



The Horn Point Graduate Student Handbook

2004-2005



The preparation of this handbook was a cooperative effort. Special thanks to Pat Glibert, Jane Hawkey, Dave Miller, and Debbie Morrin-Nordlund.

Table of Contents

Introduction	4
The Center for Environmental Science	4
Highlights of some of the University of Maryland System Campuses	6
The Marine Environmental and Estuarine Studies Program	
Program Overview	8
Areas of Specialization	8
Ecology	8
Environmental Chemistry	9
Environmental Molecular Biology/Biotechnology	9
Environmental Science.....	9
Fisheries Science	9
Oceanography.....	10
Graduate Student Milestones	
Admission and Prerequisites.....	10
Annual Committee Reviews	12
Course Requirements	12
Comprehensive Examinations	14
Dissertation Proposal	16
Dissertation Defense	17
Recap and Checklist of Requirements	19
Preparation of the Dissertation	21
MEES Forms	21
MEES Graduate Program Time Limits	21
Part-time Student Status.....	22
Important Procedures for Students	
Registration.....	22
Textbooks	23
Tuition Remission	23
College Park Student Fees.....	23
Grade Reports – Student Access	23
Transcript Request	23
Important Procedures for Faculty	
Scheduling Classes on the Interactive Video Network.....	24
Retrieving Class Registration Lists	24
Submitting Grades.....	24
Reviewing New Student Applicants	24
Foreign Student Information and Procedures	25

Horn Point Laboratory

Campus and Facilities	26
Services	
Computer, Email and Telephone	28
Visual Arts	28
Horn Point Library	29
Analytical Services	29
Machine Shop	29
Shipping and Receiving	29
Work Orders	29
Front Office Staff	30
Health, Safety and Specialized Activities	
Small Boat Handling	30
Scientific Diving	31
Radiation Safety	31
Other Policies	31
Horn Point Graduate Student Activities, Opportunities and Responsibilities	
Student Orientation	32
UMCES/MEES Graduate Colloquium	32
MEES Graduate Student Organization	32
Small Student Grants	32
Travel Awards	33
Teaching Assistantships	33
Outreach Activities	33
Student Seminars	33
Ian Morris Scholar in Residence	33
HPL Seminars	34
Journal Club	34

The City of Cambridge

Housing	35
Attractions	35
Hotels	36
Other Local and Regional Activities	36

Appendices

I. Directions	37
II. Forms	39
III. Key Policies	44

Introduction

The purpose of this document is to provide a helpful resource for students and faculty for information pertinent to academic, research, and social activities of the Horn Point Laboratory (HPL). Some of the information contained in this document is available from a number of alternative sources, particularly the MEES, Horn Point, and College Park websites, but it has been combined here to make life easier for the members of the Horn Point community. The hope is that this handbook will help new students and employees adjust to life at Horn Point and will help returning students and faculty through the many policies and procedures of Horn Point and our associated campuses.



Important Websites

www.hpl.umces.edu

www.mees.umd.edu/index.htm

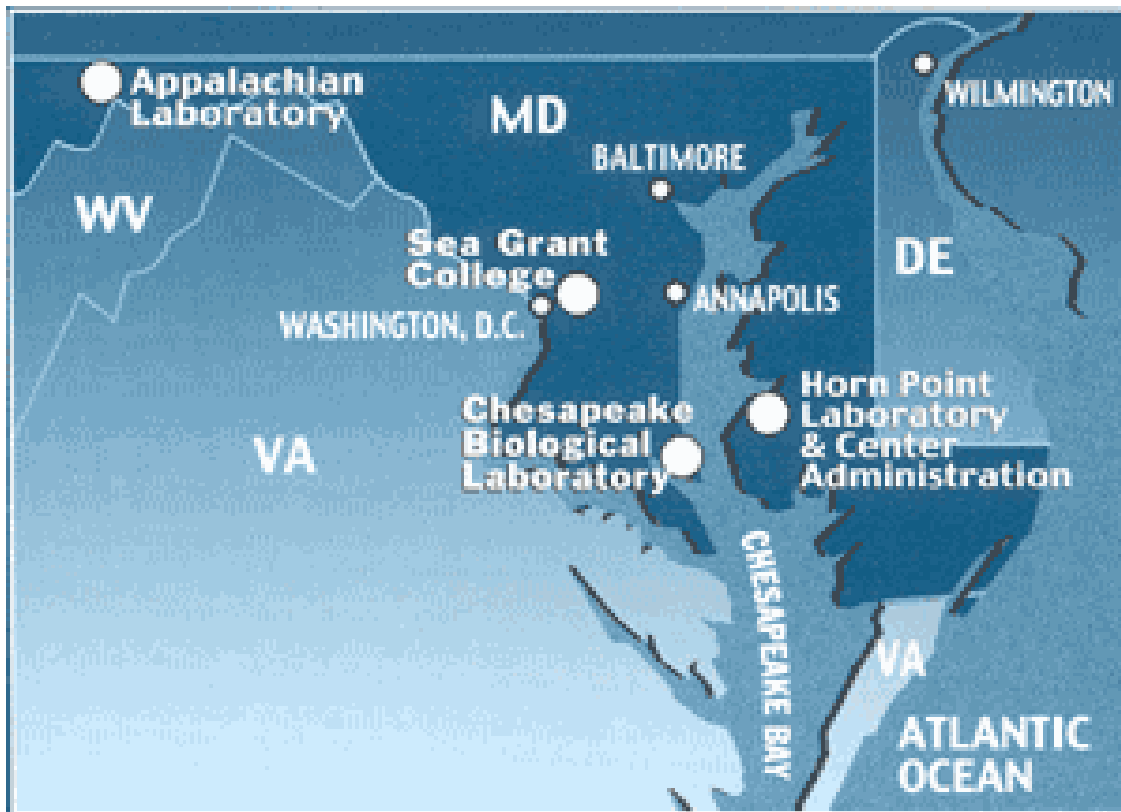
The Center for Environmental Science

The Horn Point Laboratory is one of three research units of the University of Maryland Center for Environmental Science (UMCES). UMCES is one of 13 institutions of the University System of Maryland. The Horn Point Laboratory is located on the banks of the Choptank River near the city of Cambridge, Maryland. HPL faculty and students conduct research on freshwater, estuarine and oceanic environments in the Chesapeake Bay region and many other parts of the world. The HPL campus occupies the 850-acre former estate of Francis V. duPont on Maryland's Eastern Shore. The Chesapeake Biological Laboratory at Solomons, Maryland, is located at the mouth of the Patuxent River, in the town of Solomons, MD, on the western shore of Chesapeake Bay. Founded in 1925 by Dr. Reginald V. Truitt, CBL is one of the oldest marine laboratories on the east coast. The Chesapeake Biological laboratory is the home

port of UMCES research vessels. The Appalachian Laboratory was founded in 1962, and is located on the campus of Frostburg State University in the mountains of western Maryland. Collectively these laboratories provide the opportunity for study from land to the sea.

UMCES is also responsible for the administration of the Maryland Sea Grant College program. These offices are located on the University of Maryland College Park Campus. Focused on making the United States the world leader in marine research and sustainable development of marine resources, MDSG is one of 30 State Sea Grant programs at over 200 universities and is housed at the University System of Maryland College Park campus. Maryland Sea Grant began as a program in 1977, obtained Sea Grant College status in 1982 and came under the UMCES' guidance in 1999.

Lastly, UMCES maintains a small suite of offices near the State House in Annapolis, MD. Known as the Liaison Office, the Annapolis facility provides a convenient meeting site for small conferences and committee meetings.



Highlights of some of the University of Maryland System campuses

All of the University System campuses have much to offer students and the broader HPL community. Some of the campuses with which HPL and/or the MEES program frequently interact include:



University of Maryland College Park (UMCP) is the largest of the University's campuses and offers comprehensive programs in the arts, sciences, agriculture, engineering, and education at both the undergraduate and graduate levels. The campus, a land grant institution, is counted among the major research universities in the United States with support from federal, state, and private sources for its research activities. The location of the campus immediately adjacent to Washington, DC makes available to students the cultural and intellectual resources of the nation's capital.



University of Maryland Eastern Shore (UMES) is an 1890 Land Grant institution located in Princess Anne, MD. UMES is unique in its location midway between the Chesapeake Bay and the Atlantic Ocean and has an undergraduate effort in marine, estuarine and environmental sciences. UMES also contributes to the MEES program.

University of Maryland Baltimore (UMB) is located in downtown Baltimore. The University's campus is one of the country's first centers for professional education. The founding of the School of Medicine in 1807 provided the nucleus for the campus, which expanded in 1840 to include the Baltimore College of Dental Surgery. Sharing the campus with these two schools today are the 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) is located southwest of downtown Baltimore. It is a relatively recent campus, having been established in 1966. Departments that are noteworthy at UMBC include biological sciences, chemistry, and the fine arts. UMBC has a suburban setting, but is strategically located in the Northeast corridor. Baltimore, Washington, and College Park are all less than an hour away.



The Center of Marine Biotechnology of the University of Maryland Biotechnology Institute, located in downtown Baltimore, is dedicated to research and education in marine molecular biology and molecular genetics. The research and training programs carried out are interdisciplinary and

interactive, based on applied and basic research, with service to industry, government, and other institutions.



Salisbury University (SU) is a dynamic academic community serving Maryland's Eastern Shore, Salisbury University offers 30 undergraduate majors. Master's programs include English, Psychology, Education, Nursing, Business, and History. Salisbury has four endowed schools, a rarity among public institutions: the Perdue School of Business, the Henson School of Science and Technology, the Seidel School of Education and Professional Studies and the Fulton School of Liberal Arts. Nationally cited as a "best value", SU offers an honors program for its top scholars and individual attention to all students.



Situated in the mountains of Allegany County, **Frostburg State University (FSU)** is Western Maryland's regional university. The only four-year USM institution west of the Baltimore-Washington area, FSU also serves as the region's premier educational and cultural center. Strong programs in liberal arts, business, computer science, physical education, and environmental studies draw students from around the world at both the undergraduate and graduate levels. A low student-faculty ratio permits close personal attention and a learner-centered environment.

The Marine Estuarine and Environmental Sciences Program

Program Overview

The Marine-Estuarine-Environmental Sciences (MEES) Program is a cross-campus graduate program leading to M.S. and Ph.D. degrees. Although some students matriculate through other programs, almost all students at Horn Point are enrolled through MEES. The mission of the MEES Program is to train graduate students in the environmental sciences.

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 interests of students in the program are diverse, but generally center on some aspect of the interaction between biological and physical or chemical systems. The analysis of this interaction may be anything from a study of molecular mechanisms to an assessment of the economics of an environmental impact. To ensure that all students in the program have some understanding of the breadth of information in the field of environmental sciences, each student is required to have course work in a variety of areas.

The MEES Program is interdisciplinary; its faculty consists of members from numerous units within the University System of Maryland. In most cases, students within the MEES Program work in the laboratory of their research advisor in the department or unit to which the advisor belongs.

Courses taken by MEES students are taught on all campuses of USM and at the research laboratories. A course taught anywhere within USM is available to any graduate student registered at any campus through intercampus enrollment. Many courses are taught on interactive video, making them available to students without traveling.

