	A	B	C
1	**Course Title**	**Course Number**	**Official Description**
2	**E-STEM Professional Development Seminar**	ES3074ES	This course is designed particularly for students returning from the summer field geoscience course, however it is open to any students that are interested in broadening their professional network in Environmental STEM (E-STEM) fields, learning from local stakeholders about what "work" they complete in their career, and learning what skills and content knowledge is needed for different career paths. Each week a different E-STEM professional will engage with students both in the field (where appropriate) and in the classroom to give students a feel for what professionalism and professional work means for different jobs. Some of the local stakeholders will include professionals in fields such as environmental consulting, environmental policy, municipal planning, environmental education, energy and resource management, recreation, research, and conservation. The main objectives of this course are to: increase students' awareness of and access to a broad group of professionals working in ESTEM fields, provide opportunities for students to read and discuss scientific/technical literature and reports, and to facilitate student understanding of potential pathways to future careers. Beyond meeting and engaging with stakeholders, students will practice re-world work that these professionals engage in such as data management, report preparation, budgeting, communicating science to the public, and dissemination of research findings. They will learn to use software such as excel required in many E-STEM jobs. Students will also practice researching employment opportunities, preparing application material, and interfacing with professionals to inquire about potential or future opportunities. Students will be evaluated based on their performance on weekly assignments, interaction with the weekly stakeholder, and a final project/report. Level: Intermediate. Prerequisite: students must have taken at least two ES courses prior to enrolling; permission of instructor. Class limit: 16. Lab fee: $15.
3	**Ecology and Natural History of the American West**	ES4038ES	The American West has played a key role in the development of modern ecology and in our overall understanding of the Natural History of North America. Researchers such as Joseph Grinnell, Starker Leopold, Ned Johnson, Phillip Munz and Jim Patton contributed enormously to our understanding of the interactions, distribution and abundance of the enormous range of plants and animals occupying the western states, while the incredible variety of topography found between the Pacific slope and Great Basin Desert, containing both the highest and lowest points in the Lower 48, has provided an ideal setting for both observation and experimentation. This intensive field-based course will provide students with the opportunity to examine first-hand some key habitats within Nevada, California, and New Mexico, and to conduct a series of short projects on the fauna and flora in select sites. Areas to be examined will include terminal saline lakes, open deserts , montane meadows, pine forest, riparian hardwoods, wetlands, and agricultural landscapes. Readings will include primary sources and more popular accounts of both locations and the peoples who have lived in these lands over the past several thousand years. Evaluation will be based on class participation, a series of individual research projects and presentations, a detailed field journal, a mid-term and a final exam. This course will be integrated with and requires co-enrollment in Reading the West and Wilderness in the West. Level: Intermediate/Advanced. Prerequisites: Permission of instructor. Class limit: 9. Lab fee: none. Meets the following degree requirements: ES

	A	B	C
4	**Physics and Mathematics of Sustainable Energy**	ES1034ES	The aim of this course is to help students learn some basic physics and quantitative and analytical skills so that they can participate intelligently and responsibly in policy discussions, personal and community decisions, and ventures in the area of sustainable energy. We will begin with some basic physics, including: the definition of energy, the difference between energy and power, different forms of energy, and the first and second laws of thermodynamics. We will also provide students with a basic scientific and economic introduction to various alternative energy technologies. Along the way, students will gain mathematical skills in estimation and dimensional analysis, and will learn to use spreadsheets to assist in physical and financial calculations. There will also be a weekly lab to help students understand the physical principles behind different energy technologies and gain experience gathering and analyzing data. Students who successfully complete this course will be able to apply what they have learned to basic issues in sustainable energy. For example, they will be able to evaluate and analyze a proposed technology improvement by considering its dollar cost, carbon reduction, return to investment, payback time, and how all this might depend on, say, interest rates or the cost of electricity or gasoline. Students will also be able to analyze the potential of a technology or energy source to scale up. E.g., they will be able to consider not only the benefits to a homeowner of a solar installation, but to also analyze the degree to which solar power may contribute to Maine's energy needs. This will be a demanding, introductory, class. Evaluation will be based on weekly problem sets, participation in class and lab, and a final project. At least one college-level class in mathematics or physical science is strongly recommended. Level: Introductory. Prerequisites: None. Class limit: 15. Lab fee: none. Meets the following degree requirements: QR ES
5	**Rewilding: What is it and Can it Work?**	HS1061HS	This class will explore the history and current developments of the rewilding movement. We will examine the concepts of rewilding/landscape-scale conservation, and explore a number of examples including the Yukon to Yellowstone corridor, (YtoY), the Algonquin to Adirondacks Collaborative (A2A), the Jaguar Corridor initiative from northern Argentina to Mexico, and the Eastern Wildway effort along the East Coast of the United States and Canada. Our core text will be Caroline Fraser's Rewilding the World: Dispatches from a Conservation Revolution. We will also read and debate essays from Keeping the Wild: Against the Domestication of the Earth, Protecting the Wild: Parks and Wilderness, the Foundation for Conservation, and excerpts from E.O. Wilson's Half Earth. Opposition arguments will also be debated. The class will discuss the cultural and perceptual transformations rewilding requires. We will read excerpts from Robin Wall Kimmerer's Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants, and examine stories of perceptual transformation including Karsten Heuer's, Being Caribou, and Joe Hutto's Illumination in the Flatwoods. The class will skype with Roshan Patel, filmmaker of Pride, a story of coexistence with lions in Gujarat, India, (https://vimeo.com/65923702), and brown bear ecologist and film producer, Chris Morgan (https://chrismorganwildlife.org). A field component will include volunteering at the Downeast Salmon Federation's Peter Gray Hatchery. Evaluation will be based on participation in class discussions, the field trip and written assignments. Students will write one essay and a final paper on a rewilding topic of their choosing. Level: Introductory. Prerequisites: None. Class limit: 15. Lab fee: none.
6	**Science of Marine Conservation: Causes, Solutions and Roles**	ES3075ES	In this course we will explore marine conservation from three angles. We will begin by examining the causes for the loss of marine biodiversity. In particular, we will focus on the consequences of overexploitation (e.g. fisheries, whaling), noise pollution (e.g. ship traffic, oil and gas exploration and production), and climate change (e.g. acidification, reduction of sea ice). We will then investigate potential solutions and courses of action to reduce or eliminate these causes, such as marine protected areas, fisheries quota systems, and international treaties or organizations. Finally, we will discuss the roles that science, private and public interests, as well as laws and politics play in the process that leads from determining that conservation action is required to the decision on which steps to take. Course materials will draw on sources from case studies, primary literature, popular press, and practitioners to demonstrate the complexity and challenge of establishing the need for marine conservation as well as of deciding which options will be most effective and appropriate. At the end of the course, students will have the tools and knowledge to critically: a) identify causes for marine biodiversity loss; b) develop and assess potential solutions; and c) discuss the role of science in the process of developing marine conservation measures. Level: Intermediate. Prerequisites: Marine Biology and Intro to Oceanography. Class limit: 15. Lab fee: none.

