of the student and associated faculty which is critical to the successful and timely completion of a Ph.D. program. The planning process addresses two complementary but distinct educational objectives: adequate preparation for and successful completion of the Doctoral Candidacy Exam; and the development and approval of the dissertation research proposal. Students will be assigned a Major Professor upon admission. An initial steering committee will be formed in the first semester of matriculation.

Coursework and the Academic Plan

The Ph.D. including the prior Masters degree (30 credit hours or more) requires the completion coursework only (not MS thesis credit) of a minimum of 60 credit hours (College Policy). E.P.D.P. requires a minimum of 48 cr. hrs. of coursework, excluding thesis or dissertation.

Doctoral Candidacy Examination

The student may request, with the consent of the steering committee, to take the Candidacy exam after completion of 48 hrs credit of coursework. The purposes of the exam are to determine depth and breadth in EPDP including how social science knowledge is developed. The form of the exam will be selected by the examination committee following College Policies.

Research Proposal

Doctoral students are required to produce a research proposal which must be approved and signed by the Steering Committee. Timing for producing the proposal is determined in consultation with the Major Professor. A copy of the approved proposal is to be informally bound (e.g., plastic binding) and placed on file in the Environmental Studies Office. We expect that the student will offer a public presentation of the research proposal through the program's seminar series. A PROPOSAL APPROVAL FORM must be completed (see page 8).

Capstone Seminar

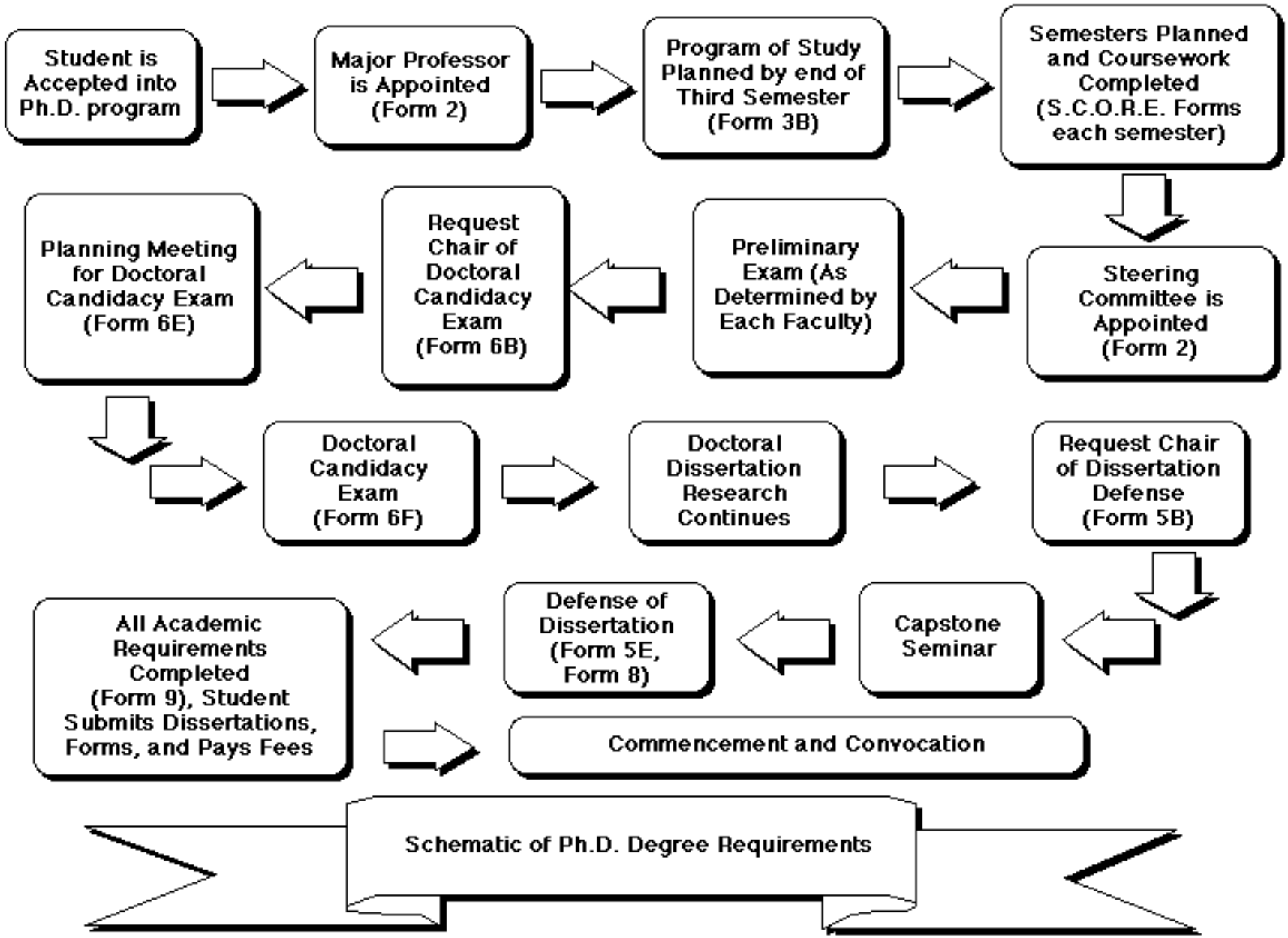
The College's capstone seminar, which presents results of dissertation research to the academic community, required of all doctoral candidates. The seminar frequently is delivered, presented or scheduled immediately preceding the Dissertation Defense Examination.

