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# **ESE GRADUATE HANDBOOK PROCEDURES AND GUIDELINES**

## **I. INTRODUCTION**

The environment is composed of complex, interacting, biological, chemical, physical and social systems. To adequately understand the functioning of this complex system and to learn to integrate environmental factors into a decision-making process, it is essential that these systems be studied in an interdisciplinary framework. Thus, a degree program that spans both science and engineering and includes courses that investigate the uses of these disciplines in a broader context will help develop students who can analyze environmental impacts and use this information in all aspects of the engineering process.

This Handbook is intended to assist faculty members and graduate students with operating procedures, policies, and degree requirements for the Environmental Science and Engineering (ESE) graduate degrees.

## **II. ADMINISTRATIVE ARRANGEMENTS**

Responsibility for administering the graduate program is shared by the Graduate School (which sets University requirements) and the Clarkson Center for the Environment (which sets specific degree requirements). The requirements set by the Center must be compatible with those of the Graduate school.

University requirements are available in the University Catalog. The most important are reproduced herein, but the ultimate authority remains with the Catalog.

The program is housed in the Clarkson Center for the Environment. The Center Director or his or her delegate will oversee the program operation, appoint an admissions committee, and approve both the programs of study and the graduate committee membership for each student in the program. Also, a committee will be appointed by the Center Director to periodically evaluate the program structure and operating practices.

## **III. GRADUATE COMMITTEE**

The ESE Graduate Committee is comprised of five full-time faculty members appointed by the Center Director, and is responsible for the administration of graduate activities. Its primary duties are to review and evaluate all graduate applications, to facilitate communication with the Graduate School, to advise faculty on graduate matters, and to ensure timely and proper administration of examinations and defenses. Student's course grades are issued to the Graduate School and the student's advisor. The Center administrative assistant (x3856) in 104 Rowley Laboratories maintains all other records on matriculated students.

## **IV. APPLICATION PROCEDURES**

The prospective student may apply for admission to either an M.S. or a Ph.D. degree. The degree of interest is noted on the application form. Applicants to the graduate program are required to pay an application fee at a rate determined by the Graduate School. This fee cannot be waived or deferred, except as follows. The fee will be waived for applicants from within the U.S. and Canada who apply for admission before December 31 for the following fall semester, or June 30 for the following spring semester. The full name of the applicant should be written on the front of all checks or money orders. Applications received without the fee are not forwarded to the

Center for review. They remain inactive until the fee is received. All applications must be submitted to the Graduate School.

#### Application Requirements

Applicants are required to provide:

1. Three references.
2. Official transcripts of all college coursework.
3. TOEFL scores for all international applicants whose native language is not English. The minimum TOEFL score required is 550 (paper-based exam) or 213 (computer-based exam) or 80 (internet-based exam).
4. GRE (Graduate Record Exam) scores for ALL applicants. There are no minimum required scores for the GRE.
5. Supplemental information should also be submitted including a resume, a statement of purpose outlining your goals and objectives for the program or other information that would help us evaluate your application.

The completed application is sent to the ESE Graduate Committee from the Graduate Office for evaluation. The period required for evaluation of complete applications generally ranges between two and four weeks. Once the evaluated application returns to the Graduate School, an acceptance or rejection letter is sent. Accepted foreign applicants usually require 6-8 weeks notice to obtain visas; however, students from the Peoples Republic of China, can require 3 months or more to acquire visas.

All accepted foreign students for whom English is a second language are required to take a placement exam for English as a Second Language upon arrival at Clarkson, and complete any recommended requirements.

Each acceptance by the Graduate Committee is for one degree program only. Requests for a change in degree status (*e.g.* M.S. to Ph.D.) and re-applications must be reviewed by the ESE Graduate Committee.

Students with a B.S. or B.E. degree are encouraged to apply for the M.S. program. Exceptional students could be considered for direct entry into the Ph.D. degree program.

