**Sustainability-FOCUSED courses:**

**Environmental Studies**

ENST 240 ENVIRONMENT AND SOCIETY (*3 credits*) Introduces theoretical perspectives and practical case studies involved in environmental problems and problem solving while providing context and a foundation for the larger field of Environmental Studies. Multidisciplinary and integrated approach. Draws from the intellectual traditions and ways of knowing of predominantly the Social Sciences and Humanities in assessing environmental issues in historical and modern contexts. Prerequisite: Intended for students planning to major or minor in Environmental Science or Environmental Studies, or consent of the instructor.

ENST 280 ENVIROMENTAL COLLOQUIUM (*1 credit*) Environmentally-themed topics and readings. Opportunity for Environmental Science and Environmental Studies students to discuss a common text and topic. Recent themes: climate change, food ethics, agriculture and sustainable energy. Prerequisite: Consent of the instructor(s) and Sophomore standing.

ENST 301 CLIMATE AND ENERGY POLICY (*3 credits*) Explores issues surrounding climate and energy policy. Prerequisite: POLS 104, 105, 107 or 170, OR consent of the instructor. Also listed as PAGS 301. (AY)

*ENST 327 INDIGENOUS PEOPLES AND THE ENVIRONMENT (*4 credits*) Small-scale societies traditionally studied by anthropologists have become the "indigenous peoples" of the world. Under the jurisdiction of nation-states that consider them alien and inferior, they are among the world's most underprivileged minorities. Focuses on indigenous peoples in three nation-states of the British diaspora: Australia, Canada and the United States. Analyzes the following topics through an environmental lens: 1) traditional subsistence practices, 2) historical forces of colonization and 3) contemporary issues and struggles. Also listed as SOAN 327. (D-I) (AY)

ENST 343 ECONOMICS OF THE ENVIRONMENT (*4 credits*) An examination of the role that economic analysis plays in understanding the environment and the policy frameworks that economics offers in the area of environmental regulation. Topics include an analysis of market failures, the cost-benefit framework and strategies related to environmental policy. A number of applications related to domestic and international environmental issues discussed. Prerequisite: ECON 103. Also listed as ECON 343. (AY)

ENST 347 COMPARATIVE ENVIRONMENTAL POLICY (*3 credits*) Examines the different approaches taken by the European Union, Japan and the United States in addressing the monumental policy challenges of 21st-century crises. Examines issues
of climate change, energy shortages and increasing pressures on national and regional institutions. Prerequisite: POLS 104, 105 or consent of the instructor. Also listed as POLS 347. (AY)

NST 373 INTERNATIONAL LAW II: INTERDEPENDENCE, ENVIRONMENT AND GLOBALIZATION (4 credits) Surveys concepts and theories of international law and treaty interpretation, focusing on environmental problems and policy making in the global arena. Topics include the emergence of "the environment" as an issue in international politics, managing global common property resources, and sustainable trade and development. Prerequisite: POLS 170. Also listed as POLS 373. (AY)

*ENST 315 ENVIRONMENTAL ISSUES OF NEW ZEALAND (4 credits) Provides an overview to the unique species and landscapes of this island country as well as its many environmental challenges. Topics vary but generally include natural history of New Zealand, island biogeography, conservation and restoration ecology, natural resource use and sustainability. Taught on the New Zealand semester program. (SI)

ENST 320 NEW ZEALAND FACULTY SEMINAR (4 credits)
Taught on the New Zealand semester by program faculty on an environmental topic of interest.

AWPE

*AWPE 209 INTRODUCTION TO TRAIL BUILDING (.5 credits) A hands-on introduction to the tools, skills and techniques of trail construction. Topics include stepping stones, water bars, basic bridge construction, trail clearing and re-vegetation techniques, and erosion minimization. (W)

*AWPE 210 TRAIL BUILDING/INVASIVE SPECIES CONTROL (.5 credits) Combines physical activity with the purpose of conserving Earlham's natural forest preserves in the Richmond area. Some trails need to be built to control trampling and to facilitate teaching and research. In addition, all areas are being invaded by exotic plant species that compete with native species. Activities include hauling materials, building trail structures, digging contours and pulling and digging up invasive shrubs. (W)

Biology

BIOL 360 CONSERVATION BIOLOGY (3 credits) A discussion-based course investigating the impacts humans have on biodiversity and measures used to mitigate them. Conservation biology is an interdisciplinary, value-laden, crisis-driven discipline. Topics include conservation law, ethics, and ecological economics; species extinction, rarity and their causes; population viability analyses and
practices; designing, establishing, managing and restoring protected areas; and sustainable human development. A non-lab course. Prerequisites: BIOL 111, 112 and 226. (AY)

Psychology of Sustainability - 21755 - ENST 371 - 0

Water and Environmental Chall. - 21988 - ENST 382 - 0

Food Scares and Sust. Agri. - 21887 - INTP 150 - 1

ENSC 480 SENIOR SEMINAR (2 credits) - Environmental Science Senior Seminar

ENST 488 SENIOR SEMINAR/CAPSTONE EXPERIENCE (3 credits) Students complete a Senior Capstone Experience in the discipline of their focus.

