ENVIRONMENTAL SCIENCE/ BUSINESS (BS/MBA)

Solving the world's environmental crises depends on how well tomorrow's business leaders adopt strategies that allow for sustainability to be a leading driver in how they do business.

Loyola's five-year Accelerated Bachelor's/Master's program in environmental science or environmental studies and business administration introduces students to the fundamental issues involved in global, environmental and ethical business practices.

The academic content and direct, hands-on experiences within the bachelors degrees will provide a base from which to develop skills and knowledge in the MBA program. The program equips graduates to promote and implement sustainable business practices.

Related Programs

Major

- Environmental Economics Sustainability: Management (BA) (https://catalog.luc.edu/undergraduate/environmental-sustainability/environmental-economics-sustainability/environmental-economics-sustainability-management-ba/)

Combined

- Advertising Public Relations/Environmental Science and Sustainability (BA/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/advertising-public-relations-environmental-science-sustainability-ba-ms/)
- Environmental Studies/Business (BA/MBA) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/environmental-studies-business-administration-ba-mba/)

Curriculum

Students interested in pursuing one of the Accelerated Bachelor's/ Master's programs will complete all normal requirements for a BS in Environmental Science.

Students may take two graduate courses that count toward the MBA during their senior year in lieu of environmental science/studies electives. Students complete the degree requirements for a BS in environmental science after four years and complete the MBA at the end of the fifth year.

Code	Title	Hours
BS Requirements		
Core Curriculum		
BIOL 101	General Biology I	3
BIOL 102	General Biology II	3
BIOL 111	General Biology I Lab	1
BIOL 112	General Biology II Lab	1
CHEM 160	Chemical Structure and Properties	3
CHEM 161	Chemical Structure and Properties Laboratory	1
ENVS 137	Foundations of Environmental Science I	3
ENVS 200	Environmental Careers and Professional Skills	1
ENVS 203	Environmental Statistics	3
ENVS 274	Chemistry of the Natural Environment	3
ENVS 275	Chemistry of the Environment Lab	1
ENVS 276	Chemistry of Environmental Pollution	3
ENVS 280	Principles of Ecology	3
ENVS 286S	Principles of Ecology Lab	1
PLSC 392	Environmental Politics	3
Justice and Ethics Choice		
Select one of the following:		3
ENVS 284	Environmental Justice	
PHIL 287	Environmental Ethics	
THEO 204	Religious Ethics and the Ecological Crisis	
Economics Choice		
ENVS 335	Ecological Economics	3
or ECON 328	Environmental Economics	
Engaged Learning Choice		
Select one of the following:		3
ENVS 226	Science & Conservation of Freshwater Ecosystems	
ENVS 267	Bird Conservation and Ecology	
ENVS 273	Energy and the Environment	
ENVS 283	Environmental Sustainability	
ENVS 340	Natural History of Belize	
ENVS 345	Conservation and Sustainability of Neotropical Ecosystems	
ENVS 350A	Solutions to Environmental Problems: Water	
ENVS 350C	Solutions to Environmental Problems: Climate Action	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
ENVS 369	Field Ornithology	
ENVS 391	Environmental Research (with SES approval)	
ENVS 395	Environmental Internship (with SES approval)	
Capstone Choice		
Select one of the following:		3
ENVS 390	Integrative Seminar	
ENVS 391C	Independent Environmental Research (Capstone)	
ENVS 395C	Environmental Internship (Capstone)	
Electives (p. 2)		*21*
MBA Requirements		
Prerequisite Knowledge [1]		
ISSCM 400N	Quantitative Methods I	
ISSCM 402N	Quantitative Methods II - Statistics Primer	
MBA Introductory Courses		
ACCT 400	Financial Accounting for Business Decisions [2]	3
ECON 420	Managerial Economics [3]	3
FINC 450	Financial Management [4]	3
MARK 460	Marketing Management [2]	3
SCMG 480	Intro to Operations Management [5]	3
Next Generation MBA Core		
ETHC 441N	Business Ethics	3
or MGMT 446	International Business Ethics	
FINC 470N	Business Finance	3
HRER 417N	Managing and Motivating in the Workplace	3
ISSCM 596N	Data Driven Decision Making	3
MARK 425N	Business Communication	1.5
MARK 470N	Research, Insights and Storytelling	3

MGMT 426N	Leadership Development	1.5
MGMT 430N	Strategy and Leadership	3
MGMT 431N	Business Consulting Course	3
MBA Electives		*9*
Total Hours		**114**

1 ISSCM 400N Quantitative Methods I and ISSCM 402N Quantitative Methods II - Statistics Primer are zero credit, pass/fail, online, self-paced courses which can be taken in the first quarter of the MBA degree if necessary.
ISSCM 400N can be waived with grade of B or above in the MATH 131 Applied Calculus I or MATH 161 Calculus I.
ISSCM 402N can be waived with grade B or above in STAT 103 Fundamentals of Statistics or ENVS 203 Environmental Statistics).