Areas of Specialization

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

The MEES Program provides access to a strong curriculum of interdisciplinary graduate training and research in 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 (e.g., marine benthic community ecology as one area of study or the evolution of terrestrial communities as another). Students successfully completing this Area of Specialization could go on to academic appointments in a variety of departments (e.g., Environmental Sciences, Ecology, Biology, Zoology, Botany, etc.), or work for environmental consulting companies, as well as federal or state government agencies.

Environmental Chemistry

The objective of the Environmental Chemistry Area of Specialization (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. Students graduating from MEES through this AOS will find professional positions in Federal, state, and local government agencies (such as EPA, FDA, NIH), private chemical and manufacturing industries, academic institutions, and consulting firms.

Environmental Molecular Biology/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. Faculty in this area frequently study macromolecular-environmental interactions using recombinant DNA and hybrid approaches. The Environmental Molecular Biology and Biotechnology Area of Specialization encourages interaction between campuses and is synergistic with other AOSs.

Environmental Science

This Area of Specialization provides broad training in the environmental sciences. It is offered 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

Fisheries Science is multidisciplinary, 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. Most career opportunities in fisheries science are in the government and academic sectors, although in recent years, private businesses, research firms and aquaculture

businesses offer increasingly diverse career choices. Course work and research undertaken by MEES students emphasize three fields of study: Fisheries Ecology, Fisheries Management, and Fisheries Aquaculture.

Oceanography

In the past decade, the University System of Maryland has emerged as a nationally and internationally recognized center for oceanographic research. The Horn Point Laboratory (HPL) and the Chesapeake Biological Laboratory (CBL), and the Meteorology Department at the University of Maryland, College Park (UMCP) are most active in this field, with the research of at least 25 faculty focusing on oceanography.

Students in this AOS have access to extensive oceanographic facilities throughout the USM as well as the opportunity to work with some of the University's outstanding faculty in oceanography. Fundamental courses in the three major sub-fields of oceanography are required to provide interdisciplinary breadth, but a degree in the Oceanography AOS emphasizes the student's independent research. Students graduating from the Oceanography AOS can expect to find jobs in universities, oceanographic laboratories, government agencies, and consulting firms.

Graduate Student Milestones

Admission and Prerequisites

Applicants will be considered for admission and advising on all campuses by faculty associated with an appropriate Area of Specialization, based on the applicant's requests. Prospective students may apply through either the Graduate School at the University of Maryland Baltimore County (for UMBC and UMAB), the Graduate School at College Park, or the Graduate School at the University of Maryland Eastern Shore. In general, a student who has identified a specific member of the faculty with whom to work should apply to the campus where that faculty member is affiliated.

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. Extensions can be granted by the MEES Director if a course is not available to the student in the first year.

PREREQUISITES FOR ADMISSION TO EACH AOS

<p>ECOLOGY A Bachelor's degree in the natural or life sciences (i.e., equivalent to UM undergraduate Biology degree):</p> <ol style="list-style-type: none"> 1. Two semesters of Calculus 2. Two semesters of Introductory Chemistry 3. Two semesters of Organic Chemistry or Biochemistry 4. Two semesters of Physics 5. Two semesters of Introductory Biology (or high placement test, high GRE Biology scores) 6. One Ecology course and two other Advanced Biology courses 	<p>ENVIRONMENTAL CHEMISTRY A Bachelor's degree in the natural sciences or engineering, including:</p> <ol style="list-style-type: none"> 1. Two semesters of Calculus 2. Two semesters of Physics 3. Two semesters of General Chemistry 4. Two semesters of Biology 5. Two semesters of Organic or other Advanced Chemistry (e.g., Biochemistry)
<p>ENVIRONMENTAL MOLECULAR BIOLOGY/BIOTECHNOLOGY A Bachelor's degree in the natural sciences, life sciences, or engineering including:</p> <ol style="list-style-type: none"> 1. Four semesters of Biology, including Biochemistry 2. Two semesters of Physics 3. Four semesters of Chemistry 4. Two semesters of Calculus 5. Two semesters of Molecular Biology/Molecular Genetics 	<p>ENVIRONMENTAL SCIENCE An undergraduate degree in the natural sciences or engineering including:</p> <ol style="list-style-type: none"> 1. Two semesters of Calculus 2. Two semesters of Introductory Chemistry 3. Two semesters of Physics 4. Two semesters of Introductory Biology (or high placement test, high GRE Biology scores) 5. An Ecology course and other advanced Environmental Science courses are recommended
<p>FISHERIES SCIENCE A Bachelor's degree in the natural sciences or other field with a strong quantitative emphasis, including</p> <ol style="list-style-type: none"> 1. Two semesters of Calculus 2. Two semesters of Introductory Chemistry 3. Two semesters of Organic Chemistry, Biochemistry, or Physics 4. Two semesters of Introductory Biology (or high placement test, high GRE Biology scores) 5. Advanced Biology courses, such as Ecology and Ichthyology, are recommended 	<p>OCEANOGRAPHY <i>Biological Oceanography:</i> A Bachelor's degree in the natural or life sciences (i.e., equivalent to UM undergraduate Biology degree), including:</p> <ol style="list-style-type: none"> 1. Two semesters of Calculus 2. Two semesters of Introductory Chemistry 3. Two semesters of Organic Chemistry or Biochemistry 4. Two semesters of Physics 5. Two semesters of Introductory Biology <p><i>Physical Oceanography:</i> A Bachelor's degree in a physical science, including:</p> <ol style="list-style-type: none"> 1. Two semesters of Calculus 2. Two semesters of Physics 3. One or two additional advanced math courses 4. One or two additional advanced physical sciences courses 5. Two semesters of Introductory Biology and/or Chemistry are highly recommended

Annual Committee Reviews

All MEES students are required to convene a committee meeting at least once per year and at that meeting provide a progress report summarizing their research and coursework to date, including a transcript. Further, a report summarizing the meeting, with a transcript and signatures of all committee members, will be filed with the MEES office within 2 weeks of the meeting. A form for this report is available on the MEES web site. It will be the responsibility of the advisor to see that this is done annually by the student.

Course Requirements

The course requirements differ for each AOS as follows. The MEES website should also be consulted.

ECOLOGY

1. Population Biology, including mathematical modeling (600 level, 3-4 credits)
2. Ecosystem Ecology and/or Community Ecology (600 level, 3-4 credits)
3. A 400 or 600 level course from one of the other MEES AOSs (from an approved list)
4. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
5. One graduate level seminar for each year in residence (on average)
6. Courses in Experimental Design and Analysis and in Scientific Writing are strongly recommended
7. One course or seminar in the philosophy of science, ethics and/or Environmental Management (a 3-4 credit course can satisfy item 4) (400 or 600 level, 1-4 credits)
8. A specialized field or laboratory based Ecology course (600 level, 3-4 credits)

ENVIRONMENTAL CHEMISTRY

Requirements for students entering 2004 or later (M.S. and Ph.D.):

1. One fundamental and one advanced course in Environmental Chemistry or Geochemistry (one 400-600 level, one 600-700 level, 3-4 credits)
2. One course in Physical Transport Processes (600 level 3-4 credits)
3. One course in Aquatic Toxicology/Ecology (600 level 3-4 credits)
4. One 400 or 600 level course from one of the other MEES AOSs (from an approved list)
5. One course or seminar in Environmental Management, Policy, Ethics, or Philosophy of Science (a 3-4 credit course can satisfy item 4) (400 or 600 level)
6. A course in Statistics/Applied Mathematics (600 level for the Ph.D., 400 level for the M.S.)
7. One graduate level seminar for each year in residence (on average) up to cap
8. One or more courses in Physical Chemistry are strongly encouraged (2-4 credits each)
9. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended

Requirements for students entering prior to 2004 (M.S. and Ph.D.):

1. One course in Environmental Chemistry or Geochemistry (400 or 600 level, 3-4 credits)
2. One course in Physical Transport Processes (400 or 600 level 3-4 credits)
3. One course in Aquatic Toxicology/Ecology (400 or 600 level 3-4 credits)
4. One 400 or 600 level course from one of the other MEES AOSs (from an approved list)
5. One course or seminar in Environmental Management (a 3-4 credit course can satisfy item 4) (400 or 600 level)
6. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
7. One graduate level seminar for each year in residence (on average)
8. One or more courses in Physical Chemistry are strongly encouraged (2-4 credits each)
9. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended

ENVIRONMENTAL MOLECULAR BIOLOGY/BIOTECHNOLOGY

1. One course in Molecular Biology/Genetics (600 level, 3-4 credits)
2. One course in Cell Biology/Physiology (600 level, 3-4 credits)
3. One course in Ecology (400 or 600 level, 3-4 credits)
4. One course in Advanced Chemistry /Biochemistry (400 or 600 level, 3-4 credits)
5. One elective 400 or 600 level course
6. One course or seminar in Environmental Management, Policy, Ethics, or Philosophy of Science (a 2-4-credit course can satisfy item 5) (400 or 600 level)
7. One course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
8. One graduate level seminar for each year in residence (on average) up to cap
9. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended

Note: For the M.S. degree, only three of the first four requirements must be fulfilled (5-8 are required for all students).

ENVIRONMENTAL SCIENCE

1. One approved course from three of the four distribution areas (biology, chemistry, physical science, management) for M.S. students; and from each of the four distribution areas for Ph.D. students. One of these courses can be at the 400 level, the others will be at the 600 level or above
2. One course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
3. One graduate level seminar for each year in residence (on average) up to cap
4. One or more courses in computer science or computer applications are strongly recommended
5. Courses in Experimental Design and Analysis and in Scientific Writing are also recommended

FISHERIES SCIENCE

At least 3 of the following 5 courses must be successfully completed by all students entering the Fisheries Science AOS. The requirements may be waived if equivalent course work has been obtained elsewhere, or if the student and his or her Research Advisory committee successfully petition the AOS Committee.

1. Fisheries Science and Management
2. Fisheries Ecology
3. Aquaculture
4. Quantitative Fisheries Science
5. Graduate Level Course in Oceanography (physical, chemical or biological) or Stream Ecology

In addition, the following core courses are required:

6. A 400 or 600 level course from one of the other MEES AOSs (from an approved list, which can include items 2, 4, and 5)
7. One course or seminar in Environmental Management (item 1 or 4 satisfies this requirement; any such 3-4-credit course can satisfy item 6)
8. A course in Statistics/Biostatistics (600 level for the Ph.D., 400 level for the M.S.)
9. Courses in Experimental Design and Analysis and in Scientific Writing are strongly recommended
10. One graduate level seminar for each year in residence (on average).

OCEANOGRAPHY

Biological Oceanography:

1. One 3-credit course in Physical Oceanography (MEES 661 or equivalent)
2. One 3-credit course in Biological Oceanography (MEES 621 or equivalent)
3. One 3-credit course in Chemical Oceanography (CHEM 723 or equivalent)
4. Two 3-credit courses in Oceanography or related fields (400 or 600 level) including: a recommended additional interdisciplinary course, although item 1 above can satisfy the MEES requirement for interdisciplinary depth
5. One course in Statistics/Biostatistics (600 level for Ph.D. and 400 level for M.S.)
6. One course or seminar in Management, Scientific Philosophy or Ethics
7. One graduate level seminar for each year in residence (on average) up to cap
8. Courses in Experimental Design and Analysis and Scientific Writing are recommended.