#### **V. ACADEMIC ADVISING**

During the first semester in residence, each graduate student is assigned a thesis advisor (**refer to Graduate Advisor Form on page 13**). Graduate credit for courses taken at Clarkson as an undergraduate must be requested on a **Graduate Credit Form (page 15)**. Written requests for transfer credit for courses taken at other schools must be approved by the Advisor and the Center Director, and then submitted with official transcripts to the Graduate School. Courses for which transfer credit is granted should be included on the program form.

In addition to the above, and to insure that a student is making progress towards a degree, each semester's academic class selection is approved by the Thesis Advisor during course selection and entered by the student through PeopleSoft. Course Selection materials will be distributed to each student in their on-campus mailboxes prior to Course Selection week.

The Thesis Advisor, the Center Director, the Graduate Committee Chair, and the Graduate Dean must approve the completion of degree requirements before a student can graduate.

## **VI. DUTIES AND RESPONSIBILITIES OF THE CLARKSON CENTER FOR THE ENVIRONMENT**

- A. Selection of Candidates for Graduate Programs: The Center makes decisions on admission.
- B. Program Requirements: The Center develops courses in conjunction with academic departments and defines thesis/dissertation requirements.
- C. Seminar: The Center develops a seminar program in conjunction with academic departments. Students should enroll in ES610 seminar. A form in **Appendix B (page 16)** should be used to document your participation in campus seminars.
- D. Candidacy Examinations: The Center defines guidelines for the preparation and administration of examinations that may be both written and oral (see Section XVI).
- E. Research Assistantships: The Principle Investigator makes recommendations for the use of these funds for the support of graduate students and their research.
- F. Graduate Students: The Thesis Advisor's department provides space and facilities for graduate students and may provide some financial support for graduate student research.
- G. Fellowships: The Center administers fellowships in accord with the requirements of the funding source and in consultation with the student's advisor.

## **VII. DUTIES AND RESPONSIBILITIES OF EACH STUDENT**

All graduate students at Clarkson are required to abide by the rules and regulations of the University and Center as set forth in the Catalog and Clarkson Regulations, and as contained in this Handbook.

Students who receive a financial award administered through the University are reminded of the University policy permitting the equivalent of two weeks of vacation, plus regular University holidays, during the calendar year.

The Graduate School, Center Director, and Graduate Committee must be advised in writing of a leave of absence.

## **VIII. GRADUATE SCHOOL TUITION POLICY**

### **A. Research/Teaching Assistants**

Students on research (RA) or teaching (TA) assistantships will have their tuition expenses covered (up to a maximum of 15 credit hours per academic year semester and up to 6 credit hours over the summer term, not to exceed 30 credit hours per calendar year). The tuition fees are covered by the Graduate School, research account, or advisor's home department (TA) depending on the specific nature of the funding source. For RAs, the student needs to be appointed for at least six months and from funds derived from no more than three research grants.

### **B. Partial Tuition Scholarships**

The Graduate School, upon recommendation by the Center, may provide a scholarship to cover up to 12 credit hours of tuition (four credit hours per semester for M.S. students) for self-paying graduate students.

## **XI. STANDARD FORMS/REQUIREMENTS**

Certain administrative tasks require standardized forms to be completed. Copies of these forms are available from the Graduate School or Center Office. The forms are summarized below.

