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The MEES Program

The Marine-Estuarine-Environmental Sciences (MEES) Program is a graduate program leading to Master’s and Doctoral degree. The mission of the MEES Program is to train graduate students in the environmental sciences. There is a clear need for scientists with training in this area, given the multitude of environmental problems faced by society today.

The University System of Maryland (USM)

The University System of Maryland has much to offer students. The MEES Program is a system-wide graduate program, allowing students to access facilities and faculty of the entire University System in order to plan a program best suited to their particular interests. Member institutions of the MEES Program include:

University of Maryland College Park (UMD)
The largest campus, offers comprehensive programs in the arts, sciences, agriculture, engineering, and education. UMD is among the major research universities in the United States with support from federal, state, and private sources. Located immediately adjacent to Washington, DC makes cultural and intellectual resources of the nation’s capital available to students.

University of Maryland Eastern Shore (UMES)
Located in Princess Anne, MD, midway between the Chesapeake Bay and Atlantic Ocean. UMES has an undergraduate effort in marine, estuarine and environmental sciences.

University of Maryland Baltimore (UMB)
Located in downtown Baltimore is one of the country’s first centers for professional education. The founding of the School of Medicine in 1807 provided the campus nucleus that has since expanded to include the Baltimore College of Dental Surgery, Schools of Law, Nursing, Pharmacy, Social Work, and Community Planning; an interprofessional Graduate School; and the University of Maryland Medical System.

University of Maryland Baltimore County (UMBC)
Located southwest of downtown Baltimore in a suburban setting strategically located in the Northeast corridor. Established in 1966, noteworthy departments include biological sciences, chemistry, and the fine arts. Baltimore, Washington, and College Park are all less than an hour away.

The Institute of Marine and Environmental Technology (IMET)
Located in downtown Baltimore is dedicated to research and education in marine molecular biology and molecular genetics. The interdisciplinary, interactive research and training programs are based on applied and basic research, with service to industry, government, and other institutions. Faculty members at IMET are associated with UMB, UMBC, or UMCES.

The University of Maryland Center for Environmental Science (UMCES)
UMCES is composed of three laboratories: Appalachian Laboratory, Horn Point Laboratory, and
Chesapeake Biological Laboratory; and the administration of the Maryland Sea Grant College program (MDSG) focused on making the United States the world leader in marine research and sustainable development of marine resources.

**Appalachian Laboratory:** [www.al.umces.edu](http://www.al.umces.edu), in Frostburg, Maryland is adjacent to the Frostburg State University campus. Appalachian Laboratory faculty and students conduct research on diverse ecosystems.

**Horn Point Laboratory:** [www.umces.edu/hpl](http://www.umces.edu/hpl), is on the banks of the Choptank River near the city of Cambridge Maryland. Here faculty and students conduct research on freshwater, estuarine and oceanic environments.

**Chesapeake Biological Laboratory:** [www.umces.edu/cbl](http://www.umces.edu/cbl), located at the mouth of the Patuxent River in Solomons, Maryland, on the Western shore of the Chesapeake Bay. Founded in 1925 by Dr. Reginald V. Truitt. it is one of the oldest marine laboratories on the east coast and home of the UMCES research vessels.
How to Become a MEES Faculty Member

In order to become a member of the MEES Graduate Program faculty, the MEES Faculty Appointment Request form must be submitted to the MEES Program Office, along with a current C.V. By printing the form from page 9 and submitting it to the MEES Program Office, you are agreeing to the terms stated below. Please contact the MEES office at mees@umd.edu to be added to the MEES Faculty e-mail listserv.

Faculty Appointment Process and Responsibilities

I. Individuals will be appointed to the MEES Program Graduate Faculty for a five-year term based on:
   a. Their interest in participating and approval of their chairperson or director
   b. The appropriateness of their areas of research interest and evidence of current research activity and publication
   c. Their current appointment to a graduate faculty of an institution within the University System of Maryland
   d. A review by the MEES Program Committee, followed by official appointment by the MEES Director.

II. The benefits available to a MEES faculty member will be:
   a. The right to advise MEES students
   b. Participation in a USM-wide graduate education program
   c. Access to over 200 highly competitive applicants annually.