Physical Oceanography:

1. One 3-credit course in Physical Oceanography (MEES 661 or equivalent)
2. One 3-credit course in Biological Oceanography (MEES 621 or equivalent)
3. One 3-credit course in Chemical Oceanography (CHEM 723 or equivalent)
4. Two 3-credit courses in Oceanography or related fields (400 or 600 level) including: a) one course in rotating fluid dynamics, and b) one course in non-rotating fluid dynamics
5. One course in Statistics/Biostatistics (600 level for Ph.D. and 400 level for M.S.)
6. One course or seminar in Management, Scientific Philosophy or Ethics
7. One graduate level seminar for each year in residence (on average) up to cap
8. Courses in Experimental Design and Analysis and Scientific Writing are recommended.

Comprehensive Examinations

All PhD students are required to pass a comprehensive exam. The exam is typically taken at the end of the fourth semester, and no later than the end of the fifth semester. The format for the comprehensive exam varies slightly between AOS tracks. Students should consult their advisor for the specific format of his/her exam, but the general guidelines are as follows.

The comprehensive examination generally 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 examination is taken first, with scheduling of the subsequent oral examination contingent on successful completion of the written exam. Each Advisory Committee member may submit candidate questions to the student's advisor, who 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 committee member writing the question.

The student's responses to the written examination are distributed to the Advisory Committee members for evaluation. Generally, the student's responses to the written examination questions are evaluated by the committee as 'unsatisfactory', 'satisfactory but requiring further elaboration', or 'satisfactory'. If the majority of the committee rates the responses in the latter two categories, then the oral examination may be scheduled. If the majority rates the responses

‘unsatisfactory’, the student has failed the written examination and must retake and pass a new written examination at a latter date.

The oral portion of the comprehensive examination is designed to probe in more detail the student’s responses to the written examination. Other topics may also be discussed.

The composition of the Advisory Committee and the administration of the Ph.D. comprehensive examination must follow the rules of the MEES program and the institution’s Graduate School.

ECOLOGY

The areas of examination include three core areas and two additional areas:

Core Exam Areas

Three of four comprehensive exam areas:

1. Community Ecology
2. Ecosystems
3. Evolution
4. Population Ecology

Additional Exam Areas

Two of four comprehensive 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/BIOTECHNOLOGY

The suggested areas of examination are:

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 as follows. Ph.D. students should be examined in *five* of these *seven* areas, with General Ecology/General Environmental Science required to be one of the *five*.

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 Ecology and Environmental Toxicity

OCEANOGRAPHY

The suggested areas of examination are as follow. Each Oceanography AOS student will be examined in at least *three* of the following areas:

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. The link to forms for submission of outcome of the comprehensive exam is provided below.

Dissertation Proposal

Following successful completion of the comprehensive examination, and generally within one year, formal application to candidacy (for PhD students) is accomplished through the preparation of a dissertation proposal and an oral defense of that proposal. 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 defense. The proposal defense should be held within two years 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 passes 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.

Following the oral defense of the proposal, the signed form must be filed with the Graduate School within one week of passing proposal defense. A link to the appropriate form is provided below. Students must be advanced to candidacy at least six months before the final defense is to be held. At the successful completion of this 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 Graduate School. Students must be admitted to candidacy at least six months prior to the Defense of the Dissertation (final defense).

Dissertation 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.

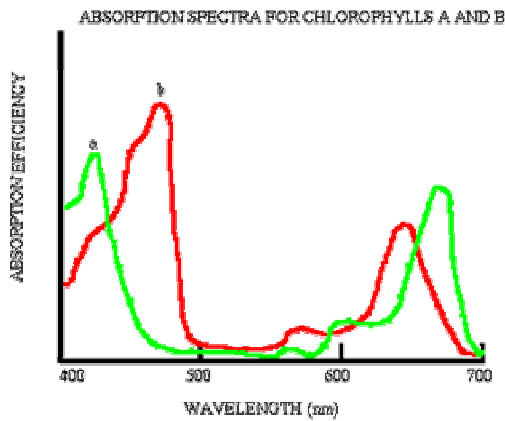
Nominations for membership on this committee are submitted on the designated form through the MEES Director by the student's Advisor, by the third week of the semester in which the student expects to complete all requirements, and no later than six weeks, prior to the dissertation defense. The time and place of the examination are established by the chair of the committee. The student is responsible for distributing a complete, final copy of the dissertation 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.

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 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. The student may be examined no more than twice. Following successful completion of the final

examination, a final copy of the dissertation must be supplied to the MEES Office, in addition to those required by the Graduate School.

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. Once the thesis has been successfully defended, one copy must be supplied to the MEES Office in addition to the copies required by the Graduate School. For Horn Point students, one copy should also be given to the Horn Point Library.



Student theses span the range from molecular, physiological, organismal to ecological.

Recap and Checklists

Provided below is a summary checklist of the requirements for each degree. Detailed descriptions of these requirements have been given above.



MS Student Checklist

1. Course work

- 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 the student's 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. Courses used to fulfill requirements for a previously awarded degree cannot be used for transfer credits.
- b. One seminar course (MEES 608 or equivalent) must be taken for each year in residence (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 or seminar in Environmental Management (a 3-4 credit course can satisfy item d).

2. Thesis defense. 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. Following successful completion of the final examination, a final copy of the dissertation must be supplied to the MEES Office, in addition to those required by the Graduate School. One copy must also be given to the Horn Point Library. It is recommended that each committee member also receive a copy of the dissertation.



PhD Student Checklist

1. Course Work

- a. The student must complete a minimum of 36 credits, with at least 24 credits of course work and 12 credits of dissertation research. 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 residence (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).

2. Examinations

- a. Comprehensive Examination. The exam must be taken by the end of the student's fifth semester. The MEES Director's Office must be notified at least 2 weeks in advance of the pending examination. A report of the examination will be filed with the Director's Office following the examination.
- b. Dissertation Proposal Defense. The research proposal should be defended within 1 year of passing the Comprehensive Examination and at least 1 year before projected completion of the degree requirements. The Director's Office must be notified of the pending examination several weeks prior to its administration and a report of the examination must be filed with the Director's Office following the examination. At the successful completion of this 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 Graduate School.

3. Dissertation Seminar and Defense of the Dissertation Research.

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. Following successful completion of the final examination, a final copy of the dissertation must be supplied to the MEES Office, in addition to those required by the Graduate School. One copy must also be given to the Horn Point Library. It is recommended that each committee member also receive a copy of the dissertation.

Preparation of the Dissertation

The format and preparation of the dissertation must follow strict guidelines. However, these vary by campus to which the student is enrolled (i.e. College Park, Frostburg State, etc.), and by degree and discipline. The MEES website provides links to each of these requirements.

MEES Forms

The following forms are downloadable from the MEES website (www.mees.umd.edu/index.htm) and are also available on the HPL graduate education website (www.hpl.umces.edu), and current forms can be found in Appendix II.

- Research Advisory Committee Meeting Report
- Annual MEES Student Progress report
- Report on Doctoral Comprehensive Examination
- Report on Defense of Dissertation Proposal

Consult the web before using these forms as they are updated from time to time.

The Graduate School of the degree-granting campus (i.e. College Park, Frostburg State, etc.) should also be consulted for additional forms for approval of advisory committees, dissertation defense, and graduation.

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 by the MEES 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.

Important Procedures for Students

Registration

Registration for courses is done through the internet. This applies to courses taught at Horn Point, College Park, or any of the other campuses of the University of Maryland System, such as University of Maryland Eastern Shore (UMES) or University of Maryland Baltimore County (UMBC).

Students do not automatically receive copies of the schedule of classes – you must access this information through the Testudo website. To access information on the web, your student ID is your social security number and your PIN number is originally set to be your birthday (MMDDYY). You can change your PIN number both over the web (via Testudo) and over the phone.

If you have difficulty registering for a particular course because the permission of the department is required, phone the MEES office (410-405-6938) for an electronic stamp for that course. The departmental permission should be entered into the registration computer within a day, and you will be able to register for the course.

Key Facts

MEES Website: www.mees.umd.edu/index.htm

MEES Director: Dr. Ken Paynter

MEES Assistant : Debbie Morrin-Nordlund

MEES office phone: 301-405-6938

Key Facts

www.testudo.umd.edu is the source for:

- course registration
- class offerings
- academic calendar
- account information
- transcript requests
- grades
- parking information

Textbooks

The required textbooks for courses offered through College Park are usually sold at the University Book Center located in the basement of the Stamp Student Union in College Park and at the Maryland Book Exchange located across from the College Park campus on Route 1. The University Book Center has a web page at: <http://www.ubc.umd.edu/> where students can check the availability and costs of required textbooks for individual courses. Many classes do not require books, and instead use primary literature that can be accessed via the web.

Tuition Remission

Many students are eligible for tuition remission. Tuition remission covers the cost of class credits for the student and is paid by the grant or assistantships that has been awarded to the student. Forms are made available approximately one month before the beginning of the semester and an email reminder is usually sent around that time. Tuition remission may be available for the summer and winter semesters as well. Contact the HPL Director's office if you have questions about tuition remission.

College Park Student Fees

All students at the University of Maryland College Park are charged mandatory student fees which cover such things as shuttle bus service, tickets to athletic events and use of campus recreational facilities. Students at off-campus labs (i.e. HPL, CBL, and AL) can have these fees waived if they agree not to use any of the above mentioned services. Currently MEES makes a list of students each semester who want these fees waived, graduate student representative at each campus collects names and provides them to the MEES office.

Grade Reports

End of semester grade reports are not mailed to students. To obtain final grades check the Testudo website.

Transcript Requests

Copies of unofficial transcripts can be obtained at almost any time via the internet through Testudo (<http://www.testudo.umd.edu/Registrar.html>). Likewise, official transcripts can be requested from the same website. There is no charge for official transcripts.

Important Procedures for Faculty

Scheduling Courses on the Interactive Video Network (IVN)

Courses on IVN are scheduled almost a year in advance. An email reminder will be circulated. The IVN schedule is usually heavily booked.

Retrieving Class Registration Lists

Class registration lists can be accessed on the Testudo web site using a faculty password.

In general, classes should have no fewer than 5 students to be offered, although exceptions may be made.

Submitting Grades

Grades must be submitted electronically following the Testudo web site instructions. It is up to the faculty members to submit grades on time, including grades for students who are enrolled for research credits only. Generally research credits receive pass/fail grade only.

Reviewing New Student Applicants

New student applicants can be accessed at the following web site: tortoise@hpl.umces.edu. A password is required and can be obtained from Anne Willey.

Key Facts

Faculty Listing by AOS : http://www.mees.umd.edu/fac_ocean.htm

Approved Course List by AOS : <http://www.mees.umd.edu/list-ocean.html>

Foreign Student Information and Procedures

Foreign students should contact the Office of International Education Services to obtain the necessary information on visa requirements and immigration matters. There is a mandatory orientation session with this office for all new foreign students. A schedule is provided on their website.