Dissertation Defense Examination

The examination is conducted by the student's Steering Committee and one or more additional Examiners (a total examining committee of five persons), under the supervision of an Examination Chair appointed by the Dean of Instruction and Graduate Studies. Students are advised to work closely with the Major Professor to schedule meetings and meet deadline.

Schematic Diagram

See the diagram on the following page for an overview of program requirements and progress toward the degree.


Student is Accepted into Ph.D. program
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Program of Study Planned by end of Third Semester (Form 3B)
Semesters Planned and Coursework Completed (S.C.O.R.E. Forms each semester)
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Defense of Dissertation (Form 5E, Form 8)
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Schematic of Ph.D. Degree Requirements

NOTES

1. The Steering Committee "is composed of the major professor and at least two faculty members or other qualified persons." See the College Catalog 2004-2005.

2. The Steering Committee "should be appointed within the first semester". The Steering Committee" must be established and must have met by the end of the third semester of graduate study.

3. The Defense Committee "consists of members of the steering committee, and at least one additional faculty member" as Examiner. The Dean of Instruction and Graduate Studies appoints a committee Chair who is not from the student's degree program. See the College Catalog 2004-2005.

4. "Form 5B should be submitted to the Dean's office, according to academic year deadlines.

5. The student "must inform the Dean's office of the agreed upon date, time, and location for the defense at least two weeks in advance of the defense date." Form 5A.

6. One final copy must be delivered to each member of the Defense Committee, including the Chair, at least seven (7) days prior to the scheduled defense date Form 5A. The student should be aware that Syracuse University faculty serving on the committee may require the delivery of their copies at least fourteen (14) days prior to the defense.

Ph.D. TRACKING SHEET

Student: ______________________ **Semester Entered:** ______________

Phone: ______________ **Email:** ______________ **Area:** ______________

Semester:

Course	Cr. Hrs.	Grade GPA	Seminars	App. Soc. Sci.	Env. Sci.	Methods	Study Area	Diss.
Totals:								
Cumulative Totals:		/3.0min						

Semester:

Course	Cr. Hrs.	Grade GPA	Seminars	App. Soc. Sci.	Env. Sci.	Methods	Study Area	Diss.
Totals:								
Cumulative Totals:		/3.0min						

Semester:

Course	Cr. Hrs.	Grade GPA	Seminars	App. Soc. Sci.	Env. Sci.	Methods	Study Area	Diss.
Totals:								
Cumulative Totals:		/3.0min						

Semester:

Course	Cr. Hrs.	Grade GPA	Seminars	App. Soc. Sci.	Env. Sci.	Methods	Study Area	Diss.
Totals:								
Cumulative Totals:		/3.0min						

PROGRAM ADMINISTRATION

Student: _____ **Semester Entered:** _____

Degree: Ph.D. ☐ M.S. ☐ M.P.S. ☐ Area of Study:

Address: _____

_____

_____

Phone: _____ **Email:** _____

Deficiencies: _____ **Semester Remedied:** _____

_____ _____

_____ _____

Administrative Requirements Completed:

3B Form ☐ Yes Date: _____

Thesis/Internship Proposal: ☐ Yes Date: _____

Title: _____

_____

_____

Steering Committee:

1) _____ Phone _____
2) _____ Phone _____
3) _____ Phone _____
4) _____ Phone _____

Examiners (M.S., Ph.D. only):

1) _____ Phone _____
2) _____ Phone _____
3) _____ Phone _____
4) _____ Phone _____

Defense/Exam Chair (M.S., Ph.D. only):

_____ Phone _____

Capstone Seminar: ☐ Yes Date: _____ Time and Location: _____

TA/RAs Held:

Semester	_____	Course / Project	_____	Supervisor	_____
Semester	_____	Course / Project	_____	Supervisor	_____
Semester	_____	Course / Project	_____	Supervisor	_____
Semester	_____	Course / Project	_____	Supervisor	_____
Semester	_____	Course / Project	_____	Supervisor	_____
Semester	_____	Course / Project	_____	Supervisor	_____

Graduate Program in Environmental Science
PHD DISSERTATION PROPOSAL APPROVAL FORM

Approval of Proposals

Students are required to prepare a Ph.D. Dissertation Proposal. This proposal must be formally approved by the student's Major Professor and Steering Committee using this form (below) for signatures with a copy of the proposal attached.

Although progress in developing a proposal may vary from student to student, students are normally required to produce an approved proposal before registering for more than 3 credits of ENS 999 Dissertation Research.

Content of Proposals

Proposals will vary in content according to the nature of the planned research. In general, these should be succinct statements of research plans, normally about 10 pages in length, describing the planned work as follows:

1. Tentative title.
2. Research objective or hypothesis.
3. Background. A brief statement summarizing pertinent literature.
4. Key data or information sources.
5. Method of analysis.
6. Expected results.
7. Timetable for research, writing, and defense examination.
8. Brief bibliography.

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PROPOSAL APPROVAL

Student Name: ______________________________

Dissertation Title: ______________________________

Approved:

Major Professor ______________________ Date ______________

Committee Member ______________________ Date ______________

Committee Member ______________________ Date ______________

A copy of the approved proposal should be affixed to this form, and copies of this document with attached proposal should be provided to each of the above signers, and to the Environmental Studies Office, 107 Marshall Hall.

7 / 2004

III. FACULTY GOVERNANCE

A. Environmental Studies

The Environmental Studies Faculty is organized with an Executive Committee, and two standing Committees: Undergraduate, and Graduate. The Graduate Committee includes the Program Director, instructors of record of the core courses, coordinators for each Area of Study, and a student representative. Its role is to monitor the program's effectiveness, and to develop proposals for the consideration of the full Faculty. In 1994 the Faculty amended its bylaws to formally permit student membership. The text of this section III D is contained below.

