1. **Admission Requirements**

Consideration of admission requires a bachelor’s degree, three letters of recommendation, official transcripts and GRE scores from within the past 5 years. TOEFL or IELTS scores are required for international students from non-English speaking countries. There is no expectation of students serving as Teaching Assistants. Those who request consideration of such support will be required to submit TOEFL or IELTS scores.

Students are required to apply to Graduate Studies, with appropriate fees, by January 1 of the academic year preceding program entry. Students will be enrolled as cohorts and no mid-year enrollment will be permitted. Applicants are required to have a minimum undergraduate GPA of 3.0, or the international equivalent. Applicants are expected to have GRE minimum scores of 80% Quantitative, 60% Verbal and 50% Analytical Writing, although exceptions may be made on a case-by-case basis.

Admitted students would be expected to have a scientific, engineering, or technical baccalaureate degree, including courses in introductory environmental sciences, calculus and statistics (taught with calculus). Prior coursework in economics (e.g., intermediate microeconomics) is recommended, but not required. In many cases, such as technical students lacking an economics course, this might be accomplished in the summer prior to beginning the program.

1a. **Pre-requisites.** Students without a prior degree in a scientific, engineering, or technical field would be required to complete a set of preparatory courses, or their equivalents, to provide them with a fundamental scientific background in environmental science. This scientific training can be in any appropriate scientific discipline. Sciences are taken to mean the STEM (Science, Technology, Engineering, Math) core disciplines. Those with an undergraduate degree in Environmental Studies will be individually evaluated to ensure that they have a minimum of two quarters of introductory science equivalent (e.g., Introductory Biology, BIS 2A, BIS 2B) and two quarters of upper division STEM courses (e.g., EME 150 Mechanical Design, Evolution BIS 100). Pre-requisite decisions will be made by the admissions committee at the time of application decision. There is no foreign language requirement for entry or successful completion of the program.

1b. **Deficiencies.** Since this is a one year course that begins in fall, no student will be admitted who will not be able, and willing, to fulfill all deficiencies in the summer prior to the commencement of the program.
2. Program of Study: M.S., Plan II only.
This program is designed as a 12 month, coursework centered, terminal practice-oriented master’s degree. As a plan II Master of Science, the degree requires 42 units of graduate (200 series) or upper division (100 series) courses. A minimum of 18 units will be graduate courses in the major field. A comprehensive final exam is required for successful graduation. Neither research nor a thesis is required.

a) Specific fields of emphasis. This program emphasizes the role of scientific and quantitative analysis in environmental policy and management, including both quantitative analysis of environmental problems and the application of science to environmental management and practice. We envision an eventual suite of specialized areas within this broader rubric of environmental policy (freshwater, marine, air quality, biodiversity and conservation, and climate change). Initial coursework will focus on integrating these 5 focal areas.

b) Plans. Only the Plan II (Comprehensive Examination) MS degree is offered.

c) Unit requirements. The proposed Master’s degree in Environmental Policy and Management would be a program of full-time graduate study on the campus and requires 42 units to graduate.

3. Course Requirements – Cores and Electives (42 units)
The curriculum is designed to allow students to complete the degree in 1 calendar year, (possibly 2 if they are combining this with a research degree) consisting of 3 quarters of core classes and electives. A practice-oriented, mentored capstone practicum will be required for graduation (6 units, summer quarter, EPM299). Students may take additional electives beyond the minimum requirement. Expanded course descriptions appear in Appendix D. The EPM is a specialized M.S. program, courses for this program are heavily prescriptive, and students will take most classes with their cohort. As a consequence, a number of new courses will be the backbone of this program. New courses (shown with EPM – Environmental Policy and Practice designation) will be submitted for approval to the courses committee immediately following approval of this program. Core courses, with current faculty expressing interest in regular teaching, appear below:

a) Core Courses
EPM 200 A, B, C: Analysis of Environmental Policy I, II, III (3 courses, one course each quarter – 4 units each) (Schwartz, Arnold (cross-list ECL 212A), Springborn (cross-list ECL 212B)
EPM 202 A, B, C: Policy Studio (4 units, fall; 8 units, Winter, Spring) (team taught by faculty core, focusing on the different thematic areas)
EPM 297: Professional Development Seminar (3 courses – 1 unit each) (focusing on professional development, linked to Policy Studio EPM 203 in winter and spring quarters). Required each quarter.

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer &amp;/or Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis I (4) EPM 200A, (Schwartz)</td>
<td>Analysis II (4) EPM 200B (Arnold)</td>
<td>Analysis III (4) EPM 200C (Springborn)</td>
<td>EPM 299. Practicum (6)</td>
</tr>
<tr>
<td>Environmental Law (3) EPM 201</td>
<td>Policy Studio (4) EPM 203A</td>
<td>Policy Studio (4) EPM 203C</td>
<td></td>
</tr>
<tr>
<td>Env. Admin. &amp; Mngmnt (4) EPM 202</td>
<td>Quantitative Analysis or Elective (3)</td>
<td>Quantitative Analysis or Elective (3)</td>
<td></td>
</tr>
<tr>
<td>Professional Development Seminar (1) 297</td>
<td>Professional Development Seminar (1) 297</td>
<td>Professional Development Seminar (1) 297</td>
<td></td>
</tr>
<tr>
<td>12 units</td>
<td>12 units</td>
<td>12 units</td>
<td>6 units</td>
</tr>
</tbody>
</table>

b) Electives Courses
The program requires one elective in quantitative analysis. Quantitative analysis can include statistics for non-statistics majors (e.g., STA 100 Applied statistics for Biological Sciences); approaches to quantitative analysis (e.g., ANT 298, Statistical rethinking); or non-statistical quantitative methods (e.g., LDA 185 Concepts and Methods in GIS).