	A	B	C
7	**Tutorial: Climate Policy Practicum**	HS4057HS	TBA
8	**U.S. Farm and Food Policy**	HS3076HS	This course offers a broad introduction to food and farm policy in the United States. Food and farm policy encompasses laws, regulations, norms, decisions, and actions by governments and other institutions that influence food production, distribution, access, consumption, and recovery. This course focuses on the policy process and two major policy tools: the U.S. Farm Bill and U.S. Dietary Guidelines for Americans. The course begins with an overview of the evolution of food and farming technology in the United States. Students are then introduced to the concepts, institutions, and stakeholders that influence farm and food policy, and examine examples of some of the most salient contemporary issues. Topics covered include: food production and the environment; farm-based biodiversity conservation; international food and agricultural trade; food processing, manufacturing, and retail industries; food safety; dietary and nutrition guidelines; food labeling and advertising; food and biotechnology; food waste and recovery; food advocacy and activism; and food insecurity and the Supplemental Nutrition Assistance Program (SNAP). Through case studies and exercises students examine the policymaking process at the local, state, and federal level and learn to evaluate various policy options. Finally, the course compares and contrasts international perspectives on farm and food policies and programs. Students are evaluated based on participation in class discussions, a series of op-ed essays, in-class briefs and debates, and a policy recommendation report on the upcoming U.S. Farm Bill. Level: Intermediate. Prerequisites: Must have taken at least one course in food systems, economics, or global politics. Class limit: 15. Lab fee: $30. Meets the following degree requirements: HS
9	**Wilderness in the West: Promise and Problems**	HS4043HS	Wilderness has been the clarion call for generations of environmentalists. In a letter in support of the Wilderness Act, writer Wallace Stegner characterized the importance of wilderness as an essential "part of the geography of hope." That single phrase and the current controversy surrounding the concept of wilderness provide the central focus of our explorations of wilderness in western lands. This course examines the question of wilderness from multiple perspectives in the hopes of providing an understanding of both the concept and real spaces that constitute wilderness. Through conversations with wilderness managers, field work, and experience in federally designated wilderness areas in National Parks, National Forests, Wildlife Refuges and on BLM lands, the course will also examine what "wilderness management" means on the ground in the varied landscapes of the western United States. In this context, we look at historical and contemporary acco unts of the value of wilderness, ecological and cultural arguments for wilderness, and the legal and policy difficulties of "protecting" wilderness. Considerable time is spent evaluating current criticisms of the wilderness idea and practice. The class will culminate at a week-long national conference celebrating the 50th anniversary of the Wilderness Act. The 50th Anniversary National Wilderness Conference provides an incomparable opportunity for students to hear from and interact with federal management agencies, academics, recreation experts, and environmental advocacy organizations. Presenting their final course work at this conference will also give students an opportunity to share their ideas and to receive valuable feedback from this sophisticated and well-informed audience of wilderness experts. Classwork emphasizes hands-on service-learning projects as well as reading, writing, and theoretical discussions. Students will be evaluated on journal entrie s, contributions to the class discussions, response rapers, engagement in field activities, questions in the field, and contributions to group work. This course will be integrated with and requires co-enrollment in Reading the West and Ecology and Natural History of the West. Level: Intermediate/Advanced. Prerequisites: Ecology, Our Public Lands, and permission of instructor and concurrent enrollment. Class limit: 9. Lab fee: none. Meets the following degree requirements: HS

	A	B	C
10	**College Seminar: Practical Skills in Community Development**	HS1064HS	In rural areas throughout the world, citizens, nonprofit leaders, agency staff, and elected officials are coming together to frame complex issues and bring about change in local policy and practice. This course outlines the theory and practice of community development, drawing on the instructor's experience with the Dùthchas Project for sustainable community development in the Highlands and Islands of Scotland, Mount Desert Island Tomorrow, and other examples in the literature. In short, community development allows community members to frame issues, envision a preferred future, and carry out projects that move the community toward that preferred future. By using writing as process—prewriting, writing, and rewriting—to frame and communicate complex public issues, students gain practical skills in listening, designing effective meetings, facilitation, project planning and developimng local policy. Readings, discussions, and guests introduce students to community development theory and practice. Class projects are connected to community issues on Mount Desert Island. By writing and revising short papers, students can reflect on class content, community meetings, newspaper stories, and reading assignments. Evaluation will be based on preparation for and participation in class discussion, several short papers, participation in field work, and contribution to a successful group project. This class meets the first-year writing course requirement. Level: Introductory. Prerequisites: None. Class limit: 12. Lab fee: None. Meets the following degree requirements: W
11	**Economic Development: Theory and Case Studies**	HS4052HS	Economic growth in the developing world has lifted millions out of poverty at the same time that misguided attempts at widespread application of generic economic development theories has impoverished millions. As a result of this tragedy, new approaches and methodologies to economic development are emerging, and represent some of the most important, dynamic, and controversial theories in all of economics. This course examines these new perspectives on economic development. We will briefly contextualize the new by reviewing "old" economic development, then move on to theories that emphasize very place-based, country-specific approaches to how economies develop; this will involve examining the specific roles of capital accumulation, capital flows (including foreign exchange, portfolio capital, foreign direct investment, and microfinance), human capital, governance, institutions (especially property rights, legal systems, and corruption), geography and natural resource endowments, industrial policy (e.g. free trade versus dirigiste policies), and spillovers, clustering, and entrepreneurship. The course will involve a rigorous mix of economic modeling, careful application of empirical data (including both historical analysis and cross-sectional studies; students with no exposure to econometrics will receive a brief introduction) and country studies. Evaluation will be based on classroom participation, responses to reading questions, short essays, and a final project consisting of an economic development country study of the student's choice that demonstrates application of theoretical concepts to the real world. Level: Intermediate/Advanced. Prerequisites: One economics course. Class limit: 15. Lab fee: none. Meets the following degree requirements: HS, QR
12	**Environmental Law and Policy**	HS4026HS	his course provides an overview of environmental law and the role of law in shaping environmental policy. We examine, as background, the nature and scope of environmental, energy, and resource problems and evaluate the various legal mechanisms available to address those problems. The course attempts to have students critically analyze the role of law in setting and implementing environmental policy. We explore traditional common law remedies, procedural statutes such as the National Environmental Policy Act, intricate regulatory schemes, and market-based strategies that have been adopted to control pollution and protect natural resources. Students are exposed to a wide range of environmental law problems in order to appreciate both the advantages and limitations of law in this context. Special attention is given to policy debates currently underway and the use of the legal process to foster the development of a sustainable society in the United States. Students are required to complete four problem sets in which they apply legal principles to a given fact scenario. Level: Intermediate/Advanced. Prerequisites: Introduction to the Legal Process or Philosophy of the Constitution strongly recommended. Offered at least every other year. Class limit: 20. Lab fee $10. Meets the following degree requirements: HS

