ENVIRONMENTAL SCIENCE/PUBLIC POLICY (BS/MPP)

From ecological restoration to water conservation, from climate change adaptation to storm water management, the challenge is clear. The need for individuals with literacy and skills relevant to both environmental science and public policy has never been greater.

The SES dual degree programs with the Master of Public Policy (MPP) prepare graduates to meet these challenges effectively in careers in government, non-profit organizations, and businesses.

RELATED PROGRAMS
No results found.

CURRICULUM
These dual degree programs begin with a broad, interdisciplinary undergraduate curriculum drawing on courses in the natural sciences, social sciences, humanities, and business.

Undergraduate service-learning, internships, research, and study abroad provide students with rich, experiential learning opportunities. Students then develop more in-depth understanding of policy issues and the professional skills necessary to influence policy outcomes as part of their graduate studies.

Environmental Science students complete coursework that includes both a heavy dose of basic science requirements and courses spanning a variety of disciplines pertinent to understanding the context in which environmental challenges reside.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENVS 137</td>
<td>Foundations of Environmental Science I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101</td>
<td>General Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 111</td>
<td>General Biology I Lab</td>
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<tr>
<td>CHEM 160</td>
<td>Chemical Structure and Properties</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 161</td>
<td>Chemical Structure and Properties Laboratory</td>
<td>1</td>
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<tr>
<td>BIOL 102</td>
<td>General Biology II</td>
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<tr>
<td>BIOL 112</td>
<td>General Biology II Lab</td>
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<tr>
<td>CHEM 180</td>
<td>Chemical Reactivity I</td>
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</tr>
<tr>
<td>CHEM 181</td>
<td>Chemical Reactivity I Lab</td>
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<tr>
<td>ENVS 200</td>
<td>Environmental Careers and Professional Skills</td>
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</tr>
<tr>
<td>ENVS 203</td>
<td>Environmental Statistics</td>
<td>3</td>
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<tr>
<td>ENVS 274</td>
<td>Chemistry of the Environment</td>
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<tr>
<td>ENVS 275</td>
<td>Chemistry of the Environment Lab</td>
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<tr>
<td>ENVS 280</td>
<td>Principles of Ecology</td>
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</tr>
<tr>
<td>ENVS 286S</td>
<td>Principles of Ecology Lab</td>
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<tr>
<td>PLSC 392</td>
<td>Environmental Politics</td>
<td>3</td>
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Justice and Ethics Choice
Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>ENVS 284</td>
<td>Environmental Justice</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 287</td>
<td>Environmental Ethics</td>
<td></td>
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<tr>
<td>THEO 204</td>
<td>Religious Ethics and the Ecological Crisis</td>
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</tbody>
</table>

Economics Choice
ENVS 335  Ecological Economics
or ECON 328  Environmental Economics

Engaged Learning Choice
Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ENVS 226  Science &amp; Conservation of Freshwater Ecosystems</td>
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<tr>
<td>ENVS 267  Bird Conservation and Ecology</td>
<td></td>
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<tr>
<td>ENVS 273  Energy and The Environment</td>
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<tr>
<td>ENVS 283  Environmental Sustainability</td>
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<tr>
<td>ENVS 340  Natural History of Belize</td>
<td></td>
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<tr>
<td>ENVS 345  Conservation and Sustainability of Neotropical Ecosystems</td>
<td></td>
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<tr>
<td>ENVS 350A  Solutions to Environmental Problems: Water</td>
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<tr>
<td>ENVS 350B  Solutions to Environmental Problems: Biogas</td>
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<tr>
<td>ENVS 350C  Solutions to Environmental Problems: Climate Action</td>
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<tr>
<td>ENVS 350F  Solutions to Environmental Problems: Food Systems</td>
<td></td>
<td></td>
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<tr>
<td>ENVS 369  Field Ornithology</td>
<td></td>
<td></td>
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<tr>
<td>ENVS 391  Environmental Research</td>
<td></td>
<td></td>
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<tr>
<td>ENVS 395  Environmental Internship</td>
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Capstone Choice
Select one of the following:

<table>
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<tr>
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<tbody>
<tr>
<td>ENVS 390  Integrative Seminar</td>
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<tr>
<td>ENVS 391C  Independent Environmental Research (Capstone)</td>
<td>3</td>
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</tr>
<tr>
<td>ENVS 395C  Environmental Internship (Capstone)</td>
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</tbody>
</table>

Electives
Select four from list of Electives
Total Hours 12

MPP Requirements

Core Requirements
MPP 400  Policy Design and Analysis
MPP 401  Analytical Tools in Public Policy
MPP 403  Public Budget and Finance
MPP 404  Public Policy Process
MPP 405  Statistical Methods & Analysis for Public Policy I
MPP 406  Statistical Methods & Analysis Public Policy II
MPP 500  Public Policy Evaluation
MPP 502  Professional Development Skills
MPP 501  Public Policy Internship
or MPP 503  Public Policy Practicum

