

## Sustainability-Focused Courses

<u>Index</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Description</u>
1	AM228/AR228	Nature and the Built Environment	Built environments order human experience and action, shaping people's sense of themselves and the world. We examine how the built environment has influenced and expressed Americans' relationships with nature. We track how ideas about the natural environment emerge in different historical and geographical settings and consider the material and environmental consequences of these beliefs. Topics include park design, suburban development, environmental justice campaigns, and green building. In this reading-intensive discussion course, students develop abilities to interpret material, spatial, visual, and historical evidence. Four credit hours. H.
2	AY255/GS255	Global Health: Critical Perspectives on Health, Care, and Policy	This writing-intensive course introduces students to central global issues of disease and disability and the interventions that aim to address them. We will discuss the central actors, institutions, and practices that make up the global health landscape. Using an interdisciplinary perspective, we will analyze the value systems and modes of knowledge production that underlie global health research, policy, and practice. Students will engage critically and creatively with topics such as the global burden of disease; the social determinants of health; health, development and human rights; post-disaster health; and global health policy and practice. Prerequisite: Anthropology 112.
3	AY256	Land, Food, Culture, and Power	An examination of cultural and political aspects of land and other resource use in contexts of culture contact and/or social change, drawing from a variety of ethnographic examples in different parts of the world. A focus on varied subsistence and resource management systems explores how local forms of livelihood have been incorporated into and challenged by national and global economic relations and structures through processes of colonization and the growth of transnational capitalism. Prerequisite: Anthropology 112. Four credit hours. MILLS
4	BI118	Sustainable Agriculture and Food Systems	Agriculture is a fundamental way in which humans interact with their environment and is at the nexus of ecological, social, and economic systems. An introduction to the ecological bases, practicalities, and philosophies of food and agricultural systems. Provides a foundation in such concepts as agroecology, sustainable soil management, pest and weed control, and organic farming. Also considers social, economic, and public-policy issues. Field trips to local farms and other agricultural institutions. Cannot be counted toward the biology major. Prerequisite: Senior standing. Three credit hours. N. MARSHALL
5	BI131	Biodiversity	Examines the variety and variability of life on Earth, the causes of this variety, and the natural complex of relationships. Topics include habitat diversity, taxonomic diversity, interrelationships in ecosystems, conservation science, evolution, and speciation. Additionally, explores how humans influence and are influenced by biodiversity. Laboratory sessions focus on exploring biological diversity in different local ecosystems, using taxonomic keys, and applying the scientific method. Students with prior credit for Biology 164 may not receive credit for Biology 131. Four credit hours. N, Lb.
6	BI271/ES271	Introduction to Ecology	Ecology is the study of interactions among organisms and their environment. Studying these interactions provides us with the theoretical foundation for understanding many of the most pressing environmental problems. This course will examine ecological interactions at a wide range of scales from individuals, through populations and communities, to ecosystems. We will study how these interactions produce the patterns and processes we observe in biomes around the world. In the field-based laboratory, we will generate hypotheses, develop experimental designs, and apply statistical analyses to ecological data, while gaining first-hand familiarity with local ecological communities. Previously listed as Environmental Studies 271. Prerequisite: Biology 164. Four credit hours. N,Lb. BECKNELL, MOORE
7	BI297B	Extreme Climate Change in the Gulf of Maine	The Gulf of Maine has undergone extreme climate-related changes, resulting in changes to marine population structure and instances of harmful, toxic, or otherwise undesirable species. We will explore the causes of, impacts of, and potential adaptations to climate change in the Gulf of Maine. Includes a weeklong experiment at Bigelow Laboratory for Ocean Sciences using indoor seawater mesocosms to simulate rapid ecosystem change and to investigate the biological response of marine microbes. Students will be introduced to traditional and modern oceanographic data collection techniques for estimating the impacts of climate change. Prerequisite: Biology 164. Three credit hours.
8	CH217	Environmental Chemistry	Develops an understanding of how physical, chemical, and biological processes create and define the natural world. Focus is on the fundamental equilibrium and kinetic processes that control global systems, including the composition of the atmosphere, ocean, and biosphere. Building on the concept of residence time and chemical reactivity, students learn how to evaluate the impact of anthropogenic modifications to the environment over a range of spatial and temporal scales. Current topics such as acid deposition, global warming, atmospheric ozone loss, and the fate and toxicity of heavy metals are discussed in the context of natural environmental processes. Prerequisite: Chemistry 131, 142, 145, or 147. Four credit hours. KING
9	EC231/ES231	Environmental and Natural Resource Economics	The objective is to develop and apply economic tools to current environmental and resource-management issues. Causes of and remedies to environmental and resource-management problems are analyzed through economic modeling. These models in turn serve as the theoretical foundation for designing and evaluating policy instruments and practices. Students will learn to analyze current environmental problems and assess the effectiveness of environmental and resource-management policies using economic tools. Prerequisite: Economics 133 and sophomore or higher standing. Four credit hours. CHAN, DISSANAYAKE
10	EC341/ES331	Natural Resource Economics	An examination of the supply, demand, and allocation of the Earth's natural resources. Topics include renewable resources, nonrenewable resources, water, pollution, and other contemporary problems. The first half is devoted to learning the principles, reasoning, and techniques required to analyze and solve a wide range of natural resource allocation problems. The second half consists of case studies of contemporary renewable and nonrenewable natural resource problems. Prerequisite: Economics 223. Four credit hours. DISSANAYAKE
11	EC472	Seminar: Third Wave of Environmental Management	Voluntary and information-based approaches (VIBAs) to environmental management are the third wave of environmental policy, following the first and second waves of command-and-control regulations and market-based instruments. We will investigate the interface between behavioral economics and environmental management and will examine how VIBAs arise and how they affect behavior and environmental outcomes, both in theory and in practice. Topics include public disclosure strategies for pollution control, responses to environmental information, conservation behavior, green markets, product labeling, and corporate social responsibility. Prerequisite: Economics 224, 393 (may be taken concurrently), and senior standing as an economics major. Four credit hours. CHAN
12	EC476	Seminar: Economics of Ecosystem Services and Biodiversity	Ecosystem services and biodiversity face growing threats, and their loss affects human welfare. We will study the economics of providing, valuing, protecting, and restoring ecosystem services and biodiversity. Students will become familiar with the frontier of research at the intersection of ecosystem services and economics. Students will undertake an individual research project that will enable them to demonstrate skills in identifying research questions and in using current economic methods to answer the research question. Prerequisite: Economics 224, 393 (may be taken concurrently), and senior standing as an economics major. Four credit hours. DISSANAYAKE

13	EN333	Environmental Revolutions in American Literature and Culture	<p>Explores the role that literature and the arts have played in the ongoing "environmental revolution" waged by people of color and their allies. Case studies will introduce students to a range of environmental justice issues and movements, bringing a humanities-based approach to topics most often treated through the lenses of science, law, and policy. Texts will include multiethnic American literature, film, and music, as well as several artworks in the Colby College Museum of Art. We will analyze how environmental justice activists, scholars, and artists have responded to new challenges while also revising core concepts and priorities of mainstream environmentalism. Fulfills English C and D requirements. Revolutions humanities lab. Prerequisite: Any W1 course. Four credit hours. L. U. SIBARA</p> <p>We will examine what contemporary world literature has to say about environmental racism, ecofeminism, and toxic colonialism, with attention to such issues as the social construction of nature, globalization, and urban ecology. What is the role of art in the struggle for social change? Readings includes authors from diverse racial and national locations: Botswana, Iraq, Zambia, South Africa, multicultural U.S., India, Jamaica, Nigeria, Canada, and Guatemala. Our study will focus on the intersection of environmental issues and various systems of social injustice, especially racism, sexism, and economic inequity. Prerequisite: W1 course or equivalent.</p>
14	EN398	Environmental Justice and World Literature	<p>An interdisciplinary study of human relationships with and impacts on the environment. Examination of important local, national, and global environmental issues by exploring causes and methods for investigating these pressing problems, as well as possible solutions, from scientific and public-policy perspectives. Students explore important literature and ideas in the field to complement the lectures; conduct an original, semester-long, group research project; and complete several writing assignments. Four credit hours. BRUESEWITZ, MCDOWELL, NYHUS</p>
15	ES118	Environment and Society	<p>Community Responses to Environmental Hazards An introduction to community-level environmental problems related to hazardous waste and the impacts on and responses of affected communities. Explores the concept of environmental justice and how the risk of hazardous exposures is related to race, ethnicity, class, and gender. We discuss U.S. policy debates on hazardous waste regulation and environmental injustice claims, and we consider the evidence for the inequitable distribution of environmental quality and adverse health impacts, the mechanisms for environmental and public health decision making, and community access to informational resources and empowerment. Three credit hours. W1. CARLSON</p>
16	ES120J	Community Responses to Environmental Hazards	<p>An introduction to the history, theory, and practice of environmental activism, incorporating both global and local perspectives. Students explore the social phenomena that underlay human action in the environmental arena, taking an interdisciplinary approach that encompasses history, social movement and political theory, media studies, gender studies, psychology, and first-person narratives. Goals include 1) developing effective skills in critical reading, analysis, and communication; 2) developing an appreciation for the vastness and diversity of human responses to environmental challenges; and 3) providing the opportunity to apply emerging leadership and organizing skills to the design of a student environmental group. Part of the two-course Integrated Studies 126, "The Green Cluster." Prerequisite: Concurrent enrollment in Philosophy 126. (Elect IS126.) Four credit hours. S. CARLSON</p>
17	ES126	Environmental Activism	<p>Presents the theory and practice of green building design through lectures, discussions, presentations, guest speakers, and field trips. Studies the processes used to quantify the environmental impacts of building construction and introduces effective mitigation strategies. Concepts include integrated design techniques, site and landscape considerations, passive design techniques, water efficiency, materials and resource mitigation, occupant health and engagement programs, energy efficiency and reduction, construction best practices, commissioning, and knowledge management. Students will also undertake group projects using Colby as a case study. Three credit hours. BRIGHT</p>
18	ES141	Green Building Design: Making the Case for Change	<p>Provides a broad overview of sustainable and socially responsible business principles and the ways in which companies incorporate them. Also introduces sustainable and socially responsible investment strategies and reviews their potential impact and effectiveness. Through a series of readings, lectures, guest speakers, and real-world case studies, students are exposed to the issues and opportunities facing green businesses. Includes small-group and individual presentations. Previously offered as Environmental Studies 197A (2013). Three credit hours. PENNEY</p>
19	ES143	Sustainable and Socially Responsible Business	<p>An exploration of the works of selected 20th-century environmental writers and how their life experiences contribute to a sense of connection with and action on behalf of the Earth. Through readings, film, writing assignments, group discussion, and journaling, students will develop critical thinking and communication skills while reflecting on their own personal relationship with nature. Previously offered as Environmental Studies 197C (2010, 2013). Three credit hours. L. MACKENZIE</p>
20	ES151	Landscapes and Meaning: An Exploration of Environmental Writing	<p>A comprehensive and interdisciplinary introduction to the process and challenges of developing, implementing, and evaluating environmental policy. The roles of costs and benefits, uncertainty and risks, science and technology, and attitudes and ethics are explored. Historic and contemporary case studies are used to examine major institutions and actors, laws and regulations, incentives and enforcement approaches, and their role in addressing our nation's most pressing environmental problems. Students complete a semester-long research assignment. Prerequisite: Environmental Studies 118. Four credit hours. NYHUS</p>
21	ES233	Environmental Policy	<p>Examines how communities, nations, and international organizations govern the use of natural resources including water, land, forests, fisheries, and the global climate. Through case studies and international environmental treaty analyses we will develop an understanding of global environmental issues; explore complementarities and tradeoffs among local, national, and global approaches to environmental governance; highlight the environmental justice implications of various resource management regimes; and assess the effectiveness of policies to address major environmental problems. Prerequisite: Environmental Studies 118. Four credit hours. I. REYNOLDS</p>
22	ES234	International Environmental Policy	<p>Human activities and effects—including overfishing, water pollution, climate change, and benthic habitat destruction—have all had major impacts on ocean ecosystems. Through lectures and discussions we will investigate global, regional, and local threats to marine biodiversity and ecosystem function. Potential conservation solutions will be considered. Independent and group research projects will investigate the science and policy of marine conservation issues and will evaluate and synthesize information from scientific literature, popular media, and online discussions. Previously listed as Environmental Studies 342. Prerequisite: Environmental Studies 118. Four credit hours. MCCLLENACHAN</p>
23	ES242	Marine Conservation and Policy	<p>Introduces students to a diversity of marine community types around the world, including kelp forests, coral reefs, salt marshes, and pelagic communities. Through lectures, readings, and class activities, students will learn about the physical, biological, and chemical structuring forces in the ocean, key ecological interactions, and human impacts across ecosystems. Key learning goals include improved scientific literacy in marine science, as well as enhanced public speaking and writing skills. Prerequisite: Environmental Studies 118. Four credit hours. N. MCCLLENACHAN</p>
24	ES244	Marine Communities	<p>An introduction to the principles and measures of global health, disease burdens, and environmental determinants of health, including poverty, climate change, pollution, population, violence, and lack of safe food, clean water, and fuels. We will also study international health institutions, key actors, and environmental regimes for the regulation of environmental health hazards. Through small-group presentations and discussion we will explore global case studies that highlight the complex relationship between human health and the environment. Prerequisite: Environmental Studies 118 or a course in the natural sciences. Four credit hours. CARLSON</p>
25	ES265	Global Public Health	