2 Can be taken as an elective in senior year

3 ECON 420 Managerial Economics can be waived with grade of B higher in ECON 201 and ECON 202

4 FINC 450 Financial Management can be waived with grade of B or higher in FINC 301.

5 SCMG 480 Intro to Operations Management can be waived with grade of B or higher in SCMG 332

BS Elective Course Options

Society, Ethics, and Justice Electives

Code	Title	Hours
COMM 101	Public Speaking & Critical Thinking	3
COMM 277	Organizational Communication	3
COMM 306	Environmental Advocacy	3
COMM 322	Guerilla Media	3
COMM 379	Digital Sustainability	3
ENGL 288	Nature in Literature	3
ENVS 204	Gender, Health & Environment	3
ENVS 230	Feeding the Planet: Global Perspectives on Sustainability, Culture and Food	3
ENVS 260 / COMM 260	Environmental Journalism	3
ENVS 279 / HIST 279E	Climate and History	3
ENVS 284	Environmental Justice	3
ENVS 285	Eco-spirituality	3
ENVS 297 / HIST 297E	North American Environmental History	3
ENVS 298	Special Topics (with SES approval)	1-12
ENVS 338	Climate Change and Human Health	3
ENVS 350A	Solutions to Environmental Problems: Water	3
ENVS 350C	Solutions to Environmental Problems: Climate Action	3
ENVS 350F	Solutions to Environmental Problems: Food Systems	3
ENVS 383	Human Dimensions of Conservation	3
ENVS 391	Environmental Research (with SES approval)	1-3
ENVS 395	Environmental Internship (with SES approval)	3
ENVS 398	Special Topics (with SES approval)	3
ENVS 399	Directed Readings (with SES approval)	1-3
PHIL 287	Environmental Ethics	3
PSYC 277	Environmental Psychology	3
SOCL 226	Science, Technology, & Society	3
SOCL 252	Global Inequalities	3
SOCL 272	Environmental Sociology	3
SOCL 276	The Sociology and Politics of Food	3
SOCL 278	Global Health	3
THEO 204	Religious Ethics and the Ecological Crisis	3
THEO 344	Theology and Ecology	3

Policy, Economics, and Resource Management Electives

Code	Title	Hours
ECON 328	Environmental Economics	3
ENVS 230	Feeding the Planet: Global Perspectives on Sustainability, Culture and Food	3
ENVS 298	Special Topics (with SES approval)	1-12
ENVS 300	Introduction to Public Health	3
ENVS 310	Introduction to Environmental Law & Policy	3
ENVS 311	Natural Resources and Land Use Law & Policy	3
ENVS 312	Water Law & Policy	3
ENVS 313	Energy Law & Policy	3
ENVS 316	Energy and Power Systems	3
ENVS 327	Food Systems Analysis	3
ENVS 333	Introduction to the Circular Economy	3
ENVS 335	Ecological Economics	3
ENVS 336	Design for Circular & Sustainable Business	3
ENVS 338	Climate Change and Human Health	3
ENVS 363	Sustainable Business Management	3
ENVS 383	Human Dimensions of Conservation	3
ENVS 384	Conservation Economics	3
ENVS 389	Ecological Risk Assessment	3
ENVS 391	Environmental Research (with SES approval)	1-3
ENVS 395	Environmental Internship (with SES approval)	3
ENVS 398	Special Topics (with SES approval)	3
ENVS 399	Directed Readings (with SES approval)	1-3
GLST 305	Globalization and Environmental Sustainability	3
MGMT 201	Managing People and Organizations	3
PLSC 354	Global Environmental Politics	3

