

# 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.

## 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.

During their junior year they will take (and pass) the Graduate Management Admission Test (GMAT) and apply to Loyola's Quinlan School of Business graduate program.

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.

## BS Requirements

Code	Title	Hours
<b>Core Curriculum</b>		
ENVS 137	Foundations of Environmental Science I	3
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
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
ENVS 274	Chemistry of the Environment	3
ENVS 275	Chemistry of the Environment Lab	1
ENVS 280	Principles of Ecology	3
ENVS 286S	Principles of Ecology Lab	1
PLSC 392	Environmental Politics	3
<b>Justice and Ethics Choice</b>		
Select one of the following:		3
ENVS 284	Environmental Justice	
PHIL 287	Environmental Ethics	
THEO 204	Religious Ethics and the Ecological Crisis	
<b>Economics Choice</b>		

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 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 391	Environmental Research
ENVS 395	Environmental Internship

### Capstone Choice

Select one of the following: 3

ENVS 390	Integrative Seminar
ENVS 391C	Independent Environmental Research (Capstone)
ENVS 395C	Environmental Internship (Capstone)

**Electives** 21

See designated elective categories below

**Total Hours** 67

### BS Electives

Code	Title	Hours
<b>Society, Ethics, and Justice</b>		
Select one of the following:		3
ENVS 204	Gender, Health & Environment	
ENVS 260 / COMM 260	Environmental Journalism	
ENVS 279 / HIST 279E	Climate and History	
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 322	Guerilla Media
COMM 379	Digital Sustainability
ENGL 288	Nature in Literature
PHIL 287	Environmental Ethics
PSYC 277	Environmental Psychology
SOCL 226	Science, Technology, & Society
SOCL 252	Global Inequalities
SOCL 272	Environmental Sociology
SOCL 276	The Sociology and Politics of Food
SOCL 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****MBA Requirements**

*Note: The Quinlan School of Business Graduate Program uses a quarter system rather than a semester system.*

The MBA program is an 18-course program (54 hours) that includes the following required courses:

Prerequisite Knowledge: ISSCM 400 Quantitative Methods (can be waived with grade of B or above in MATH 131 Applied Calculus I or MATH 161 Calculus I)

**Fundamental Core Courses (3-7)**

Code	Title	Hours
ACCT 400	Financial Accounting for Business Decisions (can be taken as a free elective in senior year)	3
MARK 460	Marketing Management (can be taken a free elective in senior year)	3
ISSCM 491	Managerial Statistics	3
ECON 420	Managerial Economics <sup>2</sup>	3
FINC 450	Financial Management <sup>3</sup>	3
HRER 417	Managing and Motivating in the Workplace	3
SCMG 480	Intro to Operations Management	3
MGMT 441	Business Ethics (Ethics Course)	3

<sup>1</sup> Can be waived with grade of B or above in STAT 103 Fundamentals of Statistics

<sup>2</sup> Prerequisite of ISSCM 400 Quantitative Methods or the equivalent  
Can be waived with grade of B or above in ECON 201 Principles of Microeconomics & ECON 202 Principles of Macroeconomics

<sup>3</sup> Prerequisite of ACCT 400 Financial Accounting for Business Decisions or the equivalent

**Global Course (Choose One)**

Code	Title	Hours
ECON 424	International Business Economics	3
FINC 455	International Financial Management	3
HRER 422	Global HR Management	3
HRER 502	Global Employment Relations	3
MARK 465	International Marketing	3
MGMT 443	Global Environmental Ethics	3
MGMT 446	International Business Ethics	3
SCMG 486	Global Logistics	3

**Advanced Leadership Core**

Students must complete one course in five of the following eight disciplines. (5 courses, 15 hours)

Fundamental Core Courses do not apply here.

- Accounting (ACCT)
- Economics (ECON)
- Finance (FINC)
- Human Resource and Employment Relations (HRER)
- Information Systems Management (INFS)
- Management, incl. Sport Management (MGMT)
- Marketing (MARK)
- Supply Chain Management (SCMG)

**Electives/Areas of Concentration**

Students may choose three upper level courses in one area of concentration for their degree (Accounting requires four courses).

Students not wishing to concentrate may take these three courses from any area.

**Concluding Integrative Experience**

- MGMT 430N Strategy and Leadership

**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 do the following:

**First-year/sophomore years:** 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. Take MATH 131 Applied Calculus I or MATH 161 Calculus I to waive out of ISSCM 400 Quantitative Methods.

**Junior year (2nd semester):** Take the GMAT and make formal application to the MBA program. Take STAT 103 Fundamentals of Statistics to waive out of ISSCM 491 Managerial Statistics.

**Senior year:** 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 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.*

**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,<sup>1</sup>

- 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.<sup>2</sup>

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.<sup>3</sup>

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.

- <sup>1</sup> Programs that have specialized accreditation will adhere to the admissions criteria provided by, or approved by, their specialized accreditors.
- <sup>2</sup> 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.
- <sup>3</sup> 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.<sup>1,2</sup>

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").<sup>3</sup>

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.<sup>4</sup> Undergraduate degree requirements outside of the major are in no way impacted by admission to an Accelerated Bachelor's/Master's program.<sup>5</sup>

*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.

- <sup>1</sup> 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.
- <sup>2</sup> Programs with specialized accreditation requirements that allow programs to offer graduate curriculum to undergraduate students will conform to those specialized accreditation requirements.
- <sup>3</sup> 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.
- <sup>4</sup> 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.
- <sup>5</sup> 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.

## 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.