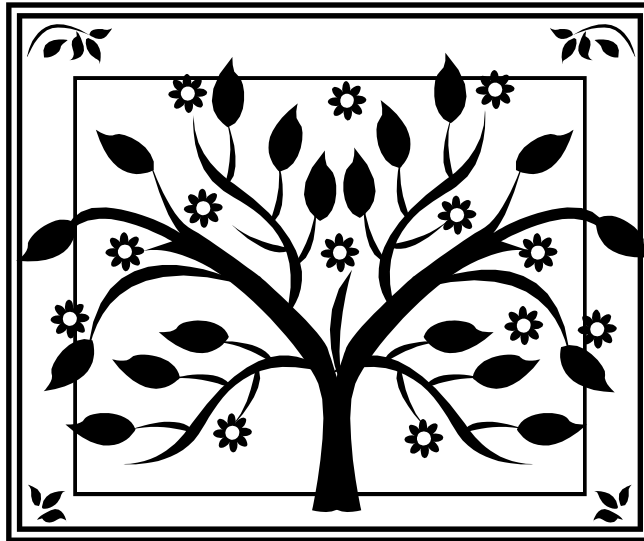


# Student Guide for Environmental Science and Studies



Department of Environmental Science and Studies

DePaul University

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## **Welcome!**

The Department of Environmental Science and Studies (ENV) is a closely knit group of faculty, staff, and students dedicated to understanding how humans interact with the environment and to exploring ways to minimize human impacts. ENV faculty and staff work closely with students to research these issues with an emphasis on topics that affect the greater Chicago area. Because of the relatively low numbers of students per faculty member, advising is very personalized. But the broad nature of environmental science and studies leads to a range of different academic pathways, and this guide documents the various options available within ENV.

This guide is intended to aid ENV students (BS, BA, and minors) to successfully carry out their programs. We have included a lot of the information that students will find useful in scheduling their courses, deciding on electives to take, and in thinking about their larger academic and career goals. Much of this information is collected from various websites, and links are provided whenever possible. Please let us know of any errors that you find, as well as any additional types of information you would like us to put in this guidebook. Our goal is to make sure that every student has access to all the information they need to complete our curriculum and help them succeed in their academic careers.

## **Our Programs of Study**

The Department of Environmental Science and Studies offers students a choice of two degree programs, one leading to a Bachelor of Science (BS) in Environmental Science and the other leading to a Bachelor of Arts (BA) in Environmental Studies. The BA further offers students the option of two tracks, one that focuses on environmental sustainability, the other offering more flexibility in course choices. Both the BS and BA degree programs develop the environmental literacy of students and increase their understanding of the broad context of environmental problems and solutions.

The BS in Environmental Science provides students with a strong science and math background and prepares students to explore environmental topics from a strong scientific perspective. Students gain knowledge and skills of environmental science through coursework as well as through field- and laboratory-based research projects in the Chicago-land area. This degree program prepares students for entry level positions in industry and government and for further study in science, engineering, law, policy, and education among other graduate programs.

The BA degree in Environmental Studies trains students to view the inherently holistic problems associated with the environment in a thoroughly interdisciplinary way. This overcomes the problems that come from applying a narrower disciplinary focus to problems that cross the disciplines. For instance, viewing a given environmental problem from a purely natural science perspective may lead exclusively to technical solutions. The same problem viewed through an exclusively humanistic perspective or social science lens perspective may lead to a greater subtlety in problem definition, but may not produce technically feasible solutions. The BA is ideal for students who wish to bring their interest in the environment and natural world to community and business organizations or other aspects of their personal or professional life.

## Contacting Faculty

Talk with your academic advisor on a regular basis to ensure that you are on track for completing the program with the types of electives and options that best fit your needs. If you don't know who your academic advisor is, stop by or call the ENV Office (McGowan South Room 203, phone 773-325-7447, campus extension 57447). The main ENV office is generally open Monday through Friday from 9 AM to 5 PM.