III. Duties of a MEES faculty member will include:
   a. Advising, and graduating, one or more MEES students during the faculty member's term
   b. Serving on committees for other MEES students as needed
   c. Agreeing to serve on MEES Program and AOS committees on a rotating basis
   d. Teaching at least three graduate credits every other year, or equivalent parts thereof. This must be either a MEES course, or a MEES-relevant course in a department
   e. Abiding by the policies of the MEES Program as established by the Program Committee
MEES Faculty Appointment Request

I, _________________________________, wish to be appointed a Marine-Estuarine-Environmental Sciences (MEES) graduate faculty member beginning ___________ (month/year). I have read the attached description of duties and I agree to fulfill them to the best of my ability.

Signature _____________________________________________

I support the above faculty member's commitment of time and effort to the MEES Program.

Department Chair or Lab Director ________________________________

Signature _____________________________________________

I cannot be involved as a regular member of the MEES faculty, but I would like to be listed as 'participating' faculty associated with MEES.

Signature _____________________________________________

Curriculum vitae: Please attach a CV (unless you have already provided a current one to the MEES Office) and a brief research interest statement.

Courses (MEES and MEES Appropriate) I plan to teach in the next two years:

Seminars (MEES and MEES Appropriate) I plan to teach in the next two years:

New courses I would like to teach if funds were made available (e.g. especially field/lab courses!):

Students I am currently advising (note M.S., Ph.D.):

MEES Area(s) of Specialization in which I wish to participate (i.e. serve on committee):
MEES Graduate Program Overview

The MEES Program is a cross-campus graduate program leading to M.S. and Ph.D. degrees. The title of the program emphasizes the strength in marine and estuarine sciences, although the program spans environmental science as a whole, irrespective of habitat. The diverse interests of students in the program generally center on aspects of the interaction between biological, physical, or chemical systems. Analyses of interactions range from study of molecular mechanisms to economic assessments of environmental impacts. To ensure all students in the program have some understanding of the breadth of information in environmental sciences, each student is required to have course work in a variety of areas. Courses taken by MEES students are taught on all campuses of USM. Any course taught within USM is available to any graduate student registered at any campus through intercampus enrollment. Many courses are taught on interactive video (IVN), making them available without travel. The MEES Program is interdisciplinary and faculty consists of members from numerous units within USM. In most cases, students in the MEES Program work in the laboratory of their research advisor in the department or unit to which the advisor belongs.

Areas of Specialization (AOS)

The interests of faculty and students within the MEES Program have led to six formally defined Areas of Specialization (AOS), from which a student may choose. These are: Ecology, Environmental Chemistry, Environmental Molecular Biology and Biotechnology, Environmental Science, Fisheries Science, and Oceanography. Each student will choose an AOS when applying, and both admission and program requirements will depend on the AOS and the student’s background and interests.

Ecology
Ecology is a broad discipline encompassing both terrestrial and aquatic environments. Specific areas of study include behavioral, community, evolutionary, marine, benthic, limnological, systematic, and physiological ecology. Variations and/or combinations of one or more of these subdisciplines are common.

Environmental Chemistry
The objective of this AOS is to train research scientists to apply basic chemical principles to the study of the environmental behaviors of natural and anthropogenic chemicals. Environmental chemistry includes interdisciplinary studies of various realms such as geochemistry, transport processes, and toxicology to determine the fate and effects of chemicals in the natural environment.

Environmental Molecular Biology and Biotechnology
Molecular approaches pervade every biological discipline. Expertise within MEES includes molecular endocrinology of fish growth, development and reproduction; methods of drug delivery; environmental stressors contributing to fish physiological dysfunction and oncogenesis; mechanisms and stressors of nitrogen fixation; molecular models of marine surface colonization; molecular cues of organism-organism interaction; and invertebrate
immunity. The Environmental Molecular Biology and Biotechnology AOS encourages interaction between campuses and is synergistic with other AOS's.

**Environmental Science**
This AOS was created for students who do not want to specialize to the extent the other Areas of Specialization require, but would like to gain experience and take courses in a variety of scientific, economic, and social disciplines related to the natural environment. These requirements are also very appropriate for students wishing to specialize in environmental management.

**Fisheries Science**
Drawing expertise from the biological, physical, and social sciences, fisheries scientists study populations and communities of aquatic resources, their responses to exploitation, and changes in environmental conditions, and their management. Research is quantitative and may be either basic or applied. The multidisciplinary nature of fisheries science requires broad training in areas that may include ecology, oceanography, aquaculture, economics, mathematics, seafood technology, pathology and diseases, and management science.

