

SUSTAINABILITY (SUS)

SUS 10010 The Climate Crisis: Intersections between Biology and Christianity (3 Credit Hours)

The Climate Crisis will explore how science and religion intersect in their analyses of climate change. We will emphasize two questions: (1) How has climate change over the past 30 years impacted biological organisms and ecosystems? (2) How ought Catholics respond to climate change, and how does such a response inform your own response? Readings will be drawn from a basic science textbook, writings from recent popes and from other Christian writers. The class sessions will be active, and focused on discussion and activities. This course is open to all, and is inspired by the UND mission that various lines of Catholic thought may intersect with all forms of knowledge.

Satisfies the following University Core Requirements: WKCD-Core Cathol & Disciplines

SUS 10700 Sustainable Development in a Changing World (3 Credit Hours)

World population has doubled in the last 50 years, and sustainable development in the face of global change is the greatest challenge of our time. The class provides an overview of the origin, scale and complexity of the challenge. We focus on two specific areas (water and energy), where we, as engineers, scientists and professionals, have a particularly important role to play to address that challenge. We will learn simple quantitative tools to measure and evaluate environmental and resources problems. The course will conclude by discussing the tradeoffs, ethical dilemmas and opportunities involved in factoring sustainable development into policy and engineering decisions.

SUS 13200 Sustainability-Focused Writing & Rhetoric (3 Credit Hours)

Course Focus: Rhetoric and Our Common Home This Writing & Rhetoric course incorporates experiential learning and personal service to the Michiana community into a focused study of sustainability rhetoric. We'll consider challenges in stewardship of the earth, and also possibilities for motivating pro-environmental attitudes and behaviors. We will explore how positive encounters with nature can help people to thrive as human beings and to claim their roles as engaged citizens, consciously striving to share what Pope Francis calls "our common home," the created world. In your academic writing and in our class as a whole, you'll take an active part in this community and strengthen your connection both to the land and to the people. In this Community-Engaged course, each student is required to complete at least 10 hours of service for our community partners, in lieu of some of the regular reading and writing work.

SUS 14700 Sustainable Development in a Changing World (3-5 Credit Hours)

SD1000 investigates the role of sustainability from a political, human, and natural science lens. The course covers perspectives of sustainability through a variety of sources and looks into how individuals can live sustainably (and what living sustainably means).

SUS 20010 Sustainability: Principles and Practices (3 Credit Hours)

This interdisciplinary course explores the challenges of environmental sustainability through social, economic, scientific, and ethical lenses. Taught jointly by professors from the natural sciences, humanities, and social sciences, the course aims to instill broad, integrative and critical thinking about global environmental problems whose solutions will depend on multidisciplinary approaches. This gateway course to the Minor in Sustainability is open to all students interested in a deep exploration of these critical issues. Students considering the Minor in Sustainability are encouraged to take this course during their sophomore year.

Enrollment is limited to students with a minor in Sustainability.

SUS 20054 Climate Physics (3 Credit Hours)

This course is a one-semester investigation of the processes leading to balance in the Earth's climate system. The course will study the physical processes driven by the laws of thermodynamics, convective hydrodynamics, and radiative energy transfer. The course is appropriate for undergraduate science as well as non-science majors and will count for science credit for science majors.

Satisfies the following University Core Requirements: WKST-Core Science & Technology

SUS 20110 Creation, Ecology, Technology (3 Credit Hours)

Environmental degradation and climate change are among the most pressing scientific, economic, political, and social issues of our time. These problems seem to require technological solutions. But they also seem to be the result of the increasing technological sophistication of human societies. This means that the ecological crisis is inextricable from questions about the proper use of technology. This course will equip students to reflect on these interrelated challenges from a theological perspective. Drawing on scripture and other texts from the Jewish and Christian traditions (Genesis Rabbah, Augustine, Basil of Caesarea, Moses Maimonides, Thomas Aquinas, Julian of Norwich, and others), students will consider three distinct models of creation, the relationship between God and creation, and the place of human beings in creation. We will also reflect on the moral and theological significance of ecology and technology through some of the literary classics of the environmental movement (Aldo Leopold, Rachel Carson, Wendell Berry). Finally, we will explore how local communities might develop virtues and practices that would constitute a theologically-informed response to our "eco-technological" crisis. By the end of the course, students will have deepened their capacity for theological reflection and will understand how theology provides a compelling framework for moral formation and collective action in response to some of today's most urgent global challenges.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

SUS 20111 Planet Earth (3 Credit Hours)

An introduction to the Earth, its processes, composition, evolution, and structure. The course introduces the student to mineralogy, petrology, structural geology, oceanography, surficial processes, geophysics, environmental geology, and planetology. Lecture and laboratory meetings.

Corequisites: CE 21110

Satisfies the following University Core Requirements: WKST-Core Science & Technology

SUS 20200 Introduction to Ecological Horticulture (1 Credit Hour)

Globally, the agricultural sector is the largest cause of habitat loss, aquifer depletion, and greenhouse gas emissions. The need to transform agricultural systems to meet the needs of the world's growing population while addressing these ecological impacts is one of the 21st century's grand challenges. This course will include principles, concepts and practices of sustainable food production including biodiversity, soil quality, and nutrient, water, pest and disease management, while focusing on a production culture that is environmentally regenerative. Every class meeting will involve experiential learning that will build students' skills in growing healthy food in a way that protects and restores the earth. This class will also address the environmental and social consequences of industrial farming and public health impacts of quality food accessibility in communities.

Prerequisites: (BIOS 10161 and BIOS 10162) or (BIOS 20201 and BIOS 20202)

SUS 20203 Design Matters: Introduction to Design Thinking (3 Credit Hours)

Design thinking has emerged as a powerful methodology to catalyze breakthrough innovation for an array of complex business, social and humanitarian challenges. Business and industry have embraced design thinking as one of the most potent drivers of innovation, growth and prosperity for its' deeply human-centered approach to problem solving. During this fast paced, hybrid, hands-on journey through the design thinking process, students will immerse themselves in a series of overlapping modules that introduce the various phases in the design thinking process and familiarize students with the tools and techniques. This course will unleash your creativity and ingenuity in addressing problems through a human centered framework and mindset, applying this methodology to a vast array of human-centered problems, and complementing disciplines from science and engineering to business and the liberal arts. This course fulfills a Core Curriculum Liberal Arts 4 Way of Knowing (Arts) as well as the gateway to the Collaborative Innovation minor and cross-listed with other minors including: Sustainability, Computing & Digital Technologies, Education, Schooling & Society, Entrepreneurship and Anthropology.

Satisfies the following University Core Requirements: WKAL - Core Art & Literature

SUS 20204 Environmental Chemistry (3 Credit Hours)

Discussion of basic chemical processes occurring in the environment, particularly those relating to the impact of humanity's technological enterprise.

Satisfies the following University Core Requirements: WKST-Core Science & Technology

SUS 20300 Local Flora (1 Credit Hour)

This is a field-based course that explores the rich biodiversity of plant life in northern Indiana. Through hands-on experience in a diverse array of field sites, you will be introduced to various plant communities and learn to identify the plants within them. Plant communities and species distributions reflect patterns and processes as ancient as plate tectonics and as recent as glaciers and European settlement. They reflect the influence of temperature and moisture patterns as well as competition within and among plant species. They are shaped by interactions with animals, insects, and disease, as well as the actions of humans. Plants are the foundation of every terrestrial habitat, but are often overlooked. By developing a greater familiarity with plant communities and skills for identification, you will be better prepared to appreciate natural habitats, participate in conservation work, and conduct field research.

SUS 20309 Data in a Changing Planet: environmental data and sustainability (3 Credit Hours)

This course presents an introduction to the socio-technical study of knowledge infrastructures in the context of a rising quest for environmental sustainability. It examines the critical role of data in supporting scientific research, environmental action, and sustainability efforts. The goal is to critically discuss the central place of data in a changing world where the proliferation of new digital technologies supports new capabilities for sensing, sharing, processing, and visualizing rapidly accelerating environmental change. This course will bring forward the interconnected technical, cultural, historical, political, and social efforts that make environmental data possible. Applying socio-technical lenses to environmental data, we will go through the different stages of an environmental data workflow, all the way from data collection to visualization and reporting. The course will pay special attention to the local and global entities, past and present, that environmental data supports. We will focus on the implications of digital technologies for participatory and citizen sciences, open data, and data governance in the environmental space. Leaning on these critical tools, we will revise ongoing environmental struggles and data-fueled sustainability efforts to assess the implications of data in ongoing and future attempts to restore and reinvent the integrity of our planet and its life-supporting systems. The course will resort to practical examples using environmental datasets and a network of socio-environmental practitioners who will present selected topics throughout the semester.

SUS 20350 Sustainability at Notre Dame and in the Holy Cross Charism (3 Credit Hours)

This course will address sustainability in the context of the local academic community and its institutions. In light of the recent papal encyclical, *Laudato Si'*, *On Care for Our Common Home*, this course will provide students interdisciplinary opportunities to explore the challenges of sustainability and to develop collaborative strategies for making our common campus homes more sustainable. This course will be offered concurrently at ND, SMC, and HCC, and will be co-taught by faculty from all three campuses. It will meet in rotation on each of the three campuses once per week for two hours. Students will be invited to examine the course materials in conversation with the mission of the Congregation of Holy Cross through immersion at each of the campuses and encounters with the sisters, brothers, and priests of Holy Cross and with sustainability professionals.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

SUS 20603 Environmental Philosophy (3 Credit Hours)

In recent decades, there has been growing concern about the often difficult relationship human beings have with our larger biological ecosystem. The means by which we power and feed our civilization have deleterious environmental effects, effects that are themselves felt by human communities. In the face of this concern, modern philosophers have attempted to clarify the extent of our ethical obligations vis a vis the natural world. In this class, we will investigate these attempts, and in the process try to address such questions as: "do we have responsibilities toward the physical world around us?" "Should we admit non-human life forms as members of our moral circle?" "What are our responsibilities toward those threatened by pollution, deforestation, or climate change?" "How do environmental injustices intersect with racial, regional, and class injustices in our global society?" Along the way, we will touch on more fundamental philosophical questions, such as the nature and source of value and the limitations of human knowledge. Students will learn to consider environmental issues from a variety of ethical standpoints, will apply ethical analysis to issues in animal welfare, economics, and scientific research, and will gain practical knowledge about integrating environmental ethics into their lives.