Environmental Science Electives

Code	Title	Hours
Environmental Science Electives		
ANTH 104	The Human Ecological Footprint	3
ANTH 303	People and Conservation	3
ENVS 204	Gender, Health & Environment	3
ENVS 215 / BIOL 215	Ornithology	3
ENVS 218	Biodiversity & Biogeography	3
ENVS 223	Soil Ecology	3
ENVS 224	Climate & Climate Change	3
ENVS 226	Science & Conservation of Freshwater Ecosystems	3
ENVS 267	Bird Conservation and Ecology	3
ENVS 273	Energy and the Environment	3

ENVS 278	Hydrology	3
ENVS 283	Environmental Sustainability	3
ENVS 298	Special Topics (with SES approval)	1-12
ENVS 300	Introduction to Public Health	3
ENVS 301	Environmental Health	3
ENVS 303	Introduction to Epidemiology	3
ENVS 320	Conservation Biology	3
ENVS 322	Invasive Species	3
ENVS 323	Environmental Microbiology	3
ENVS 324	Climate Science	3
ENVS 325	Sustainable Agriculture	3
ENVS 326	Agroecosystems	3
ENVS 327	Food Systems Analysis	3
ENVS 330	Restoration Ecology	3
ENVS 338	Climate Change and Human Health	3
ENVS 340	Natural History of Belize	3
ENVS 345	Conservation and Sustainability of Neotropical Ecosystems	3
ENVS 350A	Solutions to Environmental Problems: Water	3
ENVS 350C	Solutions to Environmental Problems: Climate Action	3
ENVS 350F	Solutions to Environmental Problems: Food Systems	3
ENVS 367	Mammalogy	3
ENVS 369	Field Ornithology	3
ENVS 380	Introduction to Geographic Information Systems	3
ENVS 381	Advanced GIS Applications	3
ENVS 382	Remote Sensing	3
ENVS 383	Human Dimensions of Conservation	3
ENVS 385	Introduction to Global Health	3
ENVS 386	Python Programming for GIS	3
ENVS 387	Principles of Ecotoxicology	3
ENVS 389	Ecological Risk Assessment	3
ENVS 391	Environmental Research (with SES approval)	1-3
ENVS 395	Environmental Internship (with SES approval)	3
ENVS 398	Special Topics (with SES approval)	3
ENVS 399	Directed Readings (with SES approval)	1-3
BIOL, CHEM, PHYS 300-level courses (with SES approval)		

Accelerated Bachelor's/Master's Program Tip

In addition to completing the normal requirements for the BS environmental science or BA environmental studies, students planning to enter the MBA program should note the following:

- A GPA of 3.20 or higher is required for admission to this program.
- The Quinlan School of Business Graduate Program uses a quarter system rather than a semester system. Admission start terms are Fall and Spring quarters only.

First-year / Sophomore: Arrange undergraduate course scheduling to preserve six hours of free electives until senior year.

During their first two years, students should take ECON 201 Principles of Microeconomics and ECON 202 Principles of Macroeconomics, which will satisfy the social science requirement of the Core Curriculum and allow the student to waive out of ECON 420 Managerial Economics.

Junior year: attend MBA Accelerated Bachelor / Masters (ABM) info sessions.

Senior year: Apply to the program by October 15 in are completing your Bachelors degree in May. Apply to the program by April 15 if you are completing your Bachelors degree in December. After admission to the MBA, meet with MBA advisor for planning your graduate business course schedule.

Take ACCT 400 Financial Accounting for Business Decisions and MARK 460 Marketing Management, which will count as free electives toward the BS or BA degree. Complete all requirements for the BS or BA.

Fifth year: During the fifth year, students who have followed the above directions will have a total of 14 (or less) MBA courses remaining. These courses can be completed full-time at the rate of three or four per quarter (including the summer quarter). Students also have the option to complete the MBA program on a part-time basis (usually one or two courses per quarter).

Students should contact the Quinlan School of Business for specific MBA requirements and an academic calendar.

Suggested Sequence of Courses

Course	Title	Hours
Year One		
Fall		
BIOL 101	General Biology I	3
BIOL 111	General Biology I Lab	1
CHEM 160	Chemical Structure and Properties	3
CHEM 161	Chemical Structure and Properties Laboratory	1
ENVS 137	Foundations of Environmental Science I	3
	Hours	**11**
Spring		
BIOL 102	General Biology II	3
BIOL 112	General Biology II Lab	1
CHEM 180	Chemical Reactivity I	3
CHEM 181	Chemical Reactivity I Lab	1
ENVS 200	Environmental Careers and Professional Skills	1
ENVS 203	Environmental Statistics	3
	Hours	**12**
Year Two		
Fall		
ECON 201	Principles of Microeconomics	3
Environmental Science Elective		3
MATH 131 or MATH 161	Applied Calculus I or Calculus I	3-4
ENVS 280	Principles of Ecology	3
ENVS 286S	Principles of Ecology Lab	1
Environmental Science Elective		3
	Hours	**16**