Electives
Select four from list of Electives
Total Hours 12

BS Electives

Society, Ethics, and Justice
Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ENVS 204  Gender, Health &amp; Environment</td>
<td>3</td>
<td></td>
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<tr>
<td>ENVS 260 / COMM 260  Environmental Journalism</td>
<td></td>
<td></td>
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<tr>
<td>ENVS 279 / HIST 279E  Climate and History</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Environmental Science/Public Policy (BS/MPP)

ENVS 284 Environmental Justice
ENVS 297 / HIST 297E North American Environmental History
ENVS 298 Special Topics (with SES approval)
ENVS 338 Climate Change and Human Health
ENVS 350A Solutions to Environmental Problems: Water
ENVS 350B Solutions to Environmental Problems: Biogas
ENVS 350C Solutions to Environmental Problems: Climate Action
ENVS 350F Solutions to Environmental Problems: Food Systems
ENVS 383 Human Dimensions of Conservation
ENVS 391 Environmental Research (with SES approval)
ENVS 395 Environmental Internship (with SES approval)
ENVS 398 Special Topics (with SES approval)
ENVS 399 Directed Readings (with SES approval)
COMM 101 Public Speaking & Critical Thinking
COMM 277 Organizational Communication
COMM 306 Environmental Advocacy
COMM 327 Guerilla Media
COMM 397 Digital Sustainability
ENGL 288 Nature in Literature
PHIL 287 Environmental Ethics
PSYC 277 Environmental Psychology
SOC 226 Science, Technology, & Society
SOC 252 Global Inequalities
SOC 272 Environmental Sociology
SOC 276 The Sociology and Politics of Food
SOC 278 Global Health
THEO 204 Religious Ethics and the Ecological Crisis
THEO 344 Theology and Ecology

Policy, Economics, and Resource Management
Select one of the following: 3

ENVS 298 Special Topics (with SES approval)
ENVS 300 Introduction to Public Health
ENVS 310 Introduction to Environmental Law & Policy
ENVS 311 Natural Resources and Land Use Law & Policy
ENVS 312 Water Law & Policy
ENVS 313 Energy Law & Policy
ENVS 327 Food Systems Analysis
ENVS 332 Industrial Ecology
ENVS 333 Introduction to the Circular Economy
ENVS 335 Ecological Economics
ENVS 336 Design for Circular & Sustainable Business
ENVS 338 Climate Change and Human Health
ENVS 363 Sustainable Business Management
ENVS 364 Sustainability Management in the Global Context
ENVS 383 Human Dimensions of Conservation
ENVS 384 Conservation Economics
ENVS 389 Ecological Risk Assessment
ENVS 391 Environmental Research (with SES approval)
ENVS 395 Environmental Internship (with SES approval)
ENVS 398 Special Topics (with SES approval)
ENVS 399 Directed Readings (with SES approval)
ECON 328 Environmental Economics
GLST 305 Globalization and Environmental Sustainability
MGMT 201 Managing People and Organizations
PLSC 354 Global Environmental Politics

Environmental Science Electives
Select five, at least three of which must be at the 300 level: 15

ENVS 204 Gender, Health & Environment
ENVS 207 Plants and Civilization
ENVS 215 / BIOL 215 Ornithology
ENVS 218 Biodiversity & Biogeography
ENVS 223 Soil Ecology
ENVS 224 Climate & Climate Change
ENVS 226 Science & Conservation of Freshwater Ecosystems
ENVS 267 Bird Conservation and Ecology
ENVS 273 Energy and The Environment
ENVS 278 Hydrology
ENVS 283 Environmental Sustainability
ENVS 298 Special Topics (with SES approval)
ENVS 300 Introduction to Public Health
ENVS 301 Environmental Health
ENVS 303 Introduction to Epidemiology
ENVS 319 Winter Ecology
ENVS 320 Conservation Biology
ENVS 322 Invasive Species
ENVS 323 Environmental Microbiology
ENVS 325 Sustainable Agriculture
ENVS 326 Agroecosystems
ENVS 327 Food Systems Analysis
ENVS 330 Restoration Ecology
ENVS 338 Climate Change and Human Health
ENVS 340 Natural History of Belize
ENVS 345 Conservation and Sustainability of Neotropical Ecosystems
ENVS 350A Solutions to Environmental Problems: Water
ENVS 350B Solutions to Environmental Problems: Biogas
ENVS 350C Solutions to Environmental Problems: Climate Action
ENVS 350F Solutions to Environmental Problems: Food Systems
ENVS 369 Field Ornithology
ENVS 380 Introduction to Geographic Information Systems
ENVS 381 Advanced GIS Applications
ENVS 382 Remote Sensing
ENVS 383 Human Dimensions of Conservation
ENVS 385 Introduction to Global Health
ENVS 387 Principles of Ecotoxicology
ENVS 388 Applied Environmental Statistics
ENVS 389 Ecological Risk Assessment
ENVS 391 Environmental Research (with SES approval)
ENVS 395 Environmental Internship (with SES approval)
ENVS 398 Special Topics (with SES approval)
ENVS 399  Directed Readings (with SES approval)
ANTH 104  The Human Ecological Footprint
ANTH 303  People and Conservation
BIOL, CHEM, PHYS 300-level courses (with SES approval)