	A	B	C
13	**Global Environmental Politics: Theory and Practice**	HS3016HS	This course will cover the politics and policy of regional and global environmental issues, including many of the major environmental treaties that have been negotiated to date (Montreal Protocol, Framework Convention on Climate Change, Convention on Biological Diversity). Students will gain both practical and theoretical understandings of how treaties are negotiated and implemented, through case studies of the climate change convention and the Cartagena protocol on biosafety. We will draw on both mainstream and critical theories of international relations when analyzing these negotiations. Students will become familiar with the range of political stances on different treaties of various nations and blocs, and the political, economic, cultural, and scientific reasons for diverging and converging views. We will pay special attention to the growing role played by non-governmental organizations in global environmental politics. We will conclude the course with discussions of some current controversial areas in international environmental politics. Level: Intermediate. Class limit: 15. Lab Fee $10.00 Meets the following degree requirements: HS
14	**History of the American Conservation Movement**	HS1021HS	This course provides students with an overview of the American conservation movement from the 1600s through the present. Through an examination of historical accounts and contemporary analysis, students develop an understanding of the issues, places, value conflicts, and people who have shaped conservation and environmental policy in the United States. They also gain an appreciation for the relationship between the conservation movement and other social and political movements. Students should come away with a sense of the historical and cultural context of American attitudes toward nature. We also seek to apply these lessons to policy debates currently underway in Maine. Working from original writings, students do in-depth research on a selected historical figure. Evaluation is based on problem sets, group activities, participation, and a final paper. Level: Introductory. Prerequisites: none. Class limit: 20. Lab fee: none. Meets the following degree requirements: HS, HY
15	**Launching a New Venture**	HS4022HS	This course will cover the process of new venture creation for students interested in creating businesses or non-profits with substantial social and environmental benefit. It is designed for student teams who have an idea and want to go through the formal process of examining and launching the enterprise. Topics covered in this course will include: opportunity recognition, market research, creating a business plan, producing financial projections and venture financing. As part of the course, all students will submit their ideas to the Social Innovation Competition. In addition, students will make a formal business plan presentation. Level: Intermediate/Advanced. Class limit: 15
16	**Personal Finance and Impact Investing**	HS4058HS	Financial decisions are often a reflection of personal beliefs encompassing lifestyle, ethics, personal worth, security and numerous other factors. Personal Finance and Impact Investing merges an exploration of personal financial choices with a broader exploration and introduction to impact investing. To ground the discussion, students will forecast and analyze their present and future financial needs, investigating various scenarios. Then the class will examine investing fundamentals and explore the emerging field of impact investing. Impact investors use a multitude of investing strategies and mechanisms to simultaneously seek social, environmental and financial returns. They create avenues for private investment to work alongside non-governmental organizations, large corporations, small businesses and others to help solve global and local problems. Impact investments have funded solutions in diverse arenas including food systems, climate change, poverty, affordable housing, clean technology and public health. Through readings, discussions and class projects students will explore the benefits and pitfalls of different strategies and the potential of investments to create social and environmental change. During the course students will learn how to create financial projections and evaluate the financial returns of enterprises. For their final project, students will have to recommend an investment platform that generates returns financially, socially and/or environmentally. Students will be evaluated based on class participation, written assignments and verbal presentations. Level: Intermediate/Advanced. Prerequisites: None, but it is recommended that students have taken a prior Sustainable Business course such as: Financials, Business Nonprofit Basics, Sustainable Strategies or Launching a New Venture. Class limit: 15. Lab fee: $10. Meets the following degree requirements: HS

	A	B	C
17	**Restoration Ecology**	ES3076ES	The Society for Ecological Restoration defines ecological restoration as “the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.” In this era of widespread environmental degradation, restoration ecology provides an important set of methods for mitigating anthropogenic damage. However, the science of restoration is still in its early phases, and important theoretical and practical questions remain to be resolved. This class will critically examine the assumptions that underlie restoration planning, both in the ethical dimension and in the realm of scientific theory. We will consider the validity of conceptual models of ecological communities and ecosystems and the way that these models shape decision-making. We will survey the factors that must be taken into account during restoration and study best-practices approaches, with a focus on adaptive management. In the final project, groups of students will develop and present restoration plans for a local site. Students will be evaluated based on two essays, class participation, and the final project. Level: Intermediate. Prerequisites: Any of a number of courses including Biology: Form and Function, Trees and Shrubs, Ecology, Weed Ecology, or Landscape Architecture Design Studio. Class limit: 20. Lab fee: 0. Meets the following degree requirements: ES
18	**Seminar in Human Ecology**	HS4010HS	This seminar traces the historical development of human ecology. We begin by reviewing the seminal works in human ecology, the contributions from biology, and the development of human ecology as a multidisciplinary concept. Along these lines we compare the various brands of human ecology that have developed through sociology (the Chicago school), anthropology and cultural ecology, ecological psychology, and economics, as well as human ecological themes in the humanities, architecture, design, and planning. This background is then used to compare the COA brand of Human Ecology with other programs in this country and elsewhere around the world. Our final purpose is to look at new ideas coming from philosophy, the humanities, biological ecology, and other areas for future possibilities for human ecology. Evaluations are based on presentations and papers. Offered every other year Level: Intermediate/Advanced. Prerequisites: None. Class limit: 15. Lab fee: $25. Meets the following degree requirements: HS
19	**Sustainable Design in the Built Environment**	AD3023AD	In the world of design and construction, green building is a relatively recent development. Its fundamental goal is to reduce the environmental impact of the built environment. This course will introduce the field of sustainable design, explore the fundamental concepts of green design and construction, and focus on tools and strategies necessary to design and construct high-performance buildings and communities. Students will discover how the practice of quality can fulfill the goals of sustainable design and construction. Evaluation will be based upon class participation, research presentation(s) and solution for a building design problem. Level: Intermediate. Prerequisites: Architectural Design Studio, Landscape Design Studio, construction or carpentry experience, any alternative energy course, or permission of either Isabel Mancinelli or the instructor. Class limit: 12. Lab fee: $30.