[IES Homepage](#)

[New Information!](#)

[Office & Contact Information](#)

[Admission of International Students](#)

[International Student Information](#)

[International Visitor & Faculty Information](#)

[Global Communities](#)

[International Spouses Organization](#)

[Study Abroad](#)

[UM Sevis Site](#)

[Forms](#)

[Fall 2003 - Spring 2004 Events Calendar](#)

[Resource Guide](#)

[Fall 2004 Orientation](#)

[2003 Tax Information](#)



International Education Services

The Office of International Education Services (IES) provides a wide range of information and services to International students and scholars at the University of Maryland including:

- The evaluation of transcripts for all applicants who have completed academic coursework outside of the U.S.
- Orientation services for International students admitted to the University.
- Counseling students on immigration concerns, financial problems, and cross-cultural issues.
- Assisting departments in obtaining appropriate visas for visiting scholars and faculty members.
- Providing advisement and programs for American and international students interested in studying outside the U.S.

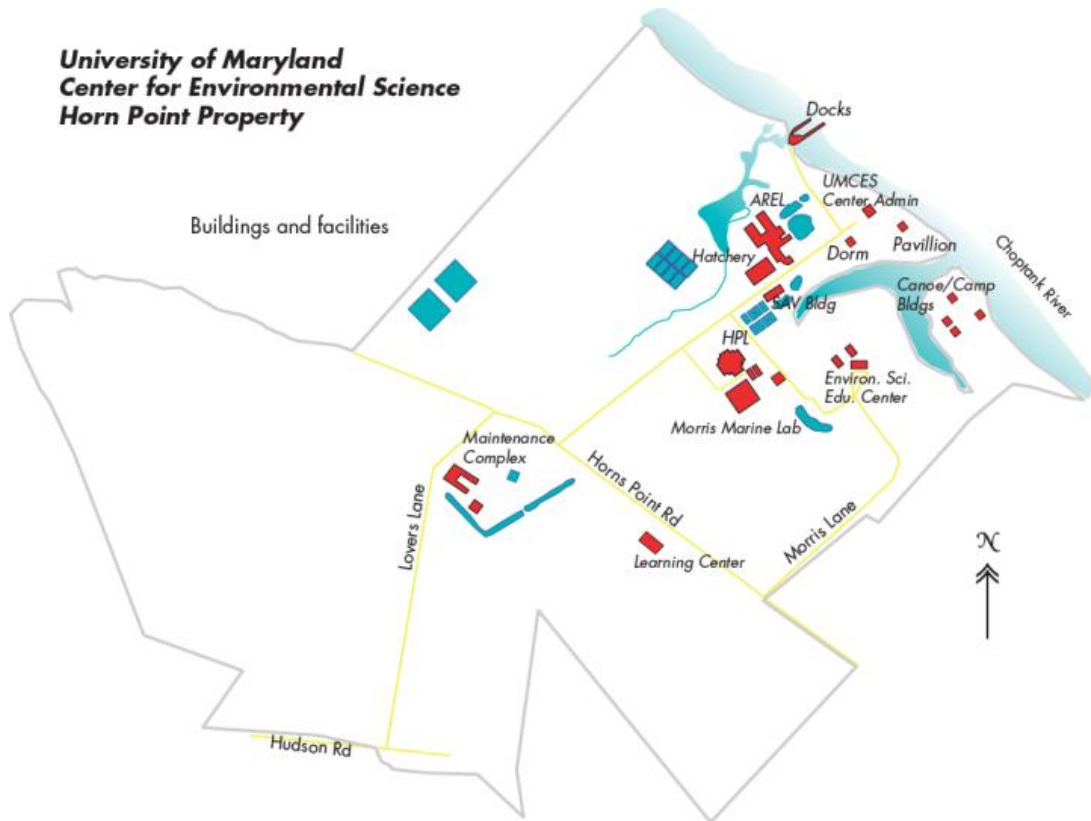


[UM Home](#) | [Directories](#) | [Search](#) | [Admissions](#) | [Calendar](#)
Maintained by [International Education Services](#)
Direct questions and comments to sselvin@deans.umd.edu

Horn Point Laboratory

Campus and Facilities

The Horn Point Laboratory conducts its research and graduate education programs principally in three laboratory buildings, including the recently completed, \$25 million Aquaculture and Restoration Ecology Laboratory (AREL), with several smaller structures, ponds and docks providing support. The Environmental Science Education (ESE) Center, which is involved in K-12 and teacher education, occupies a complex of buildings around Lakes Cove, including an activities center, boys' and girls' dormitories, and rustic camping structures on the peninsula between the Choptank River and the Cove. The Center Administration of UMCES is headquartered in the former duPont House.



In 2004, the Horn Point Laboratory dedicated a new research facility, the Aquatic Restoration and Ecology Laboratory (AREL). The AREL building contains more than 62,000 square feet dedicated to the science of the sustainable development of our living resources, effective ecosystem restoration, and aquaculture. This facility more than doubled the research space of the Horn point campus. The other main research facilities are the laboratory/classroom building and the Morris Marine Laboratory. Collectively, these buildings provide the office, laboratory and administrative office for the campus.



The oyster hatchery at Horn Point is another large facility on campus. It is part of a major cooperative research and education effort by the University of Maryland Center for Environmental Science and the Sea Grant Extension Program. Although now located in the original hatchery, this facility will be replaced by AREL when fully operational. Currently this facility produces in excess of one to two billion eyed-larvae and over 50 million spat on shell for use in its program.



The Horn Point Environmental Science Education Center is another facility on campus. The Education contains a dining hall, laboratory, conference room, classroom, and small museum. Small dormitories and camping sites are available for school group visits.

Graduate and visitor housing is available in the Acorn Dormitory. Twelve double rooms and two apartments are available. From the beginning of June through the end of August, students in the summer program have priority, and typically fill the dormitory.

The HPL also maintains a small fleet of cars and boats that are available for student use. Check the HPL website for specific policies for their use.

Key Fact

Reservations for use of HPL facilities can be made at: hpl.umces.edu...MyHPL

There are a number of recreational facilities available around the HPL campus for use by the students, faculty and staff of the lab. Recreational facilities include: weight room, tennis courts, cove trail, beach/boat basin/dock, student sailboat, volleyball courts, and the Widgeon pavilion.



Services

Computer, Email and Telephone

All faculty, staff, and students of the lab are eligible for a computer account for email. Students are automatically issued an account during orientation. Faculty, staff, and postdocs will be provided an account upon submission of a request form to computer services. UMCES computer accounts are necessary for accessing the UMCES open computing classrooms, dialup accounts, and file/email access. All UMCES computer accounts are governed by the University of Maryland Guidelines for the Acceptable Use of Computing Resources (also referenced as the acceptable use guidelines) available at <http://www.inform.umd.edu/aug>, as well as specific guidelines of the HPL. Contact Computer Services for a copy of these guidelines.

General use computers, printers and scanners are available throughout the campus. MAC and PC support is available for students, staff and faculty. For PC problems, internet hook-up and printer accessibility, contact the computer services department.

For a new telephone account, please fill out an IES request form and return to Patrick Maloney.

Quick reference users guides are available for voicemail, digital telephones, and analog telephones on the IES webpage <http://www.hpl.umces.edu/services/IESnew/telephone.htm>

A combined list of all phone and email addresses for personnel at the lab is available on the HPL website at: <http://www.hpl.umces.edu/myhpl/beepers.html>

Visual Arts

The HPL maintains a graphic arts department that can assist with:

- Computer drafting of graphs or scientific drawings on either PC or Mac platforms.
- Poster printing (how to create a poster).
- Poster lamination.
- Photographic capabilities using digital, medium format or 35mm cameras.
- Computer generated slide (tips) capabilities with on site development.
- Custom graphic services upon request.
- Website design and construction.

For pricing, information or other questions contact Anne Willey in Visual Arts.

Students at HPL can fill out a student ID request form and have their student ID picture taken by Anne Willey. This information is then forwarded to College Park and you receive your ID in the mail. Student IDs are also available in the Mitchell Building on the College Park campus. To obtain an ID, you must have proof of identity, such as a valid driver's license or passport. The fee for replacing a lost or stolen ID is \$20.

Horn Point Library

UMCES students, faculty and staff may borrow books. Visiting scholars may apply for loan privileges and temporary identification. Other residents of Maryland may use the Library but may not borrow materials. Contact the HPL Librarian, Darlene Windsor, to obtain a patron number for electronic checkout and for general instructions on library services and use.

All photocopiers at HPL are equipped with auditron boxes which require entry of a code before copies can be made. Photocopy codes can be obtained from your advisor/PI but copies for personal use can be made and logged on the clipboard beside the photocopier, these copies will then be charged to the individual at the end of the month.

Analytical Services

The Horn Point Analytical Services Laboratory provides a wide range of chemical analyses for investigators from the University System of Maryland and around the world. All analyses follow strict QA/QC procedures and all instrumentation is state-of-the-art. Details on methodology and equipment are available upon request. The Analytical Services personnel can also assist in providing supplies and equipment for field sampling and collection. Please ask about all your sampling and analytical needs. More information can be found at:

<http://www.hpl.umces.edu/services/analytic.htm>

Machine Shop

The Horn Point Machine Shop manufactures, modifies and repairs scientific equipment used in the laboratory and the field. Equipment can be built using any of the following materials: plastic, aluminum, stainless steel, acrylic, and mild steel. Some past items include corers, mixing tanks, prototypes, stir bars, and filtering manifolds. For information on capabilities and rates contact Jack Seabreeze at seabreez@hpl.umces.edu

Shipping and Receiving

Students wishing to send packages via Federal Express should contact Kim Jackson at the front desk. Fedex supplies are available in the wood cabinet next to the main IVN classroom in the front lobby. UPS packages need to be sent from the maintenance building (on Lover's Lane). All deliveries come into Central Receiving at 5745 Lover's Lane and then are brought to the receiving room of the main lab building after lunch each day. You will receive an email if a package has arrived for you and your name will be written on the box in the receiving room.

Work Orders

Work orders can be submitted to the maintenance department for a variety of needs for example; help moving file cabinets, building bookshelves, or fixing a broken door. Work order request forms can be found on the bookshelf outside the business office. These forms require the signature of your PI and the business office and then can be placed in the maintenance

department mailbox. You will receive a copy of the work order in your mailbox when the job is completed.

Front Office Staff

Information about who to contact for various front office related activities can be found at the following web address under “who in the business office does what”:

<http://www.hpl.umces.edu/myhpl/myhplhome.html> . This list covers most of the areas a new student will have questions about such as health insurance, benefits, tax information, payroll, travel, and purchasing.

Health, Safety, and Specialized Activities

Health and safety in the laboratory and in the field is of paramount concern. The website (<http://www.hpl.umces.edu/safety/contentspage.html>) will help you determine all of the safety policies and procedures at Horn Point. The Horn Point safety policies have been written to comply with Federal, State and Local regulations. Please remember that all these regulations are subject to change and therefore merit periodic review. Emergency procedures are defined for fire, natural disaster, and other events which may cause a need for swift and orderly evacuations. Please review these often and be prepared to follow emergency procedures which may save lives, prevent injuries and save property. Names and contact numbers are given for emergency personnel. There are many extra features found at this site. Please note such items as conversion tables, other safety websites, MSDS sites, vehicular use at Horn Point and many more. The Horn Point Laboratory is committed to providing a safe workplace for all employees.

Several activities are highlighted here, but a more complete review of safety issues can be obtained from the Horn Point Safety Officer, Sherry Pike.

