

*ENVIRONMENTAL POLICY DESIGN*  
*PROPOSAL FOR AN M.A. DEGREE*

*Section a) Reason for offering the new program and its goals*

The cumulative and intensified impact of human activities on the natural environment poses a series of challenges to contemporary society. Not only do we face a world of increasingly scarce natural resources and stressed ecological systems, we also face a world in which these problems are intricately bound up with global institutions, politics, and ethical questions of the highest order and complexity. On the domestic front, the first generation of environmental law passed in the 1970s made substantial progress in addressing important environmental problems, such as air and water pollution. However, for many, growing consumption, combined with the polluting activities of a rapidly globalizing world, diminishes the significance of these accomplishments. Domestic activities have international implications that can no longer be ignored. It is no longer enough to analyze environmental problems as a matter of local or national concern. Policy solutions must systematically and simultaneously address environmental problems at local, national, and international scales. Likewise, policy professionals must be prepared to work with physical scientists and economists, as well as with engineers, humanists, and social scientists. In short, addressing the complex physical and social dynamics that produce contemporary environmental problems will require policy practitioners who have the theoretical and applied skills necessary for bringing multiple disciplinary perspectives and scales of analysis to bear on policy solutions.

Toward this end, we propose an interdisciplinary M.A. degree program that will train scholars and practitioners alike for the demanding task of designing environmental policy that can protect or restore an increasingly degraded natural environment while sustaining the benefits of economic growth and providing for the needs of an ever more vulnerable (and growing) human population. Achieving this goal will require policy professionals to understand and analyze environmental problems amidst the progressive globalization of governance structures, institutions, and regimes. Specifically, the M.A. program seeks to prepare policy professionals to address questions that fall along two axes. First, *how are* legal institutions, regulations, and public management responding to the impact of globalization on political, social, and economic dynamics affecting the natural environment? Second, *how should* legal institutions, regulations, and public management respond to the impact of globalization in order to ensure a sustainable natural environment? By preparing students to integrate answers to the former, descriptive question, with answers to the latter, normative question, we hope to produce a generation of policy practitioners that can (1) critically assess and analyze the multiple conditions that create environmental problems, (2) arrive at novel solutions to those problems, and (3) justify those solutions.

For this purpose, we propose to build our M.A. degree program around a new approach to policy choice, an approach that can bring argument built upon many distinct philosophical and theoretical paradigms to bear on questions or dilemmas arising at the intersection of environmental degradation and the globalization of political, social, and economic institutions. The need for a new approach to policy choice is prompted by an austerity that characterizes the current state of education in policy studies. Academicians and practitioners tend to focus on a

single epistemology, that of positivism, a single theoretical paradigm, that of markets and Kaldor efficiency, a single valuation tool, that of cost-benefit analysis, and a single methodological predisposition, that of quantitative models and technical analysis.<sup>1</sup> In this context, policy professionals are trained to carry out retrospective analysis of existing policy, which is assumed to exist in a static and pre-determined setting rather than in a dynamic environment that gives rise to various options for change in the formulation or re-formulation of law and policy. The narrowness of the current approach to public policy decision-making breeds a pedagogy and course curriculum limited to training in “Markets and Market Failure; Economic Analysis of Public Policy; Quantitative Analysis and Empirical Methods and Strategic & Financial Management of Public Organizations.”<sup>2</sup>

In contrast to this one-size-fits-all approach to policy decision-making, we suggest that Lehigh University approach the study of public regulation and the environment from the standpoint of what we shall call “Policy Design.”<sup>3</sup> Policy Design moves past narrow reliance on market assumptions and economic/quantitative analysis as the core curriculum of policy analysis and its pedagogy. It uses scientific and technical data as evidence for an integrated policy argument, but not as the sole basis for a legitimate process of analysis. Beginning with human agency as a fundamental point of departure, Policy Design situates human agency in the context of both individual choice and collective action, while remaining sensitive to a complex and uncertain policy space that is shaped by particular circumstances. Argument rather than quantitative analysis is the core methodology of Policy Design, and persuasion is the ultimate test of policy choice that is informed by discussion of ends as well as means. Policy Design also views “value” as a critical component of policy and legal analysis. For this purpose, it integrates both intrinsic/inherent and instrumental values with scientific, economic, and socio-political facts to produce a comprehensive argument that offers reasonable choices to policy-makers and the public. Overall, Policy Design is concerned not just with what “is” but with what “ought” to be. It therefore integrates ideal-regarding concern for normative values with want-regarding concern for constructivist norms. Further, it focuses on what “can” be in the context of economic, political, and technical realities that bear on decision-making processes.