	A	B	C
20	**The Anthropocene**	MD3012MD	This course considers the definition of the human in terms of the politics of climate change and discussions about the notion of the Anthropocene, by staging an encounter between the discipline of geology and work in the humanities. Suggestions by scientists over the last few decades that human activity on the planet has attained geological force led Nobel Laureate Paul Crutzen to argue in 2000 that the current epoch should be called the "Anthropocene." Others challenge this suggestion, pointing out that humans have long left traces on the earth. Discussions about the Anthropocene are tied to the challenge of how to respond to the effects of human-induced climate change, including the threat of human extinction. This course will address questions such as: How do scientists and humanists engage with policy and scholarship about climate change? What are their central questions and key terms? We will consider how understandings of geological time and the stories rocks tell, might inform thinking in the humanities about climate change. In turn, we will consider how humanist questions about the definition of the human might inform the ways in which science interfaces with politics and policy regarding climate change. This course is co-taught by a geologist and an anthropologist, and will be an exercise in translation between very different fields. Class material will include laboratory activities, seminar discussions, and close readings of texts in postcolonial studies, geology, anthropology, and literature. Students will be assessed based on class participation, reading responses, laboratory activities, and a final project. Level: Intermediate. Prerequisites: None, but preference will be given to those who have had prior course work in either anthropology or geology. Permission of instructor required. Class limit: 16. Lab fee: $10.
21	**Climate and Weather**	ES3044ES	This class will explore general weather and climate patterns on global, regional, and local scales. We will discuss the major forcings driving global climate fluctuations - on both long (millions of years) and short (days) timescales, including natural and anthropogenic processes. We will also learn about basic meteorology and the processes producing some common spectacular optical weather phenomena (rainbows, coronas, cloud-types, etc). Students will complete a term project comprising a photo-documentary journal of the different weather phenomena they observe during the 10-week term. The field component of this course will be self-guided through the observation and documentation of weather phenomena. Who should take this course: No prior geology/science experience is needed - but expect to do a bit of basic math in this course! The course level is intermediate because it will not cover foundational principles of geology (or other sciences) but instead the course will be integrative and require students to practice both their quantitative and qualitative skills. Take this course if you are passionate or curious about climate change, but do not know much about the science of climate and weather! Level: Intermediate. Prerequisites: none. Class limit: 16. Lab fee: $10 Meets the following degree requirements: ES
22	**Environmentality: Power, Knowledge, and Ecology**	HS4020HS	Bringing critical theory directly to the gates of human ecology, this class will approach the central issue of how discourses of government, biopower, and geopower have intertwined and infused themselves within the representations of "environments" in popular debate. With a specific nod to Foucault, Marx, Baudrillard, Luke, and other critical social theorists, we will tackle the various complexities that arise when "ecology" become a site for political and economic expertization. Topics to be covered include the formation of knowledge/power/discourse, systems of environmentality, the rise of hyperecology, the valorization of ecodisciplinarians, and, as Timothy Luke puts it: "how discourses of nature, ecology or the environment, as disciplinary articulations of ecoknowledge, can be mobilized by professional-technical experts in contemporary polyarchies to generate geopower over nature for the megatechnical governance of modern economies and societies." The class will also address the question of "moving forward", and how these critiques can open productive spaces for new ways of representing modernity and ecology. The class will be highly interactive; discussion will be the primary mode instruction, and students will have considerable influence on the exact topics covered. Final evaluation will based on a combination of class participation, a series of analytical response papers, and two long form essays. While the class is open to all students, those with some background in critical theory, philosophy, or economic theory are encouraged to attend. Level: Intermediate/Advanced. Class limit: 10. Meets the following degree requirements: HS

	A	B	C
23	**Hydro Politics in a Thirsty World**	HS5015HS	This course will look at the complex issues surrounding the development, distribution, use and control of fresh water around the world. Focusing primarily on developing countries, we will examine three aspects of water use and control. First we will look at the scope and impact of water development projects; second we will examine the conflicts and solutions related to transboundary river basins; and third we will consider the implication of privatization of water resources. By way of background, we will review the variety of demands placed on fresh water and the political institutions related to water development. Students will gain a solid background in international environmental law as it relates to multilateral and bilateral treaties, customary law, multilateral institutions, and the guidance of international "soft law". They will also understand the allocation and equity issues surrounding the privatization of water and the political dimensions of this shift. Ultimately, these issues will give a concrete understanding of some aspects of the concept of sustainable development. Evaluation will be based on class participation, short analytical papers, and a substantial term-long assignment. Level: Advanced. Prerequisites: Solid background in international politics, economics, human rights, or development policy through coursework or personal experience. Class limit: 20. Lab fee: $15. Meets the following degree requirements: HS
24	**Land Use Planning I**	AD3016AD	In this course we will examine what key physical aspects make communities desirable places to live, work and visit and how principals of sustainability can be integrated into the planning process. New development often undermines a sense of place and poses threats to environmental resources such as water quality. Through analyzing a local town in terms of its natural resources, cultural history, scenic quality and the built environment, students determine how new development and conservation may be balanced. They learn how to use computerized geographic information systems (GIS) as a planning tool in developing their recommendations. Students present their final class project to local community decision-makers. Offered every other year. Level: Intermediate. Prerequisites: Previous coursework in GIS is not required. Class limit: 12. Lab Fee $50.00. Meets the following degree requirements: AD
25	**Tutorial: Intermediate Physics of Energy**	ES3079ES	This tutorial is designed for well-prepared and motivated students who wish to deepen their understanding of the physics of sustainable energy. We will focus on three of the largest non-fossil fuel sources of energy: solar, wind, and nuclear. We will also look at different energy storage technologies and some of the physical principles relevant to the electricity grid. While the emphasis of this class is gaining a first-principles understanding of the physics of sustainable energy, we will also discuss how physics constrains what is feasible for a fossil fuel-free future. Evaluation will be based on weekly problem sets and participation in class meetings. Level: Intermediate. Prerequisites: Two terms of college-level calculus and two terms of either college-level physics or chemistry, and permission of instructor. Class limit: 5. Lab fee: none.