26	ES297D	Global Change Impacts on Marginal Marine Ecosystems	<p>Investigates impacts of global change on "marginal" marine ecosystems, using the subtropical reefs of Bermuda as a case study. The month will combine experiential learning at the Bermuda Institute for Ocean Sciences with subsequent lab analyses at the Bigelow Laboratory for Ocean Sciences. Hands-on field work, including snorkeling and underwater photography, use of contemporary water quality sensors, readings in primary scientific literature, and use of biological and chemical analytical capabilities, will teach students technical skills and develop their capacity to think critically about environmental science. Nongraded. Prerequisite: Biology 164, Chemistry 142, Environmental Studies 118, or Geology 142. Three credit hours. N, Lb. PRICE</p>
27	ES319	Conservation Biology	<p>Concepts of conservation biology are examined in detail. Topics include patterns of diversity and rarity, sensitive habitats, extinction, captive propagation, preserve design, and reclamation of degraded or destroyed ecosystems. Interdisciplinary solutions to the challenges of protecting, maintaining, and restoring biological diversity are discussed. Offered in alternate years. Prerequisite: Environmental Studies 118 or 271 or Biology 263, and sophomore or higher standing. Four credit hours.</p>
28	ES343	Environmental Change	<p>Investigation of the relationship between past environmental history and current ecosystem condition. Landscape change and ecological restoration across a range of Maine ecosystems including forests, wetlands, rivers, and marine environments, with an emphasis on ecological theory. The impacts of past and present human activities including forestry, fishing, and industrial and residential development. Students in this Human/Nature theme course will read scientific literature, practice ecological field and laboratory methods, enhance data analysis and writing skills, and complete a research project designed to evaluate environmental change and recovery potential in a local landscape, riverscape, or seascape. Lecture and laboratory. Prerequisite: Environmental Studies 271 and sophomore or higher standing. Four credit hours.</p>
29	ES344	Marine Fisheries Management	<p>Managing marine fisheries represents one of the most significant challenges in the conservation of global resources. We explore political, cultural, and ecological factors essential for successful management. Through lectures, discussions, and readings, students become familiar with global fisheries issues, including high seas management, initiatives to protect the food security and biodiversity of tropical island nations, and management of marine and anadromous fish in the United States. Through a field-based, group research project, students will investigate challenges involved with managing marine fish populations in Maine. Prerequisite: Biology 263, Environmental Studies 118 or 271, and sophomore or higher standing. Four credit hours. MCCLLENACHAN</p>
30	ES346	Global Food Policy	<p>Examines the emergence and development of global food systems and food policies starting with the earliest agricultural societies and continuing to the present day. We explore the economic, nutritional, and environmental justice implications of agricultural systems and critically analyze the intended and actual outcomes of food policies for nations and agricultural communities. Case studies, films, and independent research further highlight the role of food and food policy in degrading the environment, exacerbating ethnic tensions and social inequities, and even spurring conflict. Prerequisite: Environmental Studies 118 and sophomore or higher standing. Four credit hours. I. REYNOLDS</p>
31	ES352	Advanced and Applied Ecology	<p>An examination of theoretical and applied aspects of ecology at the organism, population, and community levels. Through lectures, discussions, and reading of primary literature, students will acquire a conceptual and theoretical understanding of environmental tolerance and adaptation of plant and animal species; population dynamics; competition, trophic relationships, and coevolutionary interactions; community structure and organization; succession; and biogeography. The relevance of theory and concepts to solving environmental problems will be explored. Laboratory exercises explore principles of experimental design and ecological sampling techniques. A research assignment helps to enhance writing and presentation skills. Lecture and laboratory. Prerequisite: Environmental Studies 271 and sophomore or higher standing. Four credit hours. MCDOWELL</p>
32	ES356	Aquatic Ecology	<p>Concern over the impact of human activities on aquatic communities and ecosystems has brought aquatic ecology to the forefront of public attention. Through lecture, discussion, writing assignments, and laboratory work, students will explore the major ecological principles that influence the physical, chemical, and biological organization of aquatic ecosystems. Experimental approaches and sampling techniques used by limnologists will be employed in local lakes, streams, and rivers, as well as in the laboratory to investigate topics of concern in freshwater ecosystems, including eutrophication, pollution, land use change, invasive species, and the impact of climate change. Prerequisite: Environmental Studies 271, a W1 course, and sophomore or higher standing. Four credit hours. W2. BRUESEWITZ</p>
33	ES366/BI366	The Environment and Human Health	<p>How human health is affected by physical, chemical, biological, and social environments; how we use science to measure effects of these determinants at the level of cell, tissue, individual, and population; how we assess these determinants to make regulatory decisions. Topics include introductions to toxicology, epidemiology, and risk assessment; health effects of pollution, synthetic chemicals, consumer products, climate change, and the built environment; the etiology of health outcomes including cancer, obesity, endocrine disruption, and respiratory diseases. Students use primary scientific literature for independent research and, when appropriate, engage in environmental health policy debates in Congress and/or the Maine legislature. Prerequisite: Environmental Studies 118 or 126, and sophomore or higher standing. Four credit hours. N. CARLSON</p>
34	ES397	Current Topics in Environmental Science	<p>Explores emerging and cutting-edge topics in the field of environmental science. Lectures will be supported by in-class activities including regular, student-led discussions. Students will read recent literature reviewing emerging topics from leading journals in environmental science and ecology. Additionally, we will examine a variety of experimental designs, laboratory methods, and statistical approaches used by environmental scientists to investigate and understand environmental processes and human impacts. A research assignment will enhance writing skills. Prerequisite: Biology 263 or Environmental Studies 271. Four credit hours. MCDOWELL</p>
35	ES484	Honors in Environmental Studies	<p>Majors approved for admission into the Environmental Studies Honors Program may elect this for the January Program or the spring semester. Requires research conducted under the guidance of a faculty member and focused on an approved topic leading to the writing of a thesis. A maximum of eight credits (including Environmental Studies 491 in the fall semester) may be earned in honors work. Upon successful completion of the thesis, an oral presentation, and all requirements for the major, the student will graduate with "Honors in Environmental Studies." Prerequisite: Senior standing and a 3.50 grade point average in the major at the end of the junior year or permission of the program. One to four credit hours. FACULTY</p>
36	ES491/492	Independent Study	<p>Independent study devoted to a topic chosen by the student with the approval of the program committee. Prerequisite: Junior or senior standing as an environmental studies major or minor. One to four credit hours. FACULTY</p>
37	ES493	Environmental Policy Practicum	<p>An in-depth analysis of current issues and policies affecting the environment. Students work individually and collaboratively on a project with a common theme and are assigned unique roles as researchers, editors, and technical coordinators. Reading and discussion of primary literature is augmented with invited speakers, field trips, and student presentations. Prerequisite: Environmental Studies 233 (for domestic emphasis) or 234 (for international emphasis), and senior standing as an environmental studies policy major. Four credit hours. MCCLLENACHAN, REYNOLDS</p>

38	ES494	Problems in Environmental Science	Causes of and solutions to selected environmental problems are investigated through lectures, laboratory and field work, discussions, and guest presentations. Focuses on completion of a group research project with methods used by private consulting firms and governmental agencies to investigate freshwater (section A) or marine (section B) environmental problems. Research results are presented in a public forum at the end of the semester. The civic engagement component provides useful information to the community and the state and gives students experience interacting with interested stakeholders. Skill development includes research, communication (both oral and written), and collaborative work skills. Prerequisite: Environmental Studies 271 and senior standing as an environmental science major. Five credit hours. BRUESEWITZ
39	GE141	Earth and the Environment	The geosciences encompass the study of the Earth, its formation, its history, the processes that continue to shape it today, and our interaction with it. Students learn (1) how Earth processes operate, how they shape the environment we live in, and how they can affect people; (2) where Earth resources come from, the impacts of using these resources, and how we can reduce these impacts; and (3) the methods we use to understand these processes and impacts. Additionally, the course improves students' critical-thinking and data-analysis skills. Four credit hours. N, Lb. DUNN, NELSON, RUEGER
40	GS111	Human Rights in Global Perspective	Jointly led by Colby's Oak Fellow, Jodi Koberinski, and Professor Gail Carlson, an examination of food sovereignty and human rights. Students will design and implement civic engagement projects related to food systems and food justice, focused locally and globally, throughout the term. Prerequisite: Sophomore or higher standing. One credit hour.
41	HI394	Ecological History	A seminar on major issues in ecological history. Topics include the relationship between ecological science and environmental history; the early impact of the agricultural revolutions; the "collapse" of early civilizations; processes of deforestation and desertification; the rise of the conservation movement; ecological costs and benefits of technological efforts to engineer nature; biological innovations and chemical controls; the paradox of population growth; and the contemporary crisis of modern agriculture and diet. Prerequisite: Sophomore or higher standing. Four credit hours. H. WEBB
42	PL126	Philosophy and the Environment	An introduction to philosophy through prominent questions and themes in environmental philosophy. Topics include the historical context and causes of environmental crisis, anthropocentrism, animal rights, intrinsic value, biocentrism, ecocentrism, and radical social theories, incorporating core philosophical issues in ethics, philosophical anthropology, and nature philosophy. These provide resources for clear and creative reasoning on the philosophical aspects of creating sustainable communities, for reflection on value priorities, and for exploration of relationships between academic work and social responsibility. Part of the two-course Integrated Studies 126, "The Green Cluster." Prerequisite: Concurrent enrollment in Environmental Studies 126. (Elect IS126.) Four credit hours. W1. PETERSON
43	PL216/ES216/ST216	Philosophy of Nature	What is nature? What is characteristic of the scientific understanding of nature? How does it differ from more traditional ways of understanding nature? Could the environmental crisis be the result of defective ways of thinking about and relating to nature? How could modern ecology be related to the tradition of nature philosophy? How and by whom is knowledge of nature produced at all? We will study past and current responses to these questions, providing students opportunities to question fundamental beliefs about nature. Readings range from Aristotle to current philosophy, history, and social studies of ecology. Previously listed as Philosophy 318. Four credit hours.
44	PL243	Environmental Ethics	Beginning in the 1970s some philosophers began to seriously consider the ethical aspects of human relationships to the nonhuman natural world. Aims to familiarize students with the variety of philosophical ethics that has been developed to address the environmental crisis and its many dimensions. Students will accomplish this not only by reflecting theoretically on topics such as the value of nonhuman nature, anthropocentrism and ecocentrism, environmental justice, animal liberation, food issues, and sustainability, but also through civic engagement with local community partners. Four credit hours. PETERSON
45	PS120	Our Lives as Animals	Drawing mainly on research from the fields of neuroscience and psychology, we will explore how our behavior, like that of other animals, is a product of our biology. We will also explore the ways in which our interactions with the world influence and shape the structure and functioning of our brains. No formal background in neuroscience or psychology is required. Students will learn about selected topics and writing through a series of structured writing and speaking assignments in which they can target different audiences, experiment with different styles, and learn effective use of revision. Human/Nature theme course.
46	PS374	Seminar: Psychology and Neuroscience: Humans in the Natural World	Exploration of the vast intersection between the fields of psychology and neuroscience: how psychology has shaped and contributed to the field of neuroscience, and how findings from neuroscience aid psychological research and theories. Topics may include developmental and degenerative neuropathology and the impact of environment, genetics, psychological factors, and sociocultural contexts over them. Students will read, critically evaluate, and discuss empirical and theoretical papers as they gain depth of knowledge on different topics. Students will present their ideas in oral and written form and will work on a collaborative writing project. Human/Nature theme course. Prerequisite: Psychology 233.
47	ST112	Science, Technology, and Society	Critical perspectives on the social aspects of science and technology in our lives, in the world around us, and throughout history. Issues include gender, communications, war, and the environment. Four credit hours. S. FLEMING
48	ST112W	Science, Technology, and Society (Writing-intensive)	Critical perspectives on the social aspects of science and technology in our lives, in the world around us, and throughout history. Issues include gender, communications, war, and the environment. Prerequisite: First-year standing. Four credit hours. S, W1. FLEMING
49	ST215/ES215	Weather, Climate, and Society	A scientific introduction to the Earth's atmosphere and historical and social issues related to weather and climate. Topics include the atmosphere's composition, structure, and dynamics; air pollution; ozone depletion; natural disasters; and climate change. Includes lectures, an exam, quizzes, short essays, and a group project to be presented in a final poster session. Revolutions theme course. Prerequisite: Concurrent registration in Science, Technology, and Society 132. Four credit hours. N. FLEMING
50	WP115D	First-Year Writing: Food for Thought	We will examine our cultural relationships with food through both canonical and contemporary food writing. Possible tangents include intersections with environmental literature, questions concerning sustainable consumption, and the industrialization of organic food. Previously listed as English 115. Four credit hours. W1. STOKES