"III.D. Student Representation to Faculty Meetings"

1. GPES Student representatives to the Faculty Meetings must be full-time students.

2. Representation to Faculty Meetings shall consist of two students: one GPES Ph.D. student and one GPES Masters student.

3. Student representatives will serve a one-year term and have the following responsibilities:

   a. Each representative is expected to attend all Faculty Meetings and must inform other representatives and the Faculty Chair if unable to do so.

   b. Each representative may vote on Faculty Meeting agenda items with one vote per student representative. Graduate student representatives will not vote on matters that are exclusively undergraduate.

   c. Each student representative is expected to serve as a liaison between the graduate student constituency and ES Faculty.

4. Selection of Student Representatives.

   a. A meeting will be announced early in the Fall semester by the Graduate Program Director. The purpose of this meeting is to inform graduate students of representatives' responsibilities and choose graduate student representatives.

   b. The list of Student Representatives to Faculty Meetings will be presented to the Faculty Chair no later than October 1.

B. Areas of Study

GPES' primary vehicle for engaging multidisciplinary subjects is the Area of Study. These represent the loci of faculty research and scholarship interests which have been formally approved by the Faculty. Minimum thresholds include three active faculty including a coordinator, and five graduate E.S.F. courses. Areas of Study are periodically revised to reflect evolving interests and resources. Areas of Study are structured as standing subcommittees, with a coordinator, and participating Major Professors. Subcommittees may have student members.

All students in GPES are admitted directly into an Area of Study. Students are strongly encouraged to network with their peers and to actively participate in their Area of Study.

IV. RESOURCES

Environmental Studies has limited staff, facility, and financial resources. Over the past few years we have developed management approaches for their effective and equitable utilization.

A. Environmental Studies Office Suite 106-107 Marshall Hall

The suite has three primary segments: Production Staff, Records and Communications, and the Chair's Office. The Office maintains files (unofficial) of student records, folders of job and research announcements, course syllabi, and internship requests. It maintains a collection of GPES Thesis, Dissertations, Research Proposals, and Internship Reports which are available for reference.

Most students at some time during their studies encounter problems of a personal or academic nature for which they require assistance. An early full discussion of the situation and options is often the key to their resolution. Major Professors, the GPES Director, and the Faculty Chair are all available to facilitate this process. Office staff can assist in making appointments as necessary.

B. Conference Room 105 Marshall Hall

The Conference Room is the setting for Faculty Meetings and GPES seminars, including graduate students' capstone seminars. The room may be scheduled for student meetings. During unscheduled periods it is available for informal graduate student discussions and study. Stored in the conference room are the Faculty's Slide Projector, VCR, TV, Laptop Computer, and LCD Projectors which may be borrowed by graduate students for class presentations.

GPES Mailboxes - Outside 105 Marshall Hall

These are the primary mechanism for internal College and Faculty communications. Students should make it a practice to visit their box at least once a week. The mailboxes should not be used to receive U.S. Mail, and the GPES Office Staff cannot receive personal phone messages for students.

C. Office Space

It has been the general practice of the College that graduate students are provided with a desk space on an as-need basis. Because of limited facilities and the flux of students in residence, the assignment of such space usually takes a few weeks each fall. Students whose Major Professor's primary appointment is on another Faculty, should first ask for space available from that group. GPES has space for approximately 22 students available in B7 Marshall Hall and 406 Bray Hall. The Office Staff maintains a list of requests and vacancies. Periodically, GPES arranges with other Faculties to use surplus space on a semester by semester basis.

D. Assistantships

There are two basic forms of assistantships, Graduate (GA), and Research (RA). GA's are awarded by the College each year based on Faculty recommendations. They are primarily used for Teaching Assistantships in undergraduate and graduate courses. In 2003-2004 GPES had 17 semester positions for its approximately 70 graduate students. Each spring students who will be returning in the Fall are notified by the GPES Director of the projected GA allocation and

requested to formally apply. Incoming admitted students are also included in the selection process. A faculty committee prioritizes the applications for administrative action.

As a graduate-research College ESF is involved in numerous externally funded projects most of which involve RA's. Each project is managed by a Principal Investigator who has the responsibility of selecting staff. GPES has no direct involvement in this process. Students interested in RA's should discuss opportunities with their Major Professor, and the Pack Institute Director. Throughout the year the Graduate Office and Research Office circulate research, fellowship, and internship announcements. Students should periodically check their mailboxes, the appropriate ES folders, and the ES bulletin board.

The Edna Bailey Sussman Fund provides stipends to support graduate student summer internship experiences. The Fund has supported approximately 20 ESF students per year, about one-quarter of whom have been GPES students. Sussman supports a broad range of interest areas, from environmental policy, regulation and communication to various environmental sciences. Sussman applications are treated competitively; awards are usually in the range of $4,800 for full-time internship employment. Applications must be filed by the annual application deadline, usually in early March. Awards are announced in early May. Proposal guidelines are available in February from the Office of Instruction and Graduate Studies located in 227 Bray.

