

# Environmental and Sustainability Sciences and Landscape Architecture, BS

The Department of Marine and Environmental Sciences and the program in landscape architecture provide an education in basic environmental and sustainability sciences and landscape-architecture-related disciplines. This combined major provides students the opportunity to obtain the fundamental scientific background and practical training to tackle environmental and landscape-related issues. The program seeks to prepare students for advanced studies or careers in fields of urban planning, urban design, sustainable development, environmental consulting, and/or other fields focusing on the interactions among landscapes, the built environment, human societies, and overall climate impacts.

## Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

## University-Wide Requirements

All undergraduate students are required to complete the University-Wide Requirements (<http://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements/>).

## NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (<http://catalog.northeastern.edu/undergraduate/university-academics/nupath/>).

## Environmental and Sustainability Sciences Requirements

| Code  | Title  | Hours |
|---|--|-------|
| <b>Environmental and Sustainability Sciences Required Courses</b> |  |       |
| <i>Core Courses</i>   |  |       |
| ENVR 1400 and ENVR 1401   | Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400   | 5     |
| EEMB 2302 and EEMB 2303   | Ecology and Lab for EEMB 2302  | 5     |
| ENVR 1200 and ENVR 1201 or ENVR 2200                              | Dynamic Earth and Lab for ENVR 1200 Earth's Changing Cycles                      | 4     |
| ENVR 2515   | Sustainable Development  | 4     |
| Complete one course from each category:                           |  |       |
| <i>Skills</i>   |  | 4-5   |
| ENVR 1500 and ENVR 1501   | Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500 |       |
| ENVR 3300 and ENVR 3301   | Geographic Information Systems and Lab for ENVR 3300                             |       |
| EEMB 3555   | Networks and Natural Systems   |       |
| <i>Earth, Oceans, and Environmental Change</i>                    |  | 4-5   |
| ENVR 2310 and ENVR 2311   | Earth Materials and Lab for ENVR 2310  |       |
| ENVR 3600   | Oceanography   |       |

|  |  |   |
|--|--|---|
| ENVR 3125  | Global Oceanic Change                      |   |
| ENVR 5150  | Climate and Atmospheric Change             |   |
| <i>Conservation, Restoration, and Management</i> |  | 4 |
| EEMB 2400  | Introduction to Evolution                  |   |
| EEMB 3460  | Conservation Biology                       |   |
| EEMB 4001  | Landscape and Restoration Ecology          |   |
| ENVR 5220  | Ecosystem-Based Management                 |   |
| <i>Sustainable Planning and Development</i>      |  | 4 |
| ENVR 3200  | Water Resources                            |   |
| ENVR 3150  | Food Security and Sustainability           |   |
| ENVR 5210  | Environmental Planning                     |   |
| ENVR 5350  | Sustainable Energy and Climate Solutions   |   |
| <i>Environment and Society</i>                   |  | 4 |
| ENVR 5450  | Applied Social-Ecological Systems Modeling |   |
| POLS 2395  | Environmental Politics and Policy          |   |
| PPUA 5260  | Ecological Economics                       |   |
| SOCL 2485  | Environment, Technology, and Society       |   |

## Landscape Architecture Requirements

| Code      | Title  | Hours |
|-----------|--|-------|
| ARCH 1110 | Fundamental Architectural Representation             | 4     |
| ARCH 1120 | Fundamental Architectural Design                     | 6     |
| LARC 2130 | Sustainable Urban Site Design                        | 6     |
| LARC 2230 | Introduction to Sustainable Site Planning and Design | 4     |
| LARC 2330 | Cities, Landscape, and Modern Culture                | 4     |
| LARC 2340 | Cities, Landscape, and Contemporary Culture          | 4     |
| LARC 2430 | Plants, People, and Landscape Change                 | 4     |

## Landscape Architecture Electives

| Code                             | Title   | Hours |
|----------------------------------|---|-------|
| Complete three of the following: |   |       |
| LARC 2240                        | Sustainable Site Construction and Detailing               | 12-14 |
| LARC 2440                        | Planting Design   |       |
| LARC 3170                        | Landscape Planning and Urbanism Studio                    |       |
| ARCH 3370                        | Advanced Topics in Architectural History                  |       |
| ARCH 3450                        | Advanced Architectural Communication                      |       |
| LARC 5210                        | Landscape Ecology   |       |
| LARC 5220                        | Sustainable Landscape Practices                           |       |
| LARC 5310                        | Urban Landscape Seminar                                   |       |
| SUEN 6210                        | Implementation and Visualization for Urban Environments 1 |       |

2 Environmental and Sustainability Sciences and Landscape Architecture, BS

|           |   |
|-----------|---|
| SUEN 6220 | Implementation and Visualization for Urban Environments 2 |
| ARCH 3352 | Architecture Topics Abroad: Drawing                       |
| ARCH 3351 | Architecture Topics Abroad: Theory                        |
| ARCH 4850 | Urban and Architectural History Abroad                    |

**Capstone/Integrative Course**

| Code                             | Title  | Hours |
|----------------------------------|--|-------|
| Complete one of the following: 4 |  |       |
| ENVR 4997                        | Senior Thesis  |       |
| LARC 5120                        | Comprehensive Design Studio                                |       |
| LARC 5210                        | Landscape Ecology  |       |
| ENVR 4050                        | Solving Emerging Environmental Challenges through Capstone |       |

**Environmental and Sustainability Sciences and Landscape Architecture Major Credit Requirement**

Complete a minimum of 84 semester hours in the major.