	A	B	C	D
1	**Course Title**	**Course Number**	**Official Description**	**Additional Comments**
2	**Capitalism: Economics and Institutions**	HS5037	Capitalism is the dominant form of economic institutional arrangements and production in the world today, along with a set of culturally inflected values and an interpretive frame for understanding the world around us that is a crucial context for work in Human Ecology. The focus of this course is on the economic imperatives of capitalism, the resulting institutional arrangements, and the socioeconomic outcomes that capitalism produces; we will also dedicate some time to the (other) cultural dimensions of capitalism, largely through the incorporation of guest lecturers in the latter part of the term. The foundational economic analysis will use both Marxist and what can be called “critical macroeconomic” theories to understand the economic processes and results of capitalism. Our focus will be on contemporary capitalism, but we will briefly examine the historical development of capitalism as a means of understanding contemporary patterns. A major impetus for the course is Thomas Piketty’s "Capitalism in the 21st Century", and its focus on inequality will be a major focus of the course. Other prominent themes will be pre-capitalist modes of production, the labor theory of value, markets and processes of labor commodification and alienation, the formal and informal institutions of capitalism, money and other forms of debt, international capitalistic relations, crises, and variations of contemporary capitalism. Learning will be accomplished via the reading, study, analysis, and discussion of classic and contemporary theories of capitalism, and applications to current local, national, and international situations and events. Evaluation will be based on four major problem sets (consisting of short essay responses), a final poster presentation, and participation in classroom discussions and other fora. Level: Advanced. Prerequisites: One course in intermediate economics and one additional intermediate course that closely relates to the study capitalism (e.g. another economics course, critical theory, etc.), and permission of instructor. Class limit: 10. Lab fee: none. Meets the following degree requirements: HS	Looks at inequality and its implications of sustability. Also provides a critique of the accumulation capitial.
3	**Changing Schools, Changing Society**	ED1013	How have schools changed and how should schools change to ensure "the good life"? This interdisciplinary, team-taught course examines the potential and limits of a human ecological education as an instrument of enlightened progress and lasting positive social, cultural, and environmental change. It explores three essential questions about education and its relationship to human development and social progress. Looking at the role of formal educational institutions and their relationship to government and other social institutions: What is the role of schools in development and social change? Considering the role of teachers as agents of change: What is the role of the teacher in school/organizational change and community development? And finally, reflecting on our subjective motives for working in the field of education: Why do you want to become an educator? Through course activities such as service-learning in schools and group project work on a contemporary educational phenomenon (e.g., school choice, new technologies for learning, single-sex education), students will learn how educational policy at the federal, state, and local levels impacts teaching and learning, investigate the moral dimensions of the teacher-student relationship, and reflect on the construct of teacher-learners. Students will be introduced to a variety of educational research methods (i.e, ethnography, case study, quasi-experimental, correlational) that will allow for critical analysis of the knowledge base that strives to impact educational policy and practice. Evaluation will be based on participation, reflective writing, service learning, and group projects and presentations. Level: Introductory. Class limit: 15. Offered every other year. Lab fee: $20. Meets the following degree requirements: HS, ED	

	A	B	C	D
4	**College Seminar: City/Country in U.S. Literature 1860-1920**	HS2078	This class focuses on U.S. fiction from the realist/naturalist period (roughly 1860-1920), a time when enormous changes were occurring in and on the U.S. landscape. Increasing urbanization, immigration, and industrialization corresponded both with a desire for 'realistic' fiction of social problems, and nostalgic stories of a more 'realistic' rural life. For the first time there was a national literature, resulting from the capabilities of large publishing houses, urban centers and mass production — but this national literature was acutely self-conscious of regional differences, and especially of the tension between city and country. Examining works that portray factory towns, urban tenements, midwestern prairies, New England villages, and the broad spectrum of U.S. landscapes of the period, we look at how a complex, turbulent, multi-ethnic, and simultaneously urban and rural American culture defined itself, and thus its gender, class, race, and social relations, and sense of values, against these landscapes. There is a strong emphasis on reading, writing, and discussion. Students will write and revise three critical analyses over the course of the term. Given that the class covers a lot of intellectual and historical ground, students will also do a short fiction project and develop a research paper on their author, landscape, and historical moment. Evaluation will be based on class participation, the writing process for the critical analyses, and the proposal, presentation, and research paper for the short fiction project. Level: Introductory/Intermediate. Prerequisites: None. Class limit: 12. Lab fee: none. Meets the following degree requirements: HS, W	This course examines american lit of the late 19th and early 20th centure at a time when the country was rapidly expanding and everybody was trying to deal with the new environments and their imlications.
5	**Conflict Resolution Across Cultures**	HS2043	How does conflict arise and how can we best deal with it? This course combines a study of some major theoretical perspectives with lab work practicing skills and disciplines associated with different traditions of conflict resolution, conflict transformation and peacemaking. We will look at case studies at the intrapersonal and interpersonal through global levels and in a variety of cross-cultural settings. The goals of the course are to help each student: 1. develop the skills to better observe, analyse, participate in and reform practices and institutions that people use to deal with differences; 2. collaborate in teams in doing the research and planning needed to undertake such work effectively; and 3. collaborate in teams to train others in such skills. The formats of the class will alternate between lectures, discussions, films, role plays, group exercises, interviews with guest visitors, and other activities to practice skills and reflect on experiences. Readings for the course will include: "Getting to Yes: Negotiating Agreement Without Giving In" by Bruce M. Patton, William L. Ury, and Roger Fisher; "Preparing for Peace: Conflict Transformation Across Cultures" by John Paul Lederach; and a selection of other short texts. In "methods groups", students will form teams that will study a method of dealing with differences (e.g. mediation, facilitation, non-violent direct action, meditation, nonverbal communication, gaming strategies, etc.) and offer the rest of the class a training session on this. Students will be evaluated on: 1. ways in which their class participation, homework, methods group trainings, personal training manual, and final reflective essay demonstrate progress on the three course goals; 2. the ways they make appropriate use of the theories and methods studied in the course; and 3. the clarity and effectiveness of their oral and written presentations. Level: Introductory/Intermediate. Prerequisites: none. Class limit: 15. Lab fee: $25. Meets the following degree requirements: HS	
6	**Constitutional Law: Civil Rights and Liberties**	HS2056	This course on U.S. constitutional interpretation focuses on civil rights and liberties especially since the "Due Process Revolution of the 1960s" and will emphasize the Bill of Rights and the 14th Amendment using landmark Supreme Court decisions. Topics include: speech, press, expressive conduct, religious liberty, race-based and gender-based discrimination, personal autonomy (such as privacy and right to die), and reproductive rights, marriage equality, and the rights of the accused. With sufficient enrollment, all students will participate in a moot court (simulated Supreme Court) decision, arguing a case currently pending before the U.S. Supreme Court. Student evaluation will be based upon written quizzes, short papers, case briefing (case summary writing), and the moot court decision (either a lawyer's brief or justice's opinion). This course is appropriate for students interested in rights advocacy, rights activism, diversity studies, public policy, and legal studies. Level: Introductory/Intermediate. Prerequisites: none. Class limit: 15. Lab fee: none.	