### Sustainability-Related Courses

<u>Index</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Description</u>
1	AM120	Living the Good Life, 1965-2015	What constitutes the good life? How does one live ethically in a complex, often unjust world? We explore how a diverse group of Americans theorized alternatives to conventional values and ways of living, from Afro-Futurism to Buddhist economics, then investigate people who came "back to the land" in Maine to put their theories about how to live into practice. Critical reading and discussion, archival and oral history research, and analytical writing will be emphasized. Students will use new digital humanities tools to present their research online in innovative ways. Four credit hours. H, W1.

2	AM297	Made in Maine	We examine the "design" of Maine, exploring how Mainers have made meaning through things and space at different scales, from handheld tools to the shape of cities, owner-built houses to craft beers. As participants in a Human/Nature Humanities Lab, we will cultivate a "classroom without walls," combining reading, writing, and discussion with fieldwork, archival research, community engagement, archive building, and digital publishing. Part of the three-course Integrated Studies cluster "Made in Maine: The Digital Maine Project." Pre-requisite: Concurrent enrollment in American Studies 159B and Cinema Studies 159. Satisfies the Social Science requirement.
3	AM135B	Space, Place, and New York City	Examines New York City using the twin concepts of place and space. Pivots on the escalating significance of place in a world of modernization and globalization. Explores New York as an economic and cultural control center and considers how New York capitalists produce space near and far. Investigates expressions and consequences (positive and negative) of global capitalism on city streets, and examines how place and the built environment construct cultural and political identity. Discussion based. Students develop skills of spatial, material, textual, and historical analysis and critical writing. Four credit hours. S, W1. LISLE
4	AM221	Mapping Waterville	This interdisciplinary humanities lab combines geographical and architectural fieldwork, archival research, and digital publishing. Waterville is our learning space. Students construct an online archive of Waterville's built environment using architectural sketches, photographs, interviews, and archival research. We then analyze and interpret the town's material and spatial character, track and explain changes across time, and publish our interpretations online using innovative digital mapping technologies. Four credit hours. H. LISLE
5	AM226	Cultural Geography of Allen Island	Places that people design, build, and live in structure their experience and behavior, shaping their ideas about themselves and the world. Students explore how beliefs about Maine, nature, and the past are expressed through Allen Island's cultural geography. We locate the design and use of the island's built environment in the context of mid-coast Maine and explore how human beings have responded to and represented the island across time. This interdisciplinary course combines geographical fieldwork, cultural analysis, and archival research, culminating in a collaborative and public digital humanities project. Four credit hours. H. LISLE
6	AM313A	One Nation Under a Groove: Culture and Politics of the 1970s	An interdisciplinary examination of the intersections between the challenging political, economic, and diplomatic events of the 1970s and the vibrant social movements that evolved from the transformations of the 1960s. Focus on how popular culture (music, film, television, fiction, and nonfiction) shaped Americans' understandings of and responses to Vietnam, Watergate, de-industrialization, and various energy crises, and to the development of civil rights, women's, gay, environmental, and conservative movements. Critical reading and discussion, textual interpretation, and analytical writing will be emphasized. Four credit hours
7	AM322	Imagining Maine	This interdisciplinary humanities lab examines Maine's transformation in the American imagination from a barren wilderness to a "vacationland." We will collect and analyze representations of Maine in painting, photography, literature, maps, advertising, travel guides, diaries, and historical documents. For our final project, we will work collaboratively to build a website that showcases this material. Research may include travel to exhibitions and archives around the state. Three credit hours.
8	AM355/SO355	African-American Women and Social Change	Sociological analysis and historical overview of African-American women and their families, work lives, and community (especially religious and political) experience. A focus on the contradictions between lived experience and cultural expectations surrounding gender and on the distinctive experiences of African-American women as a force for social change. Prerequisite: An introductory social science course or American Studies 276. Four credit hours. U. GILKES
9	AY112/EA353	Cultural Anthropology	Introduction to the study of human societies and cultures through the concepts and methods of anthropology. Course material will (a) explore the great diversity of human social and cultural arrangements through the investigation of cultural communities around the world and the distinct ways their members experience and understand their lives and (b) investigate the larger historical, political, economic, and symbolic frameworks that shape contemporary human societies and cross-cultural interactions worldwide. Assignments emphasize clarity, concision, and coherence of written and oral arguments, as well as control over and understanding of course content. Four credit hours. S, I. FACULTY
10	AY119	The Anthropology of Utopias	Examines classic utopic and dystopic literature, philosophy, anthropology, art, and film from Plato to the present. Utopian literature involves anthropological reflection about the range of possibilities for human community and related anthropological themes of human social and cultural variability, conflict, and cooperation. Critically explores different utopian and dystopian discourses as vehicles for thinking about a world in crisis and its possible futures, as well as the effects these have on contemporary debates about politics and governance, citizenship, new technologies, media, family, and more. Three credit hours. S. HRISKOS
11	AY211/GS211	Human Rights and Social Justice in Global Perspective	Human rights have become one of the primary frameworks for understanding justice and injustice globally. Drawing especially on anthropology, with its longstanding commitment to exploring the diversity of human experience, we first examine critically the contradictory consequences of this new human rights universalism. Moving beyond simplistic arguments of relativism and anti-relativism, we scrutinize human rights claims in the face of concrete contexts of cultural difference and inequality. Central to this course will be student participation in the selection of a front-line artist-activist as next year's Oak Human Rights Fellow on the theme "Film/Photography and Human Rights" Prerequisite: Anthropology 112. Three credit hours. W2. RAZSA
12	AY253/GS253	Goods, Gifts, and Globalizing Consumers	Explores the global cultural diversity and social embeddedness of economic practice. Students gain analytical tools to critically examine global capitalism, consumption/consumerism, markets and their myriad social dimensions through a focus on transactions, exchange, social obligation, class distinction, and labor activities. In-depth case studies apply these insights to debates on topics such as debt, economic inequality, class, and the limits of commodification. Readings, films, and other materials highlight the rich diversity of anthropological perspectives on economic practice, from ethnographies of Wall Street to Malaysian factory work to middle-class formation in Nepal. Previously listed as Anthropology 298A (Spring 2016). Prerequisite: Anthropology 112. Four credit hours.
13	AY313	Researching Cultural Diversity	Focus on ethnography as both the central research strategy of anthropologists and the written text produced by such research. Examines anthropological methods of data collection and ethnographic writing as these encompass not only the discipline's historical focus on localized communities but also contemporary understandings of connections to global processes, the analysis of complex inequalities, and a reflexive and engaged relationship with the human world. Explores practical strategies for conducting ethnographic research, including interviewing, observation, and other modes of qualitative data collection; the ethical issues presented by such research; and the application of analytical and theoretical models. Prerequisite: Anthropology 112, a 200-level anthropology course, a W1 course, and sophomore standing. Four credit hours. STROHL, TATE
14	AY316	Religion and Social Change in Contemporary Africa	Participants will build awareness of the religious diversity of contemporary African societies using selected studies from Madagascar, Tanzania, Mali, Mozambique, and other sites. Students will learn Generated May 25, 2017, on colby.edu 48 Colby College 2016-2017 Catalogue to identify the relationship of African religions with diverse, transforming views on biomedicine and healing, urbanization, gender relations, modern subjectivities, development and humanitarianism, and the colonial legacy. Ongoing written and oral discussion will enable students to gain facility with key theoretical models to analyze the role of African religions in dynamic processes of political, economic, and cultural transformation. Previously listed as Anthropology 398 (Spring 2013). Prerequisite: Anthropology 112 and junior or senior standing. Four credit hours. HALVORSON

15	AY374	Public Anthropology	An exploration of innovative ways in which anthropology is used for proactive, public engagement in policy implementation and transformative social action. We review the history of disciplinary efforts at public engagement and experiment with our own approaches to engagement using ethnography, cultural critique, and collaborative methodologies. Students will develop oral and written communication skills through individual and collaborative projects, experiment with different ethnographic genres, and assess the effectiveness of different approaches to public engagement. Previously offered as Anthropology 397A (Fall 2013). Prerequisite: Anthropology 112. Four credit hours. BESTEMAN
16	AY464	Anthropology of Food	Food is essential to human life. Yet the significance of food for human being extends far beyond calories and nutrition. What counts as food is deeply shaped by cultural meanings and associations. Food can signify distinctive cultural identities; it can mark proud or shameful histories and global connections; it can point to (or obscure) deeply embedded structures of power and relations of inequality and privilege, both within and across diverse societies. Food offers rich fields for anthropological theorizing and fruitful avenues for extending critical research skills. Course work culminates in an independent, original research project and oral presentation. Prerequisite: Anthropology 112, and 313 or 333 (either may be taken concurrently), and junior or higher standing.
17	AR282	Photography II: Picturing the Built Environment	Provides further exploration of the materials, techniques, and ideas covered in Photography I, while introducing more advanced methods, materials, and equipment. Thematically based on our relationship to the built environment, those places that most reflect the intersection of humans and nature. Written and visual assignments will be based on the work of photographers who have previously taken on this topic and the critics and scholars who have discussed it. Human/Nature humanities lab. Prerequisite: Art 281.
18	AR365	Sculpture III	Builds upon concepts and methodologies initiated by previous sculpture courses. A range of material practices support research on the history of ideas explored by 15th- through 21st-century sculptors. Materials include stone and wood sheet products. Students learn advanced tooling, tool maintenance, and techniques appropriate to stone carving, in addition to milling and fabricating plywood, chipboard, and MDF board. This semester students will engage with the Tiny Giants exhibition as part of the Human/Nature theme. Provides students time to explore the deep concepts and skill sets specific to these media. Prerequisite: Art 162 or 266. Four credit hours.
19	AR454	American Art and Science: Picturing Nature	Explores interactions between science and visual culture in the United States from the 18th century to the present, focusing on efforts to visualize the natural world. Major topics include the scientific basis of American landscape art, natural history displays, and the visual culture of environmentalism. Students are expected to complete writing assignments, deliver oral presentations, conduct original library research, and engage with visiting artists/scholars. They will study art at the L. C. Bates Museum, Colby College Museum of Art, and Colby Libraries Special Collections. Prerequisite: Art 101, 258, 259; or any American Studies; Science, Technology, and Society; or Environmental Studies course. Four credit hours.
20	BI332	Developmental Biology	How does the human body come to be? Before and after birth, individuals are influenced by their genes, the genes of their parents, and by their environment. Cells communicate with one another to organize tissues, organs and the body as a whole. Developmental biology is the study of these complex processes, which unfold in space and over time on the scale of a life cycle. This Human/Nature theme course examines the mechanisms of development in humans and other organisms as they relate to the structure, function, genetics, and evolution of the body. Student will conduct self-designed experiments, read the scientific literature, and practice writing in this format. Developmental biology has its origins among the nineteenth century German naturalists, who emphasized documentation through carefully drawings or lithographs representing animals, plants, and their embryos. Modern methods of microscopy continue to provide lucid visual insights into development. As a way to communicate this subject, students in BI332 are asked to present a developmental process in some dynamic way, making use of sculpture, drawing, music, or other artistic forms to elucidate the natural processes of formation. Four credit hours.
21	BI133	Microorganisms and Society	An introduction to the importance of microorganisms to human health and the functioning of planet Earth. The diversity of the microbial world presented with relevant examples of how microorganisms affect our daily lives. Discussions and lectures based on the roles microorganisms and viruses play in disease, the food industry, ecological relationships, and biotechnology. Lecture and laboratory. Cannot be counted toward the biology majors. Four credit hours. N, Lb. F. FEKETE
22	BI164	Evolution and Diversity	An introduction to the theory of evolution and to the diversity of organisms. Topics will include the theory of natural selection, transmission genetics, speciation, and the adaptive radiation of all domains and kingdoms of organisms. Lecture and laboratory. Prerequisite: Biology 163. Four credit hours. N, Lb. STONE
23	BI373	Animal Behavior	The study of animal behavior is an interdisciplinary field in biology. Humans throughout history have been fascinated by different aspects of animal behavior. From descriptive observations to practical applications of training, we continue to learn about behavioral strategies shaped by natural selection and proximate motivations of animals in their environments. Students in this Human/Nature theme course become familiar with current concepts of and methods applied to study animal behavior, practice reading and critically evaluating primary literature by scientists who study behavior, and develop testable hypotheses and well-designed experiments to address their own questions about animal behavior. We draw on examples from across animal taxa to illustrate the complex mechanisms underlying adaptations, and complement these with natural history videos and case studies that highlight key concepts. Prerequisite: Biology 164 and junior standing. Three credit hours.
24	BI214	Plant Physiology	The essential mechanisms of plant function. Emphasis will be placed on plant water relations and the regulation of plant growth and development by hormones and environmental signals. These physiological processes will be addressed in the context of both natural and agricultural ecosystems. The laboratory portion focuses on developing skills in experimental design, good laboratory technique, and proper interpretation of data, and it entails presentation of the results of experiments in the form of a scientific paper and an oral presentation. Prerequisite: Biology 164. Four credit hours. JOHNSON
25	BI237	Woody Plants	Exploration of the processes that determine forest structure and species composition. Students will learn about the abiotic and biotic features of forest sites and the ways in which physiology and life history of individual tree species predict their responses to climate, soil, and land use history. In field-based laboratories, students will learn how to interpret forests and to describe how human actions interact with other factors to shape our forested environment. Prerequisite: Biology 164. Four credit hours.
26	BI240	Microbes in the Environment	An exploration of the function of microorganisms in natural and man-made ecosystems. Broad themes include plant and animal symbioses and diseases, element cycling, remediation of pollutants, and global climate change. Students gain an in-depth understanding of how to identify, collect, and quantify environmental microbes and microbial activities. They explore cutting-edge research, applying knowledge of microbes and microbial processes to advance global efforts focused on managing food production, reclaiming contaminated soils and water, and modeling climate change. Previously listed as BI298 (2015). Prerequisite: Biology Three credit hours. N.