[ENV faculty](#)

## *General advising notes*

### AP Credit from High School

DePaul credit may be awarded for AP courses depending on the test score. Below are listed some of the equivalences; more can be found at [Credit Given by Exam](#). Students with strong backgrounds (e.g. "5" on the AP exams), may wish to start their freshman year by taking the ENV core courses if appropriate, allowing them to take additional ENV electives in their senior year.

AP Exam Name	Score	Course Credit	DePaul Course Credit
Environmental Sciences	3	4	ENV 102
	4 or 5	8	ENV 102 & 202
Biology	3	4	BIO 191
	4	8	BIO 191 & 192
	5	12	BIO 191, 192, & 193

### Senior Residency Requirement

At least the last 60 quarter hours must be earned in residency at DePaul University. At least one half of the major field course work also must be completed at DePaul. See:

[Evaluation and Credit, Limitations](#)

### Modern Language Requirements and Modern Language Option

Students who intend to graduate with the BA degree will be required to demonstrate competence in a modern language. Such competence may be demonstrated in one or several ways: by completing the last course in the fourth-year high school sequence of any language, by achieving a score of 3 or higher on the Advanced Placement test, by a satisfactory score as determined by the modern language department on the CLEP examination, by scoring high enough on a placement test to begin the intermediate level of a language, or by taking appropriate course work. Note that CLEP scores may be used only to meet the College requirement. Credit is not awarded in Modern Language on the basis of CLEP scores. Students who wish to or who are required to do course work beyond the introductory level in a language must demonstrate competence in that language up to the target level. This can be done by taking a placement test (if available) or by consulting with the [modern language department](#). Students with little or no previous work in the language will be required to complete the entire three course introductory sequence. BA students who meet college requirements and wish to pursue further work in the language may elect the "modern language option" of the Liberal Studies Program. While BS

students are not required to demonstrate competency in a modern language, the modern language option is available to them for language study at any level.

The **Modern Language Option** is available to all BA students who wish to study a modern language beyond the level necessary to meet the College's language requirement and to BS students who wish to study a modern language at any level. Students selecting the option may substitute a three-course language sequence for two domain courses and one open elective. Students may use the Modern Language Option to reduce their requirements by one course among two of the following combinations of learning domains: Philosophical Inquiry or Religious Dimensions; Understanding the Past or Self, Society, and the Modern World; and Arts and Literature.

[Modern Language Option Program](#)

### **Experiential Learning**

The experiential learning component of the Liberal Studies requirements can be filled in several ways. We currently have four courses specific for ENV students: ENV 235 (Environmental Education and Stewardship), ENV 322 (Ecosystem Ecology), ENV 345 (Urban Agriculture) and ENV 361 (a course for independent study that can also extend the effort done to fulfill the senior thesis requirement for BS students). In addition, there are numerous study abroad or service-based learning courses that fulfill the requirements, as well as UIP internship courses:

[DePaul Career Center Internships](#)

The Department of Environmental Science and Studies interfaces often with the Steans Center for Community-based Service Learning. ENV also has a number of dedicated internships for students in the community. More courses may be in development, so please keep in touch with your advisor on this issue.

### **Double Majors**

Double majors are permitted between and within colleges (except the College of Education). The following are some of the stipulations to be considered when thinking about a double major. See you advisor early in your undergraduate career if you are thinking of double majoring.

1. When declaring more than one major, the student will designate one major as the primary major. This major determines the college within which the student is matriculating and the degree which will be conferred when all graduation requirements for the primary major have been met. The primary major also determines the basic liberal studies requirements the student will follow.
2. All graduation requirements for each major must be met when completing a double major. This includes particular Liberal Studies Program courses specified by each major and allied field requirements.
3. No more than one half of the major field requirements of the second major may also have been counted toward the major field requirements of the primary major.
4. Courses taken as either an allied field or liberal studies requirement in the primary major may also be used to satisfy major field requirements of the second major. [Additional majors](#)

## **ENV Minors**

The department offers three minors: Environmental Science, Environmental Studies, and Sustainability Studies. These minors are only available to students not majoring in Environmental Science or Environmental Studies. The minors all consist of six courses. For more information on the minors, see:

[Environmental Science minor](#)

[Environmental Studies minor](#)

[Sustainability Studies minor](#)

## **Research Opportunities**

Faculty within ENV often have positions available for undergraduates seeking research opportunities, and the funding for such opportunities is constantly increasing (e.g. through the Undergraduate Research Assistant Program and Undergraduate Summer Research Grants). Although thesis research is required for Environmental Science students, we encourage all students to contact faculty and explore the opportunity for research. It's not only fun and educational, but it can often lead to co-authorship on abstracts, poster presentations, or manuscripts.