	A	B	C	D
7	**Ecology: Natural History**	ES2010	This course emphasizes field studies of the ecology of Mount Desert Island, incorporating labs and field trips. Each exercise focuses on a central ecological concept. Topics include intertidal biology and diversity, forest trees and site types, bedrock geology, soil biology, insect diversity, pollination ecology, freshwater biology, predation, herbivory, and the migration of birds. Discussions include the development of natural history as a science and the role of natural selection in the evolution of diversity. Students are expected to keep a field notebook or journal, to undertake a project, and to write a term paper. Class meets for two lecture sessions and one lab session or two field/lab sessions per week. The course is particularly appropriate for students concentrating in Environmental Education. This class is intended for first year students, who will have priority during registration. Returning students may take this course with permission of the instructor. Level: Introductory/Intermediate. Prerequisites: None; field work involves strenuous hiking. Class Limit: 11. Lab fee: $75. Meets the following degree requirements: ES	
8	**Ecology: Natural History**	ES2010	This course emphasizes field studies of the ecology of Mount Desert Island, incorporating labs and field trips. Each exercise focuses on a central ecological concept. Topics include intertidal biology and diversity, forest trees and site types, bedrock geology, soil biology, insect diversity, pollination ecology, freshwater biology, predation, herbivory, and the migration of birds. Discussions include the development of natural history as a science and the role of natural selection in the evolution of diversity. Students are expected to keep a field notebook or journal, to undertake a project, and to write a term paper. Class meets for two lecture sessions and one lab session or two field/lab sessions per week. The course is particularly appropriate for students concentrating in Environmental Education. This class is intended for first year students, who will have priority during registration. Returning students may take this course with permission of the instructor. Level: Introductory/Intermediate. Prerequisites: None; field work involves strenuous hiking. Class Limit: 11. Lab fee: $75. Meets the following degree requirements: ES	
9	**Equal Rights, Equal Voices: The Rhetoric of Woman Suffrage**	HS5039	This seminar will provide an in-depth exploration of public speech texts by a wide array of 19th century woman suffrage activists in the United States. This includes works by those individuals most often associated with the first wave of the movement including: Susan B. Anthony, Elizabeth Cady Stanton, Sojourner Truth, Ernestine Rose, Lucy Stone, Anna Dickinson, Lucretia Coffin Mott, Adelle Hazlett, Victoria Woodhull, Anna Julia Cooper, and others. There will be a heavy emphasis on the close reading of primary source materials as students encounter these speakers "in their own words." There are five main goals of this seminar. First, to familiarize students with the works of prominent suffrage and equal rights activists from the period. Second, to help illuminate how the ideas, choices, narratives, and arguments reflected in these texts have some relation to contemporary discourses of gender, power, and equality. Third, to offer students the opportunity to conduct close textual readings of significant texts in the field of public address. This seminar is rooted in what might be described as an experiential, grassroots approach to rhetorical criticism, one that is unconstrained by the needs of overly deterministic reading strategies. We will focus more on building a "theory of the case" from the ground up and through the eyes of the seminar participants, rather than subjecting each case to the demands of a predetermined comprehensive model of rhetorical action. The fourth goal of the class is to offer students the first hand opportunity to conduct their own “recovery” projects with the aim of locating, transcribing, documenting, and presenting to the class new variations of texts from the period that have been previously undocumented or left unaccounted for. In doing so, students will learn basic techniques for exploring the types of digitized historical collections that have emerged in only the past few years. The final goal for the seminar is to prompt an even broader series of questions about the relationship between text, society, and the "public." These are questions that would obviously be salient for students of all interests. Class sessions will be organized as a weekly three hour seminar and will be predominantly discussion driven. Students will be responsible for presenting certain works and will also lead some of our discussions. Assignments will emphasize critical, reflective and analytical writing. Evaluation will be based on participation in class discussion, short written response papers, several longer essays, individual presentations, and a final "recovery" project. Level: Advanced. Prerequisites: none. Class limit: 12. Lab fee: none. Meets the following degree requirements: HS, HY	

	A	B	C	D
10	**Geology of Mt. Desert Island**	ES1038	This course is designed to introduce students to geological concepts, tools of the trade, and to the geological history of Mount Desert Island. Throughout the course, students will learn skillsets (topographic and geologic map reading, orienteering, field observation, note taking, field measurements) and geologic principles (rock types, stratigraphy, plate tectonics, earth systems, geologic time, surface processes) both in the classroom and in the field. We will conduct multiple short field excursions on MDI and one extended weekend field trip to explore the regional geology. Students will submit a term project complete with their own field data, maps, photos, and analysis of the local and regional geology. Students will be evaluated on the term project, short quizzes, additional written assignments and lab reports. Offered every fall. Level: Introductory. Prerequisites: none. Class limit: 16. Lab Fee: $75. Meets the following degree requirements: ES	
11	**History of Agriculture: Apples**	HS3040	This course will explore the history of agriculture from the vantage point of Downeast Maine with a focus on apples. The premise of the course is that by exploring this fascinating crop in detail from the local vantage point of Downeast Maine students will be able to grasp the many historical processes at work from the introduction of the fruit in the late sixteenth and early seventeenth centuries to the age of agricultural improvement in the eighteenth on to the rise and fall of commercial orcharding as a major component of Maine's farm economy in the early twentieth century. Using sources ranging from secondary sources, historical atlases, aerial surveys, and diaries, we will explore how the culture of apple agriculture in Maine develops over time as part of an interconnected Atlantic World where crops flow back and forth between Britain and the colonies/U.S. over hundreds of years. Course activities will include fruit exploration and fieldtrips to track down and identify antique varieties, as well as visits to the local farms where a new generation of apple culture is taking shape. The course will also engage students with the process of cider-making, both sweet and hard, as well as exercises in the preparation, storage, and processing of apples. Students will be evaluated on their participation in discussion, how they collaborate with others in class projects, and a final individual or collaborative project. This course is designed for students interested in history, farming and food systems, community-based research, and policy/planning issues. It is also very appropriate for students who like apples and just want to know (a lot) more. Level: Intermediate. Limit: 18. Lab Fee: $125.00. Meets the following degree requirements: HS HY	Discusses climate change, traditional ecological knowledge, sustainable agriculture.
12	**Human Ecology Core Course**	HE1010	Human Ecology is the interdisciplinary study of the relationships between humans and their natural and cultural environments. The purpose of this course is to build a community of learners that explores the question of human ecology from the perspectives of the arts, humanities and sciences, both in and outside the classroom. By the end of the course students should be familiar with how differently these three broad areas ask questions, pose solutions, and become inextricably intertwined when theoretical ideas are put into practice. In the end, we want students to be better prepared to create their own human ecology degree through a more in-depth exploration of the courses offered at College of the Atlantic. We will approach this central goal through a series of directed readings and activities. Level: Introductory. Lab fee: $30. Meets the following degree requirements: HE	Includes modules on sustainable economic growth and sustainable food systems,
13	**Introduction to Arts and Design**	AD1011	This course is the fundamental course for students pursuing studies in Arts and Design, offering insights into a range of issues addressed in the arts and design curriculum. This course includes studio, field, historical, and theoretical components. Students learn how basic design principals are applied in garden design, historic architectural styles, and planning. They also examine the history and application of perspective drawing and color theory. Students are expected to observe, document, analyze, and make recommendations for improvement of the designed world. Studio work involves both individual and team efforts which are presented for class critique. Learning to give constructive critique is an essential skill and an integral part of many arts and design courses. The last two weeks are dedicated to final projects where students delve deeper into any aspect of the course. Students are expected to complete each project, read assigned books and excerpts, and participate in class discussions and critiques. All work is submitted at the end of term and evaluations are based on attendance, participation, and submitted work. Offered every fall. Level: Introductory. Prerequisites: None. Class limit: 25. Lab fee $30. Meets the following degree requirements: ADS	Includes a unit on green design, focusing on urban planning and smart growth.