27	BI248	Microbiology	Provides an understanding of the nature and diversity of microorganisms and viruses and the roles they play in the biosphere. Emphasis will be on the microbe itself—its functional, ecological, and evolutionary relationships—as well as the activities it carries out that are of interest to humans. The approach will be fundamental, stressing principles, but with considerable emphasis on how these principles are applied to practical problems in medicine, industry, and the environment. Lecture and laboratory. Credit cannot be earned for both this course and Biology 238. Prerequisite: Biology 164 (prerequisite), Chemistry 131, 141, 142, or 145 (may be taken concurrently). Four credit hours. F. FEKETE
28	BI254	Marine Invertebrate Zoology	A survey of the major phyla of free-living marine invertebrates and the study of the evolutionary relationships of those groups. Students will learn to classify marine invertebrates and to understand their role in marine communities. They will work collaboratively to produce Wiki accounts on topics of current interest in marine invertebrates. Each student will give a talk on a topic of her/his choice based on a critical survey of the primary literature. A comprehensive lab practical will test the students' mastery of marine invertebrate morphology. Prerequisite: Biology 164. Four credit hours.
29	BI259	Plants of the Tropics	An intensive study of tropical plant biology taught in Costa Rica during the January term. Emphasis is on the physiology, ecology, and conservation of plants in both wild and agricultural settings, and the importance of plants for human cultures in tropical Latin America. We visit two distinct environments in Costa Rica: a lowland tropical rain forest (La Selva Biological Reserve), and a tropical dry forest (Santa Rosa National Park). Students complete a field research project during the final week. Students must cover expenses of approximately \$2,300. Limited scholarship funds may be available. Prerequisite: Biology 164 and permission of the instructor. Three credit hours.
30	BI277	Vertebrate Natural History	A study of the vertebrates with emphasis on natural history, evolutionary relationships, adaptations, functional anatomy, and conservation. Features species found in New England, and addresses specific questions about the distribution and abundance of vertebrates across a range of habitat types. Previously listed as Biology 297 (Fall 2014). Prerequisite: Biology 131 or 164. Three credit hours
31	BI319/ES319	Conservation Biology	Concepts of conservation biology are examined in detail. Topics include patterns of diversity and rarity, sensitive habitats, extinction, captive propagation, preserve design, and reclamation of degraded or destroyed ecosystems. Interdisciplinary solutions to the challenges of protecting, maintaining, and restoring biological diversity are discussed. Offered in alternate years. Prerequisite: Environmental Studies 118 or 271 or Biology 263, and sophomore or higher standing. Four credit hours. NYHUS
32	BI320	Evolutionary Analysis	Focuses on the mechanisms that drive evolutionary change and on the long-term consequences of these mechanisms. We develop analytical techniques to infer the causes and consequences of genetic variation within species. These techniques can be applied to any species, including those of particular relevance to humans such as agricultural species, introduced invasive species, species of conservation concern, and parasites. Students will develop a grant proposal in the form of a National Science Foundation Graduate Research Fellowship. Prerequisite: Biology 164 and junior or higher standing. Three credit hours.
33	BI334	Ornithology	A broad survey of the biology of birds including their evolutionary history, morphology, physiology, flight adaptations, behavior, vocalizations, nesting, life history, conservation, and phylogeny. Students will prepare three critiques of the primary literature on particular controversial topics in ornithology. A lab practical will test each student's knowledge of skeletal, feather, and internal anatomy. The final exam will be a test of visual and aural identification of all the species found during the field trips. Prerequisite: Biology 164, and junior standing. Four credit hours. WILSON
34	BI375	Animal Physiology: Environment and Adaptation	A study of the diversity of animal function, from organisms to molecules, with an emphasis on adaptations to the environment. Physical and chemical principles and their application to physiological processes will be emphasized. The optional laboratory, when offered, earns a fourth credit and is an in silico exploration of quantitative concepts, genomics, proteomics, and bioinformatics. Prerequisite: A 200-level biology course. Three credit hours
35	BI376	Development, Genes, and Evolution	Evolutionary developmental biology investigates the intersections of development, genetics, and evolution. We will present an overview of these subjects, followed by ideas and methodologies that emerge from their synthesis. Topics include plasticity, polyphenism, gene networks, constraint, parallel evolution, evolvability, among others. Students will (1) become familiar with the history and evidence of these concepts, (2) understand the arguments for and criticisms of their roles in evolution, (3) practice discussion, peer review, and presentation of these and related topics. Prerequisite: Biology 279. Three credit hours. ANGELINI
36	BI382	Ecological Modeling	Examines the development and application of models that form the basis for theoretical ecology. Students will use model-building approaches to inform their understanding of fundamental ecological principles, exploring topics such as spatial and temporal dynamics of populations, competition and predation, and community composition and diversity. They will also learn statistical approaches for modeling data using large-scale, long-term datasets. Includes a lab in which students combine modeling with empirical approaches to generate and test predictions in population and community ecology. Prerequisite: Biology 263 or 271 or Environmental Studies 271, and Mathematics 212 or Statistics 212. Four credit hours.
37	BI451	Applied and Environmental Microbiology	Students will develop and conduct an independent research project to explore microbes and how they affect, and are affected by, their environments. A particular focus will be learning about and employing modern biochemical and genetic techniques to analyze microbes in extreme environments. Students will analyze scientific literature, conduct experiments, and interpret data. Results and data analysis will be disseminated in the form of oral and written reports. Prerequisite: Biology 248 or 279. Four credit hours. PECK
38	CH265	Green Chemistry	Intended to provide students with an introduction to green chemistry, not a specific field of its own, but instead a broad philosophy urging the reduction or elimination of the use or generation of hazardous substances in chemical design, manufacturing, and application. Students will examine the principles of green chemistry used on the research and industrial scales, after gaining a general background in toxicology, ecology, and the historical context that led to the search for safer chemicals and methods. Previously offered as Chemistry 297 (2014). Prerequisite: Chemistry 241. Three credit hours.
39	CI245	Documentary Video Production: An Editor's Perspective	Students will produce and edit short documentaries about Allen Island and mid-coast Maine which will be included in the Maine Food documentary series. Topics may include lobstering, aquaponics, food co-ops, and food education. Students will learn the basics of video production, although the focus will be on video editing. Students will learn the art of revision, as well as technical skills such as using a camera, shooting a scene, and interviewing subjects. Students' videos will be informed by best practices in the documentary genre. One overnight trip to Allen Island is required. Previously listed as Cinema Studies 297 (Fall 2014). Four credit hours. MURPHY
40	CI248	Digital Publishing: Telling Stories Online	Explores the many methods and tools available for creating digital stories. Students will learn the basic skills of multimedia production and develop strategies for conceiving original and creative projects related to the Human/Nature Theme. They will explore the potential uses of digital storytelling, including promoting non-profits, marketing a new business, and developing social justice campaigns. Projects will include the creation of animated .gifs, photo manipulations, audio soundscapes, digital video mash-ups, and promotional web videos. Students in this Human/Nature Humanities Lab will also become fluent in a variety of programs, including Photoshop, Audacity, and Final Cut X, and engage with a variety of publishing platforms including Vine, Flickr, WordPress, Vimeo, and Tumblr. Four credit hours.