**Sustainability-RELATED courses:**

Environmental Studies

*ENST 210 OUTDOOR EDUCATION (3 credits) Examines the foundational theory and practice of the field of Outdoor Education, including team building and group facilitation, experiential education theory, risk management, trip and lesson planning, psychological models of adventure, leadership studies, and diversity. Also listed as EDUC 210. (W)*

ENST 260 TOPICS IN ETHICS: BIOETHICS (4 credits) Examines contemporary bioethical issues such as genetic therapy and enhancement, human subject research and physician-assisted death. Particular attention to the implications of bioethical issues for under-represented populations in the U.S. and to inter- and trans-national discussions concerning bioethical topics. (AY)

*ENST 305 AMERICAN LITERATURE AND ECOLOGY (4 credits) A study of American environmental literature and its imaginative forms in relation to environmental philosophy, including changing ideas of nature and wilderness; representations of space and place; the deep ecology, ecofeminism and environmental justice movements; and the overall relation between human language and value and the non-human world. Attention also to cultural issues of ecology, such as how our ecological understandings affect our sense of identity and our social and economic practices. May include writers such as Thoreau, Abbey, Muir, Snyder, Aldo Leopold,
Terry Tempest Williams, Leslie Marmon Silko and Mary Oliver. Prerequisite: An Earlham Seminar, Interpretive Practices course or consent of the instructor. Also listed as ENG 305. (CP) (AY)

ENST 320 PEDAGOGIES OF PLACE (3 credits) An introduction to environmental philosophy. Explores the formation of our relationship with the natural world and the roles of education and schooling. Concepts of nature, wilderness, ecology and environmentalism considered and critiqued in light of their functioning as "normative ideals" for a right relationship with the more than human world. Prerequisite: Previous courses in ENPR or consent of the instructor. Also listed as EDUC 220. (AY)

ENPR 362 CULTURAL POLITICS OF ENVIRONMENT: GREAT LAKES REGION (4 credits) Introduces the general field of environmental anthropology through in-depth examination of specific case studies in environmental issues. Focuses on the Great Lakes region; U.S. and Canadian social and political institutions and relations between the two nations provide crucial context for analyzing these environmental issues. Features a virtual ethnography project through which student groups research pollution hot spots around the Great Lakes. Also listed as SOAN 362. Prerequisite: Sophomore standing. (AY)

*ENST 364 WESTWARD MOVEMENT: ENVIRONMENTAL HISTORY OF THE OLD NORTHWEST (4 credits) Examines the environmental history of Earlham’s home, the Old Northwest — from the geological formation of the Great Lakes to tribal uses of the land, but primarily focusing on the last 200 years as the area changes from "wilderness" to family farms to large urban cities and industrial agriculture. Emphasizes the various environmental ethics that shaped resource uses, and the interrelated changes and their consequences — both intended and unintended — for wildlife species, air, soil and water quality, land use and human health, habits and choices. Prerequisite: An Earlham Seminar, an Interpretive Practices course or consent of the instructor. Also listed as HIST 364. (CP) (AY)

ENST 481 FIELD EXPERIENCE (1-3 credits) Provides a first-hand opportunity to integrate theory gained in the classroom with insights and experience into the workings of an organization gained in a field setting. Available only to declared Environmental Studies majors. Students must complete a Field Study application in consultation with their major adviser and complete 120 hours of work at an approved site of their choosing. Prerequisite: ENPR 240.

**Biology**

*BIOL 111 ECOLOGICAL BIOLOGY (4 credits) An introduction to the study of the interrelationships among organisms and their physical and biotic environments.*
Topics include natural selection and adaptation, population growth and regulation, competition, predation, mutualism, productivity, energy flow and nutrient cycling. Emphasizes doing hands-on scientific research and problem solving using the primary ecological literature. Lab. (A-QR, SL)

**BIOL 350 FIELD BOTANY** *(4 credits)* Systematics, morphology, physiology, geography, cytogenetics and life history phenomena are used to clarify the ecology and evolution of plants. In addition, concepts of plant community and conservation ecology are investigated using a comparative biome approach. Emphasizes field-based ecological research projects and plant identification via keying in the lab and by sight in the field. Lab. Prerequisites: BIOL 111 and 226. Offered twice every three years.

**BIOL 471 MARINE BIOLOGY SEMINAR** *(2 credits)* An ecological approach to topics in marine systems: habitats and the associated organisms, symbiotic relationships and human impact. Combination of lecture and student presentations. Prerequisites: BIOL 111 and 226. (AY)

**BIOL 473 TROPICAL BIOLOGY** *(3 credits)* Focuses on ecological topics that are especially exemplified by the tropics: species diversity, habitat diversity and conservation. Includes guest lectures, field projects, scientific journaling and an expedition to a tropical site in Peru or Ecuador (Amazonia or the Galapagos Islands) for an exciting immersion into the natural history of the tropics. May Term. Prerequisites: BIOL 111 and 226.