Satisfies the following University Core Requirements: WKSP - Core 2nd Philosophy

SUS 20626 Theology and Ecology (3 Credit Hours)

We live and act in an ecological theater created by God that includes all other living organisms and their ecosystems within the biosphere. Urgent questions abound today about what our relationship is to the rest of the natural world. What is our place in the world? This course investigates the Christian understanding of God as Creator, creation, and our human relationship to God, one another, and the natural world. We will examine the theology of creation beginning with Scripture and the Creed and progressing through the Early Church, Medieval, and modern time periods. We will also discuss theological anthropology in terms of our identity and mission within our ecological home. To this end, we will apply Pope Francis' notion of integral ecology to the specific case of the Great Lakes watershed in which we live, examining topics such as biodiversity, water, agriculture, and energy. As ecological citizens and creatures of God, we will also address the connection between liturgy and ecology. This course will have a special appeal to students interested in the intersection of theology and science, especially ecology and environmental studies.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

SUS 20650 (Un)Sustainable Philosophies (3 Credit Hours)

The aim of this course is to ask how our ways of thinking about nature, material things, and ourselves supports and/or obstructs our ability to engage in more sustainable environmental practices. Our questions will include, but are not limited to: What is nature and how are humans connected to, distinct from, or part of this nature? What does it mean to be sustainable? If our aim is to exist more sustainably, how should we think about nature to help achieve this end? What is waste, exactly? Whose way of life is being preserved by our present sustainability efforts in the West? How does gender, race, and culture shape how one is affected by (un)sustainable practices? To what extent are the formal structures of oppression conserved across sexism, racism, and environmental destruction? This course will draw heavily on ecofeminist philosophy to help answer these important questions.

Satisfies the following University Core Requirements: WKSP - Core 2nd Philosophy

SUS 20651 (Un)Sustainable Philosophies (3 Credit Hours)

The aim of this course is to ask how our ways of thinking about nature, material things, and ourselves supports and/or obstructs our ability to engage in more sustainable environmental practices. Our questions will include, but are not limited to: What is nature and how are humans connected to, distinct from, or part of this nature? What does it mean to be sustainable? If our aim is to exist more sustainably, how should we think about nature to help achieve this end? What is waste, exactly? Whose way of life is being preserved by our present sustainability efforts in the West? How does gender, race, and culture shape how one is affected by (un)sustainable practices? To what extent are the formal structures of oppression conserved across sexism, racism, and environmental destruction? This course will draw heavily on ecofeminist philosophy to help answer these important questions.

SUS 20657 Climate and Culture (3 Credit Hours)

By now, it is no secret that the effects of global climate change could, within the next two centuries or so, cause cultures around the world - including the cultures of the affluent nations - to collapse. Those who would experience such cultural collapse, were it to occur, would be forced to live in ways radically different from their pre-collapse precursors. This course will invite students to think both imaginatively and philosophically about such a possibility. Our guiding questions for the course will be: (i) What is cultural collapse, and how might climate change bring it about? and (ii) How do the participants in a cultural tradition weather well the collapse of their own tradition? To lay the philosophical groundwork for the course, we will read from the work of L.A. Paul, Jonathan Lear, and Alasdair MacIntyre (among others). The semester will then culminate with readings from Lakota, Kiowa, Pueblo, and Navajo writers (among others) who have not only experienced cultural collapse first hand (to varying degrees) but have also written about it in an insightful way. Satisfies the following University Core Requirements: WKSP - Core 2nd Philosophy

SUS 20666 Environment, Food, & Society (3 Credit Hours)

This course is an introduction to environmental sociology, the sociology of food, and Catholic social teachings on creation, solidarity, human dignity and rights, and social justice as they relate to the environment and food issues. The course has two directly linked central purposes. One is to learn descriptive and analytical sociological perspectives on environmental and food issues, as well as related matters of agriculture, globalization, consumerism, rural America, health, social movements, and human futures. A second purpose is to learn Catholic social teachings on the environment and food issues, in order to deepen our capacity to reflect normatively from a particular moral perspective about crucial social problems. Achieving these two purposes will require us recurrently to engage the sociological and the Catholic perspectives and contributions in mutually informative and critical conversation. This is fundamentally a sociology course, but one in which Catholic social ethics stand front and center. In other words, this course will engage in multiple, ongoing exercises of "reflexivity," engaging the sociological imagination, issues of environment and food, and Catholic social teachings - to consider what possible fruitful understandings each may provide for and about the others. Students need not be Catholic (or even religious) to benefit from this course, but everyone must be open to learning about and reflecting upon Catholic ethical teachings as they relate to the environment and food. This course will explore a number of interconnected substantive issues, descriptively, analytically, and normatively. These will include technological development, energy consumption, global warming/climate change, neoliberal capitalism, interests of nation states, corporate power, the role of mass media, population dynamics, the maldistribution of wealth, political decision-making, the status of agrarianism, human dignity, the common good, the option for the poor, the universal destiny of the earth's goods, creation care, and the moral goods of solidarity, subsidiarity, and participation, among other relevant topics.

Corequisites: SUS 21666

Satisfies the following University Core Requirements: WKCD-Core Cathol & Disciplines

SUS 20702 Literature and Environment: The End of Nature? (3 Credit Hours)

For the last five centuries, American literatures have consistently drawn from and reacted to the continent's diverse, dynamic environments. Today, however, "nature" and all that we associate with it seem fundamentally different. This course examines the tradition of United States nonfiction nature writing in light of what Bill McKibben calls the "end of nature, - or the end of nature as we know it. We'll begin with an introduction to the interdisciplinary field of the environmental humanities, and then students will encounter some of the most significant literary voices associated with nineteenth- and twentieth-century environmentalism. After the midterm, we'll turn to more contemporary literary nonfiction and the wicked problems of the late twentieth- and twenty-first centuries. For example, what does "nature" look like today, especially from the lens of a university with a national and global reach? What does environmentalism look like in the face of widespread human migration, globalization, and climatic instability, and how do ideas of race, class, ethnicity, and gender become entangled in environmental thinking? What can nature writing offer us in the Anthropocene? Students will consider such questions throughout the term, both in class discussions and in written assignments.

Satisfies the following University Core Requirements: WKAL - Core Art & Literature, WRIT - Writing Intensive

SUS 20752 Introduction to Environmental Humanities (3 Credit Hours)

Nature isn't what it used to be: the Arctic is melting, seas are rising, forests are burning, and the planet is heating up. How do we understand the human relation to nature in a time of ecological catastrophe?

This writing-intensive course introduces students to key ideas in the environmental humanities, including nature writing, deep ecology, social ecology, ecofeminism, sustainability, and deep adaptation.

Satisfies the following University Core Requirements: WKAL - Core Art & Literature, WRIT - Writing Intensive

SUS 20760 Witnessing Climate Change (3 Credit Hours)

The Earth's climate is changing faster than expected. Industrialization, fossil fuel use, consumption, and exploitation are radically transforming the planet we live on. In "Witnessing Climate Change," we work to make sense of the science behind this planetary crisis and practice writing about it for the public. This is a large, writing-intensive, public-facing course that engages key contemporary issues and core ways of knowing from a values-oriented perspective, through large lectures and small group workshops. Readings include Jeff VanderMeer, Nukariik, Barry Lopez, Aldo Leopold, Wanda Coleman, J.M. Coetzee, and St. Francis, among others. Find out more at witnessingclimatechange.nd.edu. Please note: for this class students are required to sign up for a discussion section (ENGL 22760).

Satisfies the following University Core Requirements: WKAL - Core Art & Literature, WKCD-Core Cathol & Disciplines, WKIN - Core Integration, WRIT - Writing Intensive

SUS 20809 Food, Ecology, and Theology (3 Credit Hours)

Food is inarguably a basic component of human life. In spite of its basicness, however, eating food in the 21st century is wrapped up in a whole host of theological and moral issues including ecological degradation, globalization, food security, and economic justice. Our eating practices, in other words, raise urgent questions about the human relationship to the rest of the natural world. This course provides a theological framework for addressing our understanding of food. Drawing on Scripture and sources throughout the history of the Christian tradition, we will investigate the Christian conception of God as Creator, nature as creation, and the human relationship to God, other humans, and the rest of nature. We will also examine the moral and theological implications of human participation in nature through engagement with classics in environmental literature and the agrarian tradition. Finally, we will draw on these sources to contextualize and reflect on the theological and moral implications of the way we grow and consume food. This course will give students a deeper capacity for theological reflection on humans' relationship to the rest of nature and will equip them to understand the theological significance of the seemingly quotidian act of eating food.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

SUS 20845 Environmental Ethics: Ethical Reasoning in the Anthropocene (3 Credit Hours)

In 2000, two Earth System scientists popularized the idea that Earth might be entering a new geologic epoch, the "Anthropocene," in which human activity is shaping and will continue to shape the Earth System so profoundly that it will be evident in the geologic record. The idea has become a central topic in both the environmental sciences and the environmental humanities. Our interest in this idea is in the ethical questions it raises. Who is responsible for this new epoch and what should be done about it? What kinds of technological interventions are ethically appropriate to limit or otherwise alter environmental change? If humans can "manage" the global climate, fine tuning Earth's temperature and climate composition, should they? This is a course about ethical reasoning, in which moral principles are applied to contingent circumstances to determine good (i.e., ethically sound) courses of action. We will use a sophisticated understanding of the doctrine of human dominion and the moral principles it entails to construct a range of Christian responses to the ethical questions of the Anthropocene. In developing Christian ethical responses to the challenges of the Anthropocene, we will practice using clear logic, rhetorical argumentation, and a sophisticated grasp and deployment of Christian doctrine.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

SUS 20888 Science, Theology, and Creation (3 Credit Hours)

This course investigates the Christian understanding of creation and how this doctrine relates to contemporary scientific issues. We will examine the development of the doctrine beginning with Scripture and the Creed and progressing through the early Church period into the Medieval and Scholastic era, focusing on the concepts of creation ex nihilo, creation continua, divine Providence, and divine action in the world. With the rise of the modern era, we will analyze the origin of and principles involved with the purported conflict between science and theology. We will bring the doctrine of creation into dialogue with three contemporary issues in the sciences: cosmology, evolution, and ecology. Integral to this course will be the relationship and response of humankind to God and to creation. This course will have a special appeal to students interested in the intersection of science and theology.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

Enrollment is limited to students with a minor in Sustainability.