41	CI321	Topics in Film Theory: Cinema/Landscape	Explores the relationship between cinema and the landscape, understood as both the natural and the built environment. We often experience landscapes and nature through the mediation of cinema, but rarely consider how such mediation also shapes our encounters with nature itself. While film is our primary focus, we will engage with screens of varying types and modes of representation that both preceded cinema and intersected with its later development. Human/Nature theme course. Prerequisite: Cinema Studies 142 or equivalent. Four credit hours.
42	CS341	Systems Biology I	An introduction to the field of molecular systems biology, which aims to understand the mechanisms underlying complex biological processes. Key to this endeavor is the process of formulating and analyzing mathematical models. Students will learn how to develop, simulate, and analyze ordinary differential equation models of biological systems as well as to read and understand relevant journal articles and perform in-depth analysis of model dynamics. Prerequisite: Computer Science 231, and Mathematics 122 or equivalent, and one of the following: Biology 163 or 164; Statistics 212, Mathematics 253, or a 300-level course; or any 300-level computer science course. Four credit hours.
43	CS441	Systems Biology II	The application of principles learned in Systems Biology I to a particular biological system. Students will work in interdisciplinary teams to complete a project focusing on one biological system and one or more mathematical models of this system. Involves reading journal articles, designing and running numerical experiments, analyzing results, and presenting challenges and results. Culminates in both a poster presentation and a comprehensive journal article-styled report and oral presentation. Prerequisite: Computer Science 341. Four credit hours. N.
44	EC171	Global Financial Markets	An investigation of global financial markets and their effect on the world's domestic economies. We will define and explore the primary components of global financial markets, analyze the roles of the public and private sectors in the markets, and develop recognition of the linkages between financial market events in disparate markets to underlying non-financial economies. We will also provide an introduction to esoteric financial instruments and techniques such as credit default swaps, securities lending, and others. Does not count toward the economics majors or minors. Previously offered as Economics 197 (2014). Three credit hours.
45	EC214	Economic Policy and Performance in Contemporary Latin America	Analysis of macroeconomic stabilization policies and microeconomic issues such as regional trade, agriculture, health, education, the environment, and labor markets in contemporary Latin America. Prerequisite: Economics 134 and a W1 course. Four credit hours. W2, I. FRANKO
46	EC273/GS273	Economics of Globalization	Development and application of economic tools of international trade and finance to understand the puzzle of a globally integrated economy. Lectures and student presented debates on key international economic issues, and weekly case studies, focus on policy dilemmas in the global economy. Through readings and debate students learn to assess the validity of contemporary writing on international economics. Specific topics include the Doha development round, trade pacts, the euro crisis, changing geometries of international economic power, global imbalances, the changing role of multinationals (including emerging market giants), and the role of corporate social responsibility in addressing poverty. Prerequisite: Economics 134. Four credit hours. W2.
47	EC279	Economic Rise and Future of China	Explores the historical path, current position, and future prospects of the Chinese economy. Examines the dynamics of China's recent economic success, drawing on economic analysis and recent research to understand current policy questions related to China and its role in the global economy. Students will engage with pressing issues through readings, debates, written assignments, and in-class discussions. Specific topics include Chinese monetary and trade policy, population change and the environment, science and technology policy, migration and the rural-urban divide, and the sustainability of China's growth. Prerequisite: Economics 133. Four credit hours. I. LAFAVE
48	EC297	Indigenous Peoples and Economies	Explores the relationship between indigenous groups and the U.S. government, focusing on the effect treaties, settlements, and sovereign arrangements have had on economic development and the well-being of individuals in native communities. Students will become familiar with the history of political interaction of state and U.S. governments with tribal groups through time; use data and economic principles to better understand the consequences of public policies related to indigenous people and to evaluate the well-being of affected communities; and consider development strategies to achieve specific goals of indigenous people. Prerequisite: Economics 133. Four credit hours.
49	EC297I	Energy Economics and Policy	Study of the economics of energy production and distribution. Students will learn the methods used to understand energy markets, while familiarizing themselves with frontier research at the intersection of energy economics and environmental management. In a mock electricity market, they will value firms based on their portfolios, participate in spot markets, and present arguments for and against the regulation of energy producers and the restriction of greenhouse gas emissions. Topics include auction theory, basics of resource economics, common mechanisms for combating greenhouse gas emissions, and modern advancements in the field of energy economics. Prerequisite: Economics 133. Three credit hours. OTTO
50	EC298	Macroeconomic Development	Provides a comprehensive understanding of the essence of development and underdevelopment within the context of major economic problems faced by developing countries in Africa, Asia, Latin America, and the Middle East. Students will be introduced to the classical and contemporary theories of economic development and growth. Topics include economic growth, technology and structural transformation; poverty and inequality; agricultural and rural development; education and Generated May 25, 2017, on colby.edu 93 Colby College 2016-2017 Catalogue health; demographic transition, migration, and urbanization; foreign aid; role of markets, government, and civil society in development policy-making. Prerequisite: Economics 134. Four credit hours. DONIHUE
51	EC335	Topics in Economic Development	An examination of current economic issues faced by developing countries and an introduction to the study of development economics. Topics covered in detail include the concepts and measurement of economic development, human capital over the life course, gender and household decision making, microcredit and insurance, inequality and development, the role of institutions and the state, debates over the effectiveness of foreign aid, and international migration. For each topic, we seek to understand the factors and constraints influencing economic decision making in developing countries. Prerequisite: Economics 224. Four credit hours. LAFAVE
52	EC348	Economic Growth	Introduces students to the theory of economic growth. We will primarily be concerned with how economists measure differences in living standards across countries and over time and how they explain these differences in living standards. Students will learn how to work with models of economic growth and evaluate these theories by using publicly available data. An important part is devoted to obtaining, preparing, and presenting data on cross-country income differences. Prerequisite: Economics 224. Four credit hours.
53	EC353	Urban and Regional Economics	Provides an in-depth perspective on the economic activity of cities and regions. The focus is on the use of economic theory to explain various urban phenomena with an emphasis on the role cities play in greater economic development. Specific topics include economic reasons for the existence of cities and specialized regions, urban spatial structure, urban sprawl, housing, local public goods and services, pollution, and urban quality of life. Prerequisite: Economics 223. Four credit hours.
54	EC378	International Trade	An introduction to international trade theory and policy. Topics include the determinants of international trade patterns, the gains from trade, distributional effects, increasing returns and scale economies, outsourcing, commercial policy, factor movements, trade agreements, and labor and environmental standards. Students will understand and be able to manipulate the major international trade models and analyze current trade policy issues in the context of these models both orally and in writing. Prerequisite: Economics 224. Four credit hours. WALDKIRCH



55	EC471	Seminar: Global Production	<p>Many goods and services include components that are produced in multiple countries. Global production chains are organized within multinational enterprises or may take place through contractual arrangements. Studies the determinants of cross-border investment and production and their implications for the welfare of people in all countries. Readings are drawn largely from recent original research papers. An original empirical research project provides a deeper understanding of how economic research is conducted and evolves. Oral communication skills are developed through class discussion, presentations, and debates. Prerequisite: Economics 224, 393 (may be taken concurrently), and senior standing as an economics or global studies major. Four credit hours.</p>
56	EC475	Seminar: Economics of Global Health	<p>Exposes students to emerging issues in the economics of global health. By integrating economic theory and recent empirical work using detailed survey data and experiments, we analyze problems facing developing populations and policies aimed at their solutions. We consider extreme poverty and hunger, child mortality, health-care delivery and provider quality, and the relationship between income, poverty, and health. Attention will also be given to global health policy and empirical evidence of the success or failure of policies that target maternal and infant health, anemia, HIV, and malaria. Relies heavily on applying concepts covered in statistics, econometrics, and intermediate microeconomics to reading, discussing, and conducting empirical research. Prerequisite: Economics 224, 393 (may be taken concurrently), and senior standing as an economics major. Four credit hours. LAFAVE</p>
57	EC478	Seminar: U.S. Social Safety Net	<p>Many domestic spending programs have a goal of improving the well-being of low-income citizens. What challenges does the government face when designing these programs and how do they alter behavior? Students will read and discuss scholarly research on topics including welfare, Medicaid, education, Social Security, the earned income tax credit, and personal income taxation. Students will also write an original empirical research paper. Emphasis on analyzing existing research and developing new research ideas using differences-in-differences methodology. Prerequisite: Economics 224, 393 (may be taken concurrently), and senior standing as an economics major. Four credit hours. GUNTER</p>
58	ED135	Multicultural Literacy	<p>Introduces students to the knowledge and skills that constitute multicultural literacy, including 1) understanding and respecting differences based on race, ethnicity, gender, sexuality, social class, religion, and ability; 2) being aware of one's own culture/background and biases and how these may shape one's interaction with those who are different; 3) mastering key theoretical concepts that shape and inform contemporary approaches to diversity and social justice; and 4) communicating effectively across differences, managing conflict in positive ways, and intervening in negative situations. Prerequisite: First-year standing. Three credit hours.</p>
59	ED221	Creating Media for Social Change	<p>Explores how to create entertaining and educationally effective digital media for youth (preschool to high school), with an emphasis on socially charged curricular areas such as conflict resolution and cultural tolerance. Through extensive screening of media from around the world, lecture, and discussion, students learn to create their own goal-driven media projects. This will include working in small teams to 1) create a short film as part of a collaboration with an Iraqi youth peace initiative, and 2) develop a multimedia, series treatment that addresses an issue that targets American youth. Three credit hours. PIERCE</p>
60	ED201	Education and Social Justice	<p>An introduction to the relationship between education (theory, research, and practice) and social justice in U.S. schools. Goals include (1) understanding the concept of social justice, the dynamics of power, privilege, and oppression, and how these dynamics shape the experience of students and teachers; (2) developing relationships with children and youth in the greater Waterville area; (3) expanding ethical capacities, including compassion, empathy, respect, responsibility, and commitment to social justice; (4) honing key academic and intellectual skills. In addition, students are required to spend a minimum of 50 civic engagement hours in a local classroom. Previously listed as Education 231. Four credit hours.</p>
61	ED493	Senior Seminar in Education and Human Development	<p>A critical examination of selected topics and issues in the contemporary study of education and human development. The focus will vary from year to year but will typically entail in-depth consideration of the psychological, philosophical, social, cultural, and/or historical dimensions of education and human development. Open only to senior majors and minors in education or human development. Four credit hours. HOWARD, KUSIAK</p>
62	EN237	Postcolonial Pastoral: Ecology, Travel, and Writing	<p>A critical examination of the pastoral as a literary genre from a global postcolonial perspective. Conducted in Kalimpong, India, enables students to work with Shiva's outreach center on biodiversity, ecology, and wilderness. Students combine their interest in civic engagement with a critical study of traditions relating to land, food, ecology, sustainability, and community, emerging in the global south. Students reflect on and write about their experiences of land and community from the perspective of informed observers, participants, and travelers. Fulfills English D requirement. Prerequisite: Any W1 course. Three credit hours. L, I. ROY</p>
63	EN238	Art of Fly-Fishing: Maine and Bishop, California	<p>Fly-fishing classics and instruction in casting, knot and fly-tying. Week three is spent fishing the Lower Owens River near Mammoth Lakes, Calif. Reading of literary classics (including Thoreau, Hemingway, Izaak Walton), critical essays, and blog required. Includes analysis of online nature writing; acquisition of fly-fishing techniques: gear choice, knot and fly-tying, casting, fly selection and nymphing; and writing a fishing blog that promotes awareness of and respect for the natural environment. Beginners and experienced fly-fishers welcome: students must apply to instructor for admission. Course cost: \$1,900 to \$2,400 depending on gear owned. Previously offered as English 297J. Prerequisite: Application, permission of instructor, and nonrefundable deposit. For more information, see web.colby.edu/fishing-professor. Three credit hours. L</p>
64	EN263	Poetry and the Nature of Being	<p>Poets and biologists are closer kin than you might know. Many great poems are rooted in unflinching, patient, penetrating observation and fearless inquiry into the nature of things. Poets and natural scientists (called "natural philosophers" in earlier centuries) have also shared alertness to form, pattern, rhythm, complexity, and the constancy of change—"neverresting time" and "interchange of state" in Shakespeare's terms. Reading poems by poet-naturalists from the Renaissance to the present, we will explore ways poetry and myriad biological sciences have inspired each other in the past and might inform each other in new ways in the future. Science majors welcome. Previously listed as EN297 (Jan Plan 2016). Prerequisite: A W1 course is strongly preferred. Three credit hours.</p>
65	EN297J	Plants, Animals, and (Almost) Humans	<p>Investigates the relationship between humans and our others: first plants and animals, and then androids, aliens, and clones. From HD's harsh sea roses to the carnivorous Venus fly trap of Little Shop of Horrors, from London's narrating dog to Wallace's sentient Maine lobsters, from Butler's sensuous Oankali to Ishiguro's clueless clones, these "others" confront us with the radically dissimilar and uncannily familiar and ask us to reimagine our rigid categories of plant, animal, self, and other. Incorporates 20th-century texts from various national traditions and includes poetry, drama, fiction, comics, essays, film, and video art. Fulfills English C requirement.</p>
66	EN314	17th-Century Literature and the Natural World	<p>A study of English literature in the century of Galileo and Newton, from Shakespeare's King Lear through Milton's Paradise Lost, with emphasis on representations of the natural world and the moral, political, and gendered uses of the concepts of "nature" and "natural." We explore how essays, plays, pastoral poetry, erotic lyrics, political prose, and epics engage in pressing anxieties and questions of late Renaissance culture. How does God control nature, if at all? How does one reconcile observations in the natural world with contradictory scriptural claims? How similar might human and non-human animals be? How should art respond to nature? Could "the law of nature" be "the beginning and end of all government," as Milton writes? Four credit hours.</p>