- A. Academic Program Form to be used each semester to document progress towards required credit and for submitting the student's completed program at the time the student finishes his/her degree. This form needs to be returned to the Center office EACH semester after course selection for the following semester.
- B. Graduate Credit Form for a Graduate Course Taken as an Undergraduate at Clarkson (copy available from the Center Office).
- C. M.S. Thesis and Ph.D. Dissertation Procedures to be used as a guide in preparing a thesis/dissertation (<http://www.clarkson.edu/graduate/msthesis.php> or <http://www.clarkson.edu/graduate/phddis.php> )
- D. Thesis/Dissertation Title Page gives the standard format for all theses/dissertations.
- E. Pre-Defense Certification Form is signed by all members of an Examining Committee after the thesis/dissertation has been distributed, but before the defense is scheduled (prepared in the Center Office).
- F. Signature Page is completed after the thesis/dissertation defense and included in all theses/dissertations.
- G. Degree Completion Form is to be submitted to the Graduate School by the Center before a student can be certified for graduation. For students submitting a thesis/dissertation completion notice, the thesis/dissertation must be received in the Graduate School no later than ten class days prior to Commencement. For all other completions, notice to be sent by 10:00 AM of the Thursday before Commencement.
- H. Financial Aid Forms to be submitted for all students receiving appointments as Research Assistants, Teaching Assistants, Fellowships or Tuition Scholarships.

## **XII. PUBLICATION AND PRESENTATION GUIDELINES**

The Center has requirements and standards for M.S. and Ph.D. students to ensure the timely dissemination of research results.

### **A. Presentations:**

MS students are expected to present their research work on at least one occasion other than their defense. PhD students are expected to present their research work on at least two occasions other than their defense. Either seminars or presentations at research conferences are appropriate forums for this presentation.

### **B. Publications:**

It is expected that material presented in a thesis or dissertation be of sufficient quality for publication in a peer-reviewed research journal. Research efforts of Ph.D. students should, in general, be sufficient for multiple manuscripts, while at least one is expected of M.S. degree recipients.

With a need to disseminate the research results, it is acceptable and encouraged to organize a thesis or dissertation around manuscripts prepared for submission to appropriate peer-reviewed journals. Dissertations comprised of several manuscripts must also include an overall

introduction and conclusion to tie the material together. Additional materials required for the thesis or dissertation (detailed literature review, details of methods, presentation of raw data, etc.) can be included as additional chapters or appendices as appropriate.

When a dissertation or thesis is comprised of manuscripts prepared for a peer-reviewed journal, it is expected that the student be the primary author of these manuscripts. First authorship has important connotations; it implies not only that the student understands all aspects of the work, but also that she/he handled major facets of the research and writing tasks independently.

### **XIII. REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE**

#### **A. Admission Requirements:**

Applicants are expected to have completed at least one year of calculus, physics, and chemistry, have some background in Fluid Mechanics, and have obtained a B.S., B.E. or equivalent degree from an engineering or science program. Course deficiencies, as determined by the Admissions Committee, should normally be removed before the first semester but must be removed before the start of the second semester. This course work may comprise an additional semester of study for which graduate credit cannot be granted.

No minimum grade point average is required for admission, however in general a GPA > 3.25 is expected in combination with a superior record of academic achievement. The Graduate Record Examination (GRE) is required of ALL applicants (subject test not required). The results of this test, together with the academic record and professional recommendations, form the basis for admission decisions and the awarding of financial assistance.

International applicants must submit a TOEFL score; a minimum of 550 (CBT score of 213 or IBT score of 80) is required although higher scores are generally required to receive financial aid. All accepted international students for whom English is a second language are required to take an on-campus ESL placement exam after arrival at Clarkson and complete any resulting requirements at no cost to them.

#### **B. University Requirements (Consult current Clarkson Catalog for complete details)**

1. A minimum of 30 credit hours is required including:
  - a. A maximum of 10 credit hours of thesis.
  - b. A minimum of 18 credit hours of course and 2 hours of seminar.
2. A minimum of 20 credit hours earned at Clarkson
3.
  - a. New York State requires a minimum of 1 academic year of full-time study for Master's degree beyond the Baccalaureate
  - b. A maximum of 10 credit hours' transfer credit (B grade or better)
  - c. Official transcripts are needed before transfer credits will be awarded
4. A cumulative GPA of at least 3.0 in coursework contributing to degree requirements
5. All work completed in five calendar years.
6. All work counted in 30 credit-hour minimum must be approved graduate course work (to conform with New York State standards).