**Oceanography**
USM has emerged as a nationally and internationally recognized center for oceanographic research, with sub-programs in biological and physical oceanography. Students have access to extensive oceanographic facilities within USM. Fundamental courses in three major sub-fields of oceanography are required to provide interdisciplinary breadth.
Accepting Students

Applicants and Admissions

All MEES applicant files are available on the UMCES “Moodle” site (http://moodle.cbl.umces.edu/) in the MEES Admin section. Files are separated into folders by AOS and then by status of the application. If a student lists faculty of interest in their application, those faculty members will receive a notification from the MEES Office. Applicant may also be contacting faculty directly. Please be sure that your faculty interest listing on the MEES web site and web link are kept updated through the MEES Office so that these applicants can see current information.

When reviewing applications of students you may be interested in, be sure to take a look at how they meet the admissions requirements in general as well as the prerequisites for the AOS to which they are applying (see below).

If you agree to advise an applicant please inform the MEES Office so that we may work with you and the applicant towards admission at the appropriate campus, assuming that the application is found acceptable by the AOS’s evaluation committee.

Prerequisites for Admission to each AOS

Students who are admitted will be advised whether they have any courses that must be completed to fulfill the prerequisites of the MEES program. All prerequisite courses must be completed within a student’s first year after admission. Prerequisites are for each AOS are listed below.

<table>
<thead>
<tr>
<th>ECOLOGY</th>
<th>ENVIRONMENTAL CHEMISTRY</th>
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</thead>
<tbody>
<tr>
<td>A Bachelor’s degree in the natural or life sciences (i.e., equivalent to UM undergraduate Biology degree):</td>
<td>A Bachelor’s degree in the natural sciences or engineering, including:</td>
</tr>
<tr>
<td>1. Two semesters of Calculus</td>
<td>1. Two semesters of Calculus</td>
</tr>
<tr>
<td>2. Two semesters of Introductory Chemistry</td>
<td>2. Two semesters of Physics</td>
</tr>
<tr>
<td>3. Two semesters of Organic Chemistry or Biochemistry</td>
<td>3. Two semesters of General Chemistry</td>
</tr>
<tr>
<td>4. Two semesters of Physics</td>
<td>4. Two semesters of Biology</td>
</tr>
<tr>
<td>5. Two semesters of Introductory Biology (or high placement test, high GRE Biology scores)</td>
<td>5. Two semesters of Organic or Advanced Chemistry (e.g., Biochemistry).</td>
</tr>
<tr>
<td>ENVIRONMENTAL MOLECULAR BIOLOGY/BIOTECHNOLOGY</td>
<td>ENVIRONMENTAL SCIENCE</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>A Bachelor’s degree in the natural sciences,</td>
<td>A Bachelor’s degree in natural sciences or engineering including:</td>
</tr>
<tr>
<td>life sciences, or engineering including:</td>
<td>1. Two semesters of Calculus.</td>
</tr>
<tr>
<td>1. Four semesters of Biology, including</td>
<td>2. Two semesters of Introductory Chemistry.</td>
</tr>
<tr>
<td>Biochemistry.</td>
<td>3. Two semesters of Physics.</td>
</tr>
<tr>
<td>2. Two semesters of Physics.</td>
<td>4. Two semesters of Introductory Biology (or high placement test, high GRE Biology scores).</td>
</tr>
<tr>
<td>3. Four semesters of Chemistry.</td>
<td>5. An Ecology and other advanced Environmental Science courses are recommended.</td>
</tr>
<tr>
<td>4. Two semesters of Calculus.</td>
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</tr>
<tr>
<td>5. Two semesters of Molecular Biology/Molecular Genetics.</td>
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</tbody>
</table>

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<tr>
<th>FISHERIES SCIENCE</th>
<th>OCEANOGRAPHY</th>
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</thead>
<tbody>
<tr>
<td>A Bachelor’s degree in the natural sciences or other field with a strong quantitative emphasis, including:</td>
<td>Biological Oceanography: A Bachelor’s degree in the natural or life sciences including:</td>
</tr>
<tr>
<td>1. Two semesters of Calculus.</td>
<td>1. Two semesters of Calculus.</td>
</tr>
<tr>
<td>2. Two semesters of Introductory Chemistry.</td>
<td>2. Two semesters of Introductory Chemistry.</td>
</tr>
<tr>
<td>3. Two semesters of Organic Chemistry, Biochemistry, or Physics.</td>
<td>3. Two semesters of Organic Chemistry or Biochemistry.</td>
</tr>
<tr>
<td>4. Two semesters of Introductory Biology (or high placement test, high GRE Biology scores).</td>
<td>4. Two semesters of Physics.</td>
</tr>
<tr>
<td>5. Advanced Biology courses, such as Ecology and Ichthyology, are recommended.</td>
<td>5. Two semesters of Introductory Biology.</td>
</tr>
<tr>
<td></td>
<td>Physical Oceanography: A Bachelor’s degree in a physical science, including:</td>
</tr>
<tr>
<td></td>
<td>1. Two semesters of Calculus.</td>
</tr>
<tr>
<td></td>
<td>2. Two semesters of Physics.</td>
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<tr>
<td></td>
<td>3. One or two additional advanced math courses.</td>
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<tr>
<td></td>
<td>4. One or two additional advanced physical sciences courses.</td>
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<tr>
<td></td>
<td>5. Two semesters of Introductory Biology and/or Chemistry are highly recommended.</td>
</tr>
</tbody>
</table>