[Undergraduate research](#)

## **Transfer Students**

A considerable number of our ENV students have transferred in many credits from other colleges and universities. Many have transferred from majors other than environmental science. Because the number and types of courses transferred varies considerably *we strongly urge transfer students to see their academic advisors as soon as possible after they transfer into ENV so that we can make sure you are on track to take the proper courses, and so that we can establish an appropriate timeline for graduating from the department.*

Despite the variations in courses that are transferred, students are encouraged to take as much as possible in sequence (i.e. core courses before electives, all required courses before electives) to avoid taking more elementary or more required courses in their last few quarters at DePaul. Students should also pay particular note of the prerequisites suggested or required for their desired ENV electives, to ensure that they take the necessary background courses. If you are a transfer student, you should meet with your academic advisor as soon as possible. Bring a complete list of the courses that have been transferred to DePaul, as well as any other transcripts or information relating to courses you think may not have transferred properly. If you think there are courses that were mis-assigned upon your transfer (e.g. ENV courses that were given credit as liberal studies courses or elective courses) be sure to bring a course description (and syllabus if possible) to your academic advisor when you meet so that the advisor can determine the proper placement of the course.

Students transferring from another major, or from backgrounds with little or no science courses, should realize that, especially for the Environmental Science degree, it might take longer to complete the degree than expected due to the required sequencing of courses and the low number

of free electives. In talking with your advisor, make sure that you both understand and are comfortable with any outlined timeline for completion of the ENV degree.

### **Registering as an ENV Major or Minor**

If you intend to graduate as an ENV major, or with an ENV minor, be sure that you are officially registered in the system. Register through Campus Connect. If you do not have an academic advisor, please contact the ENV department office.

### **Other Considerations**

Students must have a C- or better in any majors & allied field courses to count towards their major. Students must maintain an overall C average (GPA of 2.0) to avoid academic probation.

### **Degree Requirements**

#### **Bachelor of Science in Environmental Science**

##### [Environmental Science \(BS\) degree requirements](#)

Environmental Science students may take ENV courses in the 150-199 range for Learning Domain Credit. The following courses may be of interest:

#### **Learning Domain Courses:**

- ENV 150 Foundations of Environmental Studies (SSMW)
- ENV 151 Introduction to Environmental Sustainability (SSMW)
- ENV 152 Ecological Economics (SSMW)
- ENV 160 Ideas of Nature (UP)
- ENV 170 Environmental Ethics (PI)
- ENV 180 Issues in Environmental Design (AL)
- ENV 181 Landscape and Meaning (AL)

#### **Explore/Discover Chicago (LSP 110) and Focal Point (LSP 112) Courses**

- LSP 110 – Natural History in Chicago
- LSP 112 – Restoration in Chicago
- LSP 112 – Global warming and the media
- LSP 112 - Chocolate, Coffee: Ethical Sourcing of Food

#### **Sophomore Multicultural Course**

- LSP 200 Environmental World Views

## **Bachelor of Arts in Environmental Studies**

### [Environmental Studies \(BA\) degree requirements](#)

Environmental Studies students may also be interested in:

#### **Explore/Discover Chicago (LSP 110) and Focal Point (LSP 112) Courses**

- LSP 110 – Natural History in Chicago
- LSP 112 – Restoration in Chicago
- LSP 112 – Global Warming and the Media
- LSP 112 – Chocolate, Coffee: Ethical Sourcing of Food

#### **Sophomore Multicultural Course**

- LSP 200 Environmental World Views

### **Of Special Interest to Environmental Science Bachelor of Science Students Five-Year Combined-Degree (BS/M.ed.) Secondary Science Teacher Education Program**

This program provides students the opportunity to complete in five years an undergraduate Environmental Science major and a Master's of Education degree with State of Illinois secondary teaching certification in Environmental Science. As a combined degree program of the College of Liberal Arts and Sciences and the School of Education, the program is collaboratively developed, governed, and taught by faculty from both units.