### C. Center Requirements

The requirements and guidelines for the M.S. degree are those noted above for the University and the Graduate School, subject to the following additional constraints, which are specific to the ESE Degree:

1. All students must complete a thesis and defend it orally to a committee consisting of a minimum of three faculty members. The student's advisor normally serves as committee chair.
2. Exceptional students may be invited to proceed directly to the Ph.D.; such students will be awarded the M.S. upon completing 40 credit hours and passing the doctoral qualifying examination with a superior grade. This change in status is initiated by the faculty adviser and requires the approval of the graduate committee.
3. The courses selected for each student should be chosen based on the student's research direction and should provide sufficient breadth and depth to allow for the student's future intellectual development.
4. The student must take one of EV 532 (Risk Analysis), EC 660 (Environmental Economics), CE 586 (Introduction to Industrial Ecology) or CE 582 (Environmental Systems Analysis).
5. Each student must take at least two courses from at least one of the ESE course groupings (Biology and Ecology, Chemistry and Physics, Fluid Mechanics and Transport, Control Technologies) or equivalent as determined by the Director and published in the current handbook. See Appendix A.
6. Each student must take at least three courses from the School of Engineering.
7. The Center Director must approve programs of study each semester (see Appendix B).

### D. M.S. Dissertation Committee

The research advisor must be an affiliate of the Clarkson Center for the Environment (Center membership is open to all Clarkson faculty who participate in center activities). The research advisor, in consultation with the student and approval of the Center Director, selects the M.S. Thesis Committee within twelve months after entry into the Ph.D. program. This committee must consist of three members above the rank of instructor.

## **XV. M.S. THESIS PROCEDURES**

These instructions are provided to assist in the preparation and completion of the thesis. These are basic guidelines to be used in thesis preparation, however, if you have a concern that is not addressed, please contact your advisor or the Chair of the Graduate Committee for clarification.

### A. Preparation

See Graduate School web site for requirements. <http://www.clarkson.edu/graduate/msthesis.php>

### B. Thesis Defense

Each graduate student is responsible for making arrangements for a room and advertising of the thesis defense. Committee members, consisting of a minimum of three Clarkson Faculty members, are normally permitted approximately 10 working days to read the thesis.

The defense serves two purposes: examination on specific aspects of the thesis in order to establish the student's depth of understanding of the subject, and an examination on the broader field of study to determine the general level of mastery. At the conclusion of the defense, the Chair (normally the thesis advisor) will inform, in writing, the Center Director and Graduate Committee Chair of the result and any special requirements pertaining to the student and/or thesis. There is no limit to the number of times a thesis may be defended, provided the longevity requirement has not been exceeded (5 years).

### C. Submitting the Thesis

Two copies of the signed final thesis (once all corrections have been completed) are to be submitted to the Graduate School for the Dean's signature. The original will not be signed by the Dean and will not be accepted as a copy. In addition the Center must also receive one copy of the final thesis to be kept in the Center library.

The thesis must be bound in a two or three hole flat style report cover (no three ring binders). The following completed items must also be submitted with the final thesis copies:

- a. A degree completion memo from the Center
- b. Final degree program form file
- c. Withdrawal form (available from the Graduate School)

Please see your graduate coordinator for any other forms that need to be filled out.

### D. Final Acceptance Date Prior to Commencement

Final copies of the thesis must be received in the Graduate School no later than ten class days prior to a Commencement to qualify a student to receive the degree at that Commencement.

### E. Final Acceptance Date Prior to the Beginning of the Semester

Final copies of the thesis must be received in the Graduate School no later than the second week of classes (last day to register) or the student must register and pay tuition for one credit hour of thesis.

## **XVI. REQUIREMENTS FOR THE PH.D. DEGREE**

### A. Admission Requirements:

Applicants are expected to have completed at least one year of calculus, physics, and chemistry. Most students enter the Ph.D. program following completion of an M.S. degree. Exceptional students can enter after obtaining a B.S., B.E. or equivalent degree from an engineering or science program. Course deficiencies, as determined by the Admissions Committee, should normally be removed before the first semester but must be removed before the start of the second semester. This course work may comprise an additional semester of study for which graduate credit cannot be granted.