**MEES Graduate Program Time Limits**

MEES full-time Ph.D. students will be limited to seven years in which to graduate. Students must be advanced to candidacy – i.e. pass both the comprehensive examination (written and oral) and the proposal defense – within six semesters after entering the Ph.D. program. MEES full-time M.S. students will be limited to four years in which to graduate. A one semester extension may be granted at the request of the student’s advisory committee and the approval of the Director.

**Part-time Student Status**

Students in the MEES Program will be classified as full- or part-time students by the MEES Program Office. Part-time students will be limited to nine years in which to graduate for a Ph.D. (with five years for advancement to candidacy), and five years in which to graduate for an M.S. Part-time status will only be granted upon request of the student’s advisory committee and approval of the MEES Director. Criteria will include number of hours worked (>20 hours/week, not on an assistantship) and number of credits registered. Part-time status is generally <24 units. Students considered part-time will not be able to receive UM assistantship or fellowship support.
Changing from M.S to Ph.D.
The MEES Graduate Program policy regarding changing from the M.S to Ph.D. level program within MEES is as follows:

- A new application and statement must be submitted for the Ph.D. – no additional transcripts, test scores, or letters of recommendation are required.
- A current M.S transcript must be on file with MEES.
- The initial committee meeting report and proposal for the M.S. program must be on file with the MEES Office.
- A letter of support for the degree switch, signed by the entire M.S. committee, must be submitted to MEES
- After review, MEES will then submit a decision to the Graduate School.

Changing from one AOS to Another
The MEES Graduate Program policy regarding changing from the AOS the student was accepted into at the time of admission to a “new” AOS is as follows:

- A current transcript must be on file with MEES.
- A letter for support for the switch of AOS’s must be signed by the student’s advisor and submitted to MEES.
- MEES will then send out the student’s entire file to the “new” AOS for review to confirm that the student meets the requirements of the “new” AOS.
- The “new” AOS will return their decision to the student, advisor, and the MEES Office.
Program of Study Benchmarks

Initial Advisory Committee Meeting and Research Proposal
A five-member Ph.D. Research Advisory Committee or a three-member M.S. Research Advisory Committee should be formed during the student’s first semester and meet to discuss the student’s program (mainly coursework, also basic research area). A report of this meeting must be filed in the MEES office by the end of the student’s second semester. After this time, yearly committee meetings are to be held in order for the committee to review the student’s academic and research progress. A brief research proposal, covering as specifically as possible the research to be conducted, should be filed with the MEES office as soon as it is developed and approved by the Advisory Committee. This must be completed no more than 1 year after entrance into the program. If vertebrate animals are used in the research, the animal use protocol should be filed by this time, as well, through the appropriate campus’ committee before the research is done.

Annual Committee Reviews
MEES students are required to meet with their committee a minimum of once a year. Students must supply the MEES Program Office with a report within 2 weeks of the meeting containing signatures of all committee members summarizing the meeting, research/coursework to date, and a transcript. All forms are available on the MEES Program web site under the "Current Students" section.