SUS 21203 Design Thinking Lab (0 Credit Hours)

This once weekly lab session is a mandatory requirement for students enrolled in the Design Thinking course. These sessions focus on practical application of the topics and materials presented in class with students working in teams to employ techniques and methodology on assigned projects. This hands-on lab will have students exploring the research, brainstorming, ideation, iterative prototyping and presentation techniques that lead to creative innovation and disruptive breakthroughs applicable to students of any discipline.

Corequisites: SUS 20203

SUS 21666 Environment, Food & Society Lab (1 Credit Hour)

This is the 1-credit lab associated with 20666, Environment, Food, and Society.

Corequisites: SUS 20666

SUS 23005 Introduction to Complex Problem Solving in the Public Sphere (3 Credit Hours)

The central aim of the course is to explore the tensions between technical problem-solving and the public interest as we move into an increasingly technological future - e.g. Smart Cities, climate adaptation. While this is in some ways the perennial broader question of how science integrates into society, we are focusing on issues particular to community planning and development as more and more tasks, from transportation to water management, are informed, if not controlled by nonhuman processes or algorithmic rules. For example, if we have 'smart sewers' and can control where the water goes during a flood, do we minimize property-value damage or the number of residences impacted? If climate change modeling indicates a new 30-year flood plain, do individuals have the right to not be moved out of harm's way? What are the moral and public interest questions embedded in these decision points? In asking these questions, we revisit this tension from the mid-20th century to set the stage and examine the interface of these issues in complex settings, including challenges with: defining the public interest, power and civic agency, measurement and data quality, objectives, variables, and constraints in optimization problems, and contextually/culturally situating 'optimal' solutions.

SUS 23200 Sustainability and Collapse (3 Credit Hours)

Humans deeply affect their social and natural worlds. Their impact reverberates across time and space making it difficult to understand the long-term ramifications of our daily decisions and actions. This seminar enhances our understanding of the complex web of relationships between humans, resources, and climate by exploring the concepts of sustainability and collapse from an anthropological perspective. Key questions guiding this exploration include: What do we mean by sustainability? What is it that we want to sustain? How can societies be "sustained" when we know societal collapses happen time and again? Through readings, media, debates, and analysis, we will learn how our culture shapes and promotes both sustainability and collapse and assess whether they can be attained or prevented. And, we will all gain a better understanding of our place in the world around us.

Satisfies the following University Core Requirements: WKSS - Core Social Science

SUS 23201 Art and Social Change (1 Credit Hour)

Students will work with a South Bend neighborhood to explore a structural challenge and, with the guidance of a local artist, respond to this challenge alongside community members in creating an artistic piece that serves the good of the neighborhood. This seminar will also provide a "hands-on" experience as students are exposed to practices of participatory research methods and the art-making process.

SUS 23451 Sustainability Through the Catholic Social Tradition (1 Credit Hour)

This one-credit colloquia will examine the understanding of sustainability and the care of creation in the Catholic Social Tradition. There will be an examination of how we fulfill God's call to practice sustainability in an age when we have the capacity to alter creation significantly. This course will also discuss sustainability in a way that respects and protects God's creation, and provides for the common good, as well as for economic and social progress based on justice. Areas explored will include the practice of sustainability on campus, in the community, and in the developing world. Leaders in sustainability practices will be invited as guest lecturers. Students will be required to research and present a project that would assist with increasing sustainability.

SUS 23911 Franciscan Land Experiences: Studying and Working in the Spirit of Laudato Si' (1 Credit Hour)

This fall break service learning course combines hands-on outdoor work experiences with community living and study in the spirit of Pope Francis' encyclical, *Laudato Si'*. The course is held at the Franciscan Life Process Center, a Franciscan retreat center founded by the Franciscan Sisters of the Eucharist and located on 230 acres of rural land outside of Grand Rapids, Michigan. The center is a small working farm and outdoor education center with three miles of nature trails, a restored native prairie, animal barns, rain gardens, an orchard and vegetable gardens. Students will stay in simple rooms in the retreat center building and have access to the kitchen, chapel, library, nature trails, outdoor stations of the cross and outdoor rosary walk. Prayer/liturgical opportunities will be available. During the week students will work outside on environmental projects such as building a rain garden and assisting with native prairie restoration, as well as with the farm and animals. Students will also be guided in learning how to cook meals with homegrown foods. Daily seminar-style meetings complement the outdoor work and focus on readings from *Laudato Si'*, as well as Catholic and non-Catholic writers who reflect on the nature of creation and the unique role of humans in caring for it in today's world. The course could be a valuable experience for those majoring in both technical and non-technical disciplines, as well as those interested in social concerns.

SUS 23918 The Costs of Fast Fashion (1 Credit Hour)

Taught by a veteran of the global apparel industry, this one-credit practical course explores "fast fashion." This revolutionary approach to clothing manufacturing is taking the world by storm, based on unimaginably low prices that make clothing, essentially, disposable. We will together focus on the costs of this approach to fashion, starting with fast fashion brands themselves. With prices so low, how is this business model even viable? How does this affect what had previously been associated with the industry of fashion? And, importantly, what is the impact of fast fashion brands' severe cost-cutting on the people who make our clothes? What other externalities – like pollution, waste, and damage to ecosystems – come into play? And how can we begin to calculate the true cost of this explosive mode of global apparel production? In workshops and class discussions, students will learn the unique way in which costing in fashion's global supply chains is typically done. They will also engage in hands-on, real-life calculations of how living wage increases for the people making our clothes would impact the prices brands and consumers pay for a t-shirt or pair of jeans. Armed with their new skills and knowledge, students will be well-equipped to envision innovative solutions that can deliver a transformed and more hopeful future for global fashion.

SUS 24874 Contemplative Ecology (3 Credit Hours)

In his encyclical on the environment, *Laudato si'*, Pope Francis wrote that "more than in ideas or concepts as such, I am interested in how such a spirituality [an ecological spirituality] can motivate us to a more passionate concern for the protection of our world. A commitment this lofty cannot be sustained by doctrine alone, without a spirituality capable of inspiring us, without an 'interior impulse which encourages, motivates, nourishes and gives meaning to our individual and communal activity.'" This course will explore the resources for such a "contemplative ecology" in both Christian writers and non-Christian ones, with a focus on the United States. There is a rich tradition in the United States of writing on nature—often with the intent of inculcating environmental sensitivity and promoting an environmental ethics. Many of these writings operate by inviting one into a deeper, contemplative stance of experiencing and relating to the natural world of which we are a part. While some of these authors (Thomas Merton, Denise Levertov) are Christian (Catholic, in these two cases), others are less formally associated with a Christian church (John Muir, Aldo Leopold, Rachel Carson). Yet even in some of the latter cases, there often is evidence that, minimally, a "biblical imagination" inspires their writing—just as great Christian mystics through the ages had a profoundly biblical imagination, which shaped how they prayed and how they taught. There is, thus, a rich opportunity in the United States for a "contemplative ecology" that is dialogical and ecumenical, even reaching out to those of other faiths, to agnostics and the "spiritual but not religious," while also exploring Christian doctrinal themes and spiritual practices with roots going back to the Desert Fathers and Mothers, and beyond that to the Bible itself. This course is intended as an initial exploration of this terrain. It aims to be integrative in nature, covering works in theology and Christian spirituality, but also from the genres of nature-writing, poetry and film; and it will have an experiential component that will take advantage of the beauty of the Irish countryside. It concludes with a close reading of *Laudato si'* and *Querida Amazonia*, enriched by the consideration of resources unearthed earlier in the course, in order to explore the possibilities for a distinctively American, but also Catholic, way of receiving and implementing the pope's vision.

Satisfies the following University Core Requirements: WKDT-Core Development. Theology

SUS 25000 Introduction to Sustainable Development (1 Credit Hour)

The current generation of colleges students will face a host of challenges in their lifetimes, including a global population that will potentially reach 9 billion by the early 2040s, depleting resources, and declining ecosystems. Additionally, the world is currently experiencing the worst global pandemic it has faced in over a century, whose effects will linger for years to come while foreshadowing the potential impact of other impending shocks. If current economic growth continues in a "business as usual" framework, future generations will face an increased dearth of decent jobs, growing social divisions, and devastating threats to the environment. This course will explore this confluence of issues and help students to consider a new roadmap for economic development and human flourishing that respects the dignity of every individual and the environment. Readings and lectures will look at the intersection of economic growth, industry, food security, water scarcity, health, religion, innovation science, and climate change. Case studies and real world examples will link theory to policy and practice. A major component of this course will be in-class discussions and case studies that will push students to think critically and debate the important questions within the study of sustainable development. The objective of these discussions will be to a) explore the interconnectedness of many of these issues and their varying degrees of impact on the wealthy, the middle class, and the poor or marginalized; b) understand different models of governance at international, national, and local levels that are trying to work through these issues; and c) bridge theory to policy and practice. This course requires active student participation in class as well as group projects and quizzes to gauge how well students are absorbing the material.