67	EN317	Literatures of Reform: Censorship, Science, and Satire from 1660-1740	<p>Our literary categories don't always obey the rules we'd like them to, so the "long 18th century" includes the 1660-1700 era of the monarchy's Restoration and the 18th century proper. This Human/Nature theme course covers roughly 1660-1740, a period during which the tumultuous politics of overthrowing and reinstating kings, the Scientific Revolution, identity conflicts between urban and rural lifestyles, and brash "paper wars" between authors competing in a rich literary marketplace combine in a raucous literary scene. We'll illuminate this scene; but we'll also reflect on what the writings of Aphra Behn, Jonathan Swift, Alexander Pope, and others tell us about our contemporary approaches to class, gender, religion, national identity, foreign policy, and science. Four credit hours.</p> <p>Investigates different forms and philosophies through which writers, artists, and performers have sought to portray "real life." Begins with an in-depth examination of three literary movements that dominated U.S. literature from the late 19th- through the early 20th centuries: realism, regionalism, and naturalism. Investigates how these cultural categories developed in relation and in response to specific social and economic conditions, and to similar movements in visual arts and music. Then looks at examples of Italian neo-realist cinema and contemporary U.S. reality TV to discover how visual media makers in the mid-20th and early 21st centuries have redefined the relationship between representation and the "real." Prerequisite: W1 course. Four credit hours. L.</p>
68	EN341	American Realism and Naturalism: Then and Now	<p>Focusing on broad themes such as observing and exploring, encountering animals, working the land, and dwelling in place, we thoughtfully and critically engage a century of excellent nature writing by authors worldwide. Students learn about and practice nature writing using the personal journal, the essay, word pictures and figurative language, story telling, poetry, and activism. Through reading, writing, art, music, video, and time outdoors, students encounter nature using all their senses, and gain an appreciation of the content and process of nature writing. Four credit hours. W1.</p>
69	ES120B	From Darwin to Dillard: Nature Writing through Time	<p>A comprehensive theoretical and practical introduction to the fundamental principles of geographic information systems and remote sensing digital image processing. Topics include data sources and models, map scales and projections, spatial analysis, elementary satellite image interpretation and manipulation, and global positioning systems. Current issues and applications of GIS, with emphasis on environmental topics. Students develop and carry out independent projects using GIS. Prerequisite: Sophomore or higher standing. Not open to students who have completed Environmental Studies 214 or 214J. Four credit hours. NYHUS</p>
70	ES212	Introduction to GIS and Remote Sensing	<p>An introduction to geographic information systems' (GIS) data management and visualization capabilities as well as the theory and application of spatial analysis techniques. Topics covered include spatial data representation in a GIS, effective map making, coordinate systems and projections, exploratory spatial data analysis (ESDA), and spatial statistical analysis. Prerequisite: Sophomore or higher standing. Not open to students who have completed Environmental Studies 212 or 214J. Four credit hours. GIMOND</p>
71	ES214	Introduction to GIS and Spatial Analysis	<p>Exploratory data analysis employs methods such as robust data summaries and data visualization to isolate important patterns and features in the data to shed light on the phenomena being investigated. Students will learn the building blocks of effective graphic design for data exploration and for publication using the R programming environment. They will also learn how to manipulate and restructure complex data sets (including spatial data) for data analysis. Students will use R and RStudio to generate dynamic reports that will integrate both analysis and presentation with a strong emphasis on reproducible research. Prerequisite: Sophomore standing. Four credit hours. GIMOND</p>
72	ES218	Exploratory Data Analysis in R	<p>An examination of ecological concepts applied to individuals, populations, and communities of plants and animals in terrestrial, freshwater, and marine environments. Concepts and theories related to adaptations of organisms to their physical environment, patterns of plant and animal diversity, population dynamics and interactions, and the structure and diversity of ecological communities are explored and applied to current environmental problems. Ecological sampling techniques are practiced during field trips taken to local terrestrial, freshwater, and marine ecosystems. Identification of common plant and animal species, and investigation of ecological relationships are emphasized. A research assignment helps enhance writing skills. Prerequisite: Environmental Studies 118 or Biology 131 or 164. Not open to students who have completed Biology 263. Four credit hours. N, Lb. MCDOWELL</p>
73	ES271	Introduction to Ecology	<p>The ocean engine comprises many connected biological cogwheels. Chemical and physical processes fuel this engine and interactions between biotic and abiotic components ensure its smooth functioning. We will explore the diversity and biological activities of oceanic life, with emphasis on microbial aspects, across contrasting ecosystems (open/coastal oceans, polar seas, deep sea, and coral reefs). We will address current topics that drive biological oceanography research, including the role of diversity and organismal interactions in sustaining healthy ecosystems, climate change, and human impacts. Students will gain a working knowledge of the role biological processes play in global ocean cycles and the factors that affect them. Prerequisite: Biology 131 or 163. Three credit hours. N.</p>
74	ES297A/BI297A	Biological Oceanography: Microbial Denizens of the Living Ocean	<p>An introduction to disease ecology and how connections among wildlife, livestock, and humans create opportunities for disease transmission. Explores zoonotic diseases (diseases that can be passed from animals to humans) and how the changes humans make to the environment affect disease. Involves lectures, discussion of case studies from Spillover, and evaluation and manipulation of simple disease models. Students will also develop communication and research skills through group discussions of primary literature, independent research, and presentation of a wildlife disease of interest. Prerequisite: Biology 263 or Environmental Studies 271. Three credit hours. N. MCDOWELL</p>
75	ES297C	Disease Ecology	<p>U.S. national parks and monuments will provide the focus for an introduction to basic geologic processes, including plate tectonics, geologic time, weathering and erosion, volcanism, earthquakes, caverns, shorelines, and the rock cycle. After an introduction to the regional geology of the United States, the focus will shift to the parks and monuments within these regions. Students will become aware of aspects of physical and historical geology, regional geography, environmental issues, the aesthetics of nature, and the interactive processes that have shaped the country. A field trip to Acadia National Park is included. Lecture only. Three credit hours. N. RUEGER</p>
76	GE111	Geology of National Parks	<p>Focuses on the conceptual foundations for understanding Earth Systems - lithosphere, atmosphere, hydrosphere, cryosphere, and biosphere over the past 4.6 billion years. An appreciation will be gained for deep time, sedimentary systems, fossils and evolutionary theory as manifested on a planets that has witnessed dramatic changes over Earth's history. Case studies include primary literature to gain insight into the interrelated nature of Earth Systems and how these have shaped our current state. Includes both theoretical and practical experiences in the classroom, laboratory, and field, culminating in a required weekend field trip designed to apply components of all experiences. Credit cannot be earned for both this course and Geology 146. Prerequisite: Geology 141. Four credit hours.</p>
77	GE142	Deep Time Planet Earth	<p>The world is naturally a dangerous place, and some human activities are making it more so. Students will not only come to appreciate and understand the scale and scope of geologic hazards, but how human industry and activities are making some of these hazards even more dangerous. Will help students learn how to avoid putting themselves at risk, as well as how their actions can help to mitigate some of these risks to others. Closed to students who have completed Geology 141 or 146. Revolutions theme course. Three credit hours. N. NELSON</p>
78	GE197A	Earth in Revolt	

79	GE242	Hydrogeology	Examines the fundamental principles of hydrogeology and introduces geophysical techniques (surface and borehole) used to investigate flow through the subsurface. Designed to provide the tools necessary to understand and characterize groundwater systems. Topics include the hydraulic properties of rocks, aquifer storage and subsidence, flow potential, analysis of pumping tests conducted in water wells, and interpretation of geophysical field data. Includes lecture, homework from textbook, oral presentation, and analysis of a variety of geophysical logs. Previously listed as Geology 297 (Jan Plan 2014 and 2015). Prerequisite: Geology 141 or 146, and Mathematics 121, 122, or 161. Three credit hours. MORIN
80	GE254	Principles of Geomorphology	Geomorphology is the study of the Earth and all its surficial expression and the continuing evolution of the planet as climate-dictated surface processes seek to remold the underlying solid Earth. Students learn the processes at work in the breakdown of rocks into soils and how mountains, valleys, and all the other myriad landforms of the Earth originated. They will become familiar with the processes that result in mass-wasting events such as landslides, how streams constantly change the environment, and how wind is active in desert environments and elsewhere; they will come to appreciate the significance of glaciers in the geologic history of Maine and North America, and how coastal processes affect the lives of hundreds of millions of people worldwide. Through understanding of the processes at play in these systems, interpretations of the origin of extraterrestrial landforms also becomes possible as well. Prerequisite: Geology 141, 142, or 146. Four credit hours. N. NELSON
81	GE256	Sedimentation and Stratigraphy	A module-based course in which students learn how to apply sedimentary rocks to interpreting Earth's stratigraphic record and develop a fundamental understanding of sediments and resulting rock types found in Earth's sedimentary successions. Modules include (1) the analysis of drill cores from coastal deposits in the Carboniferous of Alabama, (2) field and laboratory analysis of Silurian-Devonian carbonate sequences in New York State, and (3) an exercise in which the principles of sequence stratigraphy will be modeled. Students will learn to evaluate the sedimentary rock record over space and time using currently accepted approaches and models. Previously listed as Geology 356. Prerequisite: Geology 141, 142, or 146. Four credit hours. W2. GASTALDO
82	GE279	Geology of Bermuda	Students will learn how the island of Bermuda, subjected to a variety of geologic processes, has evolved over the past two million years. They will be exposed to the scientific method and how geologists study the Earth, its materials, and its processes. During field and laboratory observations, students will investigate how organisms, including humans, and sedimentary processes have shaped Bermuda; how sediment is formed, moved, consolidated, and lithified; and the interrelationships between geology and biology. They will gain an appreciation of the complexities of living on an island and the anthropogenic impacts on a fragile ecosystem. Cost in 2016: \$2,700. Prerequisite: Geology 131, 141, 142, or 146. Three credit hours.
83	GE351	The Record of Life on Earth	Using original research as an educational platform, students learn how to acquire and assess scientific data, to reference and synthesize primary literature, and to justify their arguments and conclusions in both written and oral forms. Provides a greater understanding of the processes responsible for a fossil record, its classification, the use of these data in evolutionary theory, the dynamics of individuals and populations or organisms over space and time, and the application of paleontological data to understanding ecological response to climate change, perturbation, and extinction mechanisms. Lecture only. Previously listed as Geology 251. Prerequisite: Geology 141, 142, 146, or one year of biology. Three credit hours. N. GASTALDO
84	GE354	Glacial and Quaternary Geology	An understanding of the causes of glaciation, mechanics of glacier formation, flow and transport, the resulting sedimentary facies and landforms (both erosional and depositional), and the history of glaciation on a North American and global scale. In the latter half of the course, students delve into the professional literature to come to understand the broad outline of what is known of the glacial history of Maine; multiple field trips are taken to key localities where students can experience and study sites and features covered in readings and classroom discussions. Prerequisite: Geology 254. Four credit hours.
85	GE378	Geologic Environments in the Marine Realm	An understanding of marine depositional environments in a variety of settings from shallow shelf to abyssal plain and from near shore to open ocean. Also, an analysis of sediment production by weathering and erosion, marine invertebrates, and seawater to interpret depositional environment. Includes an understanding of the formation of ocean basins and marine topographic features and of the oceanic and atmospheric circulation patterns on the transport of sediment in the marine realm. Anthropogenic impact on the ocean environment will also be considered. Prerequisite: Biology 163, Environmental Studies 118, Geology 141, 142, or 146. Three credit hours. N.
86	GE494	Topics in Geoscience: Deglaciation of Central Maine	A capstone experience in which students explore a cutting-edge geoscience topic in great depth. Students will hone skills introduced throughout the geology and geoscience majors including assimilating, analyzing, and interpreting the scientific literature and communicating in writing, orally, and graphically. Students will also gain experience communicating specialized scientific topics to a general audience. During fall 2016, students will be responsible for generating new data pertaining to the deglaciation and postglacial history of the Kennebec River drainage, and incorporating that new data into their synthesis. Prerequisite: Geology 254 and senior standing. Four credit hours. W3. NELSON
87	GS297	Global Displacement: Understanding Refugees and Refugee Policy	When people are forced to flee their homes because of persecution, what happens to them? What should happen? In our transnational world, cross-border conflict and displacement challenge our ideas about governance, identity, and justice. This course provides a framework to understand displacement in global perspective. We will trace the evolution of international refugee law and policy dealing with this growing population and consider the implications of displacement for individuals, communities, and states. Through case studies, we will also grapple with the social, cultural, political, and ethical challenges posed by refugee aid.
88	GS451	Justice and Injustice in Global Europe	Europe, as in centuries past, is formed by transnational flows of capital, migration, aid, and activism, as well as global and regional political and economic integration. We seek to understand contemporary Europe in light of these flows, with a particular focus on questions of inequality, exclusion, and violence. Includes close studies of Ireland, the former Yugoslavia, France, Greece, Italy, and the United Kingdom. Topics include gender relations, state formation, migrant rights, financial crisis, humanitarian assistance, and radical protest, with careful analysis of the arguments made, methods deployed, and evidence presented by scholars of various disciplinary backgrounds. Prerequisite: Anthropology 112 and senior standing.
89	GS455	Intervention: The Ethics and Politics of Humanitarianism	What does it mean to seek to relieve suffering on a global scale? How could such an impulse be political? Students will have the opportunity to critically analyze and understand humanitarian action in global perspective. We will investigate the principles and history of humanitarianism and consider their application on a global scale by a range of humanitarian actors, such as NGOs and states. We will investigate the politics and ethics of philanthropy, volunteerism, and humanitarian-military intervention, and discuss and debate the intersections and divergences between humanitarianism, human rights, and development. Prerequisite: Anthropology 112, and additional Anthropology course, and senior standing.
90	GO115	Great Issues in Contemporary American Government	Controversial issues such as environmental policy or tax policy divide the American public and decision makers on a recurring basis. An introduction to the institutions of American government through the lens of these issues. Students will explore the linkages between citizens and government, the effectiveness of the electoral process as a means of resolving policy debates, and the checks and balances inherent in our system as each issue is examined. They will learn how to write about issues in a variety of formats, e.g., newspaper articles, speeches, and research papers, and how to make effective oral presentations. Credit cannot be earned for both Government 111 and 115. Four credit hours.