APPENDIX A

ENVIRONMENTAL STUDIES FACULTY AND STAFF

106 Marshall Hall
315-470-6636

Staff:

PATRICIA A. GIBEAULT (Pat)
107 Marshall Hall, 470-6528
Secretary for Graduate Program / Receptionist

PATRICIA L. KIELECKI (Patty)
106 Marshall Hall, 470-6636
Secretary for Chair / Undergraduate Program

Faculty:

RICHARD C. SMARDON, Chair and Graduate Director
(Wetland Assessment, Public Participation, Decision Making).
106 Marshall Hall, 470-6576

BETTY B. FAUST (Community Development / Anthropology).
114 Bray Hall, 470-6572

JOHN P. FELLEMAN (Environmental Decision Making, Information Policy).
108B Marshall Hall, 470-6550

MYRNA H. HALL (GIS, Ecological Planning, Carbon Sequestration).
303 Illick Hall, 470-4741

PATRICK J. LAWLER (Environmental Communication).
13C Moon Library, 470-6914

JACK P. MANNO (Sustainable Development, Ecological Economics, Great Lakes Policy).
24 Bray Hall, 470-6720

MARK S. MEISNER (Environmental Discourse and Communication).
112 Marshall Hall, 470-6908

SHARON D. MORAN (Environmental Policy, Government and Water Resources).
113 Marshall Hall, 470-6990

BRENDA J. NORDENSTAM (Risk Perception and Analysis).
108A Marshall Hall, 470-6573

SUSAN L. SENECAH (Environmental Communication and Policy).
109 Marshall Hall, 470-6570

Participating Faculty:

ELIZABETH W. BOYER – Water and Wetland Resources
204 Marshall Hall, 470-4818
(Watershed Hydrology and Management Biogeochemistry).

EMANUEL J. CARTER – Environmental and Community Land Planning
312 Marshall Hall, 470-6665
(City Planning, Urban Design, Rural Development, Design History and Theory).

ELEN M. DEMING – Environmental and Community Land Planning
310 Marshall Hall, 470-6556
(Landscape History and Design)

CHERYL S. DOBLE – Environmental and Community Land Planning
322 Marshall, 470-6553
(Community Design and Planning: Public Participation in Decision Making Process; Rural Planning and Land Use Management).

THEODORE A. ENDRENY – Water and Wetland Resources
207 Marshall Hall, 470-6565
(Watershed Modeling).

DONALD W. FLOYD – Environmental and Natural Resource Policy
306 Bray Hall, 470-6691
(Natural Resources Policy, Conflict, Social and Political Aspects of Ecosystem Management).

CHARLES A. HALL – Environmental Systems and Risk Management
354 Illick Hall, 470-6812
(Systems Ecology).

JAMES M. HASSETT – Environmental Systems and Risk Management
316 Bray Hall, 470-6637
(Environmental Modeling, Waste Management, Public Policy and Environmental Regulation, Energy Resources, and Systems).

RICHARD S. HAWKS – Environmental and Community Land Planning
331 Marshall Hall, 470-6541
(Community Design and Planning; Natural Resource Information in the Land Use Design Process).

LEE P. HERRINGTON – Environmental Systems and Risk Management
424 Bray Hall, 470-6674
(Forest Management-Computers, Micrometeorology).

DAVID L. JOHNSON – Environmental Systems and Risk Management
419 Jahn Lab, 470-6829
(Particle Analysis, Analytical Methods, Heavy Metals).

CHARLES N. KROLL – Environmental Systems and Risk Management & Water and Wetland Resources
309 Bray Hall, 470-6825
(Decision Analysis).

DONALD J. LEOPOLD – Water and Wetland Resources
333 Illick Hall, 470-6784
(Effect of Natural and Anthropogenic Disturbances on Plant Community Composition, Structure, and Processes. Restoration of Functional Communities. Habitat Management for special concern plant species. Northern Peatland Ecosystems).

KARIN E. LIMBURG – Water and Wetland Resources & Environmental Systems and Risk Management
249 Illik Hall, 470-6741
(Limnology, Watershed Ecology).

VALERIE A. LUZADIS – Environmental and Natural Resource Policy
307 Bray Hall, 470-6693
(Natural Resource Economics).

ROBERT W. MALMSHEIMER – Environmental and Natural Resource Policy
303 Bray Hall, 470-6909
(Environmental Law and Policy).

MYRON J. MITCHELL – Environmental Systems and Risk Management
210 Illick Hall, 470-6765
(Biogeochemistry of Forest and Aquatic Ecosystems; Decomposition Processes; Stable Isotopes).

TSUTOMU NAKATSUGAWA – Environmental Systems and Risk Management
110 Illick Hall, 470-6767
(Toxicology, Insect and Vertebrate Toxicology, Microbiology).

JAMES F. PALMER – Environmental and Community Land Planning
334 Marshall Hall, 470-6548
(Landscape Perception, Design Evaluation, Social Impact Assessment, Environment and Behavior Research Methods).

ANDREW D. SAUNDERS – Environmental Communication and Participatory Processes
355 Illick Hall, 470-6759
(Environmental Interpretation).

RUDOLPH M. SCHUSTER – Environmental and Community Land Planning
210 Marshall Hall, 470-4863
(Ecological and Recreational Planning).

S. SCOTT SHANNON – Environmental and Community Land Planning
323 Marshall Hall, 470-6537
(Community Design and Planning; Rural, Traditional, and Neo-Traditional Community Form; Historic Landscape Preservation; Computer Applications and Design Simulation).

JOHN E. WAGNER – Environmental and Natural Resource Policy
304 Bray Hall, 470-6971
(Environmental Economics, Forest Resource Economics and Managerial Economics).

Adjunct Faculty:

STEVE BRECHIN
Syracuse University, Maxwell School of Public Policy, Antrhopology, Room 209 Maxwell Hall, 443-2200, (Natural Resources Sociology).