	A	B	C	D
14	**Journey into Substance: Art of the Hudson and New England**	AD5031	This course takes us on a series of short expeditions to museum collections (Wadsworth Atheaneum, Mass MoCA, Dia Beacon, Boston MFA), outdoor parks (Storm King, deCordova Museum and Sculpture Garden), and other key sites (Hudson River, Olana, Mount Katahdin, etc.) Our purpose in visiting these places is not only to see works of art, but also to retrace the journeys of those artists who have produced the canon that includes well-known iconic vistas that are in fact visual fiction. Through interrogation of these ophthalmic constructs at the very site of their fabrication, the student will engage with the prospect of vision, conjugation of imaginative capacity, and create thoughtful work deeply sourced through the context of place and experience. Evaluation will be based on steadfast class participation and a final project that incorporates ideas and experiences from the entire 3-credit program. This course requires concurrent registration with AD5029 The Range of Sublimity in the Artist Mind (Clinger) and AD5030 Artist/Naturalist/Visionary (Foley). Level: Advanced. Prerequisites: Permission of instructor. Class limit: 12. Lab fee: $500. Meets the following degree requirements: ADS	A central goal of this course is to reflect on the cause and effect of human occupation---on the environment and culture---as population increased in density along the Hudson waterway.
15	**Mapping the Ocean's Stories**	HS3074	This course will examine how members of Maine's remote coastal and islands communities live in relationship to the ocean. Their connection to the nearby and distant waters is defined by everyday uses such as fishing, lobstering, and wrinkle harvesting as well as deeper historical relationships rooted in many generations of people doing everything from sailing schooners around the world to harvesting shellfish in the same cove over centuries. This class will teach students how to use multi-disciplinary research methodologies to document, map, and analyze both contemporary and historical uses of the ocean. Using coastal and island communities as sites for collaborative community-based research the class will contribute to wider discussions about a process known as Ocean Planning that seeks to create processes to plan how communities, stakeholders, industry and the government build a long term vision of how the spaces of the Gulf of Maine might be used. Students will work in teams to produce a geo-referenced story about a particular place in the ocean off the coast of Maine that has meaning and an emotional connection to a community told in an interesting and compelling way. This information will help give island communities a stronger voice in ocean policy and in decision making processes for siting large scale projects in the nearby ocean environment. The class will draw on methodologies developed around North America to document the everyday uses and interactions people have with the local environment using oral historical and biographical mapping to provide a sort of snapshot of current uses as well as soliciting histories of how those patterns have changed over time. The class will include a substantial fieldwork and field trip component that will require additional times outside of the class schedule. Students will be evaluated on class participation, active engagement in field research settings, short assignments as well as a final project. The class is appropriate for students with a range of backgrounds, however, experience with historical or community-based research or GIS mapping would be helpful. Level: Intermediate. Prerequisites: Preference will be given to students who have previous community-based research experience or other academic background directly relevant to the course. Class limit: 15. Lab fee: $150. Meets the following degree requirements: HS	The fundamental question at the heart of this course is the resilience of fishing communities.
16	**Marine Biology**	ES1028	This is a broad course, covering the biology of organisms in various marine habitats (rocky intertidal, mud and sand, estuaries, open ocean, coral reefs, deep sea), and some policy and marine management and conservation issues. The largest part of this course is focused on learning to identify and understand the natural history and ecology of the marine flora and fauna of New England, with an emphasis on the rocky intertidal of Mount Desert Island. The course meets twice per week with one afternoon for laboratory work or field trips. Evaluations are based on the quality of participation in class, one in-class practical, several sets of essay questions, and a field notebook emphasizing natural history notes of local organisms. This class is intended for first year students, who will have priority during registration. Returning students may take this course only with permission of the instructor. Level: Introductory. Prerequisites: Signature of instructor for returning students. Offered at least every other year. Class limit: 20. Lab fee: $80. Meets the following degree requirements: ES	

	A	B	C	D
17	**Marine Biology**	ES1028	This is a broad course, covering the biology of organisms in various marine habitats (rocky intertidal, mud and sand, estuaries, open ocean, coral reefs, deep sea), and some policy and marine management and conservation issues. The largest part of this course is focused on learning to identify and understand the natural history and ecology of the marine flora and fauna of New England, with an emphasis on the rocky intertidal of Mount Desert Island. The course meets twice per week with one afternoon for laboratory work or field trips. Evaluations are based on the quality of participation in class, one in-class practical, several sets of essay questions, and a field notebook emphasizing natural history notes of local organisms. This class is intended for first year students, who will have priority during registration. Returning students may take this course only with permission of the instructor. Level: Introductory. Prerequisites: Signature of instructor for returning students. Offered at least every other year. Class limit: 20. Lab fee: $80. Meets the following degree requirements: ES	
18	**Native American Literature**	HS3059	This course is a challenging introduction to several centuries of Native American literature, the relevance of historical and cultural facts to its literary forms, and the challenges of bridging oral and written traditions. Authors include such writers as Silko, Erdrich, Harjo, Vizenor, and McNickle as well as earlier speeches and short stories. We also consider non-native readings and appropriation of Native American styles, material and world views. Level: Intermediate. Class limit: 15. Lab fee: none. Meets the following degree requirements: HS	This class focus how native peoples have conceived of the environment and the human/nature relationship, and how these conceptions have changed over time.
19	**Problems and Dilemmas in Bioethics**	HS1062	Bioethics studies ethical problems that occur in medical practice and the life sciences. Contemporary bioethics is an expansive and fundamentally interdisciplinary field, but this course will consider key dilemmas in bioethics from a philosophical perspective. We will begin by reviewing dominant ethical frameworks, including teleological ethics, deontological ethics, utilitarianism, natural law theory, and virtue ethics. Next, we will discuss specific ethical issues such as, abortion, euthanasia and physician-assisted suicide, life-sustaining treatments, resource allocation, cloning, biotechnologies, animal research, and informed consent and the doctor-patient relationship. In particular, we will consider how different ethical frameworks shape our assessment of specific ethical dilemmas. My goal in this course is to introduce students to the principles of ethical thinking, to familiarize students with pressing debates in bioethics, and to consider how ethical thinking impacts our response to issues that are politically and socially contentious. Course requirements include class participation, an in-class presentation, a midterm exam, and a final paper. Level: Introductory. Prerequisites: none. Class limit: 12. Lab fee: none. Meets the following degree requirements: HS	Class has a unit on human population, consumption and resource use. There is also a unit on public health and climate change.
20	**Reading the West**	HS4042	The spectacular range of habitats between the Pacific Ocean and the Great Basin and Sonoran Deserts has generated some of the most significant "place based" writing within American literature. In this intensive field-based course students will be required to read a range of materials dealing with key places. people, and events in the western landscape during the summer prior to the formal start of the course. The class will then convene in California and begin a trek eastwards into the Great Basin Desert, south to the Carson/Iceberg Wilderness, Yosemite, the Hetch Hetchy Valley and Mono Lake, and then finally southeastward across the Sonoran desert to Albuquerque, New Mexico, where students and faculty will participate in a conference celebrating the first 50 years of the Wilderness Act. Readings will include work by Muir, Didion, Steinbeck, and Fremont. Evaluation will consist of class participation, a series of essays and journal essays, and a final term paper that will be completed following the end of the field portion of the course. This course will be integrated with and requires co-enrollment in Ecology and Natural History of the American West, and Wilderness in the West. Level: Intermediate/Advanced. Prerequisites: Permission of instructor; camping/backpacking ability. Class limit: 9. Lab fee: $1500. Meets the following degree requirements: HS	