Additional electives are at student discretion. Electives allow students to develop a topical focus or specific policy competence for their program, related to their career interests and their practicum area.

c) Summary
This degree emphasizes experiential learning for students that carry a scientific background into the program. The program creates a relatively simple and highly prescriptive structure. There are seven elements to the degree program: the core course (12 units; graded); quantitative methods (3 units; graded only); law, management and administration requirements (7 units, graded); the policy studio (8 units; graded); professional development seminar (3 units; S/U only), and elective (3 units) and a practicum (6 units, graded). The rationale for each is described below.

1. The EPM Core Course (EPM 200), running three quarters, will present the fundamentals of the policy process, including economic analysis of policy, the policy process, environmental law, environmental management, and environmental administration. This course will focus on teaching fundamental skills to occupy leadership positions within environmental agencies, NGO’s and consulting firms.
2. The **Policy Studio** will be the focal opportunity for experiential learning that focuses on integrating a wide array of quantitative and technical tools on policy problems. The studio will be problem-focused and interactive. The first quarter will focus on dividing the cohort into small groups and defining a group project. The group project will have a lead mentor and several supporting mentors. Each project will be required to analyze and report on the scientific and technical aspect of a large scale environmental problem. Environmental challenges will be described and analyzed on a local, national and global scale; however the group will select one particular scale for in depth analysis. The studio will begin by analyzing the potential for **policy-relevant science**; this being defined by the policies (a common set of practices guided by anything from NGO operating procedures to law) that dictate societal behavior, and identifies the individuals or groups that drive the policy process. The group will evaluate the state of scientific knowledge and identify inflection points for change (i.e., new knowledge that could change policy outcomes, changes in societal perception needed to change policies). Groups will then assess barriers to change in order to develop a synthetic assessment of potential for, and barriers to, better policy outcomes for society. Each Policy Studio will include a suite of required elements, including an assessment of economics, problem administration, law, as well as a scientific and technical assessment.

3. Working for agencies, politicians, NGOs or consulting firms requires an understanding of environmental law. Working within this environment also requires business administration and project management. We propose a course called **Environmental Law, Administration and Management.** This fall 2-course combination will be modularized courses with different instructors to deliver specialized topics. It will be offered in the fall as foundational to group work in policy studios.

4. The EPM program specializes in **quantitative analysis of environmental problems.** The quantitative analysis requirement will allow students to choose amongst a wide array of existing upper division quantitative courses already in existence at UCD.

5. The **elective** class can take advantage of any of a number of upper division undergraduate or graduate classes and provide the opportunity for students to garner strength in an area of particular interest.

6. The **Professional Development Seminar** will bring a diverse array of leaders from agencies, the legislative branch, environmental NGOs and consulting firms to campus to discuss career opportunities and leading challenges within their professions. Each quarter will focus on a thematic topic (e.g., climate change, freshwater supply, fire management).

7. The **Practicum** will be a capstone experience for students to integrate and apply their coursework to a problem in a practical applied professional setting, and will provide students with experience in the professional field. Practicum projects will vary, but all
will result in a written report and an exit interview with a committee of faculty that will represent the comprehensive exam.

Most practicum projects are expected to be individual projects; however group projects with identifiable individual contributions are also possible. Projects will be developed in consultation with one or more faculty members as supervisors of each practicum project and an agency, NGO or consulting firm. The intent of the practicum is to contract with and fulfill a policy research/analysis need of a partnering agency, NGO or consulting firm. Program staff will work with students to develop practicum experiences, including contractual obligations with the partnering organization. It is anticipated that partnering organizations will compensate students for their work through a small grant to the University. Alternatively (e.g., students who are currently working for an agency, NGO or consulting firm), a student may propose a practicum project with a faculty mentor but without a direct agency, NGO or company lead. This practicum remains an experiential exercise in professional development, and not a research project. In each case, students are expected to propose a practicum along with a professional development plan that states how the practicum is envisioned to further their individual career objectives.

The focal administrative support units of this program (JMIE and PIEEE) currently each administers such a practicum program for graduate students. The JMIE program partners specifically with The Nature Conservancy; PIEEE currently runs such a program with state agencies. The scope and content of practicum projects will be similar to those of practice-oriented degree programs elsewhere, such as that of the project required by the Public Policy Master’s program at UC Berkeley’s Goldman School.