PATRICK DURKIN
5100 Highbridge Street, Apt 30A, Fayetteville, NY 13066, 637-9560, (Chemical Risk Assessment and Documentation).

STEVEN EFFLER
110 Hillsboro Parkway, Syracuse, NY 13214, 466-1309, (Water Quality Modeling).

MARLA EMERY
U.S. Forest Service, S. Burlington, VT, (Non-Commodity Forestry, Traditional Environmental Knowledge).

JOHN FERRANTE
Department of Environmental Conservation, Division of Water, 615 Erie Boulevard West, Syracuse, NY 13204, 426-7507, (Watershed Ecology).

RICHARD GOLDSMITH
Syracuse University, College of Law, 224 E.I. White Hall, 443-2533, (Environmental Law).

ANDREW HUNT
SUNY Health Science Center, Department of Pathology, 750 East Adams Street, Syracuse, NY 13210, (Environmental Health).

JOHN KUSLER
Association of State Wetland Managers, Berne, NY, (518) 872-1804, (Wetland and Water Resource Policy).

DAVID NOWAK
USDA Forest Service, 5 Moon Library, 448-3212, (Research Forester).

APPENDIX B.1

ENVIRONMENTAL AND NATURAL RESOURCE POLICY STUDY AREA

Advising Guide

The most significant decisions affecting the future well being of citizens around the globe will be those that influence the way we manage our natural resources and care for the environment. The Ph.D. Program in Environmental and Natural Resources Policy at the State University of New York College of Environmental Science and Forestry (SUNY/ESF) educates the scholars and leaders who will address the policy issues related to the use and stewardship of our natural environment.

The Policy Program at SUNY/ESF is distinct because of four attributes. First is the depth and breadth of our faculty in environmental and natural resource policy. It includes 13 scholars whose teaching and research focus on this area of inquiry. Second the College brings a supporting biophysical science and engineering faculty concentrating on natural resources and natural environments without peer in the country. Third our students have full access to faculty and courses at the Syracuse University's Maxwell School of Citizenship and Public Affairs, ranked number one in the country in public administration. Last, and perhaps most important, these are integrated in a program designed to capitalize on these strengths.

The current Environmental and Natural Resource Faculty include the following:

Chad Dawson, Professor of Wilderness Studies and Policy
John Felleman, Professor of Environmental Planning and Policy
Donald Floyd, Professor of Water Resources and Watershed Policy
Rene Germain, Assistant Professor of Forest Management and Policy
Valerie Luzadis, Assistant Professor of Environmental Economics and Policy
Robert Malmsheimer, Assistant Professor of Forest Law and Policy
Jack Manno, Assistant Professor of Water Resources Policy and Sustainable Development
Mark Meisner, Assistant Professor of Environmental Communication and Discourse
Sharon Moran, Assistant Professor of Environmental Policy and Government
Brenda Nordenstam, Associate Professor of Environmental Risk Assessment
Susan Senecah, Associate Professor of Environmental Communication and Conflict Resolution
Richard Smardon, Professor of Environmental Policy and Planning
John Wagner, Associate Professor of Natural Resource and Environmental Economics

Requirements:

Each student's academic program will be individually designed to accommodate the student's previous education, experience, and future aspirations. This will be done in concert with the student's major professor and advisory committee. The student, in consultation with their major professor, will select an advisory committee during their first semester in residence.

Prior to the student's candidacy exam they will be expected to meet the competencies suggested by the following outline and explained in the subsequent paragraphs:

Biophysical Science 12 Credit Hours - A definable 600 level competency in a natural or environmental science e.g., wetlands, forestry, conservation biology, water pollution, etc.

Advanced Natural Resource and Environmental Policy 12 Credit Hours - Policy Analysis (required) Program Evaluation (required) and 2 Additional 700 level Policy courses.

Research Methods 12 Credit Hours - Research Methods and Design (required) an additional 9 credit hours distributed among: Qualitative Methods, Quantitative Methods, GIS / Spatial Statistic.

Policy-Related Social Science 12 Credit Hours - 600 level Economics Course (required) 600 level Government Course (required) 2 additional 600 level policy-related social science courses.

In addition, participation in doctoral seminars is required for each semester in residence.

Policy Ph.D. program graduates are required to have knowledge of and the ability to apply concepts from the biophysical sciences, policy related social sciences, and research methods.

Biophysical Science Requirements:

Prerequisites: Prior to entering the Policy Ph.D. program, students are expected to have at least twelve (12) credit hours of undergraduate course work in chemistry, botany, zoology, or physics, or experience that provides equivalent knowledge.

Application of Biophysical Science Concepts:

At their candidacy examination, students in the Policy Ph.D. program must be able to apply concepts from one biophysical science area of study, such as: Conservation biology, environmental chemistry, geology, ecology, fish or wildlife biology, forest ecosystem science, or watershed hydrology. To acquire biophysical science knowledge and learn how to apply concepts from one of these areas of study, students must successfully complete twelve (12) credit hours of graduate course work in one biophysical area of study.

Advanced Natural Resource and Environmental Policy Requirements:

Policy Ph.D. program graduates require knowledge of and the ability to apply advanced natural resource and environmental policy concepts.

Application of Advanced Natural Resource and Environmental Policy Concepts:

At their candidacy examination, students in the Policy Ph.D. program must be able to apply policy analysis, program evaluation, and other advanced environmental and natural resource policy concepts. To acquire advanced natural resource and environmental policy knowledge and learn how to apply concepts from this area of study, students must successfully complete the following:

- At least three (3) credit hours of advanced graduate policy analysis course work;

- At least three (3) credit hours of advanced graduate program evaluation course work; and

- At least six (6) additional credit hours of advanced graduate course work in other policy-related courses.

