

**Review of the Graduate Program in Environmental Studies  
The Evergreen State College**

Olympia, Washington  
November 2004

**Program Title: Graduate Program in Environmental Studies**  
**Degree: Master of Environmental Studies**  
**Last Program Review Submitted: April 24, 1998**

### **Documentation of continuing need for the program**

This program, generally called the “MES program,” accepted its first class in Fall, 1984. It was a significant addition to Evergreen’s service to the local area and to state government.

No other universities or colleges, public or private, offer master’s level work in this area in the South Puget Sound region at this time. Thus a local person wishing to obtain a master’s degree in the environmental field must either go to Evergreen or travel outside greater Olympia to find a suitable program.

The University of Washington-Seattle has numerous programs leading to a master’s degree in specialized areas of environmental studies, such as forestry, environmental and occupational health, environmental engineering, and various fields of law. The University of Washington-Tacoma may at some point in the future offer master’s level work in environmental science. In addition, Western Washington University in Bellingham, especially through the Huxley College, offers master’s degrees in environmental science and other related fields.

Work at the University of Washington-Seattle and Western Washington University, however, is generally available only during the day, and these two institutions do not cater to adults needing to work part- or full-time. In addition, traffic loads between Olympia and Seattle make commuting to Seattle for classes a time-consuming venture. Bellingham is beyond what most students would call a feasible commute.

Evergreen’s MES program thus continues to occupy a unique niche in the State’s educational programs serving the capital area: it is feasible for a full-time worker in greater Olympia to earn a master’s degree in environmental studies while continuing to work. All of our classes are offered in the evenings and on weekends. Over the past two decades, Evergreen has made it possible for many state as well as federal, local and tribal workers to earn this degree.

The MES program admits between 25 and 40 students each year and graduates between 15 and 30 new degree holders each year (Table 1). Most of the students are between 25 and 35, but some come directly from undergraduate degrees at 22, and our most senior students have been in their 60s. In most classes males and females have been approximately equally divided. Ethnically, the MES program has attracted many whom self-identify as “Caucasian,” but the program has also served those who indicate they are African-Americans, Latinos, Asian-Americans, and Native Americans. Over the past five years, 9-13% of MES students identified as students of color.

Most students come to the MES program as Washington residents (82-84%), but we have also served substantial numbers of out-of-state and international students. Other countries represented among our students include Armenia, Belarus, Brazil, Canada, Germany, Japan, The Netherlands, Russia, Switzerland, Tajikistan, and Ukraine.

Table 1. Enrollments and Resources for the MES Program, 1998-99 through 2003-04

Item	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Annual average FTE enrollment**	78.3	63.8	69.9	75.9	81.3	68.7
Annual average head count**	95.3	79.7	85.0	94.0	99.7	86.0
Size of new class	37	26	33	40	39	26
Retention to Fall of Year 2 (%)	64.9	96.2	97.0	87.5	87.2	80.8
Degrees granted	27	26	18	26	16	14*
Faculty FTE		5.0	5.67	5.67	4.67	4.41
Ratio of student FTE to faculty FTE ratio**		12.8	12.3	13.4	17.4	15.6
Graduate assistants, FTE	0	0	0	0	0	0

\* Preliminary: will be revised upward as theses and records are completed

\*\*Annual average student FTE and headcount include only state-support enrollment; state employee waiver enrollments are excluded from these measures.

## Structure of the program and expected student learning outcomes

### Overview

MES is a broadly conceived program intended to prepare students for work at a professional level in a variety of environmental jobs and callings. It aims to be a “terminal degree,” i.e. a final degree that does not necessarily lead to doctoral study.

In its operations, it has two major overall objectives. First, it provides a framework that helps students “bridge” the gap between (a) science and (b) politics, policy, values, and ethics. Most masters’ programs in the environmental arena tend to emphasize either science or policy, to the exclusion of the other, so in this regard MES is quite unique. This is probably why the program historically has drawn students from around the country and the world as well as from Washington State.

Second, MES intends to be a highly flexible degree program. Students from many different backgrounds can enter. Approximately fifty percent of entering students have a science background, including environmental studies, and the rest are drawn from the social sciences, humanities, and arts. All students must have a minimal background in natural and social science to enter, but their undergraduate majors can be of many types.