Students may apply to the Program during the spring of their junior year. They must complete the Junior Year Experiential Course TCH 320, *Exploring Teaching in an Urban High School*, and meet other application criteria prior to applying; these include completion of at least 16 quarter credit hours at DePaul and a 3.0 GPA. During their senior year, students are required to complete a Program capstone course and three 400-level courses that count toward both their undergraduate and graduate degrees. The Master's year comprises teacher-preparation coursework that culminates with student teaching during spring quarter. Upon graduation and the fulfilling of State of Illinois Certification requirements (which may require some additional course work in the student's major and related fields,) students are eligible to be certified to teach Environmental Science at the 6<sup>th</sup> to 12<sup>th</sup> grade levels.

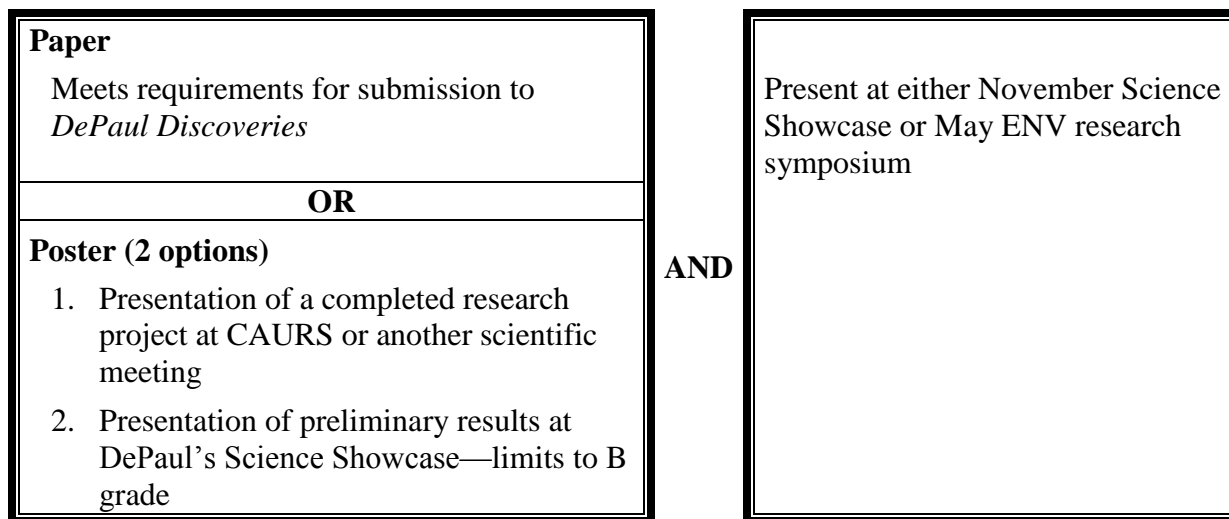
A full description of the Program can be found on the School of Education website in the graduate course catalog. Students interested in the Program should consult with Dr. Christie Klimas for more information.

## Senior Thesis

The Environmental Science BS degree is unique among undergraduate science degrees at DePaul in having thesis research as part of the core curriculum. Thesis research is always directed by department faculty, sometimes in collaboration with scientists in the community. Past research projects have explored the effectiveness of different ecological restoration strategies, the uptake of lead by plants in urban gardens, the removal of phosphorus in nearby wetlands, the impact of temperature and carbon dioxide on biogenic plant emissions and the effect of different kinds of messages on environmental attitudes. Many projects result in publications in the [DePaul student research journal](#); several have resulted in publications in peer reviewed literature. The experience gained through conducting research, from generating interesting questions and hypotheses to designing an experiment, collecting and analyzing data, and summarizing and presenting results is invaluable to students and to prospective graduate programs and employers.