For the purposes of the Policy Ph.D. program, advanced graduate course work is defined as graduate courses that have a prerequisite of at least one graduate level course. Seven hundred level ESF courses meet this requirement.

Prior Graduate Course Work in Advanced Natural Resource and Environmental Policy:

Students with graduate course work in advanced natural resource and environmental policy that satisfies the policy analysis, program evaluation, and other advanced natural resource and environmental policy concepts requirements may, with major professor approval, substitute that course work to meet this requirement. Such substitutions will only be allowed if the field is relevant to: (1) natural resource or environmental policy, and (2) the student's area of policy expertise. However, all students will be required to demonstrate the application of policy analysis, program evaluation, and other advanced natural resource and environmental policy concepts in the candidacy examinations.

Demonstration of Knowledge and Application: At the candidacy examination, students will demonstrate their ability to apply policy analysis, program evaluation, and other advanced natural resource and environmental policy concepts by:

1. Applying and transferring concepts to different situations and contexts,
2. Integrating concepts with knowledge to produce problem solutions; and
3. Applying concepts to policy issues.

Candidacy Exam (similar to current handbook)
Dissertation Proposal (similar to current handbook)
Dissertation (similar to current handbook)
Capstone Seminar (similar to current handbook)
Dissertation Defense Examination (similar to current handbook)

Research Methods Requirements:

Prerequisites: Prior to entering the Policy Ph.D. program, students are expected to have at least one (1) graduate course in statistics, or experience that provides equivalent knowledge.

Application of Research Methods Concepts: At their candidacy examination, students in the Policy Ph.D. program must be able to apply the concepts of research methods and be able to evaluate appropriateness of research design, date collection methods, measurements, and date analysis techniques used in natural resource and environmental policy research. To acquire this knowledge, and to learn how to apply these concepts, students must successfully complete the following:

• At least three (3) credit hours of graduate course work in a general research methods course; and

• At least nine (9) additional credit hours of graduate course work in research design, measurement, statistics, and / or information technology.

Prior Graduate Course Work in Research Methods: Students with graduate course work in biophysical sciences, policy related social sciences or research methods that satisfies the above requirements may, with major professor approval, substitute that course work to meet these requirement. Such substitutions will only be allowed if the field is relevant to: (1) natural resource or environmental policy, and (2) the student's area of policy expertise. However, all students will be required to demonstrate the application of the relevant concepts in the candidacy examinations. During the candidacy examination, students will demonstrate their ability to apply concepts from the biophysical sciences, social sciences and research methods by:

1. Applying and transferring concepts to different situations and contexts;
2. Integrating concepts with knowledge to produce problem solutions; and
3. Applying concepts to policy issues.

Policy-Related Social Science Requirements:

Prerequisites: Prior to entering the Policy Ph.D. program, students are expected to have at least twelve (12) credit hours of college-level course work in policy related social sciences, such as political science, economics, or public administration, or experience that provides equivalent knowledge.

Application of Policy-Related Social Science Concepts: At their candidacy examination, students in the Policy Ph.D. program musts be able to apply concepts from economics, political science or public administration, and other policy-related social sciences. To acquire policy-related social science knowledge and learn how to apply concepts from one of these areas of study, students must successfully complete:

• At least three (3) credit hours of graduate economics course work;

• At least three (3) credit hours of graduate political science or public administration course work; and

• At least six (6) additional credit hours of graduate course work in other policy-related social sciences.

APPENDIX B.2

DOCTOR OF PHILOSOPHY (Ph.D.) DEGREE

ENVIRONMENTAL COMMUNICATION AND PARTICIPATORY PROCESSES STUDY AREA

Advising Guide

The following is provided as a guide to the types of courses available for Ph.D. study. You should consider your individual research program and consult with your major professor to build a cohesive, balanced program of study.

General Requirements. A minimum of 60 course credit hours are required for the Ph.D. degree, including any credits transferred from a masters program of study or courses taken at another institution. See the notes at the end, the *Handbook* for other requirements. Your program of study should reflect a balance among the following categories, build mastery in your area/s of interest, and be planned in consultation with your Major Professor. The following courses are offered as a guide to the kinds of appropriate courses available in each category. Be aware that other course opportunities will be available throughout your residency at ESF.

Environmental Science Seminar. You are required to take an environmental science seminar each semester you are in residence. You may take ENS 797 Environmental Science Seminar , which is usually offered only as an audit, or other appropriate seminars offered through other departments at ESF (for credit or audit) or Syracuse University (for credit only).

Applied Social Science.

ANT 683 Social Movement Theory
ENS 550 Environmental Impact: Analysis, Principles and Strategy
ENS 696 Special Topics: History of the American Environmental Movement
FOR 564 Soil and Water Conservation Policy
FOR 665 Natural Resources and Environmental Policy
FOR 753 Advanced Natural Resource and Environmental Policy
GEO 558 Sustainable Development
IST 552 Information Systems Analysis Concepts and Practices
IST 607 Government and Information
IST 642 Electronic Commerce
IST 643 U. S. Federal Information Policy
LAW 716 Environmental Law
PPA 709 Public Organizations and Management
PPA 730 Problems in Public Administration
PPA 753 Executive Leadership and Policy
PSC 602 Public Policy Analysis: Theory and Practice
PSC 705 Science and Public Policy
SPC 514 Language and Meaning
SPC 535 Communication and Community
SPC 546 Seminar Legal Communication

Research Methods.