Not only is MES flexible with prior background, it enables graduates to go in many different directions. In state government, for example, the program has placed people in the departments of agriculture, ecology, fish and wildlife, health, labor and industries, natural resources, and transportation. All of these departments have substantial environmental responsibilities, but the work in each is quite different from the others. That MES degree holders seek and obtain positions in these varied departments speaks to the versatility of the program's education and training.

As with all graduate work, MES seeks to enhance each student's ability to (a) conceptualize problems, (b) develop suitable methods for solving them, (c) conduct necessary studies and analysis, and (d) communicate findings effectively. We strongly encourage students to develop breadth to understand how environmental problems work and to achieve specialized depth in some particular area of high interest to themselves and the larger society.

The program requires 72 quarter credit hours, of which 32 are in core programs; 24 or 32 in electives, individual contracts, and internships; and 8 or 16 in thesis. These three major components serve different educational functions within MES. Students can complete the program in two years of full-time work or three years of part-time study. Each component is explained below.

#### Core programs

All students must take a series of four core programs in their first four quarters of work. Each core program is 8 credit hours, and the total credits involved in core are 32. These are intended to provide breadth of perspective useful in understanding environmental issues, problems, and conflicts. Table 2 provides a summary of their specific purposes and expected outcomes.

Table 2. Core programs and their expected outcomes

<b>Name</b>	<b>Year</b>	<b>Term</b>	<b>Expected outcomes</b>
Political Economic and Ecological Processes (PEEP)	First	Fall	This program introduces students to the philosophical and epistemological foundations for identifying and resolving environmental issues. Students are expected to learn how science operates within liberal democracies. Theories learned are applied to a variety of particular case studies.
Population, Energy, and Resources (PER)	First	Winter	This program draws material from demography, energy studies, and natural resource management. It builds on PEEP by showing that particular physical factors interact with the philosophical issues covered earlier. Students are expected to have a better foundation for identifying environmental issues and their boundaries. During the term, students are also expected to do a research paper demonstrating that they can identify, research, resolve, and explain a particular environmental problem.
Case Studies: Environmental Assessment, Policy, and Management	First	Spring	PEEP and PER are explicitly big-picture courses in which students are expected to learn a general analytical framework for environmental concerns. In Case Studies, they delve into one or two concerns, drawn from faculty expertise, to explore how major problems are developed in detail. Students are expected to work with a team to explore and present a particular problem in considerable depth and reach conclusions that are applicable to real situations.
Quantitative Analysis and Research Methods for Environmental Analysis	Second	Fall	This program introduces students to simple inferential statistics, including such tests as the t-test, chi-square, ANOVA, and regression. Students also learn non-parametric statistics and the process of research design. They are expected to be competent consumers of inferential statistics. Students versatile in statistics are expected to learn how to develop a research project employing statistical analysis.

## Electives

Titles of electives vary from year-to-year, depending upon the expertise of the regular faculty in the MES program. Typically the titles may include:

- Wetland ecology and management
- Conserving and restoring biodiversity
- Salmonid ecology
- Environmental education
- Environmental policy and management
- Environmental philosophy
- Geographic information systems
- Pesticides
- Ecology and politics of harmful algal blooms
- Environmental law
- Hydrology
- Geological hazards
- Natural resource economics
- Microbial ecology
- Virology
- Economic development and sustainability

Electives are more sharply focused on specific environmental issues than the core programs. They are intended to give students an opportunity to work at a professional level with a faculty member with considerable experience and expertise in the subject of the class. In each elective, students are expected to learn about a particular problem or method at a level that enhances both their theoretical understanding and their ability to apply the material in solving or resolving particular environmental issues.

Approximately 11-12 classes are offered each year by the MES program, each for 4 credits. Six classes are offered by adjunct faculty and the remainder by the regular faculty. In addition, MES students are permitted to enroll in the electives of the Graduate Program in Public Administration. Thus each year MES students have approximately twenty electives from which they can select. In special cases, advanced undergraduate course work can be made available to MES students for graduate credit, which further enhances the elective offerings.

## Individual contracts and Internships

Students may elect one or two individual study modes as part of their elective work. These options enable students to delve into particular topics in great depth (individual contracts) or to experience work in a non-academic setting (internships).

We recommend that students without significant work experience take at least one internship, and approximately fifty percent of MES students take at least one. Seventeen percent take two or more internships.

## Thesis

Generally the final work in the program is the thesis. Students may elect to do an 8 credit Thesis: Essay of Distinction or a 16 credit Thesis. The Essay is typically a literature review of a significant environmental problem that aims to answer a question based on existing information. The 16-credit Thesis typically involves research design and the collection of original data.