Masters Thesis Defense
An Oral Defense of the Thesis, administered according to Graduate School regulations will take place at the completion of the research project. This defense will be conducted by the Research Advisory Committee and will be administered once all other degree requirements have been fulfilled. The Thesis Defense will generally last no longer than two hours, but the time will be long enough to ensure an adequate examination. The Research Advisory Committee also approves the thesis, and it is the candidate’s obligation to see that each member of the committee has at least two weeks in which to examine a copy of the thesis prior to the time of the defense. Nominations for membership on this committee are submitted on the appropriate form through the MEES Director by the student’s Advisor, by the third week of the semester in which the student expects to complete all requirements, and no later than six weeks, prior to the thesis defense. The chair of the committee establishes the time and place of the examination. The student is responsible for distributing a complete, final copy of the thesis to each member of the committee at least two weeks before the examination date. Announcement of the final examination will be made through the MEES Office to all members of the MEES faculty at least 2 weeks prior to the examination. Upon completion of the defense, the interim report of examining committee is to be submitted to the MEES Office. The final Report of Examining Committee must be submitted to MEES, upon receipt of all signatures, for submission to the Registrar’s Office. The final thesis is to be submitted once the major advisor and committee approve all revisions. Once dissertation has been successfully defended, one final copy (after the final edit) must be supplied to the MEES Program Office (mees@umd.edu) electronically in addition to the submission required by the student’s Graduate School.
Comprehensive Examinations
All Ph.D. students are required to pass a comprehensive exam (composed of written and oral portions) typically taken at the end of the fourth semester, but no later than the end of the fifth semester. The format for the comprehensive exam varies slightly between AOS tracks (see below). Students should consult their advisor for the specific format of his/her exam, but general guidelines are as follows:

• Consists of both a written (generally not to exceed 5 consecutive 6 hour days) and an oral (not to exceed 4 hours) examination. The written portion is taken first, with scheduling of the subsequent oral portion contingent on successful completion of the written exam.
• Each Advisory Committee member may submit candidate questions to the student’s advisor. This advisor is responsible for collating the questions, checking for excessive overlap and necessary breadth in topics, and insuring that the written examination is of appropriate length. Each question in the written examination may be closed book, open book, or a combination, as decided by the committee member writing the question.
• ‘Unsatisfactory’ means the student has failed the written examination and must retake and pass a new written examination at a latter date.
• The oral portion is designed to probe in more detail the student’s responses to the written examination. Four of the five committee members must be present at the oral exam, one may participate remotely.
• The composition of the Advisory Committee and the administration of the Ph.D. comprehensive examination must follow the rules of the MEES Program and students degree granting Graduate School.

ECOLOGY
The areas of examination include 3 selections from "core exam areas" and 2 selections from "additional exam areas" as listed here:

Core Exam Areas:
1. Community Ecology
2. Ecosystems
3. Evolution
4. Population Ecology

Additional Exam Areas:
1. Physiological Ecology
2. Statistics and Experimental Design
3. Ecological Energetics
4. Quantitative Ecology

ENVIRONMENTAL CHEMISTRY
The suggested areas of examination are:
1. Environmental chemistry and geochemistry
2. Physical transport processes
3. Environmental toxicology and/or ecology
4. Experimental design and statistical analysis
5. Environmental management/applied science
ENVIRONMENTAL MOLECULAR BIOLOGY and BIOTECHNOLOGY

The suggested areas of examination are 5 out of the 8 items:
1. Biochemistry and Biophysics
2. Molecular Genetics and Evolution
3. Statistics and Modeling
4. Molecular Biology and Biotechnology
5. Physiology and Pathobiology
6. Microbial Ecology
7. Microbial Genetics and Physiology
8. Molecular Approaches to Fisheries and Aquaculture

ENVIRONMENTAL SCIENCE

The suggested areas of examination are 5 out of the 7 items with #1 as mandatory:
1. General Ecology/General Environmental Science
2. Natural Resource Management
3. Environmental Chemistry
4. Statistics and Modeling
5. Environmental Management, Economics, and Policy
6. Environmental Technology and Physical Science
7. Pollution and Environmental Toxicity

FISHERIES SCIENCE

The areas of examination include 3 selections from "core exam areas" and 2 selections from "additional exam areas" as listed here:
Core Exam Areas:
1. Fisheries Science and Management
2. Fisheries Ecology
3. Aquaculture
4. Quantitative Fisheries Science
5. Biological and Chemical Oceanography
Additional Exam Areas:
1. Organic Biology and Ecology
2. Statistics, Modeling, and Mathematics
3. Physiology, Pathobiology, and Biochemistry
4. Evolution & Genetics

OCEANOGRAPHY

The suggested areas of examination are 3 out of the 6 items:
1. Physical Oceanography
2. Biological Oceanography
3. Chemical Oceanography
4. Geological Oceanography
5. Statistics
6. Management
For all Areas of Specialization, note that a copy of the questions and graded answers to the written must be provided to the MEES office following completion of the examination.