No minimum grade point average is required for admission, however in general a GPA > 3.25 is expected in combination with a superior record of academic achievement. The Graduate Record Examination (GRE) is required of ALL applicants (subject test not required). The results of this test, together with the academic record and professional recommendations, form the basis for admission decisions and the awarding of financial assistance.

International applicants should submit a TOEFL score; a minimum of 550 (CBT score of 213 or IBT score of 80) is required although higher scores are generally required to receive financial aid. All accepted international students for whom English is a second language are required to take an on-campus ESL placement exam after arrival at Clarkson and complete any resulting requirements at no cost to them.

B. University Requirements (Consult current Clarkson Catalog for complete details)

1. 90 credit hours minimum (beyond the B.S.), corresponding to a minimum to three academic years of full-time study, a minimum of nine course credits must be obtained at Clarkson.
  - a. A maximum of 30 credits (B grade or better) may be transferred from a Master's degree towards the Ph.D. degree. Official transcripts must be provided before transfer credit is awarded
  - b. A minimum of 24 credit hours of course work
  - c. A minimum of 6 credit hours of seminar
2. All work to be completed within seven years after the candidacy procedure is completed.
3. All students must complete the candidacy procedure within two years after admission to the Ph.D. program. A student may have two attempts to pass the candidacy procedure. If a student fails in the first attempt, he/she has two months to make a second attempt. A student who does not complete the candidacy procedure within the time allowed will be dropped from the graduate program.
4. A dissertation must be submitted and defended orally before a committee of five faculty members of at least four Clarkson faculty and with at least one member from outside the department of the Thesis Advisor.
5. A student in the Ph.D. program who has not yet completed the candidacy procedure will be called a Ph.D. Student. After the procedure has been completed, the student will be called a Ph.D. Candidate.

C. Center Requirements (In addition to University requirements)

The requirements and guidelines for the Doctoral degree are those noted above for the University and the Graduate School, subject to the following additional constraints, that are specific to the ESE Degree:

1. Programs of study will be developed for each student in conjunction with a faculty advisor based on the student's research direction and should provide sufficient breadth and depth to allow for the student's future intellectual development. For many students this will require completing more than the 24 course credits indicated above.
2. The student must take at least two courses from at least two of the ESE course groupings (Biology and Ecology, Chemistry and Physics, Fluid Mechanics and Transport, Control Technologies) (See Appendix A.)
3. The student must take one of ES 532 (Risk Analysis), EC 660 (Environmental Economics), CE 586 (Introduction to Industrial Ecology) or CE 582 (Environmental Systems Analysis) or equivalent as determined by the Director and published in the current catalog.

4. Program of study forms must be completed by the student and advisor every semester. These forms should be approved by the advisor and submitted to the CCE office for approval by the CCE Director each semester (See Appendix B).

#### D. PhD Dissertation Committee

The research advisor must be an affiliate of the Clarkson Center for the Environment (Center membership is open to all Clarkson faculty who participate in center activities). The research advisor, in consultation with the student and approval of the Center Director, selects the Ph.D. Thesis Committee within twelve months after entry into the Ph.D. program. This committee must consist of five members above the rank of instructor, at least one of which must be from a department other than that of the Thesis Advisor. The committee will meet with the student at least one time per year.

#### E. Candidacy Procedure

A qualifying examination must be taken within eighteen months after entry into the Ph.D. program, as determined by the initial date of matriculation or, for a Master's student continuing for the Ph.D., the date of acceptance to the Ph.D. program. This examination will have a written portion consisting of a one-week take-home exam with access to research materials, and an oral portion to be administered by the Thesis Committee within one month after the conclusion of the written exam. In the event of failure of the written exam, the Thesis Committee may, at its discretion, elect not to administer the oral portion. The outcome of the exam is determined by a vote of the committee, with no more than one dissenting vote permitted for passage. Failure of the qualifying examination twice is grounds for dismissal from the program. Upon successful completion of this examination and submission of the **Environmental Science and Engineering Candidacy Exam Form (pg 18)** the student is admitted to candidacy for the Ph.D. degree.