Normally, BS majors in their junior year take the Research Methods course ENV 360 (4 credit hours) to learn the general techniques for doing research and about research options so they can choose their thesis topic. Students are encouraged to take ENV 361, "Research in Environmental Science," to fulfill their JYEL credit and devote additional time to their research project. Students will register for 2 credit hours of Senior Research (ENV 362) while doing their research project. Registration in ENV 362 is required for a thesis project to get it on the transcript.

Students have the option to either present a poster or write a journal article to complete their thesis project. Written theses will follow the format for submission to the CSH journal *DePaul Discoveries*, but acceptance will not be part of the criteria. Poster presentations will be considered on tiered basis. For example, the Science Showcase held each autumn at DePaul encourages the presentation of works in progress. In the case of students only presenting work in progress at the Showcase, they will be assigned a B grade, but will be able to graduate. In addition to the choice of a poster or a paper, all students will present their work at either the fall or spring ENV Student Symposium. A diagram of the requirement is presented below:



Students and their advisor will develop a timeline for completion of the senior thesis with three main ideas in mind: 1) to guide students towards a "smooth graduation," 2) to allow sufficient



time for thesis advisors to review the data/drafts, and 3) to allow students to have sufficient time to reanalyze any data and revise drafts based on their thesis advisor's comments and suggestions. Students should expect to have constructive criticism from their thesis advisors and to perform any and all revisions as requested by the advisors. Revising drafts is a time consuming, painstaking process, but it can be one of the most rewarding and beneficial parts of the thesis project. In addition, students are expected to deliver an oral presentation on their research results during the Annual Student Research Symposium in spring quarter. One of the goals of writing a thesis is to develop the skills necessary to produce a professionally written document. The style of writing should be consistent with, or similar to, that in typical scientific literature. Students should follow the guidelines given by *DePaul Discoveries*, even if they are not meeting the deadline for submission to that journal. The maximum length requirement for *DePaul Discoveries* can be extended by mutual agreement between students and their advisor.

## **Environmental Science/Studies (BA/BS)/Master of Sustainable Management**

The combined ENV-MSSM program allows Environmental Science and Studies majors to complete 12 graduate credit hours while still undergraduates. These three graduate level courses will count toward both the undergraduate and graduate degree programs. The graduate degree provides students with advanced knowledge of business systems and practices, focusing on environmental sustainability, to create leaders for business, government, and civic organizations. For more information on the full Master of Sustainable Management curriculum see:

[MSSM course requirements](#)

### ***Admission Requirements***

Current DePaul Environmental Science or Studies majors who meet the following criteria may apply to this program:

- Junior standing or higher (at least 88.0 credits)
- A minimum cumulative DePaul grade point average of 3.300

Admission to the five year program does not require the GMAT, essays, or letters of recommendation.

### ***Classes During Senior Year***

In the combined program, students will take three graduate classes during the senior year. These three classes will count toward the bachelor's degree as indicated below. Students should note that expectations for graduate classes are typically more rigorous than for undergraduate classes. Students can choose from the following list of core MSSM courses; other options available upon consultation with the MSSM advisor.

- FIN 559 Sustainable Value Creation (fall)
- MGT 515 Sustainable Management (winter)
- MKT 555 Decisions in Sustainable Marketing Management (spring)
- CMNS 529 Environmental Rhetoric and Politics (note: equivalent to INTC 326, students may not take both; students interested in this joint program should take CMNS 529 instead of INTC 326)

### ***Final Quarter of Senior Year***

During the final quarter of the bachelor's degree, students must petition for formal admission into the graduate school of business. The admission criteria are as follows:

- Completion of the Bachelor of Arts in Environmental Studies or Bachelor of Science in Environmental Science
- A minimum cumulative DePaul grade point average of 3.300
- A minimum grade point average for graduate courses of 3.000

### ***After Senior Year***

After completion of the undergraduate degree including the three graduate courses, students take nine additional graduate classes to complete the graduate degree, for a total of twelve graduate classes.