Dissertation Proposal
Following successful completion of the comprehensive examination, and generally within one semester, formal application to candidacy (for PhD students) is accomplished following the preparation of a formal dissertation proposal and an oral defense of that proposal. The Advisory Committee must receive the formal research proposal at least two weeks prior to the defense date; the MEES office must be notified of date and committee members at this time. A report of the defense must be filed with the MEES office within two weeks of the defense. The proposal defense should be held within six semesters of entrance into the program, and before the research is completed. Although the format for the proposal may vary depending on topic, in general it is expected to be prepared in the format that is consistent with a formal grant application. It should include a background and review of the literature, a discussion of research progress to date, a hypothesis and statement of objectives, and a complete description of the methodologies to be used. The oral defense provides the opportunity for the student’s committee to determine whether the research plan is sound and whether the student has the proper motivation, intellectual capacity and curiosity, and has or can develop the technical skills necessary to successfully pursue the Ph.D. degree. The student will pass if there are at least four affirmative votes. If failed, the student must re-defend the proposal within 1 year. A second failure will result in cancellation of matriculation.

After the oral defense of the proposal, the signed report on dissertation proposal defense form must be submitted to the MEES Office. Students must be advanced to candidacy at least six months before the final doctoral defense is to be held. At the successful completion of the dissertation proposal defense the student officially applies for Advancement to Candidacy for the Ph.D. degree and should submit the necessary forms to the Director of the MEES Program for transmission to the Registrar’s Office. Students must be admitted to candidacy at least six months prior to the Defense of the Dissertation (final defense).

Application for Advancement to Candidacy
The advancement to candidacy nomination form must be filed with the Office of the Registrar within one week of passing the proposal defense. Students must be advanced to candidacy at least six months before the final defense is to be held. The form can be obtained from the Graduate School.

Dissertation Defense
A candidate for the Ph.D. degree will present a public seminar on the dissertation research during the academic year in which the degree will be awarded. The student and Advisor will be responsible for initiating arrangements through the MEES Office for the date and advertisement of the seminar. The seminar will be open to faculty, students, and other interested parties. The final oral defense of the dissertation is conducted by a committee of the graduate faculty approved by the Dean for Graduate Studies (the Research Advisory Committee plus a Dean’s Representative). All final oral examinations are open to all members of the graduate faculty, although only members of the examining committee may question the candidate. After the
examination, the committee deliberates and votes in private. Two or more negative votes constitute failure. A student may be examined no more than twice. Following successful completion of the final examination, the Research Advisory Committee may conclude that the candidate has passed or failed. A student may be conditionally passed with the provision that minor changes in the thesis be made and approved by the major advisor. A student who fails may at the discretion of the committee and with approval of the MEES Director and the appropriate Graduate School be permitted to stand a second defense after acting on suggestions for improvement of the thesis (collection of more data, use of different statistical analysis, rewriting of the discussion, etc.), at such time as the advisor considers appropriate. Upon completion of the defense, the interim report of examining committee is to be submitted to the MEES Office. The final Report of Examining Committee must be submitted to MEES, upon receipt of all signatures, for submission to the Registrar’s Office. The final dissertation is to be submitted once the major advisor and committee approve all revisions. Once dissertation has been successfully defended, one final copy (after the final edit) must be supplied to the MEES Program Office (mees@umd.edu) electronically in addition to the submission required by the student’s Graduate School.
Degree Requirements Checklists

Masters Degree Checklist

1. **Initial Advisory Meeting**
   A three-member Research Advisory Committee is formed during the first semester and meets with you to discuss your program (mainly coursework, also basic research interests). A report of this meeting must be filed in the MEES Program office by end of your second semester. After this, yearly committee meetings are to be held (reports of annual progress are due every Sept. 30th) in order for the committee to review academic and research progress.

2. **Course Work**
   Approved courses must be completed per the AOS curriculum.
   a. A minimum of 30 credits with 24 credits of course work and 6 credits of graduate research. Of the 24 course credits, 12 of them must be at the 600 level or higher. Exceptions and waivers for equivalent courses taken before entry may be used to meet requirements of your AOS upon approval by the appropriate AOS Committee. Although graduate courses taken elsewhere may serve to fulfill requirements, only six credits from such courses may be transferred.
   b. One seminar course (MEES 608 or equivalent) must be taken for each year in the program (on average).
   c. One approved Statistics course (400 level or higher).
   d. One graduate course representing significant interdisciplinary breadth, preferably outside the student’s AOS.
   e. One course/seminar in Environmental Management (a 3-4 credit course can satisfy item d).