ENS 696 Special Topics: Qualitative Research Methods
ENS 696 Special Topics: Survey Research Methods
PPA 722 Quantitative Analysis
SOC 614 Introduction to Qualitative Research
SPC 655 Speech Criticism

Area of Study.

CMN/ENS 696 Mass Media and Environmental Affairs
ENS 606 Environmental Risk Perception
ENS 608 Environmental Conflict and Citizen Groups
ENS 611 Environmental Institutions
ENS 635 Public Participation and Decision Making: Theory and Application
ENS 673 Environmental Information Policy
FOR 690 Seminar and Workshop on Natural Resources Policy and Management
ENS 696 Special Topics: Environmental Science and Policy
EFB 521 Principles of Interpretive Programming
EFB 617 Perspectives on Interpretive Design
MIS 545 Decision Support Systems
MIS 745 Decision Support Systems
MAR 741 Marketing Community and Public Service Agencies
SHR 703 Interpersonal and Group Skills for Managers
ANT/LILN/SOC 570 Topics in Sociolinguistics
ANT 652 Cultural Aspects of Public Policy
ANT/WSP Culture and Folklore
ANT 675 Culture and Disputing

Doctoral Thesis Research. Students typically take from 6-12 credits of ENS 999 Doctoral Thesis Research although no required number is set. These credits reflect progress made in thesis research. They can be used to support the development of the thesis proposal (e.g., literature review, directed readings) as well as the actual research and writing of the thesis. These credits are awarded in consultation with your major professor.

Other Requirements. In addition to course and credit hour requirements, you are required to:

1. Form a Steering Committee of your Major Professor and two additional faculty members by the end of the second semester of full-time study. Form 2A is available in Marshall 107.

2. File a Form 3B (Academic Plan), attaching a program Plan Sheet, with the Office of Instruction and Graduate Studies (227 Bray) by the end of the second semester of full-time study. Form 3B is available in Marshall 107.

3. Offer a Capstone Seminar, reporting either on planned or completed Thesis activity.

4. Successfully complete a written comprehensive exam.

5. Successfully complete Thesis defense.

APPENDIX B.3

ENVIRONMENTAL AND COMMUNITY LAND PLANNING STUDY AREA

Advising Guide

GPES provides study guides of course listings for its masters degree students. These lists may be useful for doctoral students and their major professors in developing individual programs of study.

Environmental Science Seminar. Doctoral students are expected to attend the ENS 797 Environmental Science Seminar or equivalent each semester they are in matriculated.

Applied Social Science.

ENS 606 Environmental Risk Perception
ENS 608 Environmental Conflict and Citizen Groups
ENS 611 Environmental Institutions
ENS 635 Public Participation and Decision Making
LSA 621 Community Design and Planning Studio
LSA 652 Community Development and Planning Processes
LSA 696 Special Topics: Community Planning Seminar

Research Methods.

ENS 696 Special Topics: Qualitative Research Methods
ENS 696 Special Topics: Survey Research Methods
LSA 640 Research Methodology
APM 635 Multivariate Statistical Methods
PPA 722 Quantitative Analysis
PSC 602 Public Policy Analysis Theory and Practices

Study Area Coursework.

LSA 553 Visual Landscape Analysis
LSA 556 Visual Landscape Simulation
LSA 611 Natural Factors Analysis
LSA 621 Community Design and Planning
LSA 651 Comprehensive Land Planning
LSA 652 Community Development and Planning Process
LSA 654 Ecology in Landscape Design and Planning
LSA 680 Seminar in Urban Design
LSA 681 Cultural Landscape Preservation
LSA 696 GIS in Planning
LSA 696 Community Planning Workshop
CMN 521 Communications for Design and Planning Professionals
CMN 531 Environmental Communications
ENS 673 Environmental Information Policy
ENS 696 Special Topics: Great Lakes Policy

ENS 550 Environmental Impact Anaylsis: Principles and Strategies
FOR 540 Watershed Hydrology
FOR 542 Watershed Management
FOR 556 Spatial Modeling
FOR 557 Practical Vector GIS
FOR 558 Advanced Vector GIS
FOR 641 Watershed Hydrology and Water Quality
FOR 664 Soil and Water Conservation Policy
FOR 665 Natural Resources and Environmental Policy
FOR 670 Resource Economics
FOR 671 Economics of Nonmarket Goods
FOR 674 Commercial Recreation
FOR 676 Tourism Planning
FOR 678 Wilderness/River Recreation Management
FOR 679 Outdoor Recreation Management
FOR 680 Urban Forestry
FOR 753 Advanced Natural Resource and Environmental Policy
FOR 796 Special Topics: Forest Resource Management
ERE 550 Introduction to GIS
ERE 552 Fundamentals of Remote Sensing
ERE 566 Global Positioning Systems I
GEO 558 Sustainable Development
GEO 605 Theories of Development
GEO 781 Seminar: Cartography
GEO 782 Seminar: Geographic Information Analysis
PPA 730 Problems in Public Administration
PPA 730 Selected Topics: Urban Policy Modeling
CIE 541 Transportation Engineering
IST 552 Information Systems Analysis Concepts and Practices

APPENDIX B.4

ENVIRONMENTAL SYSTEMS AND RISK MANAGEMENT STUDY AREA

Advising Guide

GPES provides study guides of course listings for its masters degree students. These lists may be useful for doctoral students and their major professors in developing individual programs of study.