Small Boat Handling

A variety of small boats, ranging in size from 13 ft. to 24 ft., are available at the UMCES’ labs for project work in local waters. Prior to operating any UMCES small boat individuals will be required to be qualified as an operator. A qualified operator is defined as one who possesses the proper certification, and who can demonstrate to the UMCES’ Research Fleet Operations Marine Superintendent (UMCES RFO M/S), or his designee, certain small boat handling skills and procedures.

Since there are several different size boats available at each of the labs, each with different equipment, prospective operators must be checked out and demonstrate skills in the operation of each size boat. Those individuals who are already checked out in the operation of a small boat will be qualified as an operator of that particular boat (or boats, as the case may be) without any further requirements on their part.

The marine check-out procedure will qualify an operator to use small boats during daylight hours, on local waters. Projects which require the operation of small boats at night, or on non-local waters will be considered on a case-by-case basis by the UMCES RFO M/S or his designee.

When small boats must be transported overland the driver of the vehicle must demonstrate to the UMCES RFO M/S that they have the knowledge and skills to do so safely. The same procedures for certification as a boat operator will be followed for certification to transport a boat on a trailer. The research fleet operator should be contacted for a complete list of policies and procedures for check-out.

Scientific Diving Program

Faculty and students at the University of Maryland Center for Environmental Science frequently use scuba diving as a scientific tool. Each laboratory within UMCES has its own diving committee overseen by the UMCES Dive Board. The UMCES Diving Program is in the process of becoming affiliated to the American Association of Underwater Scientists (AAUS), which will give UMCES diving reciprocity with other institutions. The guidelines we follow can be found in the UMCES Diving Manual.

To become an UMCES Scientific Diver, a series of requirements need to be fulfilled. Please contact the Head of the Diving Committee and/or the UMCES Diving Safety Officer. After becoming an UMCES diver, the requirements need to be updated on a regular basis.

Radiation Safety

To use radioactive materials, you must be approved by the HPL Safety Officer. Contact Sherry Pike for requirements.

Other Policies

All of the policies of the Center for Environmental Science are available at the following website: www.ca.umces.edu, under MyUMCES. Key policies are also found in Appendix III.

Key Policies to Note

Humane Treatment of Vertebrate Animals

Drug-free Workplace

Sexual Harassment

Horn Point Graduate Student Activities, Opportunities, and Responsibilities

Student Orientation

Each fall, an orientation program is available for new graduate students. During this program, procedures are reviewed for all incoming students, campus tours are given, and a welcome party for faculty and all students is given.

The University of Maryland College Park also provides an orientation for all new students at the beginning of each semester. This orientation is mandatory for foreign students and highly recommended for all students.

UMCES/MEES Graduate Colloquium

Each year students and faculty from all the campuses involved in the MEES program gather at one of the MEES labs for a Graduate Colloquium. The two day event features student presentations and posters, faculty presentations, guest talks, and social events. The Colloquium is a good place for students to present their research in a familiar environment as well as to find out what other students in the MEES program are doing. First year students are strongly encouraged to attend this event.

MEES Graduate Student Organization

The GSO was developed to give MEES graduate students a unified voice to express concerns to the administration, coordinate social and educational activities that would unite students from the various campuses, and provide students with guidance for successful degree completion. The GSO appoints one graduate student as a contact at each of the campuses. Your campus representative often coordinates student events locally, so it is important that he or she can reach you. Be sure you are on the email distribution list of the GSO by contacting the MEES office.

Small Student Grants

Each year the Education committee makes money available to fund student research proposals. The goal of these awards is to fund activities or supplies that would not otherwise be available or could not be supported on the supervisor's grants. The proposals are competitively ranked and awards are typically in the range of \$800-\$1400 depending funds available. Proposals will be evaluated on the basis of scientific merit, the justification of the requested funds, and the overall quality of the proposal. Announcements and deadlines are made via email by the head of the Education committee.

Travel Awards

Travel funds for students presenting their research (poster or talk) at conferences are available both from HPL and the graduate school at College Park. Requests for submissions for HPL awards and are advertised over email by the chair of the Education committee and the requirements are stipulated in that email. Information on the College Park travel awards can be found at the Jacob K. Goldhaber travel grant program website at: <http://www.gradschool.umd.edu/Fellowship/travelgrant/goldhaber/>

Teaching Assistantships

Students can obtain teaching experience at a number of locations around the area. HPL offers several assistantships each semester to assist with classes taught at the lab. These positions are awarded by the Education committee and email announcements are sent out well in advance of the semester for which the class is being taught. HPL students have also gained experience by teaching undergraduate labs at College Park, Washington College, and Salisbury University.

Outreach Activities

There are a number of opportunities each year for students to interact with the public during outreach activities. These outreach activities take the form of touch tank, tours, and career fairs. The touch tank is taken to festivals and fairs around the area and provides a way for children to experience some of the common animals found in aquatic ecosystems within Chesapeake Bay. Tours allow students to explain to the public what research is being accomplished at HPL. Students are usually compensated for performing these activities.

Student Seminars

All students at HPL, except those in their first year, are expected to give a seminar on their current research each year. These seminars are given as part of the student seminar series and provide an opportunity for students to practice speaking in public to a familiar audience while simultaneously keeping the HPL community aware of your research.

Ian Morris Scholar in Residence

Approximately once every two years students and faculty join together to select an Ian Morris Scholar in Residence. The Ian Morris Scholar in Residence program provides an opportunity for students to get to know scientists of stature who have made major contributions to areas of environmental science that are of interest to our faculty and students. The Ian Morris Scholar is invited to spend a week at the lab, conduct several seminars, roundtables, and workshops on a

variety of topics related to his or her expertise. Students actively help in the arrangements for the week, both scientific and social.

HPL Seminars

During the academic year speakers are invited to HPL to give an hour-long seminar typically on Wednesday mornings at 11AM. The titles of the seminars are posted around the lab and are advertised over email. There is usually time to meet with the seminar speaker before or after the talk and during lunch.

Journal Club

Journal Club is a informal discussion of current (or not so current) research from the literature. It is a student led group but students, faculty, and technicians may attend. It is usually in the afternoons and refreshments are served.

The City of Cambridge

Housing

Unfortunately there is no single resource for find a place to live in the greater Cambridge area. Some people have had success with local realtors, others have found houses/apartments in the classified sections of the local newspaper, but the vast majority find living accommodations through word of mouth and bulletin boards at the lab.

Cambridge Attractions

Cambridge, the county seat of Dorchester County, Maryland, was settled in 1684 and is one of the oldest towns in Maryland. The town of Cambridge has several museums which interpret the history of the town and surrounding region. The Brannock Maritime Museum at 210 Talbot Ave., is dedicated to Dorchester County's maritime heritage. Learn about the oyster navy, the ship building industry, and Dorchester's part in defending the U.S. by sea (open 10:00 - 4:00 Fri. and Sat., 1:00 - 4:00 Sun.). The Richardson Maritime Museum at 401 High Street, was founded to celebrate the art of wooden boat building. The museum, a repository of Chesapeake Bay wooden boat memorabilia, is open April - Oct., from 1:00 - 4:00 Wed., Sat., and Sun. The Merideth House, at 902 LaGrange Ave., is the home of the Dorchester County Historical Society. The house is furnished with fine antiques, several portraits of early County residents, and other household items.

The Skipjack Nathan is a traditional Chesapeake Bay skipjack built to preserve the nautical heritage of Dorchester County. The skipjack offers sailing cruises, educational programs, and serves as a sailing ambassador. The Skipjack Nathan is berthed at Long Wharf Park at the end of High Street. The Nathan also travels to Oxford, St. Michaels, and Annapolis, and is available for chartered cruises. Check their website at www.shipjack-nathan.org for more information.



In an effort to further enliven Cambridge's waterfront, the Sailwinds Park hosts a variety of events and concerts.

The Choptank River Fishing Piers State Park offers good fishing just outside of town. The fishing piers are the remains of an old bridge, located next to the current US 50 bridge.

The Blackwater National Wildlife Refuge, 10 miles south of Cambridge, features 21,000 acres of marshland and is a major stopping point for wintering waterfowl traveling the Atlantic flyway. The refuge is also an excellent place to spot bald eagles.

Cambridge Hotels

Holiday Inn Express

Located on Rt. 50, this motel has 86 guestrooms, indoor hot tub and pool, and complimentary breakfast

Best Value Inn

Located on Rt. 50, this motel has moderately priced rooms, a seasonal pool, guest laundry services, and complimentary morning coffee

Hyatt Regency Chesapeake Bay

The waterfront Chesapeake Bay Resort, Spa and Marina features a 400-room luxury resort (including 16 suites), several restaurants and bars, an 18-hole championship golf course, 150 slip marina, 18,000 square foot spa, multi-level indoor and outdoor swimming pool and children's recreation center.

Other Local and Regional Activities

Dorchester County YMCA

201 Talbot Ave, Cambridge
410-221-0505

Cambridge Premier Cinemas

Rt 50, Cambridge
410-221-8688 (showtimes) 410-221-8690 (Office)

Tred Avon Movies

Tred Avon Square
Marlboro Road, Easton
410-822-5566 (showtimes)

Avalon Theater for the Performing Arts

Dover St., Easton
<http://www.avalontheatre.com/>

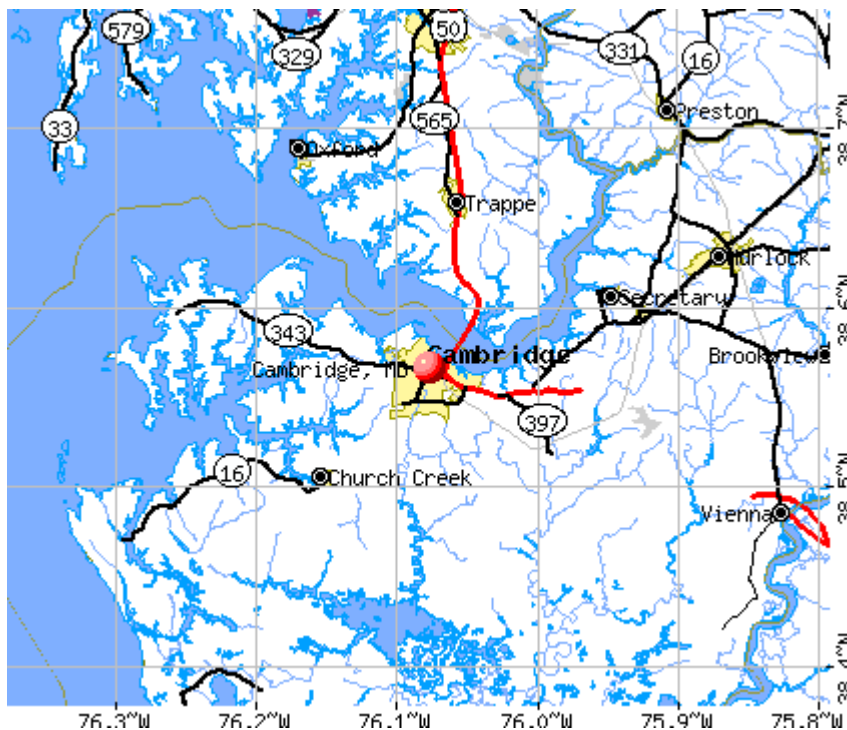
Appendix 1: Directions

Directions to Horn Point

Horn Point Laboratory is located just outside of Cambridge, in Dorchester County on the Eastern Shore of Maryland.

