Graduate Student and Advisor Checklist

DOCTOR OF PHILOSOPHY PROGRAM

# Environmental Science and Technology

**Personal Checklist**

 (due) **Date Form**

\_\_\_\_\_ admitted to program

\_\_\_\_\_ Advisory Committee formed ***(end of 2nd semester)***

\_\_\_\_\_ Proposed Plan of Study form in file ***(end of 2nd semester)*** **ENST FORM**

\_\_\_\_\_ Research Proposal in file ***(end of 2nd year)*** **ENST FORM**

\_\_\_\_\_ Admission conditions (if any) satisfied

\_\_\_\_\_ Preliminary/Comprehensive examination held ***(end of 3rd year)*** **ENST FORM**

\_\_\_\_\_ Admission to Candidacy form submitted to Grad School (cc ENST) **GRAD SCHOOL FORM**

\_\_\_\_\_ Admission to candidacy approved by Grad School ***Must register each semester thereafter.***

\_\_\_\_\_ Course requirements completed:

\_\_\_\_\_ Application for Diploma form submitted to Grad School **GRAD SCHOOL FORM**

***(Early in semester in which student expects to complete***

 ***degree requirements by published deadline.)***

\_\_\_\_\_ Appointment of Doctoral Examining Committee form submitted to Grad School **GRAD SCHOOL FORM**

***(At least 3 months prior to final exam and before deadline.)***

\_\_\_\_\_ Dissertation completed

\_\_\_\_\_ Final examination held

\_\_\_\_\_ Report of Examining Committee form submitted to Grad School (cc ENST) **GRAD SCHOOL FORM**

\_\_\_\_\_ Signed dissertation submitted to Grad School

\_\_\_\_\_ Dissertation copy (pdf) submitted to ENST Grad. Coordinator for student file

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| **ENST Ph.D. Graduate Program - Summary of Requirements** |
| **Area of Specialization** | **Soil and Watershed Sciences** | **Ecological Technology Design** | **Wetland Science**  | **Ecosyst. Health & Nat. Res. Mgmt** |
| Ph.D. Dept Admission | M.S. Degree in a closely related field[[1]](#footnote-1); All admission requirements for the M.S. degree (ie Basic Science Requirement, GRE, etc). |
| Grad School Requirements | 12 credits of dissertation research (899); A dissertation based on original research |
| ENST Core Requirements | ENST 602 - Research Principles and Methodology in Environmental Science and Technology (3 credits)ENST 702 - Communication and Professional Development in Environmental Science and Technology (2 credits)ENST 798 Graduate Seminar (2 semesters – 2 credits)Two graduate level statistics courses (from among, or equivalent to, those on approved list) [[2]](#footnote-2); |
| Other ENST Requirements | Students are expected to complete a minimum of 50 credits beyond the B.S. degree (In addition to research credits 799, 898 and 899) |
| Specialization Requirements | Completion of M.S. specialization requirement plus one graduate level course on chemistry or biochemistry[[3]](#footnote-3) and at least one additional graduate level course in chemistry, biochemistry, physics, mathematics, engineering, or computer science. All courses to be approved by the advisory committee. | Completion of M.S. specialization requirement plus one semester of graduate level modeling and one additional graduate level course in ecology, ecological design or ecological engineering. All courses to be approved by the advisory committee. | Completion of M.S. specialization requirement plus one graduate level course in modeling; two additional graduate level courses from within the areas of Ecology, Soil Science, or Hydrology. All courses to be approved by the advisory committee. | Completion of M.S. specialization requirement plus three additional graduate level courses in Ecosystem Health and Natural Resource Management. All courses to be approved by the advisory committee. |

**Ph.D. PLAN OF STUDY**

 **Environmental Science and Technology**

Candidate: Student Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Check Current Program:

 \_\_\_\_\_ Soil & Watershed Sciences

 \_\_\_\_\_ Ecological Technology Design

 \_\_\_\_\_ Wetland Science

 \_\_\_\_\_ Ecosystem Health and Natural Resource Management

 I. Admission Requirements: (Check if completed)

 \_\_\_\_\_ a. Calculus (1 semester)

 \_\_\_\_\_ b. Basic science (20 credits) (Chem., Biochem., Physics, Biology, Math beyond Calculus)

 \_\_\_\_\_ c. Other provisions: (if any) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

II. M.S. Course Requirements (check if completed:

 A. Soil & Watershed Sciences Candidates

\_\_\_\_\_ a. Must have completed a minimum of twelve credits of graduate level soil science courses. The 12 credits must be earned in any four of the following five areas: soil chemistry, soil physics, soil pedology, soil biology, soil fertility.

 B. Ecological Technology Design Candidates

\_\_\_\_\_ a. Six credits of graduate level courses in ecology

\_\_\_\_\_ b. Six credits of graduate level courses in ecological design or related engineering courses.

 C. Wetland Science Candidates

\_\_\_\_\_ a. Twelve (12) credits from a list of approved graduate level courses in Ecology, Soil Science and Hydrology, with a minimum of 3 credits from each of these three groups.