Regardless of thesis option selected, students are expected to demonstrate at a high professional level that they can articulate a problem, organize and conduct an information-gathering exercise (of existing information or of new data), synthesize and analyze the information, draw appropriate conclusions, and communicate their findings in writing and orally. In a real sense, successful completion of a thesis project demonstrates that the student learned from core, electives, and individual study and internships how to do professional level work on environmental concerns.

## **Financial Aid**

As is the case of many master's degree programs, MES students typically finance most of their educational expenses. Over the past ten years, however, MES has developed an increasing array of financial aid.

Most important are tuition waivers. These "funds" are essentially discounts of the standard tuition charges. In other words, the College foregoes income that it otherwise will charge. Although no actual funds leave the College, tuition waivers are budgeted, because Evergreen's budget is based upon the state subsidy plus tuition income. Income not collected is thus an "expense" just as much as expenditures the College must make to stay in operation.

In Spring, 2004, the College allocated an additional \$30,000 for tuition waivers to MES, to be used to attract students of high merit with substantial financial needs. This supplemental appropriation brought the total tuition waivers to about \$42,000. During the first year's operation with this special allocation of \$30,000, it became clear that the extra financial assistance was vital to enabling approximately eight students to join or continue with the program.

Evergreen's endowment has continued growing, and the sum of approximately \$60,000 is now available to MES students for fellowships and scholarships. Most recently, the generosity of Drs. John and Sophie Bilezikian created the Sara Ann Bilezikian Fellowship, which supports all tuition expenses, at the in-state rate, for one MES student for the duration of her/his stay with the program.

Adequate financial aid would require a sum of \$150,000 or more. Expanding the amount available must remain a top priority for the MES director, assistant director, and others within the College administration.



## **Recent Additions to MES**

Program faculty and staff have made two additions to MES during the past year, both of which intended to make the program more visible in the greater Olympia area. First, the program began to offer regular symposia on important topics. These events are open to all Evergreen students, faculty, and staff for free and to others for a nominal charge.

In May, 2004, the first event was a conference, "The Changing World of Water." It drew an attendance of about 160 people, including staff from about twenty agencies and organizations. The second event is planned for February, 2005, and will be "Climate Change and Energy Alternatives in Washington State." A third conference on ethics for environmental professionals is slated for Spring, 2005.

These conferences supplement the long-standing annual Rachel Carson Forum, which has been organized by students in MES for over fifteen years. Through these efforts, MES seeks to provide a service to the College as a whole and to the public of the region.

Second, MES has recently organized an Advisory Board. This Board will meet about once per year, and the program will seek to obtain the best possible advice on how it should structure its educational programs. We anticipate the Advisory Board will be of great assistance in thinking through problems of change faced by the program.

## **Critiques of the program by alumni, current students, and the faculty**

### Alumni and Current Students

Students and alumni from the past five years were asked to complete a survey questionnaire. The following summarizes the responses received. While the response rate was reasonably high with second year students, continuing students' (60%) return was low among alumni (7-8%). The results of this section of the graduate program in environmental studies self-study report are based, as well, upon individual interviews and group debriefing at the end of the three quarter core sequence and at the end of a sixth quarter thesis workshop.

### *Overall Assessment*

Overall assessment was generally quite positive. Students were generally most positive about the 'interdisciplinary' and 'highly interactive' nature of the graduate program. Students commented frequently that they had been 'attracted to' or had 'sought out' Evergreen's program because of this integration of disciplines, foci and materials. These traits are particularly strong in the required Core Programs.

There was consistent, significant response that there was 'not enough' or 'too little' or that respondents 'would have liked more' curriculum in the natural sciences. A number also noted a 'need for more oral presentation skills.' Among those responding, it is clear



that MES curriculum, outreach and services are generally meeting articulated goals of the program and that students would recommend the program to others. Students generally rated program electives quite high in quality, usefulness, and intellectual contribution.

### *Advising*

In ranking staff, personal contacts and written materials as sources of advice, students ranked contact with the program director highest overall and were consistently positive in their rankings of the importance and quality of interaction with the graduate program director. Students were mixed about faculty availability and advice as a means of achieving progress; some were ranked very high, some reasonably neutral depending on area of specialization and individual character ('openness,' 'helpfulness'). All faculty were ranked consistently high in terms of overall curriculum ('expertise.')