Total Hours  21

MPP Electives
Students are required to take 12 hours of electives. Electives can be drawn from many departments across the university, including criminal justice, education, environmental studies, political science, public health, psychology, sociology and social work. These electives are where students can focus on their preferred field of policy. The following are some examples of optional courses:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ENVS 410</td>
<td>Introduction to Environmental Law &amp; Policy</td>
<td>3</td>
</tr>
<tr>
<td>ENVS 412</td>
<td>Water Law &amp; Policy</td>
<td>3</td>
</tr>
<tr>
<td>MPBH 400</td>
<td>Determinants of Population Health</td>
<td>3</td>
</tr>
<tr>
<td>MPBH 407</td>
<td>Public Health Policy: Concepts and Practice</td>
<td>3</td>
</tr>
<tr>
<td>CJC 401</td>
<td>Politics and Policies in the Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>CJC 402</td>
<td>Theories of Criminal Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MPP 407</td>
<td>Local Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>MPP 414</td>
<td>Affordable Housing Finance and Policy</td>
<td>3</td>
</tr>
<tr>
<td>ELPS 405</td>
<td>Introduction to Educational Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ELPS 412</td>
<td>Urban Education Policy</td>
<td>3</td>
</tr>
<tr>
<td>SOWK 730</td>
<td>Immigration Dynamics and U.S. Social Policy</td>
<td>3</td>
</tr>
<tr>
<td>SOWK 732</td>
<td>Migration, Social Justice, and Human Rights</td>
<td>3</td>
</tr>
</tbody>
</table>

Guidelines for Accelerated Bachelor's/Master's Programs

Terms
- **Accelerated Bachelor's/Master's programs:** In this type of program, students share limited credits between their undergraduate and graduate degrees to facilitate completion of both degrees.
- **Shared credits:** Graduate level credit hours taken during the undergraduate program and then applied towards graduate program requirements will be referred to as Shared credits.

Admission Requirements
Accelerated Bachelor’s/Master’s programs are designed to enhance opportunities for advanced training for Loyola's undergraduates. Admission to these programs must be competitive and will depend upon a positive review of credentials by the program's admissions committee. Accordingly, the admission requirements for these programs may be higher than those required if the master's degree were pursued entirely after the receipt of a bachelor's degree. That is, programs may choose to have more stringent admissions requirements in addition to those minimal requirements below.

Requirements:
- Declared appropriate undergraduate major;
- By the time students begin taking graduate courses as an undergraduate, the student has completed approximately 90 credit hours, or the credit hours required in a program that is accredited by a specialty organization,¹
- A minimum cumulative GPA for coursework at Loyola that is at or above the program-specific requirements, a minimum major GPA that is at or above the program-specific requirements, and/or appropriate designated coursework for evaluation of student readiness in their discipline.²

Students not eligible for the Accelerated Bachelor's/Master's program (e.g., students who have not declared the appropriate undergraduate major) may apply to the master's program through the regular admissions process. Students enrolled in an Accelerated Bachelor's/Master's program who choose not to continue to the master's degree program upon completion of the bachelor's degree will face no consequences.³

Ideally, a student will apply for admission (or confirm interest in proceeding towards the graduate degree in opt-out programs) as they approach 90 credit hours. Programs are encouraged to begin advising students early in their major so that they are aware of the program and, if interested, can complete their bachelor's degree requirements in a way that facilitates completion of the program. Once admitted as an undergraduate, Program Directors should ensure that students are enrolled using the plan code associated with the Accelerated Bachelor's/Master's program. Using the plan code associated with the Accelerated Bachelor's/Master's program will ensure that students may be easily identified as they move through the program. Students will not officially matriculate into the master's degree program and be labeled as a graduate student by the university, with accompanying changes to tuition and Financial Aid (see below), until the undergraduate degree has been awarded. Once admitted to the graduate program, students must meet the academic standing requirements of their graduate program as they complete the program curriculum.

¹ Programs that have specialized accreditation will adhere to the admissions criteria provided by, or approved by, their specialized accreditors.
² The program will identify appropriate indicators of student readiness for graduate coursework (e.g., high-level performance in 300 level courses). Recognizing differences between how majors are designed, we do not specify a blanket requirement.
³ If students choose not to enroll in the Accelerated Bachelor’s/Master’s program, they still must complete all of the standard requirements associated with the undergraduate degree (e.g., a capstone).