**Environmental Science (BS) timeline suggestion for freshman student ready for calculus<sup>1</sup>**

	<b>Autumn Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>YEAR 1</b>	Explore/Disc. Chicago	Focal Point	Human Impacts
	Comp/Rhetoric I	Comp/Rhetoric II	LSP Learning Domain
	General Bio/Chem <sup>2</sup> I (L)	General Bio/Chem II (L)	General Bio/Chem III (L)
	LSP Learning Domain	LSP Learning Domain	General Elective (or Math 131 as needed)
<b>YEAR 2</b>	Ecology (L)	Earth Systems Science (L)	ENV Major Elective (L)
	General Bio/Chem I (L)	General Bio/Chem II (L)	General Bio/Chem III (L)
	Calculus I	Calculus II	Calculus III
	LSP Sophomore Multicultural Seminar	LSP Learning Domain	LSP Learning Domain
	ENV 2 <sup>nd</sup> yr seminar*		
<b>YEAR 3</b>	LSP Learning Domain	LSP Learning Domain	ENV Major Elective (L)
	Physics I (L)	Physics II (L)	Physics III (L)
	LSP Learning Domain	LSP Learning Domain	LSP Learning Domain
	Env Data Analysis	Research Methods	Lib Stud Elect (JYEL)
<b>YEAR 4</b>	ENV Allied Field Elective (L)	ENV Allied Field Elective (L)	ENV Allied Field Elective (L)
	ENV Major Elective (L)	Senior Thesis*	General Elective
	LSP Learning Domain	LSP Learning Domain	Capstone
	General Elective	General Elective	General Elective

<sup>1</sup> Liberal Studies and General Elective slots are flexible and can be switched around relatively freely as needed. BS students may need to use some elective slots in their first year for any pre-calc math requirements. If math skills are a particular problem (e.g. you are assessed to take MATH 101), students might wish to consider taking their Math pre-calc courses their freshman year, then taking General Chem and General Bio their second year once their math skills are stronger.

\* Two quarter hour course

<sup>2</sup> The biology and chemistry sequences can be taken in either order. Slots are reserved for first-year students in chemistry, and it can be difficult to get a spot later. Taking biology first allows the flexibility to take either ENV 250 or BIO 215. Chemistry is typically the most challenging allied field sequence.

**Environmental Science (BS) timeline suggestion for freshman student not ready for calculus<sup>3</sup>**

	<b>Autumn Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>YEAR 1</b>	Explore/Disc. Chicago	Focal Point General	Human Impacts
	Comp/Rhetoric I	Comp/Rhetoric II	LSP Learning Domain
	MAT 130	MAT 131	LSP Learning Domain
	LSP Learning Domain	General Biology I (L)	General Biology II (L)
<b>YEAR 2</b>	Applied Ecology (L)	General Chemistry I (L)	General Chemistry II (L)
	LSP Learning Domain	Earth Systems Science (L)	General Biology III (L)
	Calculus I	Calculus II	Calculus III
	LSP Sophomore Multicultural Seminar	LSP Learning Domain	LSP Learning Domain
	ENV 2 <sup>nd</sup> yr seminar*		
<b>YEAR 3</b>	General Chemistry III (L)	ENV Major Elective (L)	ENV Major Elective (L)
	LSP Learning Domain	LSP Learning Domain	LSP Learning Domain
	Physics I (L)	Physics II (L)	Physics III (L)
	Env Data Analysis or Biostatistics	Research Methods	Lib Stud Elect (JYEL)
<b>YEAR 4</b>	ENV Allied Field Elective (L)	ENV Allied Field Elective (L)	ENV Allied Field Elective (L)
	Senior Thesis*	Capstone	ENV Major Elective (L)
	LSP Learning Domain	LSP Learning Domain	LSP Learning Domain
	General Elective	General Elective	General Elective

<sup>3</sup> Liberal Studies and General Elective slots are flexible and can be switched around relatively freely as needed. BS students may need to use some elective slots in their first year for any pre-calc math requirements. If math skills are a particular problem (e.g. you are assessed to take MATH 101), students might wish to consider taking their Math pre-calc courses their freshman year, then taking General Chem and General Bio their second year once their math skills are stronger.