SUS 30009 Writing the Anthropocene (3 Credit Hours)

We face worldwide ecological catastrophe, accelerating global warming, and political upheaval: this is the Anthropocene. What problems does the Anthropocene pose to narrative? What storytelling skills and rhetorical strategies do journalists, scientists, memoirists, bloggers, and philosophers need in order to adequately address and communicate about the epochal crisis we all face? Through journalism, essays, and other media, this course will explore the question - in practice - of what it means to write the Anthropocene.

Satisfies the following University Core Requirements: WKAL - Core Art & Literature, WRIT - Writing Intensive

SUS 30010 Writing the Anthropocene (3 Credit Hours)

We face worldwide ecological catastrophe, accelerating global warming, and political upheaval: this is the Anthropocene. What problems does the Anthropocene pose to narrative? What storytelling skills and rhetorical strategies do journalists, scientists, memoirists, bloggers, and philosophers need in order to adequately address and communicate about the epochal crisis we all face? Through journalism, essays, and other media, this course will explore the question - in practice - of what it means to write the Anthropocene.

SUS 30027 Appalachia: Land and People (3 Credit Hours)

This course tells the history of Appalachia through human's relationships with the natural environment. The class starts in geologic time with the formation of the mountains and spools forward through ebb and flow of Native American homelands, the colonial wars and the fur trade, the American invasion, the growth of an agrarian economy centered on corn, pigs, and whiskey, the arrival of the railroads and the extractive industries of coal and timber, and finally the difficulties wrought by de-industrialization, climate change, and the opioid epidemic. The central characters throughout are the men and women who wrested their living from the mountains and the hollows, and their struggles as a series of political, economic, and ecological transformations dispossessed them. Over time, Appalachia was impoverished and made marginal; in the eyes of many, the place and the people were deemed exploitable and expendable. This class seeks to understand how Appalachia became synonymous with grinding poverty and environmental degradation. The class argues that ecosystems and people advanced and declined in tandem and that history shows neither were destined for impoverishment. This course is intended to give current Notre Dame students who have or who might visit and volunteer in Appalachia the historical perspective they may need to fully appreciate the region's problems and potential.

Satisfies the following University Core Requirements: WKHI - Core History

Enrollment is limited to students with a minor in Sustainability.

SUS 30105 Sustainable America (3 Credit Hours)

This CAD course looks back to 1850, when urban industrial America began, and looks forward to 2050, when Notre Dame promises to be carbon neutral, to critically engage competing visions of individual, communal, and ecological flourishing. Students explore how US political culture, the discipline of American Studies, and Catholic social teaching have clashed and converged over the proposed solutions to poverty, racism, and environmental degradation. After an introduction to American Studies, we turn to visions of the good life in foundational US political documents (the Declaration, the Constitution, and Inaugural Addresses) and in Catholic tradition (scriptural passages, theological reflections, and papal encyclicals, from *Rerum Novarum* to *Laudato Si'*). Then the course's three main sections consider, in turn, economic equity, racial justice, and environmental restoration. Each section ends with a "faith in action" case study and a Take-a-Stand essay. In the concluding section of the class, Learning Groups present their joint proposal, and, during the exam period, each student submits his or her own integrative essay. That essay critically and constructively engages at least three Catholic sources as the student defends a position on one of the issues—poverty, racism, or environmental degradation—and identifies what American Studies might learn from the Catholic Tradition and what the Catholic Tradition might learn from American Studies.

Satisfies the following University Core Requirements: WKCD-Core Cathol & Disciplines, WKHI - Core History

SUS 30111 Green Japan (3 Credit Hours)

Around 1600, Japan closed itself off for 250 years, neither importing food nor exporting people. It was, in short, an almost hermetic ecological system, and yet, instead of outstripping their natural resources, Japanese people managed to attain a level of well-being above that of most other people. Some scholars have acclaimed this era an "eco-utopia" while others point to problems with this view. This course explores the interplay between political, social, economic, and ecological forces asking whether Tokugawa Japan modeled resilience.

Satisfies the following University Core Requirements: WKHI - Core History

Enrollment is limited to students with a minor in Sustainability.

SUS 30112 Germany and the Environment (3 Credit Hours)

Germany is globally recognized as a leader in the fields of renewable energy, sustainable development, and environmental protection. But how did this come about? In this course, we will examine the roles that culture and history play in shaping human attitudes towards the environment.

Our case studies will range over two centuries, from damming projects in the Rhine valley at the start of the nineteenth century to the Chernobyl nuclear disaster at the end of the twentieth. We will study novels, films, and philosophical essays alongside works by leading environmental historians. Over the course of the semester, students will develop a richer understanding of German environmentalism that also includes an awareness of its dark sides, such as the role that nature conservancy played within Nazi ideology.

Satisfies the following University Core Requirements: WKAL - Core Art & Literature, WRIT - Writing Intensive

SUS 30113 Sports and the Environment (3 Credit Hours)

With help from athletes such as Billie Jean King, Colin Kaepernick, LeBron James, Serena Williams, and Megan Rapinoe, Americans are growing accustomed to thinking about sports as embedded in the politics of gender, class, race, sexuality, and the nation. Consider the variety of places where sports happen, however, and the ways we develop and consume those places, and it becomes apparent that sports are also environmental in significant and complex ways. This course will examine the environmental politics of sports from conservation to climate change through the lenses of history and cultural studies. Course content will range from 19th century hunting, Indigenous surfing, and BASE jumping, to pick-up basketball, pro stadiums, and Notre Dame Athletics. Topical sections include outdoor sports and conservation, mountain sports and public land use, parks and recreation, stadiums and environmental justice, sports and climate change, and sustainability in the NCAA. Course requirements include regular reading and discussion, midterm and final essays, and a research project on a topic of the student's choice.

SUS 30160 Corporate Sustainability Accounting and Reporting (3 Credit Hours)

In this course students will learn about current and emerging U.S. and international corporate sustainability accounting and reporting frameworks, the differences between mandatory and voluntary corporate sustainability disclosures, and the environmental, social, and governance (ESG) ecosystem. The course includes but is not limited to, these topics: factors influencing stakeholders' demand for sustainability information, shareholder primacy and stakeholder capitalism, single vs. double materiality, accounting for greenhouse gas emissions, climate risk, ESG metrics and raters, independent third-party assurance of corporate sustainability information, current and emerging corporate practices that link executive compensation to ESG metrics, and an overview of how investment strategies deliver societal and environmental impact. Students will interact with guest speakers, participate in lively debates, and will analyze and discuss case studies, research papers, and business press articles. The course concludes with team-based capstone project presentations.

SUS 30174 American Wilderness (3 Credit Hours)

How is a national park different from a national wilderness area, a city park, the lakes at Notre Dame, or your back yard? Why are some considered wilder than others, and why is wilderness such an attractive idea? Writers, historians, painters, photographers, and politicians have described American landscapes as wild to great effect, in concert with identities of gender, class, race, and nation. This class will explore how the idea of wilderness - and the places associated with that idea - has developed during the 19th and 20th centuries. We will examine how wilderness has supported the growth of a national identity but largely failed to recognize the diversity of the American people. Course themes include: 1) developing the wilderness idea; 2) national parks and the problem of wilderness; 3) wilderness experience and politics; and 4) wilderness narratives. Readings will range from Henry David Thoreau and John Muir to Edward Abbey and Jon Krakauer, and there will be a strong visual culture component. For their final project students will choose a wild place of their own to interpret.

Satisfies the following University Core Requirements: WKHI - Core History

Enrollment is limited to students with a minor in Sustainability.

SUS 30202 International Conservation and Development Politics (3 Credit Hours)

Conserving the earth's rich biological heritage while enhancing the well-being of some of the world's poorest people stands as a critical global challenge. This course examines this complex issue using the lens of political science and related fields such as political ecology, gender studies, and sustainability science. It will demonstrate how insights and approaches from these areas of scholarship can help understand and address the twin problems of biodiversity loss and poverty in Africa, Asia, and Latin America. Examples will focus on forest and wildlife conservation and management. This course will be of interest to students from a wide range of natural and social science disciplines.

SUS 30211 Modern Materials: The Sustainability of Designed Objects (3 Credit Hours)

This interdisciplinary course explores the relationship between the production of material goods and their environmental impacts. Modules are designed around specific industries, such as fashion, electronics, furniture, construction, and packaging, allowing students to examine the unique technical, economic, and social conditions in each category. Students will trace products back to raw materials and forward to their "end-of-life" (whether that be re-manufacture, regeneration, or landfill), while employing various techniques for assessing impact. Students will hear from sustainability professionals about their approaches and visit production facilities to see firsthand how goods are made. Significant time in the course is given to an independent project in the West Lake Design Studio, allowing individuals to apply their unique backgrounds and skills to the teardown and redesign of a particular product or service.

SUS 30251 (Un)natural Disasters (1 Credit Hour)

What does "disaster" mean? In this class, we seek to question, challenge, and comprehend the socio-historical, economic, cultural, spatial, and geopolitical components of "natural" disasters. How are some events deemed a disaster? How do communities recover and reconstruct after events of disaster? As disasters become more frequent and devastating due to global climate change, growing economic precarity and political instability, it is imperative to understand the multifaceted socio-ecological nature of disasters. First, we seek to examine how certain communities are more disaster-prone than others, and how these vulnerabilities to risk, hazard, and exposure have historical, political, and social underpinnings. These same underpinnings impact how people live through disaster, as well as the aftermath that follows the "event"; so much so that oftentimes, it is more accurate to speak of disaster "processes" rather than finite events. This one-credit module will unpack many of these questions alongside critical case studies, drawing from an interdisciplinary array of approaches, ranging from history, anthropology, sociology, psychology, geography, and urban planning. These approaches cover a broad range of methodologies and theoretical approaches that will inform and enrich our critical thought toolbox and, I hope, will prove to be useful even outside the classroom.