From Washington D.C.: Take Rt 50 east from the Washington DC Beltway I95/495, to Cambridge, MD on Maryland's Eastern Shore, crossing the Choptank River on the Frederick Malkus Bridge. After the bridge, go to 3rd stop light and turn right. Go one block and turn right again onto Washington St. (Rt. 343). Stay on this road for about 3.5 miles. Look for the UMCES sign on the right side of the road. Bear right on Horn Point Rd. Continue for about 1.5 miles. The entrance to the lab is flanked by two statues of sheep. Reception is in the first building on the right at about .5 miles down the lane.

From Baltimore: From the Baltimore (Maryland) Beltway, I695, take I97 south to Rt. 50/301 east to the Chesapeake Bay Bridge. Once on the Eastern Shore, stay on Rt. 50 to Cambridge, MD, crossing the Choptank River on the Frederick Malkus Bridge. After the bridge, go to 3rd stop light and turn right. Go one block and turn right again onto Washington St. (Rt. 343). Stay on this road for about 3.5 miles. Look for the UMCES sign on the right side of the road. Bear right on Horn Point Rd. Continue for about 1.5 miles. The entrance to the lab is flanked by two statues of sheep. Reception is in the first building on the right at about .5 miles down the lane.



Directions to MEES Program Office

0105 Cole Field House, University of Maryland College Park

From East/South:

I95/Rt. 495 Capitol Beltway north

Exit 23 - Kenilworth Avenue (Rt. 201) south (exit says University of Maryland)

Left at end of ramp onto Kenilworth Avenue

Continue south on Kenilworth to Paint Branch Parkway (3rd full stop light)

Take right onto Paint Branch Parkway

Continue straight to UMCP campus (stop light at intersection of Rt. 1). You will want to be in the second or third lanes (of 5 lanes) at the stop light.

After going straight through the light onto campus, continue straight up along Campus Drive. You will approach the circle with the giant "M"; go through the circle and continue straight up the hill. Pass the Stamp Student Union. When you reach the split in the road, bear right. Cole Field House is on the right.

From North:

I95 south towards Washington

Exit 27/25 to Rt. 1 (Baltimore Blvd.) south to College Park

Continue south on Rt. 1 for approximately 2 miles

Turn right onto UMCP campus at Campus Drive

Continue straight up along Campus Drive. You will approach the circle with the giant "M"; go through the circle and continue straight up the hill. Pass the Stamp Student Union. When you reach the split in the road, bear right. Cole Field House is on the right.

From West/Northwest:

Rt. 495 Capitol Beltway east

Exit 25 to Rt. 1 (Baltimore Blvd.) south to College Park.

Continue south on Rt. 1 for approximately 2 miles

Turn right onto UMCP campus at Campus Drive

Continue straight up along Campus Drive. You will approach the circle with the giant "M"; go through the circle and continue straight up the hill. Pass the Stamp Student Union. When you reach the split in the road, bear right. Cole Field House is on the right.

Appendix II: Forms



Research Advisory Committee Meeting Report

All students in the MEES Program must meet with their Research Advisory committee during the first semester of graduate study. Following this meeting, this form must be completed, signed by committee members, endorsed by the Major Advisor, and sent to the MEES Director for approval and placement in the student's file.

Student's Name	
Degree Sought	
Matriculation Date	
AOS	
Projected Date of Graduation	
Advisory Committee Members	
Major Advisor	Signature
3 advisors for M.S.	
5 advisors for Ph.D.	
Outside dept/lab	
Outside AOS	
Date of Meeting	
Summary of Research Advisory Committee Recommendation (required)	
Courses to complete undergraduate background (prerequisites)	
Courses to fulfill MEES core requirements	
Courses to complete specialized graduate training	

Please attach list of courses student has taken/plans to take and written portion of committee's report.

Signed	
Student	
Major Advisor	
MEES Director	

Annual MEES Student Progress Report

Date: _____

All students in the MEES Program must file a committee report annually. This form must be completed, signed by the entire committee, and sent to the MEES Office for placement in the student's file. A copy of a current University of Maryland transcript must be enclosed with the report. An approved copy will be returned to the student.

Student's Name	
Degree Sought	
Entry Date	
AOS	
Projected Date of Graduation	

Advisory Committee Signatures			Date
1	Major Advisor	Signature	
2	3 Members for M.S.		
3	5 Members for PhD		

Please attach current student transcript and committee report, including the following.

- Courses taken to complete undergraduate background (prerequisites)
- Courses taken to fulfill MEES core requirements
- Courses yet to be taken to fulfill MEES core requirements
- Courses committee requires to complete specialized graduate training
- Summary of research progress

Signed:

_____ **Student**
 _____ **MEES Director**



Report on Doctoral Comprehensive Examination

In Accordance with Program policy, the examination was administered to the student named below and the results were as indicated.

Name of Student: _____ AOS: _____

Date of Written Examination: _____ Oral: _____

I. RESULTS: (Student passes if no more than 1 unsatisfactory vote)

Please list either “S” for satisfactory or “U” for unsatisfactory.

Typed Name	Signature of Committee Member	Examination Areas	Result
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

II. RECOMMENDATIONS:

If student passed, the committee made the following suggestions:

If student failed, the committee recommends that:

- (a) the student's matriculation be canceled: yes/no
- (b) the student be scheduled for a re-examination on or before _____ after meeting the following conditions:

Signed: _____
Advisor and Chairman of the Committee



Report on Defense of Dissertation Proposal

In Accordance with Program policy, the examination was administered to the student named below and the results were as indicated.

Name of Student: _____ AOS: _____

Date of Examination: _____

I. RESULTS: (Student passes if no more than 1 unsatisfactory vote)
Please list either "S" for satisfactory or "U" for unsatisfactory.

Name	Signature of Committee Member	Examination Areas	Vote
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

II. RECOMMENDATIONS:

If student passed, the committee made the following suggestions:

If student failed, the committee recommends that:

(a) the student's matriculation be cancelled: yes/no

(b) the student be scheduled for a re-examination on or before _____ after meeting the following conditions:

Signed: _____
Advisor and Chairman of the Committee

NOTE: Upon successful completion of this examination, the student must apply to the Graduate School for Admission to Candidacy.

Appendix III: Key Policies



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

POLICIES AND PROCEDURES

Section III – 8

DRUG-FREE WORKPLACE POLICY

The following policy was approved by the Board of Regents of the University System of Maryland on 16 January 1989:

The University System of Maryland, as an employer, strives to maintain a workplace free from the illegal use, possession, or distribution of controlled substances.¹ Unlawful manufacture, distribution, dispensation, possession or use of controlled substances by University employees in the workplace is prohibited under University policy.

In addition to any legal penalties under federal and state law, employees found to be in violation of this policy may be subject to corrective action under applicable University personnel policies.

The University supports programs aimed at the prevention of substance abuse by University employees. Employees are encouraged to seek assistance for substance-dependency problems. Employee-assistance counselling and leaves of absence to attend rehabilitation programs are appropriate means for dealing with these problems.

¹ "Controlled substances" as defined pursuant to Controlled Substances Act, 21 U.S.C., Sections 801, et seq.



POLICIES AND PROCEDURES

Section III – 8.1

UMCES DRUG-FREE WORKPLACE POLICY

- 8.1 Statement of UMCES Policy on a Drug-Free Workplace
- 8.1.a UMCES strives in good faith to establish and maintain a workplace free from the illegal use, possession, manufacture, sale, or distribution of drugs or other materials defined as controlled dangerous substances under Maryland and federal criminal laws.
- 8.1.a.1 This policy shall apply to all Laboratory campuses and facilities operated by UMCES, including, but not limited to, research laboratories, offices, buildings and housing units, research vessels, and permanent or temporary field facilities.
- 8.1.a.2 This policy shall apply to all full-time and part-time employees, to students residing performing investigations at Center facilities, short- or long-term visitors, and to all other persons who may become officially or unofficially involved in UMCES' activities and programs.
- 8.1.b Employees found in violation of this policy shall be subject to progressive disciplinary action up to and including termination of appointment.
- 8.1.b.1 Students in residence shall be subject to dismissal from UMCES and may be subject to appropriate disciplinary action as imposed by their campus of enrollment.
- 8.1.b.2 This policy shall not supersede the possibility of criminal prosecution of individuals charged with willful illegal activity under relevant State and federal statutes.
- 1 Allegations of illegal *sale* or *distribution* of controlled substances on UMCES property shall be referred promptly to the appropriate legal authorities for possible criminal prosecution.
- 8.1.c It is the policy of UMCES to recognize the importance of its employees and students as valuable contributors to achieving its mission, and to restore without prejudice those who may have developed substance dependencies to full and productive roles in its academic community.
- 8.1.c.1 UMCES shall provide all employees and students in residence who may have substance dependencies with an opportunity to receive treatment and rehabilitation without disciplinary penalty, provided that:



POLICIES AND PROCEDURES

Section III – 8.1

UMCES DRUG-FREE WORKPLACE POLICY

- (a) conviction of sale or distribution of controlled substances has not been a precipitating factor in seeking such opportunity; and,
 - (b) the individual cooperates with UMCES in withdrawing from all activities which may be impaired or which impose danger to others due to the dependency, treatment, or the rehabilitation program.
- 8.1.d It shall be the policy of UMCES to provide all employees with formal notification of this policy, its implementation, and the opportunities it provides for confidential treatment and rehabilitation under conditions of the maximum possible job security.
- 8.1.e In accordance with State of Maryland Policy, as promulgated in Executive Order 01.01.1989.05 signed by the Governor 7 April 1989, as a condition of employment, all UMCES employees shall be required to acknowledge receipt of this policy by returning a copy of the *State of Maryland Substance Abuse Policy Acknowledgment of Receipt (EXHIBIT III-8)* to their supervisor respective Heads of Laboratory for insertion in their permanent personnel files.



IMPLEMENTATION OF DRUG-FREE WORKPLACE POLICY

8.2 Implementation of Drug-Free Workplace Policy

- 8.2.a The Heads of Laboratory shall exercise administrative authority on behalf of the Vice President for Administration in the implementation of Drug-Free Workplace Policy within their respective UMCES Laboratory units.
 - 8.2.a.1 The Vice President for Administration shall exercise such authority for employees in Center Administration.
 - 8.2.a.2 An individual or his/her Laboratory Director may elect to bring a matter directly to the Vice President for Administration at any time.
- 8.2.b UMCES employees and students in residence shall report observed violations of Drug-Free Workplace policy to the appropriate Laboratory Director.
 - 8.2.b.1 Such reports shall be made in complete confidence, and they may be made anonymously.
 - 1 The Laboratory Director shall decide whether such a report is sufficient cause to warrant investigation, but shall be obligated to conduct an inquiry or take other appropriate action concerning any individual who is the subject of two or more independent allegations.
 - 2 If investigation confirms substance abuse, dependency, or other violation of Drug-Free Workplace Policy, the Head of Laboratory shall promptly undertake appropriate corrective action.
 - 8.2.b.2 Employees having supervisory authority over an individual shall report to the appropriate Laboratory Director any pattern of work performance where the individual has failed to complete assigned duties or shown deteriorating productivity attributable to substance abuse.
 - 1 If possible, the report should include documentation as to day, time, place, and nature of the incident(s) that are cause for concern.
 - 8.2.b.3 The Laboratory Director shall promptly undertake corrective action upon review of such a report.
 - 8.2.b.4 An individual who is experiencing problems with drug dependency or controlled substance abuse is encouraged to bring his/her circumstances to the attention of the appropriate Laboratory Director and seek treatment and rehabilitation under the provisions of this policy.