**Geology**

**GEOS 112 GEOHAZARDS** *(3 credits)* An introduction to geological and environmental hazards — earthquakes, volcanic eruptions, landslides, tsunamis, flooding, costal storms, tornadoes and climate change, and their effects upon human societies. Introduces the science behind the natural phenomena: causes behind different hazards, methods of forensic analysis, prediction, etc. Explores the human response to geohazards: the mitigation (or inadvertent aggravation) of hazards, political/economic/social factors, cost-benefit analysis, emergency response and how to avoid or survive hazards. (SI)

**GEOS 113 CLIMATES FUTURE, CLIMATES PAST** *(3 credits)* Examines Earth’s turbulent climatic past in an exploration of its possible futures. Combines the basic tenets of geology with current atmospheric system data in an effort to clarify our concurrently known and unknowable climate system. Designed for students who want to understand the ways in which the Earth we experience comes into being. First-year appropriate. A non-lab course. (SI)
GEOS 201 ENVIRONMENTAL GEOLOGY (4 credits) Introduces whole-Earth materials and processes with a focus on the formation of and human interaction with surficial environments. Examines phenomena such as volcanoes, earthquakes, wasting, flooding, desertification and climate change. Topics include other elements of environmental geoscience such as sustainable development, water supply, mining, agriculture and waste disposal. Laboratory and field trip exercises employ maps, specimens, real-world datasets, and local geological sites and resources. Specifically designed for students who want to better understand Earth and how it works. First-year appropriate. Lab. (A-QR, SI)

GEOS 430 HYDROGEOLOGY (4 credits) Many of Earth's surface environments are governed by the interaction of water and earth materials. Introduces students to the nature of these interactions, including qualitative, quantitative, physical and chemical perspectives. Alongside exploration of surface and groundwater fundamentals, discussion includes topics such as current water-related issues, from transport and contamination to supplies and treatment. Laboratory exercises include field mapping and sampling, laboratory analysis, and GIS mapping and modeling. Prerequisite: GEOS 316. (AY)

GEOS 431 SOILS (4 credits) Introduces students to the skin of the Earth, examining soil as both a geological material and a natural resource. Explores the awesome complexity of soils from molecular to landscape-scale and examines the particular problems soils pose to human-landscape interaction. Topics include the formation, physics, chemistry, ecology and sustainable management of the world's soils. Laboratory exercises incorporate field description, laboratory analysis and large-scale research questions. One weekend field trip is required. Prerequisite: GEOS 316. (AY)

PAGS

*PAGS 107 INTRODUCTION TO INTERNATIONAL RELATIONS (4 credits) Introduces the study of politics and problems on the global political agenda at the end of the 20th century and the beginning of the 21st. Studies the role of power and values in shaping international governance and institutions; security dilemma; development of the post-Cold War era; North-South relations; global environmental problems and problems of human rights. Also listed as POLS 107. (D-I)

*PAGS 240 GLOBAL DYNAMICS AND WORLD PEACE (4 credits) Builds upon the introductory sequence in PAGS and addresses the question of how to define what constitutes "peace," whether and how sustainable peace might be possible, and how to best contribute to peacebuilding efforts. Uses a variety of disciplinary and interdisciplinary lenses to explore the root causes of various forms of violence,
including war, terrorism, ecological destruction and poverty, and in what ways these forms of violence are related. Prerequisite: At least two of the following courses: PAGS 101, 107, 130; or consent of the instructor. (D-I)

*PAGS 345 URBAN POLITICAL ECONOMY (4 credits) A look at the political and economic processes that shape the uses of urban space. Attention to the rise of suburbanization in the United States and the problems of urban poverty, race and class segregation associated with it. Examines historical analysis and issues relating to the "revitalization" of older urban centers. Prerequisite: ECON 101 or 103. Also listed as ECON 345. (D-D)

First Year Courses

Women, Food and Globalization - 11360 - INTP 150 - 10

RLgs Values & Envr Ethics - 21375 - INTP 150 - 8

Since the 1960s scholars of religion and philosophy have been searching in monotheistic traditions and elsewhere for teachings that would adequately support an environmental ethic for our time. This class will examine those efforts in the works of James Gustafson, Sallie McFague, Rosemary Radford Ruether, John Cobb, Peter Singer, and Holmes Rolston and consider whether they hold up to the scrutiny of science.

Nature’s Nation - 21903 - ESEM 150 - 12

The unique identity of the United States of America, after independence, was often defined in terms of its frontier, wilderness, and sublime nature: so much so that in the nineteenth century, Americans often referred to their country as “Nature’s Nation.” This course will explore how nature has been used to define American national identity in different ways by various groups of people from the Revolutionary period up to the present, to express different senses of the country, its values, and who represents it. We will focus primarily on literature but also pay attention to landscape and environmental history; general social and political developments; and other forms of landscape art, such as painting and photography.

Christian Env. Ethics - 21890 - INTP 150 - 4

Earlham Seminar: “Nature and American Culture” — an environmentally themed Earlham First-Year Seminar course