Our unique focus on “Policy Design” will encourage both the critical analysis of past and current environmental policy and constructive policy arguments for future change in how we justify and legislate the human-nature relationship. A degree program in *Environmental Policy Design* will be unique in combining the “Policy Design” approach to policy choice concerning the environment with an understanding of the institutions, political economy, and international theory of globalization. While the policy professionals emerging from our M.A. program will have basic skills in the traditional policy techniques, their skills in applying various philosophical, legal, economic and political models to problems at multiple scales of analysis will create a new generation of policy professionals. These professional will be capable of understanding environmental problems in the context of complex global interactions, and they will be able to identify and justify the range of policy responses that can properly address these problems at the domestic, comparative, and international levels of organization.

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<sup>1</sup> See Giandomenico Majone, *Evidence, Argument & Persuasion In The Policy Process* (Yale, 1989), Chapter 1.

<sup>2</sup> This is the core curriculum of the John F. Kennedy School of Government at Harvard, but could be the basic courses in any of the prominent policy programs in the country.

<sup>3</sup> See Davis B. Bobrow and John S. Dryzek, *Policy Analysis By Design* (Pittsburgh, 1987).

***Section b) Need for the program in light of college/university's other graduate programs***

Lehigh has several degree programs that bear on the environment, including a B.S., B.A. M.S. and Ph.D. in Environmental Science, and Environmental Engineering, a B.A. and M.A. in Political Science, and the BA in Environmental Studies. Environmental links also exist in programs such as Science, Technology and Society (STS), Global Citizenship, and Real Estate Studies. In addition, Lehigh has a Certificate program in Environmental Law and Policy, but it is not a degree program. Both the existing B.A. in Environmental Studies and the Certificate would lead naturally into the proposed M.A., but M.A. students would be accepted (and indeed encouraged) from a wide variety of backgrounds. Of the existing graduate degree programs, none address environmental policy, and in particular, there is a lack of environmental policy *design*, which reflects a general lacking throughout the academic community. As such, the proposed M.A. will expand on the existing certificate program and complement existing Lehigh graduate programs, while building on existing interests in the environment and strengths in science, engineering, political science, and humanities.

***Section c) Features that will make this program distinctive and attractive to prospective students (this should include benchmarking information about competing programs offering this degree)***

This program will be particularly distinctive because it will be truly unique in the nation. There are no programs elsewhere that focus on the design of effective environmental policy. It will be especially attractive to students entering the job market in the policy or regulatory sectors, as it will arm them with the tools necessary to design new policy de novo as well as assess existing and proposed alterations to existing policy. There are environmental policy programs in other schools that generally bear on the subject, but do not address design, the key unique feature of the proposed Lehigh program.

The master's program in environmental management at the University of California -Santa Barbara (Master of Environmental Science and Management (MESM)) has a focus that diverges somewhat from similar programs at other universities, but this is more a reflection of the institution than the MESM program, itself. Students must still maintain a focus on market management techniques (inherent in the title of the program), economic principles of environmental affairs, statistics and data management, financial management, and analytical methods. The environmental policy course admits in its syllabus that the "course has a quantitative orientation and draws heavily on the rational choice paradigm for analysis", which is therefore more descriptive than proscriptive, more empirical than normative and devoid of the philosophical or policy argument dimensions of policy design. One unique aspects of the program is the requisite group project, but this is likewise oriented toward analytical description and methodological techniques rather than formulation of policy change which is the core of policy design.

A less well-known MA degree program is run by Bard's Center for Environmental Policy. Like the standard policy program in the United States, it is similarly focused on training students in descriptive, economic, and scientific analysis of public policy. Specifically, Bard offers core

courses on the scientific, economic, political, and legal foundations of environmental policy, but again, these courses train students in the scientific, econometric, and statistical techniques that are currently used in policy design and implementation, without signaling any intent to move beyond current practice in making policy more effective. To the extent political and legal dynamics are referenced, students are taught to analyze them from a descriptive rather than normative perspective.