\* Two quarter hour course

## Environmental Studies (BA) timeline suggestion for freshman student<sup>4</sup>

	Autumn Quarter	Winter Quarter	Spring Quarter
<b>YEAR 1</b>	Explore/Disc. Chicago	Focal Point	Foundations of Environmental Studies
	Comp/Rhetoric I	Comp/Rhetoric II	LSP Learning Domain
	LSP 120	LSP 121	Environmental Studies Science Elective
	Gen Elect/Language <sup>5</sup>	Gen Elect/Language	Gen Elect/Language
<b>YEAR 2</b>	Applied Ecology (L)	Earth Systems (L)	Human Impacts
	LSP Learning Domain	LSP Learning Domain	LSP Learning Domain
	Environmental Studies Social Science Elective	Environmental Studies Humanities Elective	Environmental Studies Science Elective (L)
	LSP Sophomore Multicultural Seminar	Ecological Economics	Environmental Studies Humanities Elective
		ENV 2 <sup>nd</sup> yr sem*	
<b>YEAR 3</b>	Env Communication (INTC 325/6)	Environmental Studies Science Elective (L)	Environmental Studies Humanities Elective
	Environmental Chemistry (L)	LSP Learning Domain	Environmental Studies Social Science Elective
	LSP Learning Domain	LSP Learning Domain	LSP Learning Domain
	General Elective	General Elective	LSP Experiential (JYEL)
<b>YEAR 4</b>	Environmental Studies Humanities Elective	General Elective	General Elective
	LSP Learning Domain	General Elective	LSP Learning Domain
	LSP Learning Domain	LSP Learning Domain	Capstone
	General Elective	General Elective	General Elective

<sup>4</sup> Liberal Studies and General Elective slots are flexible and can be switched around relatively freely as needed. Students should consider using courses early in their undergraduate career to sample from possible minor options.

<sup>5</sup> See note about language requirement earlier in this document

\* Two quarter hour course

**Environmental Studies Sustainability Concentration (BA) timeline suggestion for freshman student<sup>6</sup>**

	<b>Autumn Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>YEAR 1</b>	Explore/Disc. Chicago	Focal Point	Foundations of Environmental Studies
	Comp/Rhetoric I	Comp/Rhetoric II	LSP Learning Domain
	LSP 120	LSP 121	Environmental Studies Science Elective
	Gen Elect/Language <sup>7</sup>	Gen Elect/Language	Gen Elect/Language
<b>YEAR 2</b>	Applied Ecology (L)	Earth Systems (L)	Human Impacts
	Intro to Sustainability	LSP Learning Domain	LSP Learning Domain
	LSP Learning Domain	Environmental Studies Humanities Elective	Environmental Studies Science Elective (L)
	LSP Sophomore Multicultural Seminar	Ecological Economics	Environmental Studies Social Science Elective
		ENV 2 <sup>nd</sup> yr sem*	
<b>YEAR 3</b>	Env Communication (INTC 325/6)	Sustainable Development (PPS 330)	Environmental Studies Humanities Elective
	Environmental Chemistry (L)	LSP Learning Domain	Environmental Studies Sust Elective
	LSP Learning Domain	LSP Learning Domain	LSP Learning Domain
	General Elective	General Elective	LSP Experiential (JYEL)
<b>YEAR 4</b>	Environmental Studies Sust Elective	General Elective	General Elective
	LSP Learning Domain	General Elective	LSP Learning Domain
	LSP Learning Domain	LSP Learning Domain	Capstone
	General Elective	General Elective	General Elective

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<sup>6</sup> Liberal Studies and General Elective slots are flexible and can be switched around relatively freely as needed. Students should consider using courses early in their undergraduate career to sample from possible minor options.

<sup>7</sup> See note about language requirement earlier in this document

\* Two quarter hour course