

ENVIRONMENTAL POLLUTION CONTROL

Graduate Program Head	Rafic Bachnak
Program Code	EPC
Campus(es)	Harrisburg (M.S., M.E.P.C.) University Park (M.S., M.E.P.C.)
Degrees Conferred	Master of Science (M.S.) Master of Environmental Pollution Control (M.E.P.C.)
The Graduate Faculty	View (https://secure.gradsch.psu.edu/gpms/index.cfm?searchType=fac&prog=EPC)

This intercollege master's degree program, available at Penn State Harrisburg and Penn State University Park, deals with the various aspects of air, land, and water pollution control. Graduate instruction is under the direction of an interdisciplinary faculty committee and the departments participating in the program. The EPC faculty have teaching and research interests in the area of environmental pollution control, and where projects are being funded, support opportunities may be available. Currently, faculty from sixteen departments in four colleges are participating in the program at University Park and faculty from four graduate programs participate at Penn State Harrisburg. A student is affiliated with one of these departments on the basis of his/her specific area of interest and is advised by an EPC faculty member in that department. Maximum flexibility is maintained by the program in an effort to meet both the needs of the individual student and the pollution control activity in which he/she wants to participate.

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<http://gradschool.psu.edu/prospective-students/how-to-apply>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<http://gradschool.psu.edu/graduate-education-policies>).

The EPC program is designed for students with backgrounds in science or engineering. Admission will be granted if the applicant has the necessary program prerequisites and a faculty member in the student's interest area agrees to serve as adviser. Normal admission requirements include mathematics through integral calculus plus two courses each in both general chemistry and physics.

Students with a 3.00 junior/senior average and with appropriate backgrounds in mathematics and science will be considered for admission. The best-qualified applicants will be admitted up to the number of places that are available for new students. Applicants to the Environmental Pollution Control program are required to provide a statement of objectives, three letters of recommendation, and scores from the Graduate Record Examination (GRE) Aptitude Test (verbal, quantitative, analytical) to complete the admission process.

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. See GCAC-305 Admission Requirements for International Students (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/>

(gcac-305-admission-requirements-international-students) for more information.

Entering graduate students in the Environmental Pollution Control program for whom English is not their first language are required to have a score of at least 560 on the paper-based TOEFL (Test of English as a Foreign Language) examination.

Degree Requirements

Master of Environmental Pollution Control (M.E.P.C.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (<http://gradschool.psu.edu/graduate-education-policies>).

All candidates are required to take a core course in each of four environmental areas:

1. air,
2. water,
3. solid waste,
4. hazardous waste management,
5. and policy/risk

and 1 credit of the EPC 590 seminar for a minimum core requirement of 12 credits. All but 6 of the total 30 credits required must be selected from a recommended course list. The M.E.P.C. EPC degree requires submission of a scholarly master's paper.

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<http://gradschool.psu.edu/graduate-education-policies>)

All candidates are required to take a core course in each of four environmental areas:

1. air,
2. water,
3. solid waste,
4. hazardous waste management,
5. and policy/risk

and 1 credit of the EPC 590 seminar for a minimum core requirement of 12 credits. All but 6 of the total 30 credits required must be selected from a recommended course list. If the option to prepare a thesis is selected, students must schedule at least 12 credits at the 500 level, take at least 6 credits of 600-level thesis research in their thesis adviser's academic department, and write a thesis on an area concerned with environmental pollution. Only 6 credits of 600-level course work may count toward the 30-credit minimum degree requirement. Students who select the nonthesis option must schedule at least 18 credits at the 500 level, which may include 1 credit of EPC 590 and a maximum of 3 paper-writing credits.

Watershed Stewardship Option

The Graduate Option in Watershed Stewardship is a graduate option intended to provide enhanced educational opportunities for students with an interest in water resources management who are enrolled in a graduate degree program in Environmental Pollution Control at the University Park campus. The objective of the Graduate Option in Watershed Stewardship is to educate students to facilitate team-oriented,

community-based watershed management planning directed at natural resources conservation and environmental problems encountered in Pennsylvania communities, especially non-point source water pollution. The Graduate Option in Watershed Stewardship requires 22 credits of graduate course work:

Code	Title	Credits
Select 12 credits of breadth courses ¹		12
FOR 591A & FOR 591B or LARCH 510	Seminar in Watershed Stewardship Issues and Seminar in Watershed Stewardship Planning Graduate Seminar in Landscape Architecture	2
Select one of the following sequences:		8
FOR 570 & FOR 571	Watershed Stewardship Practicum I and Watershed Stewardship Practicum II	
LARCH 817 & LARCH 550	Grad Studio III and Master of Landscape Architecture Project Studio	
Total Credits		22

¹ Breadth courses will consist of three graduate credits of course work from each of four subject matter areas:

1. water resources science,
2. social science, public policy and economics,
3. humanities, and
4. communications and design.

In the watershed stewardship practicum courses students work in teams with community, government and business leaders to analyze and understand natural resources and environmental pollution problems and creatively synthesize appropriate solutions in the form of a written watershed management plan.

A list of acceptable breadth courses from each category is provided in the Graduate Option in Watershed Stewardship Handbook. Students will be allowed to petition to the Center for Watershed Stewardship to substitute higher level or equivalent courses in a major field to suit their specific backgrounds and goals. Courses taken for the Graduate Option in Watershed Stewardship may be used to satisfy other EPC degree requirements with concurrence of their adviser and graduate committee and only if such courses are approved EPC core requirements or are on the currently approved list of additional 400- and 500-level course for the EPC major. The graduate committee for a student enrolled in the Option in Watershed Stewardship must include a faculty representative from the Center for Watershed Stewardship.

Students enrolled in M.E.P.C. or M.S. degree program within Environmental Pollution Control may apply to participate in the Graduate Option in Watershed Stewardship. EPC students may prepare their thesis or paper on a topic related to their watershed management plan, but the thesis or paper must reflect independent thought and scholarly effort above and beyond the requirements of FOR 570 and FOR 571 or LARCH 817 and LARCH 550.

Student Aid

Graduate assistantships available to students in this program and other forms of student aid are described in the Tuition & Funding (<http://gradschool.psu.edu/graduate-funding>) section of The Graduate School's website. Students on graduate assistantships must adhere to the course load limits (<http://gradschool.psu.edu/graduate-education-policies/gsad/gsad-900/gsad-901-graduate-assistants>) set by The Graduate School.

Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Environmental Pollution Control (EPC) Course List (<https://bulletins.psu.edu/university-course-descriptions/graduate/epc>)

Learning Outcomes

1. Graduates will demonstrate advanced knowledge of the theory of environmental pollution and its control.
2. Graduates will understand environmental issues related to air, water, and soil pollution and how these issues are addressed by environmental scientists.
3. Graduates will apply their knowledge of environmental pollution fate, transport, and control to the theoretical design of an integrated environmental treatment or natural resources system.
4. Graduates will demonstrate the application of environmental theory to the solution of real-world problems in Pennsylvania, the Chesapeake Bay watershed, and beyond.
5. Graduates will demonstrate an understanding of and will embody the professional ethics of the protection of health and safety first.
6. Graduates will communicate their research activities in a concise manner, both written and orally, and will be able to place their research into the broader context of environmental science and pollution control.

Contact

Campus	Harrisburg
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Program Website	View (https://harrisburg.psu.edu/science-engineering-technology/civil-structural-engineering/master-environmental-pollution-control)
Campus	University Park
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