Curriculum

Level and progression of courses. The Accelerated Bachelor's/Master’s programs are designed to be competitive and attractive to our most capable students. Students admitted to Accelerated Bachelor’s/Master's programs should be capable of meeting graduate level learning outcomes. Following guidance from the Higher Learning Commission, only courses taken at the 400 level or higher (including 300/400 level courses taken at the 400 level) will count toward the graduate program.¹²

Up to 50% of the total graduate level credit hours, required in the graduate program, may come from 300/400 level courses where the student is enrolled in the 400 level of the course. Further, at least 50% of the credit hours for the graduate program must come from courses that are designed for and restricted to graduate students who have been
admitted to a graduate program at Loyola (e.g., enrolled in plan code that indicates the Accelerated Bachelor's/Master's program, typically ending with the letter "D"). 3

In general, graduate level coursework should not be taken prior to admission into the Accelerated Bachelor's/Master's program. Exceptions may be granted for professional programs where curriculum for the Accelerated Bachelor's/Master's program is designed to begin earlier. On the recommendation of the program's Graduate Director, students may take one of their graduate level courses before they are admitted to the Accelerated Bachelor's/Master's program if they have advanced abilities in their discipline and course offerings warrant such an exception. 3 Undergraduate degree requirements outside of the major are in no way impacted by admission to an Accelerated Bachelor's/Master's program. 5

Shared credits. Undergraduate courses (i.e., courses offered at the 300 level or below) cannot be counted as shared credits nor count towards the master's degree. Up to 50% of the total graduate level credit hours, required in the graduate program, may be counted in meeting both the undergraduate and graduate degree requirements. Of those shared credits, students in an Accelerated Bachelor's/Master's program should begin their graduate program with the standard introductory course(s) for the program whenever possible. So that students may progress through the Accelerated Bachelor's/Master's program in a timely manner, undergraduate programs are encouraged to design their curriculum such that a student can complete some required graduate credit hours while completing the undergraduate degree. For instance, some of the graduate curriculum should also satisfy electives for the undergraduate major.

The program's Graduate Director will designate credit hours to be shared through the advising form and master's degree conferral review process. Shared credit hours will not be marked on the undergraduate record as having a special status in the undergraduate program. They will be included in the student's undergraduate earned hours and GPA. Graduate credit hours taken during the undergraduate program will not be included in the graduate GPA calculation.

1 If students wish to transfer credits from another university to Loyola University Chicago, the program's Graduate director will review the relevant syllabus(es) to determine whether it meets the criteria for a 400 level course or higher.
2 Programs with specialized accreditation requirements that allow programs to offer graduate curriculum to undergraduate students will conform to those specialized accreditation requirements.
3 In rare cases, the Graduate Director may authorize enrollment in a 400-level course for a highly qualified and highly motivated undergraduate, ensuring that the undergraduate's exceptional participation in the graduate class will not diminish in any way the experience of the graduate students regularly enrolled.
4 For example, if a particular course is only offered once every 2-3 years, and a student has demonstrated the necessary ability to be successful, the Graduate Director may allow a student to take a graduate level course to be shared prior to the student being formally admitted to the graduate program. See, also, footnote 4.
5 Students should not, for example, attempt to negotiate themselves out of a writing intensive requirement on the basis of admission to a graduate program.

Learning Outcomes
Upon completion of the joint degree program, students will be able to:

1. Apply scientific knowledge to the understanding of environmental problems and their physical causes.
2. Understand the ethical, social, and scientific dimensions of issues such as biodiversity loss, hunger, water, energy, and climate change.
3. Assess environmental problems and potential solutions by integrating economic, societal, ethical, political, scientific, and historical perspectives.
4. Combine knowledge about current government programs with technical skills to assess how politics influence policy choices, to evaluate the impacts of existing programs, and to design more effective programs with respect to sustainability.
5. Understand the role of advocacy in the political system, including the role and limitations of expert analysis and data in political decisions

SES Shared Learning Outcomes
All SES majors share the following Program Learning Objectives, in addition to their unique major-specific Program Learning Objectives:

1. Articulate the foundational principles of natural and social sciences and humanities essential to solving environmental problems.
2. Critically evaluate the accuracy and credibility of information relating to environmental topics.
3. Employ knowledge and skills to design and implement solutions that contribute to a just and sustainable world.
4. Exemplify the values of environmental and social justice through actions to care for our common home and one another.

Graduation
Degrees are awarded sequentially. All details of undergraduate commencement are handled in the ordinary way as for all students in the School/College/Institute. Once in the graduate program, students abide