SUS 30300 Introduction to Environmental Engineering (3 Credit Hours)

An introduction to the fundamental concepts and principles to qualitatively and quantitatively assess complex natural and engineering systems relevant to environmental engineering. This course serves to assist students to identify, evaluate and solve problems involved in the control of water, air, and land pollution and challenges for environmental sustainability. The course introduces how fundamental science and engineering methodology is applied to solve real world environmental problems. This is the first course in the environmental engineering track.

SUS 30312 General Ecology (3 Credit Hours)

The study of populations and communities of organisms and their interrelations with the environment. Fall and spring.

SUS 30319 Environmental Change and the Contemporary Human Niche (3 Credit Hours)

The rate and expanse of human-caused global environmental change is unmatched in our evolutionary history. It is widely argued that these actions have produced enough change that the stable conditions found in the Holocene epoch of the last 11,000 years are over and we are transitioning to a new Earth Systems trajectory and epoch dubbed the Anthropocene - the time when humans are the single largest driver of geologic change. In this course, we will seek to understand what characteristics of the contemporary human niche - the myriad socio-ecological practices, policies, institutions and lifeways that comprise how humans live their everyday lives around the globe - are producing the Anthropocene and what the implications are for different groups of people. We will pay specific attention to the distribution of global environmental change and corresponding risk to human health, historical and contemporary contributions to the production of this change, and what the implications are for human health, equality, and environmental justice. The focus of this course is more towards breadth than depth - we will sample and discuss many topics but will be unable to fully dive into each in a holistic way. But, this is by design, as the point is for us to develop a mutually negotiated and understood functional language and base understanding of the topics such that after this course you are empowered to engage the topics most compelling to you and have the skills requisite to effectively dive in.

SUS 30402 The Geopolitics of Energy (3 Credit Hours)

This course examines how oil and natural gas have shaped international relations from the early twentieth century to the present, with a particular focus on conflict. It begins by introducing students to the fundamentals of global energy production, consumption and trade, and then briefly surveys the political history of oil as it relates to the great powers. The course then moves on to contemporary issues, including the political significance of "fracking" technology, the role of the United States in protecting Persian Gulf oil, and the extent to which Russia's dominant natural gas position might translate into political influence in Europe. These and other topics are examined through numerous theoretical lenses, including theories of resource conflict, economic interdependence, political coercion, and petro-aggression.

SUS 30408 Global Environmental Issues and Policy (3 Credit Hours)

Fracking, Water Wars, Deforestation of the Amazon, Droughts, Global Warming, Climate Change, Unsustainable Agriculture, Hurricanes, Pollution, Species Extinction, Invasive Species, Poaching, Overfishing, Depletion of Fossil Fuels, Overpopulation, Wastes, Ocean Acidification, Wildfires, Oil Spills, Overconsumption, Land degradation - the list goes on! These complex environmental problems are occurring constantly and rapidly; their consequences are global in scope and transcend national boundaries; and they embody the complex relationship between humans and the natural environment. This course is about developing an interdisciplinary understanding of the relationship between humans (society) and the environment. We will examine the historical and contemporary environmental challenges of global concern, the underlying role of humans, and attempts by society to address, mitigate, and adapt to such complex problems through policies, institutions, and governance. We will pay attention to the roles of different state and non-state actors in environmental policy making. Overall, students will draw from both the social and natural sciences to develop a deeper understanding of how society - through consumption, culture, politics, power, ethics, values, economic growth, location, etc - contribute to, or solve, environmental problems.

SUS 30500 Geomorphology (3 Credit Hours)

This course introduces students to principles and processes of landform evolution with emphasis on large-scale Earth processes, volcanic & tectonic geomorphology, weathering processes & soils and mass movement. Processes and landform evolution in fluvial, desert, glacial, coastal and karst environments are investigated, and the effects on human structures and developments are explored. The course concludes with a discussion on the impact of climate change on Earth's surface features.

SUS 30559 Environmental Economics (3 Credit Hours)

This course introduces the role of economics in environmental issues and in the formation of environmental policy. Topics covered include choice, externalities, market failure, cost-benefit and environmental valuation analyses, and climate change. The course aims to encourage students to think about pressing environmental issues in economic terms and equip students with the diverse set of economics tools to contribute to the evaluation and implementation of wise policy choices. There is no prior knowledge of economics required, and students will have the opportunity to learn basic economic principles and frameworks that guide decision-making regarding environmental issues.

SUS 30592 The Indigenous Southwest (3 Credit Hours)

This course seeks to explore connections between environment and culture change by introducing students to the diversity of cultures living in the Southwest. We begin by learning about indigenous people living in the Southwest today including the Pueblo peoples (e.g., Hopi, Zuni, Santa Clara, Cochiti, Acoma), Navajo, Ute, and Tohono O'odham using ethnography and contemporary native histories. We will then travel back in time to learn about the complex histories of these people, particularly the ancestral Pueblo, to places like Chaco Canyon, Mesa Verde, the Rio Grande, the Mimbres Valley, and the Phoenix Basin. Our explorations will cover from the earliest Paleoindians (11,500 years ago) to the 13th century Migrations to European contact, the establishment of Spanish Missions, and the Pueblo Revolt of 1680-1692. We will then bring this discussion full circle to today. Along the way, we will explore the impact of large-scale, long-term processes such as the adoption of agriculture, village formation, religious change, migration, and warfare on the rich historical landscape of the Southwest.

Satisfies the following University Core Requirements: WKHI - Core History

SUS 30632 American Environmental History (3 Credit Hours)

This course is an introduction to the new field of environmental history. While many people think "The Environment" suddenly became important with the first "Earth Day" in 1970 (or a few years earlier), environmental issues have in fact long been of central importance. In recent decades historians have begun actively to explore the past sensibilities of various groups toward their surroundings and fellow creatures. They have also increasingly paid attention to the ways environmental factors have affected history. This course will range widely, from world history to the story of a single river, from arguments about climate change to the significance of pink flamingos, and will survey a number of types of history including cultural, demographic, religious, and animal.

Satisfies the following University Core Requirements: WKHI - Core History

SUS 30668 The History of Energy in American Life (3 Credit Hours)

Please see description in HIST 30998

Satisfies the following University Core Requirements: WKHI - Core History

SUS 30670 Gender Justice and the Environment (3 Credit Hours)

According to many, environmentalism and feminism go hand-in-hand. What is the basis of this theoretical and political claim, especially given the complexity and evolution of feminism and environmentalism as both political movements and theoretical categories? How did this alliance emerge historically and what has it looked like across different communities and nations? Do feminism and environmental justice ever find themselves in tension? How has non-human nature been conceived of as gendered (e.g. "mother nature", masculinization of wilderness) and what implications flow from that for how human beings experience gender? How might feminist conceptions of freedom, gender, and ethics inform environmental politics and policy? In this interdisciplinary course, we will examine these and other questions in order to understand and evaluate contemporary discourse around climate change, ecology, intersectional feminism, and environmental ethics.

SUS 30690 Environmental Education (3 Credit Hours)

This course is a survey of the field of environmental education. Students will: 1) gain an understanding of environmental literacy, 2) explore the foundations of environmental education, 3) learn the personal responsibilities of the environmental educator, 4) design environmental education curriculum, 5) foster pedagogical approaches for effective learning, and 6) develop skills for evaluation and assessment of environmental education curricula. Class members will have the opportunity to focus assignments to meet their personal aspirations for environmental education within their career goals.

SUS 30714 Sustainable Communities & Global Business (3 Credit Hours)

Effective, ethical business leadership in a global context requires the ability to understand and synthesize inputs from a variety of sources, to discern information from multiple, often conflicting perspectives, and to communicate complex data and information clearly and persuasively to diverse stakeholders. Through reading and writing, discussion, and engagement with classmates and outside experts including international faculty, students will examine the intersections of sustainability and global business, with a focus on the role of business decision making and action in the interrelated areas of sustainable environmental and social impact. The topic is more salient than ever, as communities around the globe ask whether the pandemic and related economic crisis will prompt a new vision for society that focuses on justice and sustainability, or will simply continue to exacerbate existing inequities. The course complements courses on campus that address sustainable development, but differs in its focus on mainstream companies in advanced economies, and their engagement with community stakeholders. Through written work, reading, and exploration of key concepts, the students will work toward their culminating assignment, a research paper that presents an informed perspective on a specific topic of their choosing within the course theme.

SUS 30715 Sustainable Communities & Global Business (3 Credit Hours)

Effective, ethical business leadership in a global context requires the ability to understand and synthesize inputs from a variety of sources, to discern information from multiple, often conflicting perspectives, and to communicate complex data and information clearly and persuasively to diverse stakeholders. Through reading and writing, discussion, and engagement with classmates and outside experts including international faculty, students will examine the intersections of sustainability and global business, with a focus on the role of business decision making and action in the interrelated areas of sustainable environmental and social impact. The topic is more salient than ever, as communities around the globe ask whether the pandemic and related economic crisis will prompt a new vision for society that focuses on justice and sustainability, or will simply continue to exacerbate existing inequities. The course complements courses on campus with a focus on sustainable development, but differs in its emphasis on existing companies in advanced economies, and their engagement with community stakeholders. Through written work and exploration of key concepts, the students will work toward their culminating assignment, a research paper that presents an informed perspective on a specific topic of their choosing within the course theme.