IMPLEMENTATION OF DRUG-FREE WORKPLACE POLICY

- 1 Such an individual may elect to initiate self-referral procedures for treatment and rehabilitation, as described below, without any involvement by UMCES or a representative thereof.
- 8.2.c Employee assessment, counseling, guidance, and referral assistance for treatment and rehabilitation under UMCES Drug-Free Workplace Policy shall be provided through the *Magellan Behavioral Health*.
- 8.2.c.1 The appropriate Laboratory Director or the Vice President for Administration shall conduct a counseling interview when he/she has determined that unsatisfactory work performance warrants action.
 - 8.2.c.2 Employees identified as having substance abuse problems or dependency, but who are not otherwise involved in flagrant violation of UMCES Drug-Free Workplace Policy, shall be notified that they will be referred in strictest confidence to *Magellan Behavioral Health*.
 - 1 An employee so notified must avail himself/herself of these services or face the possibility of disciplinary actions appropriate to decreasing acceptability of work performance.
 - 8.2.c.3 An employee who recognizes that he/she has substance abuse problems may make direct contact with *Magellan Behavioral Health* without any involvement by UMCES.
 - 1 Nothing in this policy shall preclude an employee from seeking assistance through another service of his/her choice, except that UMCES makes no commitment to accept all conditions or financial obligations that may be recommended by such a program.
 - 8.2.c.4 Once referral has been initiated, applicable policies and procedures of *Magellan Behavioral Health* shall govern the implementation of employee assessment and, if so identified, treatment and rehabilitation under UMCES Drug-Free Workplace Policy.
 - 1 UMCES reserves the right to temporarily withdraw an employee from those duties which create a threat to personnel safety as a result of substance abuse or treatment leading to rehabilitation.
- 8.2.d Students in residence who have been confirmed to have substance abuse problems shall be referred to the appropriate service on their home campus for action.



POLICIES AND PROCEDURES

Section III – 8.3

NOTIFICATION OF CONVICTION

8.3 Notification of Conviction Requirements

- 8.3.a An UMCES employee who has been convicted of violating a criminal drug statute in the workplace shall inform his/her Laboratory Director within five (5) days of receipt of notification.
 - 8.3.a.1 Failure to make such notification may be cause for termination of the individual's appointment.
- 8.3.b The Laboratory Director shall immediately inform the Vice President for Administration of such conviction, who shall in turn inform the Director of UMCES.
- 8.3.c In the event that the Director determines that the convicted employee was engaged in the performance of a federal grant or contract during the incident(s) in question, he/she shall notify the sponsoring federal agency within ten (10) days of receiving notice of the conviction.

NOTIFICATION OF DRUG-FREE WORKPLACE POLICY

8.4 Notification Procedures

- 8.4.a All UMCES employees shall receive written notification of the Center's Drug-Free Workplace Policy.
- 8.4.a.1 Current employees will be provided with a written statement of Drug-Free Workplace Policy, a summary of implementation procedures, and information regarding *Magellan Behavioral Health*.
- 1 A statement of policy and summary of implementation procedures shall also be published annually in the in-house newsletters prepared by each of the UMCES Laboratories and Center Administration.
- 8.4.a.2 New employees shall receive the above documents as part of the orientation information disseminated to all new hires.
- 1 New students in residence shall receive the above documents as part of the informational package they receive when commencing study under the direction of UMCES faculty.
- 8.4.b Each year, each UMCES Laboratory shall conduct a Drug Awareness Program for its faculty, staff, and students in residence.
- 8.4.b.1 This Program shall focus on the dangers of drug abuse, the provisions of the UMCES Drug-Free Workplace Policy, the availability of confidential counseling, treatment, and rehabilitation through *Magellan Behavioral Health*, and the legal obligations of both the employees and the Center under this Policy.
- 8.4.c A statement of UMCES Drug-Free Workplace Policy, and a summary of implementation policies and notification requirements, shall be sent to each recipient of a current or new federal grant or contract.
- 8.4.c.1 This document, or a full copy of Section III-8 of the UMCES *Policies and Procedures Manual*, shall be made available to any federal agency upon inquiry regarding UMCES Drug-Free Workplace Policy.



POLICIES AND PROCEDURES

Section III – 8

EXHIBITS

EXHIBIT III - 8

STATE OF MARYLAND SUBSTANCE ABUSE POLICY *ACKNOWLEDGMENT OF RECEIPT*

STATE OF MARYLAND
SUBSTANCE ABUSE POLICY
ACKNOWLEDGMENT OF RECEIPT

As an employee of the State of Maryland, I, _____, hereby certify that I have received a copy of the State's policy regarding the maintenance of a drug-free workplace. I realize that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited on the State's owned or utilized premises and violation of this policy can subject me to discipline up to and including termination. As a condition of employment, I must abide by the terms of this policy and will notify my supervisor of any criminal drug conviction no later than five (5) days after such conviction. I further realize that federal law mandates that the employer communicate this conviction to the federal agency, and I hereby waive any and all claims that may arise for conveying this information to the federal agency.

Employee's Signature

Date

Supervisor's Signature

Date



CARE AND USE OF VERTEBRATE ANIMALS IN GRADUATE STUDIES

The care and use of vertebrate animals in research at UMCES are conducted in full compliance with federal law under an Assurance filed with the Office of Laboratory Animal Welfare (OLAW), U.S. Public Health Service (PHS). This Assurance governs *all* activities involving vertebrate animals undertaken at any UMCES facility or under its auspices. Further, it is official UMCES policy that laboratory and manipulative experimental field studies of vertebrate animals are to be conducted only on finfish, amphibians and reptiles.

Policy governing the care and use of vertebrate animals in research is contained in *Section VII* of the ***UMCES Policies and Procedures Manual***. The UMCES faculty considers it important that students conducting dissertation research under its supervision become familiar with federal law, laboratory and field procedures recommended by various professional societies, and ethical considerations in animal research as part of their professional training. The policies in this section have been developed in response to this commitment.



INSTITUTIONAL POLICY

2.1 Institutional Policy^{1,2}

2.1.a As set forth in *Section VII-2*, it is official UMCES policy that laboratory and manipulative experimental field studies of vertebrate animals are to be conducted only on finfish, amphibians and reptiles.

2.1.a.1 UMCES laboratory facilities may not be used in the conduct of any vertebrate animal research in violation of this policy.

2.1.a.2 A student who desires to pursue research involving vertebrate animal subjects other than finfish, amphibians or reptiles must do so under the following conditions:

- 1 The research must be conducted under the auspices of an institution other than UMCES, and no physical activity involving vertebrate animals shall be conducted at any UMCES facility.
- 2 An UMCES faculty member shall not be the sole thesis advisor; however, an UMCES faculty member may be a co-advisor with a qualified individual at the institution under whose auspices the research is performed.
- 3 The research shall fully comply with the vertebrate animal research policy of *both* the institution under whose auspices the research is being conducted and the University of Maryland institution at which the student is enrolled as a candidate for graduate degree.

2.1.b The UMCES Institutional Animal Care and Use Committee (IACUC) shall be responsible for developing vertebrate animal research protocol guidelines and for otherwise ensuring that student research complies with applicable federal regulations, including the Center's Assurance filed with the U.S. Public Health Service (PHS), and institutional policy.

2.1.b.1 The Committee shall be composed of five (5) individuals, as follows:

- 1 One faculty member from each UMCES Laboratory who shall be the Practicing Scientist representative on the UMCES Institutional Animal Care and Use Committee (IACUC).

1 Vertebrate animal research policy endorsed by the Faculty Senate (5/26/95) and Administrative Council (6/7/95), and adopted by President Donald F. Boesch effective 1 July 1995.

2 Policy revised by UMCES Institutional Animal Care and Use Committee (IACUC) and adopted by President Donald F. Boesch effective 7/1/97.



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

POLICIES AND PROCEDURES

Section I – 2.1

INSTITUTIONAL POLICY

- 2 One individual from outside of UMCES who shall be the Veterinarian on the IACUC.
- 3 A Vice President who is responsible for coordinating graduate education at UMCES, who shall be an *ex officio* member of the IACUC.

USE OF VERTEBRATE ANIMALS IN GRADUATE STUDENT RESEARCH

- 2.2 All student research projects involving vertebrate animal subjects shall be reported to and approved by the IACUC.
- 2.2.a The protocol for thesis research of each graduate student governed by this policy shall be reviewed *in advance* of the initiation of such research and receive formal approval by the student's thesis advisor(s), the appropriate Laboratory Director, and by the IACUC.
- 2.2.a.1 The protocol shall refer to compliance with UMCES research protocol guidelines wherever appropriate, and may attach standard operating procedures as have been developed by the appropriate research facility as approved by the IACUC.
- 1 Any exceptions to UMCES institutional guidelines or standard operating procedures must be noted in the proposed protocol, fully explained, and justified.
- 2.2.a.2 Any significant modifications of an approved research protocol must be submitted for IACUC approval prior to their implementation.
- 1 Each year, a student must certify to the IACUC that his/her research protocol has not significantly deviated from that originally approved by the IACUC or, if such deviation is anticipated, the revised protocol must be submitted for IACUC approval.
- 2.2.a.3 If an approved research protocol should extend for three (3) years without significant modification, the project will be subjected to a full review by the IACUC as specified for a faculty research project under the UMCES Assurance.
- 2.2.a.4 A copy of the approved protocol shall be retained by the IACUC and shall be filed with the following:
- 1 UMCES IACUC, which reserves the right under its authority to require modification of the protocol and/or to suspend the research at any time pending such modification;
- 2 Office of the program or department in which the student is a candidate for degree;
- 3 Graduate Program Office or equivalent administrative office in the degree-granting institution in which the student is enrolled;
- 4 Graduate Student's thesis advisor(s);



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

POLICIES AND PROCEDURES

Section I – 2.2

USE OF VERTEBRATE ANIMALS IN GRADUATE STUDENT RESEARCH

-5 Graduate Student.

- 2.2.a.5 The IACUC shall retain a copy of the approved protocol for at least three (3) years after the date of award of degree.



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

POLICIES AND PROCEDURES

Section III - 14

SEXUAL HARASSMENT

Sexual harassment is a form of gender discrimination that violates both Federal and State Law. For the purpose of implementing the *University System of Maryland Policy on Sexual Harassment (Appendix III-14-A)*, UMCES adopts to the academic setting the sexual harassment definition promulgated by the U.S. Equal Employment Opportunity Commission (29 CFR 1604).

Allegations of sexual harassment are viewed as extremely serious. UMCES can prevent sexual harassment only if members of the community are willing to come forward with legitimate complaints, and they are strongly encouraged to do so.



