# TRACK: EARTH SYSTEM SCIENCE (ESS)

## Core Courses (3)
- BIOL 101 Introduction to Biology
- EN 101 Sustainability Science: Environment, Society and Technology
- GEOG 104 Earth System Science

## Basic Skills (2; at least 1 at the 200 level)
- ECON 160 Introduction to Statistical Analysis
- GEOG 110 Introduction to Quantitative Methods
- GEOG 216 Field Methods for Environ. Science
- GEOG 247 Intermediate Quantitative Methods
- GEOG 260 Quantitative Modeling
- GEOG 285 Spatial Database Development
- MATH 120 Calculus I
- MATH 121 Calculus II

## Elective Introductory Earth Systems Science Courses (4)
- BIOL 114 Marine Biology
- EN 120 Discovering Environmental Science
- GEOG 116 Forest Ecology
- CHEM 141 Field & Lab Methods for Environmental Chemistry
- GEOG 102 Weather and Climate
- GEOG 119 Arctic in the Anthropocene

## Skills GIScience (1)
- GEOG 087 Intro to Environmental Info. Systems
- ID 190 Introduction to GIS
- GEOG 206 Advanced Vector GIS
- GEOG 279 GIS & Accuracy Assessment
- GEOG 282 Advanced Remote Sensing
- GEOG 293 Introduction to Remote Sensing
- GEOG 296 Advanced Raster GIS
- GEOG 246 Geospatial Analysis with R

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This form to plan your course of study and keep track of your progress towards completing the major requirements.
**Elective Advanced Earth Systems Science Courses (4; at least 2 from Geography)**

- BIOL 201 Ecology of Atlantic Shores
- BIOL 216 Ecology
- BIOL 220 Population Biology
- BIOL 258 Conservation Biology
- BIOL 224 Ecology of Disease Vectors
- GEOG 205 Introduction to Hydrology
- GEOG 216 Field Methods in Env. Science
- GEOG 232 Landscape Ecology
- GEOG 263 Climate System & Global Environ. Change
- GEOG 271 Groundwater Hydrology & Management
- GEOG 283 Terrestrial Ecosystem Ecology & Atmosphere

**Human-Environment Courses (2)**

- ECON 157 Economics of Natural Resources
- EN 207 Climate Change, Energy & Development
- EN 261 Decision Methods for Env. Mgmt & Policy
- GEOG 136 Gender and Environment
- GEOG 179 Global Environmental Justice
- GEOG 180 Earth Transformed by Human Action
- GEOG 224 Economy and Environment
- GEOG 225 Environmental Politics
- GEOG 127 Political Economy of Development
- GEOG 237 Feminism, Nature and Culture
- GEOG 280 Urban Ecology: Cities as Ecosystems
- MGMT 252 Green Business Management
- PHIL 131 Environmental Ethics
- PSCI 276 Environmental Law

**Research Experience (1)**

To fulfill the research experience requirement, all ESS majors must complete an independent research project, which should be conducted through a directed research (EN 299) or honors thesis (EN 297) course or with an alternative research experience approved by the advisor.

**Honors (2, optional not required for major)**

If student is a candidate for honors: Students in the honors track must apply to the ES director and complete at least two semesters of independent research (EN 297).