#### F. Research Proposal Presentation

Within six months after the successful completion of the qualifying examination, the Ph.D. student must submit and orally present a research proposal to the Thesis Committee. This presentation may be administered simultaneously with the oral qualifying examination.

#### G. Dissertation and Final Examination

The student must pass a final public oral examination based on the dissertation. The examining committee will consist of a minimum of five Clarkson faculty members of instructor rank or higher and possessing the Ph.D. degree. The Center Director will approve the membership of this committee. Normally this committee is the same as the Thesis Committee however one or more additional members possessing a PhD may be included on the committee from outside the University. The Thesis Advisor will serve as the chair of the committee. The student and his/her advisor are responsible for making arrangements for a room and advertising the dissertation defense. Announcements must be distributed at least two weeks in advance of the defense. The advisor should ascertain that the dissertation is sufficient for the defense; copies of the dissertation should be provided to each member at least 10 working days prior to the defense to give each member adequate review time unless all members of the committee agree to a shorter period.

### **XVII. PH.D. DISSERTATION PROCEDURES**

#### A. Preparation

See Graduate School web site (<http://www.clarkson.edu/graduate/phddis.php> )

### B. Defense of the Dissertation

The procedures for and purpose of the dissertation defense are similar to those given in Section XV for the Master's degree, except for the composition of the Examining Committee as noted.

Environmental Science and Engineering Candidacy Exam Form

### C. Submitting the Ph.D. Dissertation

Two copies of the dissertation (once all corrections have been completed) are to be submitted to the Graduate School in loose form without holes. You may place folders around each copy for protection. In addition the Center must also receive one bound copy of the final dissertation to be kept in the Center library.

It should be noted that the dean will not sign the original dissertation and it cannot be used as a copy for the Graduate School.

The dissertation must be accompanied by a \$100 fee (subject to change) to cover the costs of microfilming and binding. If additional bound copies are desired by the student, there is an additional charge of \$16.50 (subject to change) per volume.

In addition to the dissertation, the following completed items must be submitted to the Graduate School:

- a. A degree completion memo from the Center
- b. Doctoral Dissertation Agreement form
- c. Survey of Earned Doctorates
- d. Final degree program form
- e. Withdrawal form

Please see your graduate coordinator for any other forms that need to be filled out.

### D. Final Acceptance Date Prior to Commencement

Final copies of the dissertation must be received in the Graduate School no later than ten class days prior to a Commencement to qualify you to receive the degree at that Commencement.

### E. Final Acceptance Date Prior to Beginning of the Semester

Final copies of your thesis must be received in the Graduate School no later than the second week of classes (last day to register) or the student must register and pay tuition for one credit hour of thesis.

**APPENDIX A - Environmental Science and Engineering Courses**

(four major subgroups). Substitutions must be approved by the Center Director.