3. **Research Proposal**
   Specifically covers research to be conducted. Should be filed with the MEES Program Office upon approval of the Advisory Committee (no more than 1 year after entrance into the program). If vertebrate animals are used in research, the animal use protocol should be filed at this time before the research is done!

4. **Application for Diploma**
   Filed no later than third week of the semester in which you plan to graduate and at least 6 weeks before your scheduled thesis defense.
   *At UMCP, this can be done through “Testudo” (see important websites)*

5. **Request for Appointment of Thesis Committee**
   Filed through the MEES Program office for the Graduate School no later than the third week of the semester in which you plan to graduate and at least 6 weeks before
scheduled defense*.  

6. **Approved Program Form**  
All coursework for degree, signed by advisor and MEES Director, filed with the Office of the Registrar (by the 5th week of the semester of graduation)*.  

7. **Defense of Thesis Research**  
An oral defense of the research, conducted by a committee of the graduate faculty (see #5 above) must be completed approximately four weeks before end of the semester in which you plan to graduate*. Formal announcement must be submitted through MEES Office to all members of MEES faculty at least two weeks prior to defense. Report of this defense must be signed by the MEES Program Director and then sent to the Office of the Registrar. The signature form will be sent to the major advisor once the committee is approved (see step 5).  

8. **Report of Examining Committee and Thesis Filed**  
Thesis must be filed two to three weeks prior to graduation (dates announced yearly)*. Thesis format must follow all rules specified by the Office of the Registrar.  

    *At UMCP, submission of the final thesis can be done electronically.*  

9. Final thesis **must** be submitted to the MEES Program office electronically.  

    *Check with Graduate School for specific deadlines.*
PhD Degree Checklist

1. **Initial Advisory Meeting**
   A three-member Research Advisory Committee is formed during the first semester and meets with you to discuss your program (mainly coursework, also basic research interests). A report of this meeting must be filed in the MEES Program office by end of your second semester. After this, yearly committee meetings are to be held (reports of annual progress are due every Sept. 30th) in order for the committee to review academic and research progress.

2. **Course Work**
   Approved courses in the areas listed in the MEES guide must be completed per the AOS curriculum.
   a. The student must complete a minimum of 36 credits, with at least 24 credits of coursework and 12 credits of dissertation research. At least twelve credits of course work must be at the 600 level or above. Credits used to obtain a M.S. degree at U.M. or elsewhere cannot be transferred to the Ph.D. program. However, if a student has completed a M.S. degree, up to 16 credits of appropriate courses can be waived by petition to the AOS committee.
   b. One seminar course (MEES 608 or equivalent) is required for each year in the program (on average).
   c. One approved Statistics course (600 level or higher).
   d. One graduate course representing significant interdisciplinary breadth, preferably outside the student’s AOS.
   e. One course or seminar in Environmental Management (a course can satisfy d).

3. **Research Proposal**
   Covers as specifically as possible the research to be conducted. This should be filed with the MEES Program Office as soon as it is approved by the Advisory Committee (no later than 1 year after entrance into the program). If vertebrate animals are to be used in the research, the animal use protocol should be filed at this time, as well, before the research is done!

4. **Written and Oral Comprehensive Examination**
   Administered by the Advisory Committee. The MEES office must be notified of dates and committee members at least two weeks prior to exam. Exam must follow AOS guidelines. A report of the completed exam must be filed with the MEES office within two weeks of the oral exam date. The comprehensive exam must be successfully completed prior to the proposal defense. Comprehensive exams should be completed between 18 and 24 months after entrance into the MEES program. A copy of the questions and graded answers to the written portion of the exam must be provided to the MEES office following completion of the examination.

5. **Dissertation Proposal Defense**
Advisory Committee must receive the formal research proposal at least two weeks prior to the defense date and the MEES office must be notified of the defense date and committee members at this time. A report of the defense must be filed with the MEES office within two weeks of defense. The proposal defense should be held within two years of entrance into the program, and before the research is completed.

6. MEES Approved Program Form
Form listing all coursework for degree must be filed with the MEES office before applying for Advancement to Candidacy.

7. Application for Advancement to Candidacy
Form to be filed with the Office of the Registrar within one week of passing proposal defense. Student must be advanced to candidacy at least six months before the final defense is to be held.

8. Application for Diploma
Must be filed no later than the third week of the semester in which the student plans to graduate and at least 6 weeks before the scheduled defense.

* At UMCP, this can be submitted online through “Testudo” (see important websites).