91	GO131	Introduction to International Relations	An introduction to the basic concepts and theories of international relations, focusing primarily on the core issues of war and peace as they have evolved in the international system, as well as the prospects for cooperation through international institutions to address issues such as human rights, nuclear proliferation, the world economy, and the global environment. Four credit hours. S. HATCH, RODMAN, SEAY
92	GO221	Capitalism and Its Critics	Examines the interaction between politics and markets, both in theory and in practice, linking classic works in political economy with current policy debates. Emphasizes the ways in which markets are embedded in social and political institutions. Studies the formation of markets, current organization of capitalist systems, and their recent transformations in developed, transitioning, and developing economies, considering both historical and contemporary issues. Counts toward the comparative politics requirement. Four credit hours. S. MAYKA
93	GO314	Civil Liberties in American Constitutional Law	An examination of legal, moral, and philosophical controversies involving rights and liberties arising under the Bill of Rights and the 14th Amendment. Topics include the nature of rights and theories of constitutional interpretation; the right to the free exercise of religion and the establishment clause; freedom of expression; the "right of privacy" and protections for contraception, abortion, and homosexuality; and affirmative action and the status of women and minorities under the law. Readings include U.S. Supreme Court cases and related works of moral and political philosophy. Prerequisite: Government 111 or 115. Four credit hours.
94	GO320	The Rights Revolution and Its Discontents	The past century has yielded a steady expansion in the definition and public protection of individual rights for women, racial minorities, and LGBTQ persons. In addition, new public policies have deeply altered the rights to free expression and protected religious practice. Some applaud these changes in the definition of rights, others lament them. This course explores the ways in which rights are defined and expanded, the criticisms such changes encounter, and the role of public policy in sorting out these conflicts. Four credit hours.
95	GO332	International Organization	The structure, politics, and current operation of international organizations within the nation-state system. Topics include conflict resolution, nonproliferation, human rights, and international economic cooperation. Prerequisite: Government 131. Four credit hours.
96	GO336	Politics of Development in Africa	Explores the politics and practice of economic development and humanitarian aid in subSaharan Africa. Using readings, lectures, class discussions, and an independent student research project, examines the major theories of development in comparative politics; compares international, top-down models to localized, bottom-up approaches toward development in Africa; raises possibilities of partnership-based models; and critiques the history of colonial and postcolonial development and humanitarian aid in Africa. Counts toward the comparative politics requirement. Prerequisite: Government 131. Four credit hours. I. SEAY
97	GO338	Field Study in African Development	Students will spend approximately three weeks in Uganda comparing international, local, and diaspora-driven approaches to economic and social development. Through discussions with local, international, and development practitioners, observation of development projects, a rural home stay, and meetings with local and international policymakers, students will learn to identify, compare, and contrast varying theoretical and practical approaches to development in Africa, assess the effectiveness of international, diaspora-driven, and local approaches to development and its promotion in Uganda. Previously offered as Government 397 (Jan Plan 2015). Three credit hours. SEAY
98	HI233	Native Americans to 1850	Through readings, discussions, and films, students will examine how native peoples actively sought to preserve their lands, cultures, and identities and will consider their social and cultural contributions to American life. Topics may include pre-contact Indian societies; contact and conflict with explorers, traders, missionaries, and settlers; warfare and society; the struggle against early American expansion; Indian removal in the East; and the Trail of Tears. Four credit hours. H, U.
99	HI234	Native Americans Since 1850	Through reading, discussion, and film, students will examine how native peoples actively sought to preserve their lands, cultures, and identities and will consider their social and cultural contributions to American life. Topics may include warfare and removal in the West, cultural repression, boarding schools, Indian soldiers and code talkers, urban migration, termination, Indian activism and revival in the 1960s and 70s, and the ongoing struggle for sovereignty, recognition, and prosperity. Four credit hours. H, U. TORTORA
100	HI245	Science, Race, and Gender	Historical analysis of the concepts of race and gender in four different ways: their institutional basis, their scientific content, epistemological issues that surround notions of race and gender, and the cultural and social background of the scientists and science that developed from 1800 to the present. Consideration of importance of historical issues for contemporary society. Four credit hours. N, U.
101	HI246	Luddite Rantings: A Historical Critique of Big Technology	Adopting a technologically determinist argument, the instructor will subject to withering criticism the way in which Westerners, and in particular Americans, have embraced such technologies as automobiles, computers, reproductive devices, rockets, and reactors, with nary a thought about their ethical, moral, political, or environmental consequences. Students will be encouraged to argue. Four credit hours. H, U.
102	HI276	Patterns and Processes in World History	An introduction to patterns and processes in world history. Themes include the evolution of trade and empire, global balances in military and political power, impacts of disease, the evolution of capitalism, slavery and its abolition, global migrations, industrialization, imperialism, and decolonization. Students read essays and study maps of historical patterns and processes and write essays to hone their critical-thinking and writing skills. Four credit hours.
103	HI346	Global Health History	An exploration of humankind's historical experience with disease. Topics include the nature of disease and health, the origins of disease, the distribution of disease over time and space, therapeutic and prevention strategies, epidemics of infectious disease, international health interventions, epidemiological transitions, and behavior and disease. Students learn to integrate natural science and social science perspectives, writing weekly intellectual journals and engaging in seminar discussion. Previously listed as History 446.
104	HI398	Currents of the Past: Water in Global History	The essence of life on Earth, water has played a critical role in planetary and human history. We examine the history of human interactions with water from the ancient world to the present through a series of crossperiod and cross-regional comparisons. Through lectures, readings, discussions, films, and independent research, students will explore the historical relationships between water and power, the interaction between water and human culture, and the role of water in the history of health, science, and technology. Four credit hours. H. SOKOLSKY
105	HI432	Research Seminar: Native Americans in New England	An exploration of the experiences of Native Americans in New England within the broader context of American and Native American history and culture. How have Native Americans confronted racism, ignorance, and indifference to preserve their cultures and identities? The literary, artistic, and social contributions of natives to New England and to American life are examined closely. Prerequisite: A W1 course. Four credit hours. H, W3, U. TORTORA
106	IT397	City of Water: Uncovering Milan's Aquatic Geographies (in English)	In this humanities lab, students will explore the cultural history of water in Milan, Italy's self-described 'city of water,' in a multimedia environment that fosters an atmosphere of creative collaboration and encourages creative design. Students will turn from consumers of information into producers of cultural artifacts by generating thick maps of Milan. Sources will include photographs, maps, poems, short stories, essays, graphic novels, comics, manifestos, music, city plans, historical accounts, scholarly works, online archives as well as other digital humanities projects. The lab will travel once to Harvard's metaLAB(at)Harvard and its WorldMap Center. Four credit hours. L. FERRANDO

107	JP254	Stress and the Human-Environment Interaction	Explores the scientific evidence of psychological stress resulting from our interaction with the complex environment of modern Western society. Many aspects of our contemporary environment act as stressors and can lead to a wide spectrum of unhealthy stress-induced behaviors and conditions. These stressors can originate from a variety of sources ranging from the normal function of society (e.g., traffic noise, city lights) to the extremes of pollution disasters (e.g., oil spills). We will examine the epidemiological and neuroendocrine evidence of environmentally induced psychological stress. Previously listed as JP297C (Jan Plan 2015 and 2016). Three credit hours. BUCCIGROSSI
108	LA174	Introduction to Latin American Studies	Cross-disciplinary, historically grounded introduction to modern Latin America. We analyze and discuss politicians and ideologies, socioeconomic structures, environmental features, and cultural production (including art, music, and a novel). Major historical themes include the promise and problems of progress c.1850-1930, populism and nationalisms, the Cuban Revolution, Cold War dictatorships, and neoliberalism and neopopulism. Four credit hours. H, I, FALLAW
109	LT271	Nature in Horaces <i>Epodes</i>	Horace is one of Rome's greatest and most influential poets, but often textbooks focus on his blandest poems for fear of offending anyone. A selection from <i>The Epodes</i> , a book of often scurrilous abuse in poetic form focusing in particular on Roman presentations of nature (real and idealized), love, and witchcraft. Human/Nature theme course.. Prerequisite: Latin 131, or appropriate score on the College Board Latin SAT Subject Test, AP Latin exam, or a 200-level or 300-level Latin course. Four credit hours.
110	LT359	Nature of Things: Lucretius <i>De Rerum Natura</i>	A contemporary of Cicero, Caesar, and Catullus, Lucretius explains the workings of the cosmos, the nature of love and death, and the rewards of thinking freely. A masterpiece of Latin poetry, <i>De Rerum Natura</i> is a scathing critique of ancient religion, a scientific tour de force, and a monument in the intellectual history of Europe. Human/Nature theme course. Prerequisite: Latin 131 or higher.
111	SC212	Introduction to Statistical Methods	An exploration of statistical methods relevant to a broad array of scientific disciplines. Students will learn to properly collect data through sound experimental design and to present and interpret data in a meaningful way, making use of statistical computing packages. Topics include descriptive statistics, design of experiments, randomization, contingency tables, measures of association for categorical variables, confidence intervals, one- and two-sample tests of hypotheses for means and proportions, analysis of variance, correlation/regression, and nonparametrics. Credit can be received for only one of Mathematics or Statistics 110, 212, or 231. Four credit hours. Q, W2. LU, O'BRIEN, SCOTT
112	SC306/BI306	Topics in Epidemiology	The purposes of epidemiological research are to discover the causes of disease, to advance and evaluate methods of disease prevention, and to aid in planning and evaluating the effectiveness of public health programs. Students will learn about the historical development of epidemiology, a cornerstone of public health practice. Through the use of statistical methods and software, they will explore the analytic methods commonly used to investigate the occurrence of disease. Topics include descriptive and analytic epidemiology; measures of disease occurrence and association; observational and experimental study designs; and interaction, confounding, and bias. Prerequisite: Mathematics or Statistics 212, 231, or 382. Four credit hours. SCOTT
113	PL111	Central Philosophical Issues: Self and Society	An introduction to philosophy by consideration of two of its central branches: social and political philosophy and ethics. Issues addressed are moral absolutes, the social contract, political power, individual rights, economic justice, the good society. Readings from Plato, Locke, Mill, Marx, and Malcolm X. Four credit hours. S. GORDON
114	PL113	Central Philosophical Issues: On Being Human	Combines readings of classic philosophical texts on the subject of human nature with current incarnations of these debates in the contemporary world. Possible topics include the extent to which human nature is natural as opposed to cultural, the question of what differentiates humans from animals, the ethics of genetic enhancement and our treatment of other animals, the role of race or gender in human identity, humor as a unique human characteristic, examinations of human nature in post-apocalyptic literature. Four credit hours. S. DACEY, MOLAND
115	PL213	Philosophical Inquiries into Race	A philosophical treatment of several aspects of race and racism: ontological issues surrounding what race is; existential and phenomenological issues about embodiment as a visible racial minority; social and political issues regarding oppression, colonization, and discrimination; and ethical issues involving racial minorities in the American context. Four credit hours. S, U. GORDON
116	PL217	Feminism and Science	An examination of new and challenging questions feminists and social theorists have raised about the content, practice, values, and traditional goals of science. Objectives include deepening the student's knowledge of feminist philosophy and familiarizing them with some of the diverse literature in the field of science studies. Topics include "standpoint" and social epistemologies; objectivity, value-neutrality, and universality claims of modern science; the social and historical character of science; how implicit assumptions about gender, class, ethnicity, epistemic, and social values affect research and reasoning; and how the language scientists use to explain phenomena conditions the production of knowledge. Four credit hours. S, U. PETERSON
117	PL317	Philosophy of Science	A consideration of some major 20th-century conceptions of what scientists aim to do, what theoretical structures they employ in pursuing their aims, and what legitimates these structures. Science seems to be constrained by experience in distinctive ways, but it also ventures far beyond experience in pursuing its theoretical and explanatory aims. These issues are approached historically by examining the rise and fall of the project known as logical empiricism (or logical positivism).
118	PL328	Radical Ecologies	Radical ecologies interrogate our everyday, scientific, and metaphysical conceptions of nature, they emphasize that environmental problems in human-to-nature relations originate in human-to-human relations (e.g., gender, class, and race relations), and they call for comprehensive social and cultural changes through their critiques of existing social forms. They critically explore the historical, cultural, ethical, political, economic, and technological aspects of the place of the human in nature. Readings from anarchist social ecology, deep ecology, ecofeminism, and ecosocialism. Prerequisite: One philosophy course. Four credit hours.
119	PS341	Seminar in Memory	An examination of how exposure to and immersion in nature influences cognitive processes, especially attention and memory. Students in this Human/Nature theme course will acquire a basic understanding of how nature, technology, and urban environments can affect the mind. Evaluation of theories and interpretation of data will be achieved through reading and discussing original research articles. In-class discussion, as well as presentations and written assignments, will help students develop critical and analytical skills to understand and interpret data. Prerequisite: Psychology 215 and 232, a W1 course, and concurrent enrollment in Psychology 342. Four credit hours.
120	PS342	Collaborative Research in Memory	Collaborative empirical research projects on topics discussed in Psychology 341. Students will conduct original empirical work addressing cognitive effects of natural and manmade environments. Students' competence in research and communication will be assessed, following the guidelines of the American Psychological Association, through written assignments and oral presentations, both collaborative and individual. Prerequisite: Concurrent enrollment in Psychology 341. Human/Nature theme course. One credit hour.