### *Career Goals*

Students rated the program well with respect to its relevance to future career goals. Individual responses revealed a split between 16-credit thesis projects (with three reader faculty) and 8-credit thesis projects towards the achievement of career goals. For those who had completed second year study, 'opportunity to participate in internships' and 'direct work with state agencies' was rated quite high and narrative discussion repeatedly introduced 'internships' as an area of overall value to the graduate experience.

### *Possible Areas for Future Study*

Overall, student rankings of the quality and effectiveness of the graduate program for environmental studies were quite high. Among all students the rankings of quality, utility and intellectual contribution diminished from the first core program through the fourth. Students were uniformly enthusiastic and positive in reflection on the curriculum in the first quarter's "Political, Economic and Ecological Processes" where they expressed enthusiasm related to being fresh, 'new to' and 'just learning about' graduate study.

With some, brief trepidation raised towards 'the pressure' of achievement of candidacy in the second quarter "Population, Energy and Resources" program, student evaluation of quality, content and contribution remained high. As with prior self-studies, third quarter program approval consistently declined. This slight third quarter slump reflected, in prior years, by student review of "Quantitative Analysis and Research Methods for Environmental Analysis" held true for "Case Studies" curriculum when it was substituted into the third quarter core.

Ongoing considerations aimed at the improvement of third quarter response, (including order of placement in the core curriculum, participation of students in determining the 'case' for in-depth modeling and staffing) are the subject of faculty focus group outcomes articulated in the next section of this report. Qualities that are unique to the students of the MES program in this respect are that our students are a highly eclectic group with educational backgrounds and academic training in many different fields.

For the fourth and final core program, “Quantitative Analysis and Research Methods for Environmental Analysis” student appraisal experienced a slight rise with respect to its place in the four quarter core curriculum, Alumni were successively positive - particularly in relation to the number of year’s distance from graduation – with respect to the ‘utility,’ ‘intellectual contribution,’ ‘applicability’ and ‘importance’ of quantitative analysis in the achievement of career goals. Students expressed varied difficulties related to building their elective portion of their degree programs (the elective courses and thesis project). While quite positive about the guidance, quality, and content offered by the graduate program, a few (6-8%) expressed concern about successfully obtaining outside thesis readers to apply to their studies.

We have instituted a short, group, oral presentation project section at the end of the first quarter (“Political, Economic and Ecological Processes”) and a longer PowerPoint workshop session in the second quarter “Population, Energy and Resources” in order to address expressed student interest in gaining ‘more oral presentation skills.’

### Faculty

Five Members of the Faculty currently teaching in MES participated in a focus group during Winter Quarter 2004. Disciplines represented included biology, environmental history, political science, public health, geology, and urban and regional planning. All participants had multiple years of experience teaching in the program.

A wide range of topics and suggestions came from the discussion. The major highlights are summarized in different categories below.

#### *Overall purposes of the program*

- Traditional focus has been on intersection of science and policy for work in the public sector.
- Key issues for content have been natural resources, economics, policy, health, and some attention paid to population, energy, and climate.

#### *Core programs*

- Political Economic and Ecological Processes has a heavy component of philosophy to introduce students to particular environmental problems, but are we delivering that material effectively?
- Population, Energy, and Resources needs more attention to energy issues and alternative energy possibilities.
- Case Studies should continue its focus on important and/or emerging issues; it’s also useful to bring in advocacy perspectives. Recent practice of bringing in outside panel of legislators to hear student presentations is valuable.
- Quantitative Analysis and Research Methods for Environmental Analysis continues to raise numerous questions.
  - Should it change its focus to problem-based materials rather than simply running through standard inferential statistics?
  - Should “back-of-the-envelope” computational skills be increased?
  - Should there be a shift to include more qualitative research methods?

- Should the quantitative core program disappear and its elements of research design and simple inferential statistics appear in the other programs? If so, does the Core Program set change from four required programs to three?
- Should the quantitative program be divided into two four-credit courses: one emphasizing research design and the other simple inferential statistics?

#### *Electives*

- Do we need specific skills needed for public and private sector employment, such as Project Management?
- How can we best make GIS skills a regular offering in MES?

#### *Thesis*

- Should a new option be developed: structured year-long internships accompanied by a weekly in-class session leading to a major paper on the internship experience? For students already employed, is it possible to create employment-based internships that would take student into new dimensions of their current work.