Satisfies the following University Core Requirements: WRIT - Writing Intensive

SUS 30718 Political Theory and the Environment (3 Credit Hours)

In this course, we will examine the political, moral, and existential considerations associated with climate change and environmentalism, such as: collective responsibility, intergenerational obligation, the limitations of national sovereignty, wealth distribution, connections between politics and nature, and environmental justice. Students will also develop the skills to critically assess the discourse surrounding political responses to climate change. Readings will be drawn from canonical political thought as well as contemporary sources.

SUS 30725 Sustainability in Food, Beverage & Agriculture (1.5 Credit Hours)

This course will use Food and Beverage and Agriculture industries to unpack a wide range of topics to provide a broader view and understanding of the sustainability challenges faced by the companies today, the innovative approaches to address sustainability as they work toward future sustainability goals, and how companies make short/mid/long term business decisions as they strive to make sustainability a part of the company's values and long-term strategy. A deep dive into the consumer evolving mindset toward sustainability will expose consumer motivations, needs, and "demands" the consumers place on the business and how business can effectively communicate their commitments, track the progress, and communicate back to the consumer to gain their trust.

SUS 30800 Climate, Econ, & Bus Ethics (3 Credit Hours)

As an Integration course, students successfully completing the class will have fulfilled a University core curriculum requirement. Reflecting an integration of key considerations from the disciplines of Economics and Business Ethics, the course will allow students the opportunity to examine the complexities of climate change, public policy, environmental and social sustainability, and impacts on global economies and communities. Economics will provide the foundation of knowledge of labor market structure, market failures such as externalities, taxation, migration decisions, discrimination, and income inequality measures. The management approach will address business in practice, and organizational and societal dimensions of effective and ethical business. Topics will include climate change; resilience and its measures; climate change-driven migration around the world and its impacts on labor markets and the business environment; ethical frameworks for guiding business; stakeholder analysis; environmental justice and the disproportionate effects on communities by socio-economic status, race and gender; and regulation and international agreements. Students will participate in experiential activities in real-world contexts, examine indicators of societal resilience, present relevant data in a compelling way through individual and team projects, reflect understanding through assessments including quizzes and exams, and present a policy proposal, all reflective of an integrative approach.

Satisfies the following University Core Requirements: WKIN - Core Integration

SUS 30903 Policy Lab: Sustainable Finance (1 Credit Hour)

This course will explore the role of global business in reducing poverty, inequality and attending to the needs of all stakeholders. Students will be introduced to the rapidly growing fields of impact investing and sustainable finance which support socially conscious and environmentally friendly innovations. Students will gain a broad overview of the financial and economic tools available, beyond government assistance and philanthropy, to support broad based wealth creation, equality of opportunity and natural resource preservation. Students will be invited to participate in policy debates on certain topics and will read mini case studies on subjects such as microfinance, "place based" community investment and the role of CDFIs, and the issuance of green/blue sustainability bonds. Guest speakers/practitioners will be invited to engage the students in real world problem solving. The course will culminate in a small group project or paper to "reexamine business" as a force for good, which will be presented in class. It is open to students of all intended majors with no prerequisites, and should serve as a foray to several future areas of study such as global affairs, social entrepreneurship and sustainability.

SUS 30905 Financing Social Impact (3 Credit Hours)

This course examines the financial and economic tools that support sustainable solutions to social challenges, with a focus beyond traditional government aid and philanthropy. Students will explore the rapidly expanding fields of impact investing and microfinance, evaluating their roles in advancing social entrepreneurship, broad-based wealth creation, and equality of opportunity. Topics include emerging approaches to microcredit, the benefits and limitations of financial innovations, and the role of public policy in fostering effective initiatives. Through a combination of case studies, critical analyses, and applied projects, students will engage directly with real-world challenges such as poverty alleviation and inclusive economic development. No prior background in business or finance is required; the course is designed for students from all disciplines who bring curiosity, creativity, and a commitment to social problem-solving.

SUS 30983 History of Food & Ecology (3 Credit Hours)

Food feeds culture. It nourishes societies as well as bodies. No discipline is intelligible without it. It provides economics with products, physiology with sustenance, social sciences with classes and relationships of power, and intellects with food for thought. Food's also essential in ecology. Our most intimate contact with the environment occurs when we eat it. From interdisciplinary perspectives, we'll approach the history of food in all cultures (including, by the way, those of non-human cultural creatures) in all periods that we can say something about, from the origins of carnivorous and cannibalism through famines and fashions to the food-related environmental problems of the future. There may even be time to explore cuisines.

Corequisites: HIST 22085

Satisfies the following University Core Requirements: WKHI - Core History

SUS 30998 Our Global Environment (3 Credit Hours)

The question that this course asks is which political formations have been most conducive to environmentally sustainable communities and why. Historians have long been interested in political questions about power, state structures, democracy, and economic development, but only now, with the emergence of the global environmental crisis, is the relationship between politics and ecology becoming clearer. This course has four sections. It begins by examining the contemporary phenomenon of "climate collapse" and the problem of how to conceptualize this global problem historically. We then turn to the issue of which social values and modes of production and consumption have caused this dramatic transformation of our planet, tracing the effects of state formation and industrial development. Using major books, essays, and film, we compare capitalist, socialist, and fascist approaches to the nature. The purpose of the course is to provide students with a firm grasp of environmental problems and their relation to political communities.

Satisfies the following University Core Requirements: WKHI - Core History

SUS 33000 Sustainability Summer Internship or Research (1 Credit Hour)

Students who complete an approved unpaid summer internship or research assistantship in sustainability are eligible to enroll in this course. Students will be required to submit a written report of their summer work.

SUS 33305 Decarbonizing Catholicism and the Common Good (3 Credit Hours)

How has the use of fossil fuels for heat, energy, and raw material shaped contemporary Christian ethics and social teachings? Has the Catholic pursuit of virtue and the common good driven climate change? Is there a need to "decarbonize" Christian concepts, cultures, and communities? While the concept of decarbonization is most commonly applied to technology, policy, and the economy, what would a "decarbonized" vision of human flourishing and the common good look like? In this course, we will generate responses to these questions by examining the extent to which fossil fuels have shaped Catholic concepts of moral virtue, human dignity, and the common good in the modern world, as well as how Catholic moral and social teachings can inform a just transformation of energy systems. In recent years, scholars from multiple disciplines have argued that there is a two-way influence between the material properties of things, like coal and oil, and human values and cultural ways of life. These dynamics are the object of our study in this course. In addition to engaging with developments in history, we will also explore emerging models of non-carbon intensive human flourishing and the common good as well as the virtues and practices needed to sustain them. Throughout the course, each student will conduct a case study of one moral virtue or Catholic social principle both to examine how it has been "carbonized" and to develop an argument about whether or how it should be "decarbonized." This course in energy and environmental studies engages with perspectives drawn from history, environmental/climate studies, ethics, theological studies, philosophy, and cultural anthropology. There are no required prerequisites.

Satisfies the following University Core Requirements: WKCD-Core Cathol & Disciplines, WRIT - Writing Intensive

SUS 33317 Environmental Justice and Social Transformation (3 Credit Hours)

Environmental justice has emerged as one of the most significant frameworks shaping contemporary environmental policy and scholarship at local, national, and international scales. Less well known is that it originated and has been led at the grassroots level with social movements making connections between racial, gender, and economic justice, political empowerment, and vastly unequal exposure to environmental harms and hazards. In short, the meanings, values, strategies, and concepts that make up the environmental justice (EJ) framework have been driven by grassroots leaders and organizations with a transformative vision. This course in environmental humanities and social sciences examines this transformative approach to EJ as it has emerged in places as diverse as rural North Carolina, urban New York, Louisiana's "Cancer Alley," tropical forests around the world, and most recently transnational networks of grassroots leaders responding to climate change. Through interdisciplinary engagement with scholarship in environmental studies, religion, ethics, history, sociology, anthropology, and politics, as well as analysis of primary source documents, this course equips students to analyze the dynamic relationship between human cultures and environmental realities at local and global scales. In particular, it equips students to answer questions such as: To what extent has the EJ movement been shaped by religion and culture? How do transformative approaches to EJ differ from other approaches? How do diverse concepts of the sacred, nature, and justice factor into contemporary debates about environmental and climate action? What moral and political resources do EJ communities draw on to sustain their commitments? What commitments inform students' personal approach to EJ issues?

Satisfies the following University Core Requirements: WKIN - Core Integration

SUS 33950 Appalachia (1 Credit Hour)

This course is designed to introduce students to the cultural and social issues of the Appalachian region - its history, people, culture, challenges, and strengths - through study and experiential learning. The course also provides engagement with the people of Appalachia through a required immersion over break. The Appalachia Seminar utilizes a Catholic Social Tradition (CST) framework to build skills around social analysis, critical thinking, and theological reflection. Students examine the relationship between solidarity and service and consider how the Common Good is expressed in local communities across the region. This course has a fee.

SUS 33961 Discernment & The Common Good (1 Credit Hour)

This course provides undergraduate students an opportunity to reflect on their undergraduate education and to explore their respective vocations as it relates to the common good. Whether considering a change in major, deciding on postgraduate plans, navigating a relationship, or seeking greater intentionality in daily life, students in this class will accompany each other as they consider their vocation, learn different methods of discernment, and develop practices to listen and respond to these callings. Content will include Catholic Social Teaching, cultural critique, narrative theology, spiritual practices, and the arts. Must be a sophomore, junior or senior to take this course.

SUS 33965 Organizing Power & Hope (1 Credit Hour)

This course will take place in a local neighborhood and students will learn fundamental concepts and skills of community organizing alongside residents of South Bend. Together, neighbors and students will learn the art of organizing through relational meetings, house meetings, power-mapping, and research actions. The culmination of the course will include participation in a public action with local officials addressing a pressing issue in our community. Through a series of trainings and hands-on application, students will build public relationships, amplify their voices, cultivate power and leverage it for justice.

