**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 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 102 Weather and Climate
- CHEM 141 Field & Lab Methods for Environmental Chemistry
- CHEM 142 Field & Lab Methods for Environmental Chemistry
- GEOG 119 The Arctic in the Anthropocene
- GEOG 116 Forest Ecology
- 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 119 The Arctic in the Anthropocene
- CHEM 142 Field & Lab Methods for Environmental Chemistry
- GEOG 102 Weather and Climate
- GEOG 116 Forest Ecology

### 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
Elective Advanced Earth Systems Science Courses (4; at least 2 from Geography)

| BIOL 201 Ecology of Atlantic Shores | GEOG 205 Introduction to Hydrology |
| BIOL 216 Ecology                   | GEOG 232 Landscape Ecology         |
| BIOL 220 Population Biology        | GEOG 234 The Geography of Fire     |
| BIOL 224 Ecology of Disease Vectors| GEOG 245 Remote Sensing of the Cryosphere |
| BIOL 258 Conservation Biology     | 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 | GEOG 225 Environmental Politics |
| EN 207 Climate Change, Energy & Development | GEOG 226 Who Fears What and Why? |
| EN 261 Decision Methods for Env. Mgmt & Policy | GEOG 237 Feminism, Nature and Culture |
| GEOG 126 Political Geog. of Resource Development | GEOG 277 Gender, Environment and Development |
| GEOG 136 Gender and Environment          | GEOG 280 Urban Ecology: Cities as Ecosystems |
| GEOG 179 Global Environmental Justice   | MGMT 252 Green Business Management |
| GEOG 180 Earth Transformed by Human Action | PHIL 131 Environmental Ethics |
| GEOG 224 Economy and Environment        | 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).