 D. Ecosystem Health & Natural Resources Management Candidates

\_\_\_\_\_ a. Twelve (12) credits of graduate level courses, including ENST604 (3 credits) and 9 additional credits in Ecosystem Health and Natural Resource Management.

III. Ph.D. Course Requirements (List course number. Must be 400 level or higher):

 A. Soil & Watershed Science Candidates

 \_\_\_\_\_ a. one graduate level course on chemistry or biochemistry

 \_\_\_\_\_ b. one additional graduate level course in chemistry, biochemistry, physics, mathematics,

 engineering, or computer science..

 B. Ecological Technology Design Candidates

 \_\_\_\_\_ a. one semester of graduate level systems modeling

 \_\_\_\_\_ b. one additional graduate level course in ecology, ecological design or ecological

 engineering.

1. Wetland Science Candidates

 \_\_\_\_\_ a. one graduate level course in modeling

 \_\_\_\_\_ b. two additional graduate level courses from within the areas of Ecology, Soil

 Science, or Hydrology.

1. Ecosystem Health and Natural Resources Management Candidates

\_\_\_\_\_ a. three additional graduate level courses in Ecosystem Health and Natural Resource Management that have been approved by the advisory committee.

 D. All candidates must complete these courses:

 \_\_\_\_\_ a. ENST602 (may be taken during the MS program)

 \_\_\_\_\_ b. ENST702 (may be taken during the MS program)

\_\_\_\_\_ c. Seminar (798) -- 2 Credits (Entrance and Exit)

####  \_\_\_\_\_ d. Research (899) -- 12 Credits

####  \_\_\_\_\_ e. Two graduate level statistics courses

 \_\_\_\_\_ f. A total of 50 credits in post BS courses (excluding research)

IV. List by semester all course work completed and presently scheduled for the Ph.D. degree. The program shown must meet all requirements outlined above (Parts I-III). A minimum of 50 credit hours, exclusive of research, is generally scheduled beyond the B.S. level.

Post BS courses completed prior to beginning your doctoral program at UMD

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| Year | Semester | Course No. | Title | Credit | Grade |
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Courses to be completed during your doctoral program at UMD

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Approved: Advisor

 Member, Advisory Committee

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PhDForm2.doc

# RESEARCH PROPOSAL COVER PAGE

**Environmental Science and Technology**

Candidate: Student Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Check Current Program: \_\_\_\_\_ M.S. \_\_\_\_\_ Ph.D.

 \_\_\_\_\_ Soil & Watershed Sciences

 \_\_\_\_\_ Ecological Technology Design

 \_\_\_\_\_ Wetland Science

 \_\_\_\_\_ Ecosystem Health and Natural Resources Management

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Indicate whether or not the project involves any of the following:

 Yes No Human subjects

 Yes No Animal subjects

 Yes No Radioactive materials

 Yes No Genetically engineered organisms

 Yes No Biological materials

 Yes No Select Agent Toxins

 Yes No Scientific diving

 Yes No Boats Used in Research

 Yes No Chemicals

 ***(Any Yes responses may require completion of University forms or training.)***

**Approval**: The advisory committee has reviewed the attached research proposal and feels it is appropriate and sufficient for the degree program.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (Advisor)

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ENSTForm2.doc

**ENST Committee Report Form**

**Doctor of Philosophy Candidate**

**Environmental Science and Technology**

Candidate: Advisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### I. Comprehensive Examination[[4]](#footnote-4) Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 A. Committee Action

 [ ] Passed [ ] Failed

 Date of Second Examination (if needed) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 [ ] Passed [ ] Failed

 B. Examination Committee (signatures)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Committee Chair
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. In special cases, exceptional students may be admitted to a Ph.D. program without first completing an M.S. degree. These students should have an exceptional academic record and test scores and should have demonstrated significant research experience during their B.S. program (such as completion of a research based honors thesis.) [↑](#footnote-ref-1)
2. Approved Statistics Courses:

BIOM 601, Biostatistics I (4)

BIOM 602, Biostatistics II (4)

BIOM 603, Biostatistics III (4)

BIOM 621, Applied Multivariate Statistics (3)

GEOG606, Quantitative Spatial Analysis (3)

GEOL 651, Statistics for Geoscientists

GEOL 789C, Advanced Data Analysis Workshop

BIOL 709D, Statistics and Modeling for Biologists

MEES 604, Biometry

SURV 615, Statistical Methods I

MEES 608R, Applied Baysian Statistics

MEES 708M, Environmental Statistic II [↑](#footnote-ref-2)
3. This could be Physical Chemistry, Biochemistry, or some other grad level course in chemistry offered in such departments/programs as MEES (Modeling Chemical Equilibrium in Natural Waters), ENCE (Chemistry of Natural Waters) or GEOL (Principles of Biogeochemistry), etc. [↑](#footnote-ref-3)
4. NOTE: A written exam followed by an oral comprehensive examination is required near the end of the student’s course program. Both examinations must be scheduled within a one-month period, and must be passed prior to admission to candidacy for the Ph.D. The student must be admitted to candidacy at least six months before the date on which the degree will be conferred. [↑](#footnote-ref-4)