The academic year preparatory period for the practicum allows time to develop a contract with a coordinating partner (agency, NGO, consulting firm) that includes deliverables, fees for services rendered. During this period, the student will find an appropriate faculty sponsor and write a professional development plan.

4. Special Requirements. Both the Practicum and Policy Studios will conclude with presentations to the program to which the public and stakeholders may be invited. These presentations will be evaluated by a program committee who will prepare a summary for the student as fulfillment of their comprehensive examination.

5. Committees.
   a) Admission Committee. Following the application deadline, the admission committee will review applicants to assemble a cohort of students for the yearly program. The admission committee will consist of three graduate group faculty members and two external advisors (from agencies, NGOs, consulting firms). The external advisors input will be advisory, with the graduate faculty having the final say in admissions. However these advisors will be critical in helping steer the program based on industry demand of
graduates and profiles of students likely to succeed along their described professional trajectories.

b) Advising Committee. Each student will assemble a committee of three faculty members to advise individual students on two specific issues. First, the committee will advise students on potentially relevant quantitative methods classes as an elective. Second, the committee will advise students in their practicum project.

c) Comprehensive Exam Committee. The program will establish a comprehensive exam committee for each year, composed of three members appointed by the Chair. This committee will be responsible for evaluating students relative to their Policy Studio and Practicum work. Students do not have a major professor, and hence there is no concern whether or not such a person would be on this committee.

6. Advising Structure and Mentoring. Lacking major professors, per se, students will be advised by (a) the program staff (graduate group chair and program academic coordinator); and (b) the Comprehensive Exam Committee (CEC). The faculty program coordinator and the program academic coordinator will be principally responsible for interviewing and evaluating incoming students with respect to their professional aspirations. The program staff will discuss with the student their quantitative tools needs to recommend an elective course in quantitative methods. The CEC will be principally responsible for evaluating students on studio and practicum work. As such this committee will be responsible to sign off on project proposals for all practicum and studio projects. Finally, the program staff will be responsible for career counseling throughout the year long program.

7. Advancement to Candidacy. All students will advance to candidacy once they have approved Studio and Practicum projects. This is anticipated to be by the end of winter quarter and after the successful completion of 25 units of study.

8. Comprehensive Exam. The comprehensive exam will be conducted as a consequence of fulfilling all program requirements and being ready to embark on their practicum experience. It is expected that this exam will be conducted at the conclusion of spring quarter. The exam will combine an evaluation of three written reports: (1) the student’s professional development plan; (2) the student’s practicum proposal; and (3) the student’s policy studio projects. If any component of these materials is less than satisfactory, the student will be asked to also have an oral exam that can include elements of basic understanding of the principles of the curricular material, or an evaluation of the student’s written products (e.g., the professional development plan). Specifically, the committee will determine if they agree that the student has learned the necessary tools with which to succeed in their professional development plan. Students who do not pass this exam can be (a) asked to engage in individual study to fulfill deficiencies in knowledge or (b) retake specific classes. Students would then be required to retake the exam. Failure would also trigger an explanation from program course
instructors regarding student performance in the curricular requirements of the program. A second failure would result in a recommendation to the Dean of Graduate Studies that the student be disqualified from the program.

9. **Normative time from matriculation to degree.** Normal time from matriculation to degree is anticipated to be 12 months, although students may elect to spread the program across 2 years. Normative time to advancement to candidacy is 2 quarters.

10. **Typical time line.**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer &amp;/or Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis I (4) EPM 200A, (Schwartz)</td>
<td>Analysis II (4) EPM 200B (Arnold)</td>
<td>Analysis III (4) EPM 200C (Springborn)</td>
<td>EPM 299. Practicum (6)</td>
</tr>
<tr>
<td>Environmental Law (3) EPM 201</td>
<td>Policy Studio (4) EPM 203A</td>
<td>Policy Studio (4) EPM 203C</td>
<td></td>
</tr>
<tr>
<td>Env. Admin. &amp; Mngmnt (4) EPM 202</td>
<td>Quantitative Analysis or Elective (3)</td>
<td>Quantitative Analysis or Elective (3)</td>
<td></td>
</tr>
<tr>
<td>Professional Development Seminar (1) 297</td>
<td>Professional Development Seminar (1) 297</td>
<td>Professional Development Seminar (1) 297</td>
<td></td>
</tr>
<tr>
<td>12 units</td>
<td>12 units</td>
<td>12 units</td>
<td>6 units</td>
</tr>
</tbody>
</table>

11. **Sources of funding.** Students are expected to pay for their own tuition, fees and support. Block grant monies will be targeted toward exceptional students, particularly international students to help defray costs of non-resident supplemental tuition (NRST).

12. **PELP, in Absentia, and Filing Fee Status.** We anticipate no unusual status for PELP, in absentia or filing fee status. Although these will undoubtedly occur, with a brief 12 month, cohort-centered program, where there is strong program involvement in professional placement in studio projects and practicum experiences, we anticipate low rates of these tools for students who are not following the expected trajectories. We anticipate extenuating features of these tools for helping students through challenging situations, beyond those already described by Graduate Studies, to apply to this program.