<p><b>Biology and Ecology</b></p> <p>BY 501 Great Lakes Science Practicum</p> <p>BY 518 / IH 518 Occupational Toxicology</p> <p>BY 520 Microbiology</p> <p>BY 525 Biological Systems &amp; Global Environmental Change</p> <p>BY 531/CE 589 Limnology</p> <p>BY 620 Evolution</p> <p>BY 659 Systems Biology</p> <p>BY 696 Directed Study in Environmental Biology</p> <p>ES533 Human Exposure Analysis</p>	<p><b>Chemistry and Physics</b></p> <p>CH 576 / CE 577 / CM 576 Atmospheric Chemistry</p> <p>CE 580 Environmental Chemistry</p> <p>CH 509 / CM 509 Receptor Modeling in Environmental Chemistry</p> <p>CM 552 Aerosol Chemistry</p> <p>CM 530 Colloids and Interfaces</p> <p>CM 532 Particle Size Analysis in Dispersions and Other Colloids</p>
<p><b>Control Technologies</b></p> <p>CE 579 Water and Wastewater Treatment Processes</p> <p>CE 581 Hazardous Waste Management Engineering</p> <p>CE 585 Environmental Implications in Manufacturing</p> <p>CE 681 Environmental Physico-Chemical Processes</p> <p>CE 682 Environmental Biological Processes</p> <p>CE 686 Environmental Engineering Design</p> <p>ES 534 Air Pollution Control</p> <p>IH 506 Industrial Hygiene Control Methods</p> <p>IH 581 Advanced Topics in Environmental and Occupational Health</p>	<p><b>Fluid Mechanics and Transport</b></p> <p>CE 514 Groundwater Flow</p> <p>CE 570 Advanced Hydrology</p> <p>CE 572 Shallow Water Hydrodynamics</p> <p>CE 573 Sediment Transport</p> <p>CE 574 Hydrodynamic Dispersion</p> <p>CE 575 Coastal Engineering</p> <p>CE 583 Modeling Natural Aquatic Systems</p> <p>CE 584 Chemodynamics</p> <p>CE 576 Hydraulic Engineering in Cold Regions</p> <p>CE 587 Contaminant Transport in Groundwater</p> <p>ME537 Fluid Mechanics of Aerosol Dispersions</p> <p>ME 538 Experimental Aerosol Mechanics and Instrumentation</p> <p>ME 637 Particle Transport and Deposition</p>

## **APPENDIX B – FORMS**

Clarkson University

**Environmental Science and Engineering  
Graduate Advisor**

**Appointment of Faculty Advisor.**

Each student in an Environmental Science and Engineering graduate program must have a primary faculty advisor. The research advisor must be assigned no later than the beginning of the student's second semester of study (MS) or before the student has completed 15 credits of graduate course work (PhD). Submit a revised copy of this form to change the faculty advisor.

- PhD
- MS

Name: \_\_\_\_\_  
\_\_\_\_\_

Student ID:

Department/  
Program: \_\_\_\_\_  
\_\_\_\_\_

Faculty  
Advisor:

\_\_\_\_\_  
Faculty Advisor

\_\_\_\_\_  
Chair, ESE Graduate Committee

**Clarkson University**

**Environmental Science and Engineering  
Graduate Committee Appointment**

Date: \_\_\_\_\_

**Appointment of Graduate Committee**

Each student in the Environmental Science and Engineering graduate program completing a research-based graduate degree must have a graduate committee. The graduate committee oversees the student's program of study, reviews and evaluates the student's progress, and conducts the final examination of the thesis or dissertation. Any changes in the composition of the graduate committee must be made prior to scheduling any final examination. Note: When an external member is to be appointed to a PhD graduate committee, a copy of that person's curriculum vitae must be submitted to the department chair and dean when the graduate committee is appointed. Submit a revised copy of this form to change the membership of the graduate committee.

- o MS
- o PhD

**NAME:** \_\_\_\_\_

**STUDENT ID:** \_\_\_\_\_

**DEPARTMENT/  
PROGRAM:** \_\_\_\_\_

**FACULTY  
ADVISOR:** \_\_\_\_\_

\_\_\_\_\_  
Committee Member

\_\_\_\_\_  
Committee Member

\_\_\_\_\_  
Committee Member

\_\_\_\_\_  
Committee Member

\_\_\_\_\_  
Committee Member

\_\_\_\_\_  
Committee Member

\_\_\_\_\_  
ESE Graduate Committee Chair

\_\_\_\_\_  
Director, Center for the Environment Engineering

**ESE Graduate Credit Form**

**Clarkson University**

**Graduate School**

Interoffice Memorandum

**To:** Graduate School:

**From:** \_\_\_\_\_, Chairperson of the Environmental and Science  
Graduate Degree in the Center for the Environment.

**Date:**

**Re:** Approval for Graduate credit for courses taken as an undergraduate student at Clarkson.

Approval is requested for \_\_\_\_\_, \_\_\_\_\_  
Student Name Student Number

To be granted credit for the following courses:

Course Number	Course Name	Credit Hours	Grade
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I certify that the above courses are in excess of those needed to meet the M.S. requirements.