**Program Requirements**

132 total semester hours required

**Plan of Study**

**Four-Years, Two Co-ops**

| Year 1                  |       |                         |       |           |       |
|-------------------------|-------|-------------------------|-------|-----------|-------|
| Fall                    | Hours | Spring                  | Hours | Summer 1  | Hours |
| LARC 2430               | 4     | ARCH 1110               | 4     | Elective  | 4     |
| ENVR 1400 and ENVR 1401 | 5     | ARCH 1120               | 6     | ENGW 1111 | 4     |
| ENVR 2200               | 4     | EEMB 2302 and EEMB 2303 | 5     |           |       |
| Elective                | 4     | EEAM 2000               | 1     |           |       |
|                         |       | 17                      | 16    | 8         | 8     |
| Year 2                  |       |                         |       |           |       |
| Fall                    | Hours | Spring                  | Hours | Summer 1  | Hours |
| LARC 2130               | 6     | LARC 2340               | 4     | Elective  | 4     |
| LARC 2230               | 4     | ENVR 3300 and ENVR 3301 | 5     | Elective  | 4     |
| LARC 2330               | 4     | LARC elective           | 4     |           |       |
| ENVR elective           | 4     | Elective                | 4     |           |       |
|                         |       | 18                      | 17    | 8         | 0     |
| Year 3                  |       |                         |       |           |       |
| Fall                    | Hours | Spring                  | Hours | Summer 1  | Hours |
| Co-op                   | 0     | ENVR elective           | 4     | ENGW 3314 | 4     |
|                         |       | ENVR elective           | 4     | Elective  | 4     |
|                         |       | ENVR elective           | 4     |           |       |
|                         |       | LARC elective           | 4     |           |       |
|                         |       | 0                       | 16    | 8         | 0     |

| Year 4 |       |               |
|--------|-------|---------------|
| Fall   | Hours | Spring        |
| Co-op  | 0     | ENVR 2515     |
|        |       | Capstone      |
|        |       | ENVR elective |
|        |       | LARC elective |
|        |       | 0             |

Total Hours: 132

**Five-Years, Two Co-ops**

| Year 1                  |       |                         |       |          |       |
|-------------------------|-------|-------------------------|-------|----------|-------|
| Fall                    | Hours | Spring                  | Hours | Summer 1 | Hours |
| LARC 2430               | 4     | ARCH 1110               | 4     | Vacation | 0     |
| ENVR 1400 and ENVR 1401 | 5     | ARCH 1120               | 6     |          |       |
| ENVR 2200               | 4     | EEMB 2302 and EEMB 2303 | 5     |          |       |
| ENGW 1111               | 4     | EEAM 2000               | 1     |          |       |
|                         |       | 17                      | 16    | 0        | 0     |
| Year 2                  |       |                         |       |          |       |
| Fall                    | Hours | Spring                  | Hours | Summer 1 | Hours |
| LARC 2130               | 6     | LARC 2340               | 4     | Vacation | 0     |
| LARC 2230               | 4     | LARC elective           | 4     |          |       |
| LARC 2330               | 4     | Elective                | 4     |          |       |
| Elective                | 4     | Elective                | 4     |          |       |
|                         |       | 18                      | 16    | 0        | 0     |
| Year 3                  |       |                         |       |          |       |
| Fall                    | Hours | Spring                  | Hours | Summer 1 | Hours |
| ENVR 3300 and ENVR 3301 | 5     | Co-op 1                 |       | Co-op 1  | 0     |
| ENGW 3314               | 4     |                         |       |          |       |
| ENVR elective           | 4     |                         |       |          |       |
| Elective                | 4     |                         |       |          |       |
|                         |       | 17                      | 0     | 0        | 0     |
| Year 4                  |       |                         |       |          |       |
| Fall                    | Hours | Spring                  | Hours | Summer 1 | Hours |
| LARC elective           | 4     | Co-op 2                 |       | Co-op 2  | 0     |
| ENVR 2515               | 4     |                         |       |          |       |
| ENVR elective           | 4     |                         |       |          |       |
| Elective                | 4     |                         |       |          |       |
|                         |       | 16                      | 0     | 0        | 0     |
| Year 5                  |       |                         |       |          |       |
| Fall                    | Hours | Spring                  | Hours | Summer 1 | Hours |
| ENVR elective           | 4     | Capstone                | 4     |          |       |

|                  |                    |    |
|------------------|--------------------|----|
| ENVR<br>elective | 4 ENVR<br>elective | 4  |
| Elective         | 4 LARC<br>elective | 4  |
| Elective         | 4 Elective         | 4  |
| 16               |                    | 16 |

Total Hours: 132