POLICIES AND PROCEDURES

Section III – 14.1

SEXUAL HARASSMENT DEFINITIONS

14.1 Definitions¹

- 14.1.a Unwelcome sexual advances, unwelcome requests for sexual favors, and other behavior of a sexual nature constitute sexual harassment when any of the following apply:
 - 14.1.a.1 Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment by UMCES or an individual's participation in a UMCES-sponsored program or activity;
 - 14.1.a.2 Submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting that individual;
 - 14.1.a.3 Such conduct has the purpose or effect of unreasonably interfering with an individual's academic or work performance, or of creating an intimidating, hostile, or offensive working environment.
- 14.1.b Sexual harassment may occur between people of the same or different genders.
- 14.1.c Sexual harassment by UMCES faculty, staff, contractors, volunteers, and students is prohibited by this policy.
 - 14.1.c.1 Sanctions may include reprimand, termination from employment, termination of contract, suspension, or expulsion from UMCES programs and facilities.

¹ III-14: UMCES Sexual Harassment policy approval unanimously recommended by Faculty Senate (6/5/96) and Administrative Council 6/5/96; adopted by President Donald F. Boesch, effective 6/5/96.



STANDARDS FOR DETERMINING SEXUAL HARASSMENT

14.2 Standards Regarding Sexual Harassment

14.2.a In determining whether alleged conduct constitutes sexual harassment, UMCES will examine the record as a whole and the totality of the circumstances, such as the nature of sexual advances and the context in which the alleged incidents occurred.

14.2.a.1 The determination of whether a particular action constitutes sexual harassment under this policy will be made from all the facts, on a case-by-case basis.

14.2.a.2 The standard shall be the perspective of a reasonable person within the UMCES community, and the rules of common sense and reason shall prevail.

14.2.b Because of the potential for great harm to all persons of allegations that are ill-conceived or without foundation, it is a violation of this policy for an individual to file a frivolous or bad-faith complaint of sexual harassment.

14.2.b.1 UMCES is committed to protecting the rights of the alleged harasser as well as those of the complainant.

14.2.b.2 Reasonable efforts will be made to protect the confidentiality of all information reported or gathered in an investigation.



POLICIES AND PROCEDURES

Section III – 14.3

GENERAL POLICIES REGARDING SEXUAL HARASSMENT COMPLAINTS

14.3 General Policies

- 14.3.a Each UMCES Laboratory shall identify its Affirmative Action Coordinator or designate another individual (*Appendix III-14-B*) to whom a student, UMCES employee, or volunteer may go to file a complaint of sexual harassment, seek advice, or obtain information on how to file a complaint.
 - 14.3.a.1 Any individual so identified shall have received training on how to respond to allegations of sexual harassment from either the Office of the Attorney General or the UMCES Director of Human Resources.
- 14.3.b All allegations of sexual harassment brought to the attention of a UMCES employee **must** be reported to the UMCES Director of Human Resources or to a Laboratory Affirmative Action Coordinator.
 - 14.3.b.1 Failure to notify promptly the Director of Human Resources or Affirmative Action Coordinator of a specific allegation of an incident of sexual harassment is a violation of this policy and may result in disciplinary action against the employee to whom such incident has been reported.



POLICIES AND PROCEDURES

Section III – 14.4

INFORMAL COMPLAINT RESOLUTION

14.4 Informal Procedures for Complaint Resolution

- 14.4.a Upon receipt of a complaint of sexual harassment, the Affirmative Action Coordinator shall immediately conduct an investigation for the purpose of informally resolving the complaint.
 - 14.4.a.1 The investigation shall include a discussion of the matter with the complainant, the alleged harasser, any witness to the incident, the collection of all relevant documents, and consultation with the Director of Human Resources and/or legal counsel for UMCES.
 - 14.4.a.2 The findings and the results of the Affirmative Action Coordinator's investigation shall be confidentially reported within five (5) working days of receipt of the complaint to the Director of Human Resources.¹
- 14.4.b Although a written complaint is not required to initiate the informal procedures for resolving complaints, the Affirmative Action Coordinator should strongly encourage the complainant to put the complaint in writing.
- 14.4.c After the conclusion of the Affirmative Action Coordinator's investigation, the Director of Human Resources will make reasonable efforts to promptly and informally resolve the complaint to the satisfaction of UMCES, the complainant, and the alleged harasser.
 - 14.4.c.1 If a mutually agreeable resolution is reached by the parties, the complainant, the alleged harasser, and UMCES will sign a statement acknowledging concurrence with the resolution of the complaint.

¹ If the complaint concerns the conduct of the Director of Human Resources, the findings and results of the investigation shall be reported to the Vice President for Administration, who shall conduct the informal procedures for complaint resolution.

FORMAL COMPLAINT: INTERNAL PROCEDURES

14.5 Internal Affirmative Action Complaint Procedure

14.5.a Subsequent to participation in the informal procedures for resolving complaints of sexual harassment, or as an alternative to processing a complaint informally, any student, employee, or volunteer of UMCES may process a complaint of sexual harassment by using the following procedures:

14.5.a.1 A written complaint, signed by the complainant, must be filed with the UMCES Director of Human Resources¹ within thirty (30) days following the alleged incident(s) of sexual harassment or within thirty (30) days following the date on which the complainant first knew or reasonably should have known of the alleged sexual harassment.

-1 Complaints must state the following:

- (a) the allegations, including when and where the alleged conduct occurred;
- (b) the name(s) of the person(s) alleged to have violated the policy prohibiting sexual harassment;
- (c) the name(s) of any witnesses to the violation; and
- (d) the relief requested.

-2 The alleged harasser shall be promptly furnished with a copy of the complaint by the Director of Human Resources, and shall submit to the Director of Human Resources a written response to the allegations within ten (10) working days of receipt of the complaint.

14.5.b Upon receipt of a complaint of sexual harassment filed under the Internal Affirmative Action Complaint Procedure, the Director of Human Resources shall consult with UMCES legal counsel.

14.5.c The Director of Human Resources shall, within fifteen (15) working days of receipt of a formal complaint, conduct and conclude an investigation which will include interviews with the complainant, the alleged harasser, and any witnesses, and the collection and review of all relevant documents.

¹ The UMCES Director of Human Resources will serve as the investigator unless the complaint concerns the conduct of the Director of Human Resources, in which case complaints should be filed with the Vice President for Administration, who shall designate an investigator.



FORMAL COMPLAINT: INTERNAL PROCEDURES

14.5.d Within five (5) working days from the conclusion of the investigation, the Director of Human Resources shall deliver to the complainant and the alleged harasser, by return receipt requested mail or hand-delivery, a written decision setting forth the following:

- (a) a statement of the facts which occurred;
- (b) a determination of whether the conduct which occurred constitutes sexual harassment prohibited under this policy;
- (c) what sanctions, if any, will be recommended; and
- (d) a statement of the complainant's and the alleged harasser's appeal rights.

14.5.d.1 Recommended sanctions shall not be implemented until after the period for filing an appeal has expired.

- 1 Recommended sanctions may include, but are not limited to: a letter of reprimand; instructions to draft and deliver a letter of apology; demotion; termination of employment or contract; or expulsion from UMCES programs.

14.5.e The complainant or alleged harasser may appeal the decision of the Director of Human Resources by filing a written appeal with the President of UMCES within five (5) working days of the date of receipt of the written decision.

14.5.e.1 The person taking the appeal shall be the appellant and the Director of Human Resources shall serve as the appellee.

14.5.e.2 An appeal shall be in writing and signed by the appellant, and shall state all grounds for the appeal and contain a concise statement of all facts in support of the appeal.

- 1 The appellant shall also attach to the appeal any documents in support of the appeal.



FORMAL COMPLAINT: INTERNAL PROCEDURES

14.5.e.3 Within fifteen (15) working days of the receipt of the appeal, the President of UMCES (or designee)¹ shall conduct a hearing to determine: 1) if the alleged facts occurred; 2) if the conduct which occurred constitutes sexual harassment prohibited under this policy; and 3) if the discipline recommended is appropriate.

- 1 At the hearing, the appellant and the appellee shall have the option to present opening and closing statements, to call and cross-examine witnesses, and to introduce documentary evidence.
- 2 The President (or designee) may call and question witnesses, request documents, and exclude non-probative and unduly repetitious testimony.
- 3 The hearing shall be tape recorded.

14.5.e.4 Within fifteen (15) working days following the hearing, the President of UMCES (or designee) shall issue a final written decision.

- 1 The final decision will be delivered to the complainant, and to the alleged harasser.
- 2 The decision of the President (or designee) shall be final and binding to all parties.

¹ No such designee may have also served as an investigator, witness, or party to the sexual harassment complaint.



FORMAL COMPLAINT: EXTERNAL FILING PROCEDURES

14.6 External Filing of Complaint Regarding Alleged Sexual Harassment

14.6.a Should an individual wish to file a formal complaint of alleged sexual harassment with an external entity, he/she may do so with the following agencies:

U.S. Equal Employment Opportunity Commission (EEOC)
1801 “L” Street, NW
Washington, DC 20507

U.S. Equal Employment Opportunity Commission (EEOC)
Regional Office
10 South Howard Street, 3rd Floor
Baltimore, MD 21201

Maryland Commission on Human Relations
20 East Franklin Street
Baltimore, MD 21202

U.S. Department of Education
Office of Civil Rights
3535 Market Street, Room 6300
Philadelphia, PA 19104-3326

14.6.b To protect the legal rights and remedies available to an individual through external agencies and Federal and/or State courts, a person filing a complaint of sexual harassment must comply with certain time limits and deadlines.

14.6.b.1 A person wishing to file a complaint with an external agency must contact that agency to verify time periods for filing complaints.



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

POLICIES AND PROCEDURES

Section III – 14

APPENDICES

APPENDIX III - 14 - A

VI-1.20 UNIVERSITY SYSTEM OF MARYLAND POLICY ON SEXUAL HARASSMENT



POLICIES AND PROCEDURES

Section III – 14

APPENDICES

APPENDIX III - 14 - B

UMCES AFFIRMATIVE ACTION PERSONNEL and OTHER DESIGNATED PERSONS FOR REPORTING ALLEGATIONS OF SEXUAL HARASSMENT



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

POLICIES AND PROCEDURES

Section III – 14

APPENDICES

UMCES Affirmative Action Personnel and Other Designated Persons for Purposes of Reporting Allegations of Sexual Harassment

Mr. Brian P. Westfall
Director of Human Resources
Center Administration
Center for Environmental Science
P.O. Box 775
Cambridge, MD 21613-0775
phone: (410) 228-9250, ext. 606

Ms. Carolyn D. Keefe
Chesapeake Biological Laboratory
Center for Environmental Science
P.O. Box 38
Solomons, MD 20688-0038
phone: (410) 326-7293

Ms. Carolyn H. Baumgartner
Horn Point Laboratory
1101B Coastal Estuarine Science Laboratory
Administrative Office Building
P.O. Box 775
Cambridge, MD 21613-0775
phone: (410) 221-8207

Dr. Raymond P. Morgan, II
Affirmative Action Coordinator
Appalachian Laboratory
Center for Environmental Science
301 Braddock Rd.
Frostburg, MD 21532
phone: (301) 689-7172

Dr. Patricia M. Glibert
Horn Pont Laboratory
Center for Environmental Science
P.O. Box 775
Cambridge, MD 21613-0775
phone: (410) 221-8422

Ms. Paulette M. Orndorff
Appalachian Laboratory
Center for Environmental Science
301 Braddock Rd.
Frostburg, MD 21532
phone: (301) 689-7102

Dr. Robert E. Ulanowicz
Chesapeake Biological Laboratory
Center for Environmental Science
P.O. Box 38
Solomons, MD 20688-0038
phone: (410) 326-7266