This is also true of Columbia University and its Environmental Policy Graduate Program, as well as the University of Delaware's Energy Program and all other policy programs in the United States. In Columbia's case, the focus is on the integration of science and empirical social science, still with an effort to emphasize the descriptive rather than proscriptive dimensions of environmental policy. The courses are heavily weighted toward market management and mathematical social science and do not integrate the normative, philosophical or change dynamics of policy as a core (or even an elective) part of the program. Delaware is unique in that it has a focus on Energy policy, which we would not have, but its analytic format and context are traditional, focusing on market assumptions and retrospective empirical analysis.

Penn State University only has Environmental Science programs with no liberal arts foundations at all and Penn runs an environmental risk program and a policy program out of the Wharton School of Business which recognizes "the growing importance of the environment as a factor in organizational decision-making .. which will allow students both to understand the nature of environmental constraints which face organizations and individuals in the modern world, and to understand how these constraints can be effectively considered as part of the decision-making process in for-profit and nonprofit organizations."

The University of Pennsylvania has a "Program on Law and the Environment" that is focused on existing law, and that pursues a traditional approach of policy analysis, risk assessment, and economic analysis. The program is administered by the Law School, and is based on land use law, "lawyering" and other applied studies limited to the framework of current laws and policies, rather than to the design of new and more effective laws and policies.

Given the dearth of existing programs that explore forward-looking environmental policy design, we expect that the proposed Lehigh degree program will attract the brightest and best students, and will thus serve to enhance research at Lehigh, build graduate education as a focus of a greater proportion of the existing faculty, and provide new opportunities for collaborative research projects amongst faculty. In this way, the new degree program will not only lead to a nationally and internationally recognized degree program, but it will lead to a quantum step forward in Lehigh's ability to provide leadership in research in Environmental Policy Design.

#### ***Section d) Number of students expected to matriculate***

We expect 15-25 students to matriculate in the M.A. program. Some of these will be continuing from the Certificate Program in Environmental Law and Policy, but most are expected to come to Lehigh specifically for the M.A. We predict that enrollments will ramp up from an initial year of 5-8 to a full complement within 5 years.

***Section e) Plans to recruit those students***

We will recruit top students into the program in a number of ways.

- Encourage students in the Certificate Program to continue on for the M.A.
- Send paper fliers to selected departments offering relevant undergraduate degrees to target their graduates.
- Send paper/electronic fliers to major related businesses
- Send paper/electronic fliers to government offices (state, fed congress, EPA, DEP, etc.)
- Email e-fliers to faculty from selected departments
- Run ads in appropriate journals/newsletters that post student opportunities
- Contact each related LU department to inform our own students of the M.A opportunity

The time table for recruiting is as follows: Summer/Fall 2007- send flyers nationally and internationally. Run ads in journals and newsletters. Fall 2007- Applications for admission. Spring 2008- Admissions and arrangements for financial support. Fall 2008- M.A. students in classrooms. Some courses are already offered in the contest of the Certificate program in Environmental Law and Policy, so some students involved in these will have a “head start” if they apply to and are admitted into the M.A. program. This segue will provide an additional recruiting tool for the M.A.

***Section f) Form and availability of student support***

Most M.A. students in the social sciences cover their own tuition and expenses (either with personal funds, loans, or support from their employers). However, in our active recruitment phase, we are pursuing avenues or obtaining student support to attract top students into the new program. We have applied for a grant from the Luce Foundation that includes student support for the next several years. There are also a few Teaching/Graduate Assistantships available through the EI that will be available to incoming M.A. students. Finally, as our interdisciplinary research programs spin up, we expect that additional LU faculty will seek and obtain extramural support for their advisees in the proposed M.A. program.