Environmental Science Seminar. Doctoral students are expected to attend the ENS 797 Environmental Science Seminar or equivalent each semester they are in matriculated.

Applied Social Science.

ENS 606 Environmental Risk Perception
ENS 608 Environmental Conflict and Citizen Groups
ENS 611 Environmental Institutions
ENS 635 Public Participation and Decision Making
ENS 696 Special Topics: History of the American Environmental Movement

Research Methods.

ENS 696 Special Topics: Qualitative Research Methods
ENS 696 Special Topics: Survey Research Methods
APM 620 Analysis of Variance
APM 625 Introduction to Sampling
APM 635 Multivariate Statistical Methods
GEO 686 Spatial Statistics

Area of Study.

CEN 573 Principles and Design in Air Pollution Control
CIE 529 Risk Analysis in Civil Engineering
CIE 554 Principles of Environmental Toxicology
CIE 653 Applied Aquatic Chemistry
CIS 671 Environmental Chemistry and Analysis
EFB 510 Health and Our Chemical Environment
EFB 518 Systems Ecology
EFB 610 Ecological Biogeochemistry
EFB 611 Environmental Toxicology
EFB 796 Special Topics: Environmental Forest Biology
EFB 796 Special Topics: Ecology of the Economic Process
ERE 505 Solid Waste Management
ERE 642 Water Quality Modeling
ERE 643 Water Pollution Engineering
FCH 510 Environmental Chemistry I
FCH 511 Environmental Chemistry II
FCH 515 Methods of Environmental Chemistry Analysis
FCH 519 Environmental Chemistry Seminar

FOR 556 Spatial Modeling
FOR 557 Practical Vector GIS
FOR 796 Special Topics: Forest Resource Management

APPENDIX B.5

WATER AND WETLAND RESOURCES STUDY AREA

Advising Guide

GPES provides study guides of course listings for its masters degree students. These lists may be useful for doctoral students and their major professors in developing individual programs of study.

Environmental Science Seminar. Doctoral students are expected to attend the ENS 797 Environmental Science Seminar or equivalent each semester they are in residence.

Applied Social Science.

ENS 550 Environmental Impact Analysis: Principles and Strategies
ENS 601 Water Resources Management
ENS 606 Environmental Risk Perception
ENS 608 Environmental Conflict and Citizen Groups
ENS 611 Environmental Institutions
ENS 625 Wetlands Policy
ENS 635 Public Participation and Environmental Decision Making
ENS 673 Environmental Information Policy
ENS 696* Special Topics: Great Lakes Policy
FOR 564* Soil and Water Conservation Policy
FOR 665 Natural Resources and Environmental Policy
FOR 753 Advanced Natural Resource and Environmental Policy
LAW 716 Environmental Law
PPA 709 Public Organizational and Management
PPA 730 Problems in Public Administration
PSC 705 Science and Public Policy
CMN 531 Environmental Communications
EIN 560 Negotiating Environmental Disputes
ERE 550 Introduction to GIS
GEO 593 Environmental Monitoring and Assessment
IST 552 Information Systems Analysis Concepts and Practices
IST 607 Governments and Information
IST 642 Electronic Commerce
IST 643 U. S. Federal Information Policy

* Indicates water resources policy courses.

Research Methods.

APM 510 Statistical Analysis
APM 620 Analysis of Variance
APM 625 Introduction to Sampling Techniques
APM 635 Multivariate Statistical Methods
APM 653 Simulation Design and Analysis
EFB 796 Special Topics: Environmental Forest Biology

ENS 696 Special Topics: Qualitative Research Methods
ENS 696 Special Topics: Survey Research Methods
ERE 552 Fundamentals of Remote Sensing
ERE 563 Photogrammetry I
ERE 642 Water Quality Modeling
GEO 583 Environmental GIS
GEO 686 Spatial Statistics
LSA 640 Research Methodology
PPA 722 Quantitative Analysis
PSC 602 Public Policy Analysis
SOC 614 Introduction to Quantitative Research

Area of Study.

CIE 525 Environmental Fluid Mechanics
CIE 570 Water and Wastewater Treatment Plant Design
CIE 652 Biological Waste Treatment
CIE 653 Applied Aquatic Chemistry
CIE 659 Advanced Hydrogeology
CIE 671 Environmental Chemistry and Analysis
EFB 510 Health and Our Chemical Environment
EFB 516 Ecosystems
EFB 518 Systems Ecology
EFB 522 Ecology, Resources, and Development
EFB 524 Limnology
EFB 525 Limnology Lab
EFB 542 Freshwater Wetland Ecosystems
EFB 580 Wetland Wildlife Ecology and Management
EFB 611 Environmental Toxicology
EFB 797 Seminar: Advanced Aquatic Ecology
ENS 625 Wetlands Policy
ENS 696 Special Topics: Great Lakes Policy
ERE 505 Solid Waste Management
ERE 552 Fundamentals of Remote Sensing
ERE 642 Water Quality Modeling
ERE 643 Water Pollution Engineering
FEG 340 Engineering Hydrology and Flow Controls
FCH 515 Methods of Environmental Chemistry Analysis
FCH 496 Special Problems in Chemistry
FOR 540 Watershed Hydrology
FOR 542 Watershed Management
FOR 556 Spatial Modeling
FOR 557 Practical Vector GIS
FOR 558 Advanced Vector GIS
FOR 564 Soil and Water Conservation Policy
GOL 541 Hydrogeology
GOL 542 Geomorphology
GOL 642 Advanced Hydrogeology
GOL 652 Hydrogeochemistry