# Soil and Water Sciences Option 

| Freshman Year | Credits |  |
| :---: | :---: | :---: |
|  | Fall | Spring |
| ENSC 110 - Land Resources and Environmental Sciences | 3 |  |
| BIOB 170IN - Principles of Biological Diversity | 4 |  |
| CHMY 141 - College Chemistry I \& CHMY 142 - College Chemistry I Lab | 4 |  |
| WRIT 101W - College Writing I | 3 |  |
| BIOB 160 - Principles of Living Systems |  | 4 |
| CHMY 143 - College Chemistry II \& CHMY 144 - College Chemistry II Lab |  | 4 |
| M 161Q - Survey of Calculus |  | 4 |
| US Core |  | 3 |
| Year Total: | 14 | 15 |
| Sophomore Year | Credits |  |
|  | Fall | Spring |
| ENSC 245IN - Soils | 3 |  |
| ERTH 101IN - Earth System Sciences | 4 |  |
| GPHY 284 - Intro to GIS Science \& Cartog | 3 |  |
| Take one of the following: | 3 |  |
| STAT 216Q - Introduction to Statistics |  |  |
| BIOB 318 - Biometry |  |  |
| STAT 332 - Statistics for Scientists and Engineers |  |  |
| Univ. Core | 3 |  |
| ENSC 210 - Role of Plants in the Environment |  | 3 |
| ENSC 260 - Evolution for Env Scientists |  | 3 |
| PHSX 205 - College Physics I |  | 4 |
| WRIT 201 - College Writing II or HONR 202IH - Texts and Critics: Knowledge \& Imagination II |  | 3 |
| Univ. Core |  | 3 |
| Year Total: | 16 | 16 |
| Junior Year | Credits |  |
|  | Fall | Spring |
| ENSC 353 - Environmental Biogeochemistry | 3 |  |
| ERTH 307 - Principles of Geomorphology | 4 |  |
| Take one of the following: | 3 |  |
| BIOE 370 - General Ecology |  |  |
| NRSM 240 - Natural Resource Ecology |  |  |
| Take one of the following: | 3 |  |
| NRSM 430 - Natural Resource Law |  |  |
| PSCI 362 - Natural Resource Policy |  |  |
| Univ. Core | 3 |  |
| CHMY 211 - Elements of Organic Chemistry \& CHMY 212 - Elements of Organic Chemistry Lab |  | 5 |
| ENSC 311 - Fundamentals of Environmental Data Analysis |  | 3 |
| ENSC 468 - Ecosystem Biogeochem and Global Change |  | 3 |
| Take one of the following: |  | 3 |

BIOM 452-Soil \& Envirnmntl Microbiology
ENSC 460 - Soil Remediation

Year Total:

## Senior Year

|  | Fall | Spring |
| :--- | ---: | ---: |
| ENSC 444 - Watershed Hydrology | 3 |  |
| ENSC 454 - Landscape Pedology | 3 |  |
| Take one of the following: | 3 |  |
| BIOE 428 - Freshwater Ecology |  |  |
| ENSC 448 - Stream Restoration Ecology |  |  |
| ENSC 461 - Restoration Ecology | 3 |  |
| BIOE 455 - Plant Ecology (offered Spring) | 3 |  |
| Univ. Core |  | 3 |
| Directed Elective |  | 11 |
| ENSC 499R - LRES Capstone | 15 | 14 |
| Directed Electives |  | $\mathbf{1 2 0}$ |
| Year Total: |  |  |

## Directed Electives

Each student shall work closely with their faculty advisor to plan an integrated set of elective courses appropriate to their academic, professional and personal goals. Courses not on this list may be used IF considered appropriate to the student's goals AND approved by the faculty advisor as a curricular exception. Students choosing to take lower level courses ( $1 \mathrm{xx} / 2 \mathrm{xx}$ ) for directed electives should be sure they are meeting the university minimum requirement of 42 credits of upper level classes ( $3 \mathrm{xx} / 4 \mathrm{xx}$ ) for graduation.
Choose 14 Credits from the following:
AGSC 454 Agrostology 3
BIOE 375 Ecological Responses to Climate Change 3
BIOE 428 Freshwater Ecology (if not taken above) 3
BIOE 455 Plant Ecology 3

BIOM 415 Microbial Diversity, Ecology, and Evolution 3
BIOM 452 Soil \& Envirnmntl Microbiology 3
CHMY 311 Fundamental Analytical Chem 4
EENV 441 Natural Treatment Systems 3
ENSC 407 Environmental Risk Assessment 3
ENSC 410R Biodiversity Survey and Monitoring Methods 3
ENSC 443 Weed Ecology and Management 3
ENSC 445 Watershed Analysis 3
ENSC 448 Stream Restoration Ecology (if not taken 3 above)
ENSC 460 Soil Remediation 3
ENSC 461 Restoration Ecology (if not taken above) 3
ENSC 466 Chemical Ecology 3
ERTH 432R Surface Water Resources 3
GEO 309 Sedimentation and Stratigraphy 4
GPHY 357 GPS Fund/App in Mapping 3
GPHY 384 Adv GIS and Spatial Analysis 3
GPHY 426 Remote Sensing 3
GPHY 429R Applied Remote Sensing 3
GPHY 484R Applied GIS \& Spatial Analysis 3
M 172 Calculus II 4

NRSM 421 Holistic Thought/Mgmt 4

| NRSM 455 | Riparian Ecology \& Management | 3 |
| :---: | :--- | ---: |
| STAT 217 | Intermediate Statistical Concepts | 3 |
| or STAT 337 | Intermediate Statistics with Introduction to Statistical <br> Computing |  |
| STAT 411 | Methods for Data Analysis I | 3 |

Because some of the courses are offered during alternate years, the proposed scheduling of courses in junior and senior years may need to be modified. Work with an advisor for an individual schedule.

A minimum of 120 credits is required for graduation; at least 42 of these credits must be in courses numbered 300 and above.