***Section g) Plan for encouraging diversity among recruited students***

The need for environmental policy design spans all cultures and nationalities, as environmental degradation affects everyone. However, some populations are more vulnerable than others, and as such, it will be important to consider the full range of human values, and include in the M.A. program students from the full range of cultures both within the U.S. and internationally. Environmental justice is an increasingly recognized issue, and the proposed M.A. will include an entire course on the subject (ES436). With an increasing emphasis on global programs at Lehigh, we will recruit students from as many different countries as possible, given our connections and resources internationally. Examples include ongoing contacts in China, Ecuador, Costa Rica, Turks & Caicos, Turkey, India, Kenya, Russia, Japan, Australia, Brazil, Canada, and various

countries throughout Europe. In addition, we will recruit students with a diverse set of cultural and socioeconomic backgrounds within the U.S. by sending program materials to HBCUs and colleges in a variety of geographical and cultural settings. In cases of financial need, we will seek funds to support students regardless of economic backgrounds, and have already begun with a proposal to the Luce Foundation that will include student support.

***Section h) How program will be administered within department/program***

The program will be administered within the office of the Environmental Initiative using existing infrastructure that was developed, in part, for that purpose. Student records will be handled in house, and the office will serve as a resource or all students to obtain information, access to resources, internship opportunities, and any other support needed for success in the program. The overall direction of the M.A. program will be managed by the faculty involved in the curriculum and in advising the students. A faculty committee will be overseen by the EI Steering Committee, and will be composed of faculty who are teaching the courses and advising the students. All faculty involved in the program will play a role in decisions and planning of strategy including admissions decisions. Of these, a single faculty member will serve as program director on a rotating basis (3 yrs) for the purpose of coordination and communications, and will interface with the EI office.

***Section i) Staffing needs of new program***

Staffing for the new program has been in part built into the plans for the Environmental Initiative, and in part will be provided by existing faculty within the departments involved. The program will build on existing staffing for the Certificate Program in Environmental Law and Policy. EI joint hires will teach the basic courses within the M.A. curriculum, and the richness necessary to make it a signature program will be enabled by additional courses taught by departmental faculty and will be further enhanced by planned future joint hires. The new hires planned in the EI 2020 initiative who are already in place include John Gillroy (International Environmental Policy), Breena Holland (Domestic Environmental Policy), Chad Briggs (Environmental Risk), and Dork Sahagian (Environmental Science). The MA courses are built into the teaching load plans for each of the these, including our newest addition, Chad Briggs. In his case, he arrived with considerable teaching experience, and started with a full load, which includes some of the courses to be included in the MA. The IR faculty discussed the potential impact of the new degree on their faculty and curriculum, and proposed an agreeable initial teaching distribution, and we are proceeding on that basis (see curriculum below). The other junior joint hire, Breena Holland, had an initial lightened load, and the MA courses will bring her up to a normal teaching load in 2008 as planned. Many of the MA courses will be offered on an alternating year basis, thus enhancing the richness of the curriculum, while maintaining the undergraduate curriculum for the BA in Environmental Studies without needing extra courses or overload on the part of any faculty. In part, this is enhanced by 3xx/4xx courses.

The initial suite of courses for the curriculum is indicated below. It makes a complete program and does not require additional courses nor staffing, yet we envision that it will be enhanced by any additional courses provided by departmental faculty or future joint hires. Discussions are

already underway in the Depts. of International Relations, and Political Science to consider offering additional courses that will enrich the program beyond the curriculum indicated below.

If new hires are added as planned in the EI 2020 proposal, further curricular enrichment will be possible. Adding key areas to the curriculum that include Environmental Economics, and Environmental Values and Ethics will add further depth to the program, and plans are in place to accomplish this with new joint hires. Plans are already being made for a search in conjunction with the Economics Dept., for a hire in Env. Economics, with a hold on the search for completion of the new dean search. Discussions are also underway to consider a joint hire in values and ethics with the Dept. of Religion Studies. While the success of the proposed program does not depend on any additional hires, these two hires will complete the initial EI complement of joint hires within the social sciences and humanities and further enhance the richness of the curriculum. EI faculty and staff continue to work with departments and deans to ensure that both existing faculty and new faculty will be engaged in the program.

***Section j) Assessment plan for the new degree program***

The new degree program will be assessed by multiple indicators.

