

TRACK: EARTH SYSTEM SCIENCE (ESS)

Advising Sheet for (student) _____ (email) _____
(date filled out) _____ (student's year at Clark) _____

This form to plan your course of study and keep track of your progress towards completing the major requirements.

➤ Core Courses (3)

- BIOL 101 Introduction to Biology
- EN 101 Environmental Science and Policy: Introductory Case Studies
- GEOG 104 Earth System Science

Core Courses (3) | Semester

➤ Basic Skills (2; at least 1 at the 200 level)

- | | |
|---|--|
| BIOL 106 Introduction to Biostatistics | BIOL 206 Advanced Biostatistics |
| GEOG 110 Introduction to Quantitative Methods | GEOG 247 Intermediate Quantitative Methods |
| GEOG 216 Field Methods for Environ. Science | GEOG 260 Quantitative Modeling |
| MATH 120 Calculus I | MATH 121 Calculus II |
| ECON 160 Introduction to Statistical Analysis | |

Basic Skills (2) | Semester

➤ Introductory Earth System Science Courses (4)

- | | |
|---|--|
| BIOL 114 Marine Biology | EN 120 Discovering Environmental Science |
| GEOG 102 Weather and Climate | GEOG 116 Forest Ecology |
| GEOG 119 The Arctic in the Anthropocene | (if offered CHEM 141 or 142 may count) |

Elective Introductory Earth Systems Science Courses (4) | Semester

➤ Skills GIScience (1)

- | | |
|---|---|
| GEOG 087 Intro to Environmental Info. Systems | GEOG 282 Advanced Remote Sensing |
| GEOG 190 Introduction to GIS (also ID 190) | GEOG 293 Introduction to Remote Sensing |
| ID 296 Advanced Vector GIS | GEOG 296 Advanced Raster GIS |
| GEOG 246 Geospatial Analysis with R | GEOG 260 GIS & Land Change Models |
| GEOG 279 GIS & Map Comparison | GEOG 287 New Methods in Earth Observation |

Skills GIScience (1) | Semester

➤ Advanced Earth System Science Courses (4; at least 2 from Geography)

BIOL 201 Ecology of Atlantic Shores
 BIOL 216 Ecology
 BIOL 220 Population Biology
 BIOL 224 Ecology of Disease Vectors
 BIOL 258 Small Scale Land Conservation

GEOG 205 Introduction to Hydrology
 GEOG 216 Field Methods in Environmental Science
 GEOG 232 Landscape Ecology
 GEOG 263 Climate System & Global Environ. Change
 GEOG 283 Terrestrial Ecosystems & Global Change

Elective Advanced Earth Systems Science Courses (4) | Semester

➤ Human-Environment Courses (2)

GEOG 101 Food Justice & Food Movements
 GEOG 179 Global Environmental Justice
 GEOG 220 Property and the Global Environment
 GEOG 225 Environmental Politics
 ECON 254 Environmental Economics
 ECON 256 Modeling Ecological-Economic Systems
 ECON 257 Enviro. & Natural Resource Economics
 ECON 258 The Economics and Policy of Food
 MGMT 252 Green Business Management

GEOG 136 Gender and Environment
 GEOG 180 Earth Transformed by Human Action
 GEOG 224 Economy and Environment
 GEOG 261 Decision Methods in Env. Mgmt & Policy
 EN 207 Climate Change, Energy & Development
 EN 242 Sustain. Develop Assessment & Planning
 PSCI 176 U.S. Environmental Politics
 PSCI 276 Environmental Law
 PHIL 131 Environmental Ethics

(or EN 177, 241, 245, 255, 258, 264, 269, 277, 282 as offered)

Human-Environment Courses (2) | Semester

➤ Capstone Experience (1)

To fulfill the capstone experience requirement, all ESS majors must complete an independent research project that is recognized with a course credit. There are several options including a regular course with a final project requirement (e.g. EN 290, GEOG 205, GEOG 263, GEOG 283), a Directed Study (EN 299, GEOG 299), an Honors thesis (EN 297, GEOG 297), an Internship (EN 298, GEOG 298), a seminar course in which the student presents an overview of a research paper or theme and leads ensuing group discussion (e.g. 300-level graduate seminars), or some other research or practical experience approved by the student's advisor.

Research Experience (1) | Semester

➤ 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 or GEOG 297).

Honors Directed Research (2) | Semester