9. Request for Appointment of Dissertation Committee
Must be filed (through the MEES office) with the Office of the Registrar no later than the third week of the semester in which the student plans to graduate and at least 6 weeks before the scheduled defense*.

10. Dissertation Seminar
A publicly announced seminar on the dissertation research must be presented prior to the defense of the research. The MEES office must receive an announcement of the seminar at least 10 days prior.

11. Defense of Dissertation Research
An oral defense of the research, conducted by a committee of the graduate faculty (see #9 above) must be completed approximately four to five weeks before the end of the semester in which the student plans to graduate (dates announced yearly)*. The report of this defense must be signed by the MEES Program Director and then submitted to the Office of the Registrar. The signature form will be sent to the major once the committee is approved (see step 9).

12. Dissertation Filed
Dissertation must be filed with the Office of the Registrar three to four weeks prior to graduation (dates announced yearly)*. Dissertation format must follow all rules specified by the UMD Graduate School.

*At UMCP, the final dissertation can be submitted electronically.

13. Final thesis must also be submitted to the MEES office electronically.

*Check with Graduate School for specific deadlines.
Offering a MEES Course

Scheduling
Course scheduling is done well in advance of each semester. E-mails are sent to the faculty listserv e-mail list (contact the MEES Office to make sure that you are on this list) when the scheduling for a certain semester is being done.

During the scheduling period:
1) For adding new courses, a request should be sent to the MEES Office that includes the title, credits, instructor and a description of the proposed offering.
2) Previously or currently offered courses should be reviewed for any updates or changes (title, day/time, instructors).
3) The MEES Program Office will work with instructors for scheduling, most importantly for IVN time. Scheduling times on IVN is basically done on a first-come, first-served basis, with 3-4 credit courses scheduled first, followed by 1-2 credit seminars.

Interactive Video Network (IVN)
Once a course is approved and has been scheduled, it will receive a 6-digit “conference ID” number that each site will use on the IVN system to call into the class. Some courses use the same “conference ID” depending on the location of the professor.

The IVN setup varies by each site however the IVN system is designed to be able to hook up to laptops, projectors and ELMO’s. If you will require access to any additional equipment please contact your Site Coordinator to ensure that all equipment works properly and has no issues connecting with the IVN system prior to the start of class. Certain sites might also have the option for additional cameras. Please contact your Site Coordinator to find out if your site has the option and if so how to use these different cameras.

Proctoring an Exam on the IVN Network
If you are giving an in-class exam where you have students at remote sites, it is your responsibility to confirm that there will be someone at each site to proctor each exam. It is the proctor's job to distribute the exams and collect them when students are finished, and then forward them onto the professor in whichever manner the professor wishes (via email, regular mail, etc.). If you need to have a proctor, please contact someone at each site to confirm that they will be available to proctor the exam at least one week before your exam is scheduled.

Offering a New MEES Course
In order to add a new MEES course offering, a basic description of the course must be submitted to the MEES office for approval. If the course is planned to fulfill an AOS requirement, the MEES office will forward for approval to the appropriate AOS committee.

Accessing Rosters and Submitting Grades
1) Rosters are available through the campus systems. For all UMCP-based MEES courses, this is through the UMEG system (see www.sis.umd.edu/umeg/)
2) Grades are expected to be submitted promptly at the conclusion of the course. For all
UMCP-based MEES courses, this is through the UMEG system (see [www.sis.umd.edu/umeg/](http://www.sis.umd.edu/umeg/))

Currently +/- grading is available at UMB/UMBC and UMCP. As this method is not currently available on all campuses, however, we are requesting that the campuses not calculate +/- into student GPAs.

Standard grading method for MEES seminars is the Satisfactory/Unsatisfactory (S/U) method, unless there is truly a “gradable” product from the students.

Thesis and dissertation research credits also use the Satisfactory/Unsatisfactory (S/U) method for grade submission.

**On-line Materials**

Many courses take advantage of the UMCES Moodle or UMCP Blackboard systems for on-line class materials. You will need a userID and password to gain access to both Moodle and Blackboard. Faculty and students at UMCES can access Moodle through [http://moodle.umces.edu/](http://moodle.umces.edu/). Faculty and students at UMCP can access Blackboard powered by ELMS through [https://elms.umd.edu](https://elms.umd.edu). There are help tools on both Moodle and ELMS to help faculty navigate the site. For Moodle there is a “Learning Moodle” tab which provides useful information for Professors and TA’s. On ELMS there is a “Faculty” tab which provides useful information about how to navigate ELMS and upload courses/materials, etc.