\_\_\_\_\_  
Signature ESE Graduate Degree Chair

\_\_\_\_\_  
Signature Director, Center for the Environment



## Graduation Program Form: M.S. Degree in Environmental Science and Engineering

Student Name: _____ Academic Year: _____	<b>Approvals:</b> Advisor: _____ Date: _____ CCE director: _____ Date: _____
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**Prerequisites** (check when completed):

\_\_\_\_ 1 yr. calculus; \_\_\_\_ 1 yr. chemistry; \_\_\_\_ 1 yr. Physics; \_\_\_\_ some fluid mechanics

Semester / Course	Write in # credits			For courses – check all that apply			Total Credits	Grade
	Thesis	Seminar	Course	Engrg. <sup>1</sup>	ESE Breadth <sup>2</sup>	From one of ESE groupings <sup>3</sup>		
Fall _____								
Spring _____								
Previous Total:								
New Totals:								
<b>Requirements:</b>	10 hr max	2 hr min	18 hr min	9 hr min	3 hr min	6 hr min	30 hr min	3.0 min

Please list any presentations you did during these semesters. (full citations please)

<sup>1</sup> All students must take at least 3 classes with engrg. designations (ES, CE, ME etc.)

<sup>2</sup> All students must take one of the following: ES532, EC660, CE586 or CE582

<sup>3</sup> All students must take at least two courses from one of the ESE groupings (Biology and Ecology, Control Technologies, Chemistry and Physics, Fluid Mechanics and Transport)

## Environmental Science and Engineering Candidacy Exam Form

DATE \_\_\_\_\_

Each student in The Center for the Environment doctoral program must complete the candidacy procedure within two years after admission to the Ph.D. program. The specific requirements of the candidacy procedure are defined by each degree program. A student may have two attempts to pass the candidacy procedure. A student who does not complete the candidacy procedure within the time allowed could be dropped from the graduate program.

**NAME:** \_\_\_\_\_ **STUDENT ID:** \_\_\_\_\_

**DEPARTMENT/  
PROGRAM:** \_\_\_\_\_ **FACULTY  
ADVISOR:** \_\_\_\_\_

The above named student has completed the Ph.D. candidacy procedure on \_\_\_\_\_

The following examining committee has reviewed the examination results.

_____	_____
<input type="checkbox"/> Pass	<input type="checkbox"/> Pass
<input type="checkbox"/> Fail	<input type="checkbox"/> Fail
Committee Member:	Committee Member:

_____	_____
<input type="checkbox"/> Pass	<input type="checkbox"/> Pass
<input type="checkbox"/> Fail	<input type="checkbox"/> Fail
Committee Member:	Committee Member:

_____	_____
<input type="checkbox"/> Pass	<input type="checkbox"/> Pass
<input type="checkbox"/> Fail	<input type="checkbox"/> Fail
Committee Member:	Committee Member:

\_\_\_\_\_  
Department Graduate Representative

\_\_\_\_\_  
Department Chair

## Graduation Program Form: Ph.D. Degree in Environmental Science and Engineering

Approvals:

Student Name:

Expected degree Year:

Semester/Course	Write in # of Credits					For Courses -Check all that apply		
	Thesis	Seminar	Course	Total Credits	Grade	ESE Breadth <sup>1</sup>	From One of ESE Groupings <sup>2</sup>	From One of ESE Groupings <sup>2</sup>
Fall								
Spring								
Totals								
<b>Requirements</b>		6 hr min	24 hr min	90 hr min	3.0 min	3 hr. min	6 hr. min	6 hr. min