What makes an honors thesis an *Earth Systems* honors thesis?

Earth Systems engages students with social-environmental questions using interdisciplinary knowledge, tools, and frameworks drawn from the natural sciences, economics, anthropology, ethics, and public policy. The program embraces this kind of interdisciplinary approach in recognition of social-environmental challenges as complex phenomena emerging from human activities interacting with Earth's physical, chemical, geological, and biological systems.

For the Earth Systems honors thesis writer, applying an interdisciplinary approach to a focused research question offers many rewarding opportunities. For example, through considering how one's research might serve multiple disciplines and benefit those working outside a particular field, the writer can come to an understanding of the broader relevance and value of their work. At the same time, writing an interdisciplinary thesis challenges the writer to figure out how to integrate distinct disciplinary perspectives and discover the benefits that arise from their unique interdisciplinary approach.

How should the Earth Systems honors thesis assert itself as an original work of interdisciplinary, social-environmental scholarship? Most honors theses in Earth Systems are rooted in the methods, scholarly literature, and intellectual traditions of a particular field (e.g. conservation biology, soil science, biological oceanography, or environmental economics, education, or anthropology—to name a few). To be interdisciplinary though, the Earth Systems honors thesis should also frame some of its guiding questions and part of its discussion within a social-environmental context inclusive of perspectives beyond those constituting the author's primary disciplinary approach.

Here are a few examples:

- An honors thesis focusing on a question rooted in the disciplines of ecology or marine biology might include a discussion of economic or public health ramifications of key research findings, e.g. how does the establishment of a marine protected area impact a particular sector of a local economy?

- A thesis focusing on a technological aspect of a proposed large-scale photovoltaic power generation might incorporate a discussion of the economic and wildlife conservation ramifications of the development of such a system, e.g. how might its construction impact a local desert tortoise population?

- A thesis focusing on an aspect of environmental economics might consider the ethical, environmental justice, or ecological implications of policy or market interventions, e.g. how might a state'sproposed cap-and-trade

program disproportionately impact air pollution in low-income communities?

- A thesis focused on an aspect of conservation biology might include a component in which social science methodologies are used to assess the beliefs and attitudes of a particular stakeholder group in relation to various conservation strategies—or make recommendations for how the research findings might be communicated most effectively to non-specialist audiences.

Working across disciplines enables the researcher to ask and address novel questions and, using a combination of methods, discover knowledge that could not be generated by a strictly disciplinary approach.

A note on structure

Most, but not all Earth Systems theses are organized into the following sections: an abstract; introduction (with literature review); methods; results; discussion of future research; conclusion; and bibliography. This structure is the one most commonly used by thesis writers relying on a primarily scientific approach to investigate a research question. Alternatively, some thesis writers—for instance those taking a journalistic approach to a question—adopt organizational schemes similar to those you would find in a non-fiction book, i.e. they begin with a preface and introduction that lead to several topic-focused chapters, and then conclude with an epilogue or coda.

Whatever the structure, it should be clear to the reader of the thesis that it is original work of interdisciplinary social-environmental scholarship. For writers working with a more traditional structure, the interdisciplinarity of the thesis should be explicit in the abstract, introduction, and discussion. Specifically, the introduction of the thesis should situate the research question within both a particular knowledge gap (identified through a review of scholarly literature) and a larger social-environmental question or problem. In the discussion section, the writer should interpret the research findings in the context of the original research question and with respect to particular social-environmental challenges noted in the introduction.