Spring		
Justice & Ethics Choice		3
ECON 202	Principles of Macroeconomics [1]	3
Environmental Science Elective		3
	Hours	**6**
Year Three		
Fall		
ENVS 274	Chemistry of the Natural Environment	3
ENVS 275	Chemistry of the Environment Lab	1
Environmental Science 300 Level Elective		3
Society, Ethics, & Justice Elective		3
	Hours	**10**
Spring		
ENVS 335 or ECON 328	Ecological Economics or Environmental Economics	3
PLSC 392	Environmental Politics	3
Policy, Economics, & Resource Management Elective		3
300 Level Environmental Science Elective		3
	Hours	**12**
Year Four		
Fall		
Engaged Learning Choice		3
ACCT 400 or MARK 460 or SCMG 480	Financial Accounting for Business Decisions or Marketing Management or Intro to Operations Management	3
FINC 301	Introductory Business Finance	3
MBA Elective		3
	Hours	**12**
Spring		
Capstone Choice		3
ACCT 400 or MARK 460 or SCMG 480	Financial Accounting for Business Decisions or Marketing Management or Intro to Operations Management	3
ACCT 400 or MARK 460 or SCMG 480	Financial Accounting for Business Decisions or Marketing Management or Intro to Operations Management	3
MBA Elective		3
	Hours	**12**
Year Five		
Fall		
MARK 425N	Business Communication	1.5
MGMT 426N	Leadership Development	1.5
MGMT 430N	Strategy and Leadership	3
HRER 417N	Managing and Motivating in the Workplace	3
MBA Elective		3
	Hours	**12**
Spring		
MARK 470N	Research, Insights and Storytelling	3
ISSCM 596N		3
FINC 470N	Business Finance	3
ETHC 441N	Business Ethics	3
or MGMT 430N	or Strategy and Leadership	
	Hours	**12**
	Total Hours	**115**

[1] ECON 420 Managerial Economics can be waived with grade of B higher in ECON 201 and ECON 202

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).

For more information on Admissions requirements, visit here (https://gpem.luc.edu/portal/admission/?tab=home).

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.[1,2] 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 Bachelors/Master's program if they have advanced abilities in their discipline and course offerings warrant such an exception.[4] 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 3.
[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.

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 by the graduation deadlines set forth by the graduate program. Students in these programs must be continuously enrolled from undergraduate to graduate degree program unless given explicit permission by their program for a gap year or approved leave of absence. In offering the option of an Accelerated Bachelor's/Master's program, the university is making possible the acceleration of a student's graduate degree completion. It should be understood that students may not request deferral of their matriculation into the Master's degree program. If students would like to delay their graduate studies after earning the undergraduate degree, they may apply for admission to the traditional master's degree program. Any application of graduate credit earned while in the undergraduate program is subject to the policies of the graduate degree granting school.

Learning Outcomes

- Explain the physical, biological, and chemical structure and function of ecosystems. [BS]
- Examine the causes and consequences of environmental change at local to global scales. [BS]
- Apply scientific knowledge to evaluate policy, management, and other solutions that aim to enhance environmental sustainability. [BS]
- Create an action plan for leading a professional and personal life that promotes environmental sustainability. [BS]
- Integrative Business Knowledge: Graduates will be proficient in integrating the techniques, processes, and procedures of the fundamental business disciplines (accounting, economics, finance, marketing, management, human resource management, operations

management, and information technology). They will be able to apply theory, skills, and knowledge from these disciplines to business practice. [MBA]
- Critical Decision Making: Graduates will demonstrate their capacity for critical analysis in processing, interpreting, and managing the quantitative and qualitative information necessary for effective managerial decision making. [MBA]
- Ethics and Responsible Leadership: Graduates will understand how to be a leader in business who exhibits personal integrity, ethical awareness, and an ability to apply ethical principles to business practice. [MBA]
- Global Perspective and Awareness of Diversity: Graduates will have a global perspective by recognizing international business issues and appreciating diversity, including culture, race, religion, and gender. [MBA]
- Communication: Graduates will be able to communicate effectively, orally. Graduates will be able to communicate effectively, in writing. [MBA]

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.