- 1) Course evaluations. Graduate students have clear ideas on the quality of courses, and can assess as well as constructively criticize their classes. Feedback on the degree to which the program fulfills their anticipated needs will be both useful as a measure of success, and as a tool for refining the curriculum as the program develops.
- 2) Exit interviews. Graduating students will be interviewed by program faculty to obtain feedback on the overall program as well as specific courses, faculty, research projects, and effectiveness in fulfilling educational and employment goals. These students will form a growing group of alumni who will continue to be an important part of the program as their careers develop.
- 3) Job placement. It is anticipated that the bulk of the graduate students in the program will go into the workforce upon graduation (although some may pursue further study in Law School, Ph.D. programs, etc.). As such, a useful measure of program success will be the ability of our graduates to obtain key positions in business and government. Student employment will be tracked upon graduation, and to the extent possible, their careers will be documented over time. Program “alumni reunion symposia” will be encouraged so that graduates from this unique program can compare notes, disseminate new ideas, and continue to learn from each other while providing currently enrolled students with insights from the policy-making world.
- 4) Research opportunities. The program is being designed to bring together a diverse set of faculty to build a unique, interdisciplinary program. Research in policy design is envisioned as a key component of the program and of graduate education in general, so the extent to which new research activities can be facilitated within the program will provide a useful measure of success. This will be measured by publications, papers presented in conferences, and speaking invitations at other institutions.

**M.A. CURRICULUM**  
**ENVIRONMENTAL POLICY DESIGN**

For completion of the M.A. degree, students must complete 30 credits as indicated below.

**I. REQUIRED (2)**

- ❖ ES 401 Philosophical Politics and Environmental Policy Design (Gillroy/Staff—F)
- ❖ ES/EES 402 Scientific Foundations for Environmental Policy Design (Sahagian—S)

**II. CORE (at least 4 of 7)**

- ❖ ES 437 Environmental Risk: Decision Making and Management (Briggs—F)
- ❖ ES/IR 333/433 International Env. Law and Policy (Gillroy—S)
- ❖ ES/IR 343/443 Comparative Env. Law and Policy (Gillroy—S)
- ❖ ES 331/431 U.S. Env. Law I: Pollution and Risk Abatement (Gillroy—S)
- ❖ ES/IR 339 ES439 Global Security and the Environment (Briggs)
- ❖ ES 355/455 Env. Justice and the Law (Holland)
- ❖ ES 435 Env. Valuation for Policy Design and Legal Analysis (Holland—F)

**III. ELECTIVES: (3) [Including at least one Foundation Course, except that one or more Core Courses May Be Substituted For Foundation or Context Courses]**

**FOUNDATION:**

- ❖ ES/IR/STS 395 ES/495 International Environmental and Science Policy (Briggs)
- ❖ One of the following: EES 358 Microbial Ecology (Morris) OR EES 365 Eco-physiology (Hargreaves) OR CEE/EES 379 Environmental Case Studies (Jellison)
- ❖ ES 432 U.S. Env. Law II: Natural Resources and Public Lands (Gillroy—S)
- ❖ POLS 396/496 Markets, Politics and the Law (Holland)

**CONTEXT**

- ❖ HIST 315 American Env. History (Cutcliffe)
- ❖ POL 416 American Public Policy (Wurth)
- ❖ POL 4xx Env. Politics and Collective Action (Wurth)
- ❖ POL 475 Green Politics (Wurth)

**IV. METHODS: (1)**

- ❖ POLS 421 Methods for Public Policy Analysis (Davis—F)
  - ❖ EES 325 Remote Sensing of Terrestrial and Aquatic Environments (Ramage)
  - ❖ CEE 272 Env. Risk Assessment (Brown)
- ❖ **THESIS:** A six credit thesis (ES 490) can be taken in lieu of two Foundation/Context Courses with the approval of the EI Graduate Curriculum Committee. The student must find a thesis supervisor and a second reader and produce a five page thesis proposal to the specifications of the program format. This proposal, signed by the student and the primary and second readers, must then be submitted to the committee six weeks before the beginning of the term in which the first thesis credit is to be taken. If the proposal fails to be approved, the student will be required to fill out his/her program with courses.