SUS 33989 Engaged CST Leadership Seminar: Sustainability (1 Credit Hour)

The Engaged CST Leadership Seminar is a course designed to take CST values and ethics and apply them to concrete practices and postures of leadership in various post-graduate fields of work. Reserved for upperclassmen, the Engaged Leadership Seminar is focused on sustainability leadership in a variety of contexts. This course is focused on collaborative group projects and learning experiences that will help students sharpen their capacity to lead in their field from a deep well of CST animated values. It will help students move from learning about how CST intersects and informs their field to the work of learning how to then lead out in that field in a manner that uplifts a commitment to justice as informed by CST.

SUS 33999 Social Concerns Seminar: Engaged CST Leadership Seminar (1 Credit Hour)

The Engaged CST Leadership Seminar is a course designed to take CST values and ethics and apply them to concrete practices and postures of leadership in various post-graduate fields of work. Reserved for upperclassmen, this Engaged Leadership Seminar is focused on sustainability. This course is focused on collaborative group projects and learning experiences that will help students sharpen their capacity to lead in their field from a deep well of CST animated values. It will help students move from learning about how CST intersects and informs their field to the work of learning how to then lead out in that field in a manner that uplifts a commitment to justice as informed by CST. This seminar does not have a spring break immersion.

SUS 34100 Sustainability (3 Credit Hours)

In this course, students will analyze the current socio-environmental crisis and its potential global and local solutions. For this a critical and interdisciplinary vision will be offered inspired by the Papal Encyclical *Laudato Si* on the care of our common home, and structured in around the Sustainable Development Goals (SDGs) proposed by the Organization of United Nations. The course includes the participation of keynote lectures given by experts from various disciplines, weekly learning circles, the development of a semiannual project and field trips associated with the latter.

SUS 34101 Religion, Peace, and Development in Africa (3 Credit Hours)

One of the factors that strike many about the African continent generally is the role that religion seems to play in all spheres of life. Africa thus remains a religiously diverse and dynamic continent, where not only Catholicism, Christianity in general, Islam, and African indigenous traditions are at home. While this is the case, on the political and economic front, things do not seem to be so positive. Political instability, civil wars, poverty, and increasingly ecological degradation are ever growing challenges. How do we understand and account for this apparent contradiction between a culturally and religiously rich continent and an economically and politically distressed continent? What role does religion, Christianity in particular play in development? The course engages these and similar questions through a 3 week immersive cultural, international and educational experience in Uganda. The overall objectives of the course are: To provide students with an opportunity to learn about Uganda's cultural, religious and political history - as an introduction to the broader trends that shape history in sub-Saharan Africa. Offer students with an immersive experience into the natural, cultural and social dimensions of African life To provide students with an opportunity for community engagement as a way to deepen their understanding of the challenges and possibilities of peace and development in a Ugandan rural setting.

Satisfies the following University Core Requirements: WKIN - Core Integration

SUS 34220 Social Policy and the Environment (3-5 Credit Hours)

The context for this module is the significant environmental challenges faced by public policy makers, both those associated with climate change (e.g. greenhouse gases and global warming, droughts, flooding, and rising sea levels) as well as other environmental challenges (e.g. resource depletion, waste, pollution and biodiversity). The module focuses on the important linkages between economic, environmental and social development. It examines the risks associated with environmental challenges and their implications for human habitats, livelihoods and well-being. It explores the potential for managing these risks via a range of responses. While the particular challenges facing developing countries are outlined, strategies to promote more sustainable development in high consumption societies are the main focus of the module. These include international (UN, OECD, EU), national, and local regulations and policies. Questions of equity, and environmental justice in relation to particular policy outcomes are explored, as well as the distribution of costs and burdens between social groups and how policies might redress these. The module examines the different roles and potential contributions of various actors (governments at all levels, the private sector, NGOs, and civil society). The second half of the module focuses on the promotion of sustainable communities in particular the role of key policy areas such as: housing, planning and land use; urban policies; transport; employment; health; and education. Particular attention is paid to issues relating to water, energy, fuel poverty, and food security. Finally, it explores the utility of a range of tools such urban sustainability reporting, ecological foot-printing and sustainable development indicators.

SUS 34380 Environmental Economics (3 Credit Hours)

This course provides an introduction to the theory and evidence behind environmental pollution and the management of scarce resources. We will discuss the sources of environmental problems, policy instruments to resolve environmental issues, and monetary valuation of the environment. Key theoretical concepts include externalities, market failure and government intervention, public goods, property rights, command and control policy, market-based policy instruments (taxes/charges, subsidies, cap-and-trade) and cost benefit analysis. The application of these tools in present-day environmental policies will be discussed. During the tutorial sessions students will work in groups to research and design a scientific poster on a real-life application of a market-based environmental policy. Attendance at tutorials is compulsory.

SUS 38002 Capstone Independent Research Prep (0 Credit Hours)

This course is required for all juniors (and 4th-year Architecture students) in the Minor in Sustainability. Students will work independently on defining their capstone projects with the guidance of the instructor and their project advisor. There are no class meeting times; advisory meetings will be scheduled individually. Students will enroll in a one-credit independent study course during each semester of their senior year in order to carry out their capstone projects.

SUS 40113 Climate and Environmental Justice (3 Credit Hours)

"Climate and Environmental Justice" is a lecture- and discussion-based class primarily targeted at undergraduates. It is designed to introduce you to the core and crucial concepts of climate justice and environmental justice, with a particular emphasis on existing legacy injustices and the injustices we are currently creating as environmental pollution, climate change, and human systems interact. We will discuss existing patterns of burden, inequality, poverty, and threats to human dignity, and discuss opportunities and mechanisms to repair and avoid injustice. In particular we will discuss environmental injustice as a widely experienced but largely localized experience of disproportionate burden (e.g., on the basis of race and class) associated with extraction, industrialization, and non-greenhouse gas environmental pollution, alongside climate injustice as a global and emergent phenomenon of severe and disproportionate impacts from climate change. We will address concepts of reparations and remediation, as well as governance and other strategies for enacting justice. We will also address links between climate and environmental justice with related movements focused on adaptation, energy, housing, transportation, health, and land. Our focus will be both domestic and international, with attention directed to power dynamics, vulnerabilities, and opportunities for corrective action. Climate change and the energy transition will be major themes given their deep relationship with both climate and environmental justice, particularly as processes of industrialization and deindustrialization associated with decarbonization proceed. Overall, the course will focus on patterns, drivers, and opportunities for corrective action associated with severe injustices associated with climate change and environmental burden.

Satisfies the following University Core Requirements: WKIN - Core Integration

SUS 40160 Accountability in a Sustainable World (3 Credit Hours)

This course is designed to develop future sustainability leaders through active engagement with key participants, critical synthesis of research on the measurement of climate change effects, and movement toward quantifiable achievable goals. The course is open to juniors, seniors, and graduate students from all disciplines across the university. The interdisciplinary nature of the class ensures lively debate.

SUS 40161 Accountability in a Sustainable World (3 Credit Hours)

This course is designed to develop future sustainability leaders by active engagement with key participants, critical synthesis of research on measurement of climate change effects and movement toward quantifiable achievable goals. The interdisciplinary course will focus on measurement and assurance of measurement (auditing) both of which fall within the clear purview of accountants. The course is offered for juniors, seniors, accounting honors and graduate students.

SUS 40300 The Commons: tangible, intangible and otherwise (3 Credit Hours)

The concept of the "commons" has returned to the focus of socio-environmental research, politics, and theorizing with recent debates on climate crisis and justice. From the late 1960s debates on environmental degradation and overpopulation to the present concerns with social change, economic degrowth, and global warming, the "commons" has returned as a key symbol for social analysis, political organizing, and collective resource management. Since then, various currents have claimed and reclaimed the concept under the guide of "communality," "conviviality," "common-pool resources," and the "common" as concrete alternatives to public and private modes of governance. In the past two decades, the concept has been central as well for the discussion of the "digital commons" with decentralized, community-based governance of online resources. In this seminar, we will map out key definitions of the "commons" to examine socio-technical and socio-environmental alternatives to existing enclosures across a wide range of examples (including, but not limited to land, tools, forests, lakes, heirloom seeds, potable water, fish stocks, software, hardware, and much more). The seminar will be organized around presentations by students and guest speakers, followed by debate of concepts, case studies, and methodological approaches in socio-environmental and digital commons research. We welcome advanced undergraduates and graduate students working on environmental research technologies, climate change, conservation, and sustainability to join the seminar.

SUS 40302 Environmental Anthropology and Intersectionality of Justice (3 Credit Hours)

As the Flint, Michigan water situation began to attract attention and condemnation, Michigan State Representative, Sheldon Neeley, describing the troops on the ground and the Red Cross distributing water bottles, said that the Governor had "turned an American city into a Third World country." At a Congressional hearing, the Chairman of the House Oversight & Government Reform Committee said, "This is the United States of America - this isn't supposed to happen here. We are not some Third World country. What is a 'third world problem?'" This introductory environmental anthropology course examines how such imaginaries materialize in development programmes and literature, and bespeak charged geopolitical, racial histories; and invites reflection on what futures for working in common they enable and constrain. We will examine how crises are imagined and constructed, and the governance regimes they give rise to. How does water - as natural resource, public good, kin, human right, need, commodity - determine the contours of such regimes? We will also study chronic, quieter environmental problems and the responses they (do not) generate. Working through a variety of writing genres - ethnography, policy literature, and corporate publicity material - will enable students to appreciate what anthropology can contribute to the conversation on environmental justice. Class readings will draw on examples from a wide range of settings across the world, and group projects, in partnership with local environmental organizations and efforts (or done independently), will (i) narrate histories and map geographies of water access and toxicity, and (iii) imagine futures of more equitable water access in South Bend. The course is offered as an introduction to environmental anthropology and takes students through key themes - infrastructure, race, class, privatization, justice, violence - by focusing on water. It requires no background in anthropology. Students will cultivate the ability to read and write with care and to critique responsibly; develop a sense of overarching trends in anthropological approaches to categories such as nature, environment, ecology, violence and justice; relate contemporary issues of water in/accessibility, toxicity and privatization across disparate geographies.