121	RE275	Contemporary Witchcraft: Formalists, Feminists, and Free Spirits	History and practice of contemporary Witchcraft. Often erroneously confused with Satanism, Witchcraft (which includes Wicca) is an Earth-based religion centered on Goddess and God imagery which declares nature to be sacred and derives many of its rituals and practices from the seasons and cycles of the natural world. Readings, videos on theology, rituals, practices, and activism of Witches. Experiential components (discussions with Witches, ritual design, participation in an open circle, personal use of divination) and questions: How does feminine divine imagery affect the development, structures, practices? How has the focus on nature shaped contemporary Witchcraft? Why are many Witches activists? Why is there public resistance to, discrimination against Witches? Human/Nature theme course.
122	RE312	South Asians at the Crossroads: Tradition and Modernity	How do modernity and tradition intersect in the literature, art, and film of contemporary South Asians? The focus is on religion, gender, sexuality, race, class, environmentalism, medicine, and globalization. Hindu, Muslim, and Sikh expressions are explored in their diasporic and transnational context. Includes writings by Salman Rushdie, Irshad Manji, Rokeya Hossein, Meena Alexander, Amrita Pritam, Jhumpa Lahiri, Mindy Kaling, Atul Gawande; films by Mira Nair and Deepa Mehta; art by Siona Benjamin, Anish Kapoor, M.F. Husain, Arpana Caur, Singh Twins; and the environmentalist works of Vandana Shiva and Ravi Agarwal. Prerequisite: Junior or senior standing. Four credit hours. L, I. SINGH
123	SO131	Introduction to Sociology	Sociologists study processes by which people create, maintain, and change their social and cultural worlds. They investigate contemporary social issues and strive to explain relationships between what happens in peoples' lives and the societies in which they live. Sociology's research methods and theories apply to the full range of human behavior, from individual acts to global environmental, political, and economic change. An introduction to how and why sociologists study social and cultural phenomena such as inequality, race and ethnicity, gender, power, politics, the family, religion, social and cultural change, crime, and globalization. Four credit hours. S, U. BLAKE, MULLINS
124	SO231	Contemporary Social Problems	Analysis of selected controversial issues and public problems in the contemporary United States. General theoretical frameworks in the sociology of social problems used to analyze issues from one or more perspectives; areas include alienation, economic and political freedom, the politics of morality, poverty, women's roles, and social inequality. Four credit hours. S, U.
125	SO252	Race, Ethnicity, and Society	An examination of the roles of race and ethnicity in organizing complex stratified societies, in structuring systems of durable inequalities, and in organizing and shaping communities and enclaves within stratified societies. Using multiple sociological perspectives on race, ethnicity, minority groups, prejudice, discrimination, and institutional racism, special attention is paid to the United States with reference to immigration, slavery, conquest, annexation, colonialism, internal migration, social conflict, social movements, labor, citizenship, transnational adaptation, law, and public policy. Prerequisite: Sociology 131 or 231 or American Studies 276 or Anthropology 112. Four credit hours. U. GILKES
126	SO255	Urban Sociology	An examination of urban social and cultural life in a historical and cross-cultural comparative perspective, with special emphasis on the United States. Explored are social, psychological, political, ethnic, and economic issues pertaining to urbanization and to urban social problems as well as to such topics as urban architecture, urban planning, urban renewal, and neighborhood life in national and global contexts. Students participate in a community-based service learning project as part of the course requirement. Prerequisite: Sociology 131. Four credit hours.
127	SO274	Social Inequality and Power	Students will assess different arguments about why life chances are so unequal despite a founding commitment to equality within the United States and other democracies. We will follow Charles Tilly's advice that, in order to understand contemporary inequalities, we must first step back and put these processes into historical perspective. In addition to studying global, macro-level processes driving changes in the national economy, we will also look at how face-to-face interactions and local institutions shape people's abilities to navigate the changing economic landscape and to secure new economic and social opportunities. Prerequisite: Sociology 131. Four credit hours. U.
128	SO297C	Revolutions and Revolutionaries	Throughout history, individuals have organized with others to bring about radical social change. We will explore the experiences of activists, radicals, and revolutionaries in a wide variety of settings. What is it like to be on the front lines fighting for social transformation? Why do people risk life and limb to do so? How do activists advance their goals? We will examine sociological research, biographical studies, political theory, and historical sources for insights into the lives of those who make social and revolutionary movements possible. Revolutions theme course. Four credit hours. S, I. PEREZ
129	SO298C	Urban Sociology in a Global Context	An exploration of the complexities of city life in an increasingly globalized world, focusing on three broad topics. First, we will examine the main challenges of urbanization and hyper urbanization in both developed and developing societies: how to provide basic services for urban residents, avoid environmental degradation, and mitigate poverty, inequality, and violence. Second, we will discuss the economic role that cities have played during different historical periods. Third, we will consider how urban life may change in the future, looking especially at technology and climate change. Four credit hours. S. PEREZ
130	SO298D	Life Sciences and Society	What is social about the life sciences? We consider what happens when biology, medicine, and social order meet. We will look at cases where individuals and groups draw on ideas from biology to justify ill-conceived and dangerous social reform projects, from eugenics to more recent efforts at using genomics as a tool to identify populations at risk for criminal behavior. We will also explore the role social forces play in shaping science, from profit motive in the market for pharmaceuticals to political activism around medical conditions like HIV/AIDS. Four credit hours.
131	SO357	Civil Rights, Black Power, and Social Change	A seminar examining the impact of the civil rights and black power movements on sociological concepts, theories, and perspectives on race relations, racial stratification, social change, and ethnicity. The PBS series Eyes on the Prize I and II are used to introduce readings and discussions of sociological and ideological texts influenced or produced by activists and activities of the civil rights or black power movements. The connections among civil rights and black power movements and other social movements in the United States and other societies. Prerequisite: An introductory anthropology, sociology, government, history, or American studies course. Four credit hours. S, U. GILKES
132	ST197	Human/Nature Arts and Humanities Lab	How are the terms "human" and "nature" interrelated and how is their relationship changing? We like to think of the interaction as a peaceful one, as one of balance and mutually beneficial coexistence, but the word "slash" can help us remember that more often than not violence is the mode of interaction. This Arts and Humanities laboratory and public lecture series features visiting scholars and Colby faculty from a variety of fields, including history, art, and philosophy, addressing fundamental aspects of human experience, such as food, architecture, war, and planetary futures. Who is ultimately in charge? Students will discuss weekly topics on a course weblog. Nongraded. Human/Nature humanities lab. One credit hour.
133	ST197J	Biology and Society: Pandemic Legacy	From environmental crises to medical advancements and global food shortages, the life sciences are implicated in some of today's most pressing social issues. Using the board game "Pandemic Legacy" to examine these issues, we scrutinize how developments in biology have shaped and are shaped by society. We will address topics ranging from the role of universities, governments, and public-private partnerships in the development of biology, to controversies about regulation, access, and the role of race and social position. We will also examine how biological facts are used to answer the question of what it means to be human.

134	ST297	Human/Nature in the 21st Century	<p>A seminar and humanities laboratory with a coordinated evening lecture series open to students and the general public, offered with the support of the Arts and Humanities Center and the Colby Museum of Art. What does it mean to be human in an era of nearly incomprehensible technological complexity and change? Are there universal laws of nature and human nature, or is everything up for grabs? Is technoculture making things different in degree or in kind? Examines contemporary human-nature interactions and historical pathways leading to the current situation. Provides critical links and synergies between and among disciplines. Human/Nature humanities lab. Prerequisite: Concurrent registration in Science, Technology, and Society 197. Three credit hours.</p> <p>Seminar emphasizing classical, enduring issues involving the social study of science and technology. A senior capstone in preparation for a career. Students design, propose, and initiate a year-long project through broad reading, seminar discussions, written think pieces, a book review, thorough literature search, and preparation of a proposal and exploratory essay. Completion, typically in the spring but including a possible January internship, requires intensive research, writing, and presentation at a public seminar. Research funding may be available. Goal is to complete a project the student finds exciting and challenging and that will solidify her/his ability to conduct interdisciplinary research. Prerequisite: Senior standing and a W1 course.</p>
135	ST485	Technology Matters	<p>Students will work with faculty to conduct creative research to generate performance material in response to scheduled events surrounding the 2015-16 Humanities Theme: Human/Nature. This research will then serve as the basis for Theater and Dance 361 in Jan Plan in which students will work with faculty to create an original dance/theater hybrid piece. Outcomes include understanding creative research as a rigorous, complex undertaking and cultivating a personal performance aesthetic incorporating individual choices and risks, both creatively and in performance. Note: 164 is a prerequisite to 361. Nongraded. Human/Nature Humanities Lab. Prerequisite: Audition.</p>
136	TD164	Performance Lab Series: Human/Nature	<p>Students will conduct creative research to generate performance material in response to scheduled events surrounding the 2015-16 humanities theme Human/Nature. This research will serve as the basis for and prerequisite to the Jan Plan course TD361, in which students will create an original dance/theater hybrid piece. Outcomes include understanding creative research as a rigorous, complex undertaking and cultivating a personal performance aesthetic incorporating individual choices and risks, both creatively and in performance. Nongraded. Human/Nature theme course. Once credit hour.</p>
137	TD197	Human/Nature Lab	<p>Continuing research conducted in TD164 in the fall semester, students create an original dance/theater hybrid performance piece with the potential for an off-campus tour. Working with advanced compositional, performance, improvisational, and other embodied practices, students will continue to explore concepts developed in the fall while cultivating an understanding of creative research as a rigorous, complex undertaking and cultivating a personal performance aesthetic incorporating individual choices and risks, both creatively and in performance. Interested students studying abroad in either the fall or spring semesters should contact Professor Kloppenberg. Human/Nature humanities lab. Prerequisite: Theater and Dance 164 or audition. Three credit hours.</p>
138	TD361	Advanced Topics in Performance: Human/Nature Lab	<p>Examines gender and human rights through articles in the United Nation's Universal Declaration of Human Rights. Focusing each week on a particular article of the declaration, we will examine feminist activism in the context of women's rights as human rights; question how, who, and what are protected by the declaration; and bring the particular into conversation with the universal. Students will understand the concept of universal human rights, analyze human rights abuses from multidisciplinary perspectives, and critically analyze feminist activism for social justice across local and global contexts. Previously offered as Women's, Gender, and Sexuality Studies 397B. Four credit hours. S, I. THOMAS</p>
139	WG341	Gender and Human Rights	<p>An examination of current debates about social and political identity in an effort to understand the terrain of these debates by examining (and in some cases forcing) conversations between and among projects that attempt to offer ways of thinking about the relationship between identity formation and social movements. Students will complete an independent project on a topic of their own choosing. Prerequisite: Women's, Gender, and Sexuality Studies major or minor. Four credit hours.</p>
140	WG493	Seminar: Identity Formation, Social Movement, and Gender	