**College of Arts and Sciences: Environmental Initiative**

**Proposed New Course**

**1. Proposed new course number and course description (as it will appear in course catalogue):** ES 401: PHILOSOPHICAL POLITICS AND ENVIRONMENTAL POLICY DESIGN (3 credits): A basic class in the art and logic of policy design, as focused on environmental dilemmas. Rather than a retrospective, empirical-technical analysis dominated by market assumptions, *Policy Design* treats public decision-making as a philosophical exercise to understand the foundations of choice, the various principles that may support a policy, and the process and context in which the argument for the choice must be made. The course will also introduce the idea of Philosophical-Politics, or the utilization of philosophical paradigms that employ dialectic method to integrate the moral, political, economic, legal and social dimensions of a policy issue. Beginning with the conventional market paradigm, the course teaches students how to create their own theoretical paradigms with which to fuel the design process by presenting alternatives from, for example, the Philosophical Politics of David Hume, G.W.F. Hegel or Immanuel Kant. The final project is the application of a student designed policy paradigm to a environmental case study. (GILLROY/STAFF)

**2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:** Lecture, reading and discussion. Three contact hours per week

**3. Rationale for proposed new course:** This course will serve as one of two required courses in the M.A. curriculum for Environmental Policy Design. It will introduce students to the basic concepts and framework for the new Lehigh approach to policy design.

**4. Academic impact on programs affected by new course:** The newly proposed M.A. in Environmental Policy Design will depend on this course. It will also enhance the curricula of other related M.A. curricula on campus.

**A. Is the proposed course to be cross-listed?** No.

**B. Identify any known effects of the proposed new course on other programs at the University.**

The IR faculty discussed the potential impact of the new degree on their faculty and curriculum, and proposed an agreeable initial teaching distribution, and we are proceeding on that basis.

**C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new course and the following information provided:**

**(1) Who was consulted?** Raj Menon and all IR faculty

**(2) Is the proposed new course acceptable to all other programs affected?**  
YES

**(3) Will any changes be required in the affected programs? If so, please describe below:** No

**D. Does the proposed new course affect the University's commitment to diversity in any way? If so, please describe below:** No.

## **5. Resource Impact**

**A. Provide impact statements in the four areas listed below:**

**(1) Library impact statement** Covered in EI library impact statement, in which it was stated that there will need to be some increased spending on books and reference works covering environmental policy, recycling, and environmental management. No additional impact from this proposal.

**(2) Computer impact statement** None

**(3) Faculty impact statement** The course is part of the expected course load for the joint EI faculty.

**(4) Facilities impact statement** No impact.

**B. Provide a statement indicating who will assume financial responsibility for any new resources required:** EI

**College of Arts and Sciences: Environmental Initiative**

**Proposed New Course**

**1. Proposed new course number and course description (as it will appear in course catalogue):** ES 490: THESIS RESEARCH: (3-6 credits) This course is intended for students opting to conduct the thesis for the MA in Environmental Policy Design. The thesis requires 6 credits total which may be done over the course of a one semester or spread over two semesters by repeating the course for 3 credits each semester.

**2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:** Research

**3. Rationale for proposed new course:** This course will provide students the opportunity to include a thesis in their MA curriculum in Environmental Policy Design.

**4. Academic impact on programs affected by new course:** This course will enable faculty from anywhere at Lehigh, including departments with no graduate program of their own to advise graduate student theses in the new MA program in Environmental Policy Design.

**A. Is the proposed course to be cross-listed?** No.

**B. Identify any known effects of the proposed new course on other programs at the University.**

No known effects.

**C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new course and the following information provided:**

(1) Who was consulted?

(2) Is the proposed new course acceptable to all other programs affected?

(3) Will any changes be required in the affected programs? If so, please describe below:

**D. Does the proposed new course affect the University's commitment to diversity in any way? If so, please describe below:** No.

<b>5. Resource Impact</b>
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**A. Provide impact statements in the four areas listed below:**

**(1) Library impact statement** Covered in EI library impact statement, in which it was stated that there will need to be some increased spending on books and reference works covering environmental policy, recycling, and environmental management. No additional impact from this proposal.

**(2) Computer impact statement** None

**(3) Faculty impact statement** Faculty can choose to advise student theses as they wish..

**(4) Facilities impact statement** No impact.

**B. Provide a statement indicating who will assume financial responsibility for any new resources required: EI**