SUS 40361 Envir Colonialism & Irish Lit (3 Credit Hours)

This course bridges the theories of the environmental humanities and ecocriticism with the study of Irish literature from 1600 to 1900. We will analyze critical theory of the environment in relation to Irish novels, tales, plays, and poems written during the height of British colonialism in Ireland - by authors like Jonathan Swift, Maria Edgeworth, William Carleton, J.M. Synge, Emily Lawless, and W.B. Yeats. Our readings will cover environmental events and colonial systems, such as the deforestation of Ireland, shipwrecks and rebellions, tenant farming, the Irish Famine, and island ecosystems. In class, we will discuss how these environmental contexts impacted the expression of Irish identity and colonial struggle. We will read Irish literature not just for plot, character, and style, but also for the environmental narratives it contains, exploring how each one illuminates the other.

SUS 40401 Creating Nature: Histories of Human-Environment Relations (3 Credit Hours)

What is nature? How has it been imagined and constructed? Who has been excluded and erased from dominant narratives of nature and the environment? This upper-division seminar explores the ideologies and practices that historically shaped popular conceptions of nature. A primary goal for the course is to better understand the historical separations of society and nature based on gender, race, class, religion, and commodification. We will examine the logics and practices of imperialism and settler colonialism, cartography, environmental science and conservation, and capitalism among others. At the same time, we will consider other ways of knowing, imagining, and experiencing nature outside of colonial logics. While this is primarily a modern history course, ample space will be given to place contemporary environmental justice and decolonization movements within their social and historical context. Students will develop an understanding of the theories and methods that scholars have used to critically think about our relationships with nature, while also gaining practical skills in writing and science communication through the course assignments. Please note that this will be an online course.

SUS 40406 Climate Change and Armed Conflict (3 Credit Hours)

This course will explore the implications for peace and conflict that result from global climatic changes. The course will require a reading of climate science literature along with that from the social sciences on the causes of armed conflict. Our goal will be to develop an understanding of the way that pressures resulting from human generated global processes can impact the way humans coexist on the planet. Armed conflict is one of the adaptive strategies that humans can undertake, albeit one that might provide the most debilitating consequences.

SUS 40409 Peace, Ecology, and Integral Human Development (3 Credit Hours)

A major source of conflict - increasingly so - is environmental issues; both climate change-related conflicts about (more and more scarce) resources as well as secondary conflicts (conflicts that arise because of the resource conflict, i.e. climate migrants) pose a major challenge to the planet. Pope Francis' encyclical *Laudato Si* has offered ways to think about an "integral ecology" that takes the environment, life on the planet, the human condition and culture seriously. The cry of the earth and the cry of the poor cannot be separated. *Laudato Si* has to be read against the background of the concept of "Integral Human Development." This concept, inspired by the works of Joseph Lebert, OP, was introduced by Pope Paul VI in his encyclical *Populorum Progressio* (1967). It refers to "the development of the whole person and the development of all persons." The course explores the connection (intersectionality) between peace, (integral) ecology, and (integral human) development. It will do so with in-class room teaching sessions and working with select case studies on integral ecology.

SUS 40491 Solutions: Science, Politics, and Saving the Planet (3 Credit Hours)

Studying environmental politics can be a gloomy pursuit. There are a myriad of devastating problems and a seeming scarcity of scientific and technological fixes. Technical fixes aside, there is the even more problematic scarcity of political fixes. Political institutions often seem to obstruct rather than facilitate environmentally sound policies, and the mass public and political leaders often prioritize competing goals and policies. This course is designed to understand whether the pessimism is warranted and to search for the optimism: What are the best opportunities, scientific and political, for saving the planet? What can realistically be accomplished?

SUS 40534 Economics of Climate Change (3 Credit Hours)

Human induced climate change is one of the major problems facing society. Economics provides a powerful intellectual basis for understanding, analyzing and correcting these problems. This course will cover basic science of climate change, the associated market failure and tragedy of the commons, cost-benefit analysis of climate mitigation, computation of the social cost of carbon, empirical research on economic effects of climate change, adaptation, and carbon taxation.

SUS 40722 The Revolt of Nature: Literature and the Anthropocene (3 Credit Hours)

Coronavirus in China, wildfires in Australia, locusts in East Africa, melting poles, rising seas, the insect armageddon, the sixth extinction, droughts and floods of Biblical proportion . . . Welcome to the "End of Nature" and the beginning of the Anthropocene! For just when we're being told that "Nature" is at an end, nature seems to be everywhere, invading our headlines and intruding into our lives in sudden and unexpected ways. Not long ago, we could still think of nature as a peaceful retreat from the stress and din of society, a resource for healing, and a refuge from the traumas of history - whether it be an afternoon's gardening, a day hike nearby, a weekend fishing trip, or a summer's outing to a faraway National Park. But that was the nature of the Holocene, the geological epoch that, according to the latest science, ended as recently as the 1950s. Today, in the Anthropocene, nature is roaring back into our lives and shaking the very pillars of our society - as if *The End of Nature*, in Bill McKibben's 1987 book title, were more truly the end of the world. But perhaps what this panic tells us is that our world has always been intertwined with nature, both actually and conceptually, in ways we have forgotten to remember, ways that the current revolt of nature is forcing us to confront. This course will inquire into the strange ways that modernity has, over the last 200 years, modified and transformed our notions of Nature, even as our technological explosion has leveraged the power of humanity from regional to planetary scales. This course, therefore, travels from the Holocene of our recent literary heritage to the Anthropocene within which we are all living today, although only some of our literature explicitly takes up this fact. Altogether we are now left with one great question, as we look toward our future: Since we can't survive without nature, how can we learn to survive with it? Readings will be drawn from poetry, fiction, and nonfiction, from Emerson and Thoreau, through American "Naturalism" and such "nature writers" as Aldo Leopold and Annie Dillard, to the recent writings of Jeff Vandermeer, Linda Hogan, Barry Lopez and Richard Powers. Along the way we will be guided and provoked by such philosophers and theorists as Michel Serres, Peter Sloterdijk, Donna Haraway, and Amitav Ghosh. Students will write two short papers and one longer paper involving research as well as personal observation and reflection.

Satisfies the following University Core Requirements: WKAL - Core Art & Literature, WRIT - Writing Intensive

SUS 40805 GLOBES: Global Change and Civilization (3 Credit Hours)

All human populations, from the simplest to the most complex, interact with their natural environment. Humans alter the environment, and are in turn altered by it through biological or cultural adaptations. Global environmental changes helped to create and shape our species and modern industrial societies are capable of altering the environment on scales that have never been seen before, creating many questions about the future of human-environmental coexistence. This course explores the ways that humans are altering the global environment and the ways that global environmental changes alter humans in return. Four major topics are examined: global climate change, alterations of global nutrient cycles, biodiversity and habitat loss, and ecosystem reconstruction. Students will complete the course with an understanding of the metrics and physical science associated with each type of change, their ecological implications, and the ways in which environmental changes continually reshape human biology and culture. This course is for graduate students and upper-division undergraduates. This course meets a core requirement for GLOBES students.

SUS 43611 Carbon Neutral Development (3 Credit Hours)

Knowledge about the relationship between built environment development and global and local challenges, such as climate change, resource depletion, environmental impact, justice and health, is of key importance to move towards a sustainable and resilient future. This course takes a trans-disciplinary approach to understanding how to decarbonize the built environment. Linkages between and perspectives from engineering, architectural design, and social sciences are emphasized throughout the course. This course provides students with real-world problems to work with such as urbanization-related pollution in China and urban revitalization needs for the aging building stock in Germany. This course is composed of two modules: (1) Carbon neutral development at the urban scale is examined through three real case studies to explore the different development principles, design strategies and patterns. (2) Net zero building design and related environmental impact are examined through research literature and real case projects.

SUS 43707 Society, Faith, and the Future of Nature (3 Credit Hours)

"Society, Faith, and the Future of Nature" is an upper-level course that examines the relationship between contemporary society and the natural world from a sociological vantage. The readings and lectures are designed to be accessible to all. They introduce theory by means of concrete historical and cultural cases, so that history and theory illuminate one another. Students who have been exposed to sociology will find that it builds on the foundations they already have gained. Topics covered include population and demography, industrialization, capitalism as a system, consumer culture, social justice, the environmental movement, global environmental issues, the role of culture and religion when it comes to framing and mobilization, and civic responsibility. The main focus of the course is American society, but it also takes into account other societies and cultures. After taking this course, the students will have honed a range of powerful insights and tools for making sense of the environmental issues that we confront.

SUS 48001 Sustainability Capstone Independent Research (1 Credit Hour)

This course is required for all seniors (and 5th-year Architecture students) in the Minor in Sustainability. Students will work independently on their capstone projects with the guidance of the instructor and their project advisor. There are no class meeting times; advisory meetings will be scheduled individually. Students will enroll in an additional credit of independent study during the spring semester in order to complete their capstone projects.

Enrollment is limited to students with a minor in Sustainability.

SUS 48002 Sustainability Capstone Independent Research (1 Credit Hour)

This course is required for all seniors in the Minor in Sustainability. Students will work independently on their capstone projects with the guidance of the instructor and their project advisor. There are no class meeting times; advisory meetings will be scheduled individually.