#### *Thinking for New Directions*

- Should we alter the conceptual framework of the program, for example to make it an “Executive Management Program” dealing with environmental issues?
- Should the program consider expanding to day-time and night-time options?
- Should we consider running the program in Seattle or Tacoma? In addition to or instead of in Olympia?
- Should we develop a stronger emphasis on environmental education?
- Should we offer Certificates for portions of the program as an alternative to earning the full master’s degree?
- As the College grows, should MES consider expansion as an integral part of the growth plan? If so, is this be increased collaboration with the MPA program or by other new graduate programs that may be created?
- Should we think about financing of the program by students who come from out-of-state?
- Does the program interact with the undergraduate programs in the best ways?
  - Should we have more undergraduate/graduate joint offerings?
  - Can graduate students play a larger, more formalized role in the undergraduate education, without altering the principle that professors (not teaching assistants) work directly with undergraduates?
- Are we reaching the right groups in our outreach efforts and thus getting the right students in the program?

## **Conclusions**

### *Overall Assessment*

The MES program continues to be an energetic, vibrant center of learning. It continues to draw a very talented, engaged, and energetic student body, and its graduates obtain good jobs in the “environmental industry,” broadly defined. Internships and thesis projects enable the MES program to serve the larger public. The program also diversifies the services provided by the College and enables more students to obtain needed education.

### *Recruitment and Financial Aid*

Additional work, not reported here in detail, indicates that the director and assistant director of MES must continue the efforts to improve the outreach efforts. Rising tuition rates are probably the single most important challenge to recruitment of a class with the right size and quality. Financial aid thus remains a significant barrier to MES recruitment plans. Simply put, we do not have enough, and more would enable us to recruit a full class each year. The director and assistant director of the program must devote time and energy to increasing the tuition waiver and the endowment-based scholarships and fellowships.

### *Core Programs*

The first two core programs (Political Economic and Ecological Processes; and Population, Energy, and Resources) have been well received by students, and the faculty have no reason to change them significantly. Each program evolves slowly to fit the interests and skills of new faculty teams that teach them, and this gradual change seems most appropriate at the moment.

The second two core programs (Case Studies; Quantitative Analysis and Research Methods for Environmental Analysis) are received well, but students have voiced more concerns about them. The subject of the quantitative program will always elicit some anxieties, but because the graduate program in environmental studies holds highly a particular commitment to integrating and refining these sort of analytic skills in practical application, attention needs to attend the design of these two offerings. We should consult students about the design of these two programs. The quantitative methods program should consider bringing in examples frequently seen in professional practice.

### *Electives*

One subject that has achieved consistently high enrollment, significant requests and positive student review needs to be taught in electives but is not yet stably housed there: GIS (geographic information systems) must be offered every year in a course dedicated to MES students. Continuing consideration and discussion must surround a possible

course on Project Management and/or a course on the National Environmental Policy Act and the State Environmental Policy Act.

### *Thesis*

The thesis requirement remains a top priority for the MES program. Faculty are firmly convinced that a thesis requirement remains critical for educating students to the professional level in this area of study. At the same time, lack of thesis is the usual cause for non-completion of the degree for those students retained by the start of the second year. The Faculty must work to improve the completion rate of the thesis project.

### *Events to serve the greater Olympia area*

We are pleased by our pilot efforts to increase the conferences and symposia offered to the College and the surrounding community. They take a great deal of effort to plan and deliver, and the MES budget needs to reflect the expenses involved.

### *Certificate in addition to full master's degree*

MES faculty and staff fully support efforts to further consider the value that one or more certificate programs could provide. As the College moves to consider extended education in general, important issues about pedagogy and curricular format are involved. Thus development of any certificate program poses important problems.

### *Participation of MES in all-College growth planning*

MES should play an active role in thinking about the College's enrollment growth over the next decade. In particular, MES can be a valuable component of one or all of the following:

- creation of some new graduate programs, for example in business administration;
- enhancement of opportunities in the MPA-tribal program;
- growth by expansion of the undergraduate programs in environmental studies; and
- expansion by satellite campuses, such as in Seattle.

### **Next Steps**

The MES faculty will undertake the following steps during 2004-2005:

- address design issues facing the last two core programs;
- establish on a firm and regular basis electives in GIS;
- continue working with the Development Office to increase the endowment-based scholarships and fellowships;
- continue a vigorous outreach program to bring in new students;
- continue to develop regular conferences and symposia for greater Olympia;
- work with the Enrollment Growth DTF on useful roles that MES might play in the College's growth plan.