	A	B	C	D
21	**Seeds**	ES4041	Over 90% of today's terrestrial flora are seed plants and provide the majority of the ecological energy across the world. Today the majority of the human population is dependent on the energy and nutrients stored in the seed of a remarkably few crops that arose through the breeding and saving of seeds. Today this critical interdependence is rich with questions and at are at the center of the food security and food sovereignty debates. Some questions of this human-plant co-evolutionary story to be addressed in this course are: How is crop breeding done in different parts of the world? What are the techniques for breeding, seed saving, and storage? What traits are selected for in traditional and modern breeding? What role do seed banks and libraries play in our common future? What are the current laws governing seed quality and ownership? How do these laws and treaties structure corporate consolidation, community initiatives, and possible mechanisms for developing crops in the face of global climate change? What is the "free the seed movement" and why might it be important? The second major debate to be explored will be the ethical and ecological implications of the "assisted migration" of wild plants as a means of conservation and adaptation to global climate change and the replacement of horticultural materials with wild plants as means for expanding native habitat corridors. We will contextualize these two major themes with an in-depth look into the biology of seeds as well as the ecological and evolutionary significance of seeds. In preparation for required attendance at the Organic Seed Alliance conference, laboratory exercises will cover seed dormancy and germination, and build skills in hand pollination and trait selection. Evaluation will be based on class participation, leadership in seminar discussions, quizzes, a group report on the Organic Seed Alliance Conference, and the development of a final project based on one or both of themes in the course. Level: Intermediate/Advanced. Prerequisites: Strong understanding of botany (at least two botany courses); one course with an introduction to some kind of policy strongly recommended; permission of instructor. Class limit: 10. Lab fee: $800. Meets the following degree requirements: ES	
22	**Trees and Shrubs of Mount Desert Island**	ES2014	This course introduces you to the native and ornamental shrubs and trees of Mount Desert Island. Lectures will cover basics of plant taxonomy and forest ecology focusing on the dominant woody plant species of the region. Laboratory and field sessions will involve the identification of woody plants and an introduction to the major woody plant habitats of the island. The course is designed to teach botany and plant taxonomy for students interested in natural history/ecology, forestry, and landscape design. Evaluations are based on class participation, weekly field/lab quizzes, a plant collection, and term project. Level: Introductory/Intermediate. Recommended: some background in Botany, Ecology. Offered every year. Class limit: 16. Lab fee: $40. Meets the following degree requirements: ES	Includes discussion of how climate change is affecting plant ecology and species distribution.
23	**Weed Ecology**	ES2034	This is a broad course covering the biology of plants that follow humans and often flourish in disturbed habitats. The aim of this course is to gain an appreciation and understanding of the natural history and ecology of Maine's weedy flora, from the coast to fields and forests. Laboratories will focus primarily on agricultural weeds found on our farms and gardens and will include weed identification, experimental approaches for the analysis of weed-crop interactions, ecological approaches to the management of "unwanted plants" and field trips. Evaluations are based on the quality of participation in class, in-class practical exams, a plant collection, one paper, and an oral presentation. Level: Introductory/Intermediate. Prerequisites: introductory biology suggested. Class limit: 15. Lab fee $25. Meets the following degree requirements: ES	Includes discussion of organic and non-toxic approaches to weed management as well as traditional ecological and agricultural knowledge.

	A	B	C	D
24	**Cidra, Queso y Granjas: Agriculture's Past and Present**	HS4078	This course will be an intensive three week field-based exploration of the history and contemporary reality of Spanish agriculture. Using the province of Asturias as a base of operations this class will examine the deep history of agriculture in the region and its ancient traditions of cider-making and cheese production. The rugged mountains of the Cantabrian coast are home to thousands of small, diversified granjas, or farms, that have experienced massive changes in the current farmers' lifetimes. Students will travel to Asturias in northern Spain during winter break to learn about the changes in social, cultural and economic aspects of farming in the region from Roman times to the present with an emphasis on the evolution of rural farms and landscapes. We will discuss land tenure, land use, labor practices, farming practices, and much more at sites throughout Asturias as we think through what historical insights can tell us about the past, present and future of farming and the rural economy. Students will do exercises on landscape history, visit museums, farms, cider producers and research stations as well as meeting leading experts. The course will continue with a seminar during the winter term on campus in which students will pursue projects inspired by their experiences and learning in Spain. Student evaluation will be based on the participation in the field-based components of the class and the project-based learning back on campus. Level: Intermediate/Advanced. Prerequisites: This course is appropriate for students with a wide range of interests, and it would be helpful to have some background in history, anthropology or food systems course; permission of instructor. Class limit: 12. Lab fee: $1500. Meets the following degree requirements: HS, HY	Discusses climate change, traditional ecological knowledge, sustainable agriculture.
25	**College Seminar: The Anthropology of Food**	HS3079	This course uses food as a lens to explore human origins, cultural diversity, social structure, and human/environment interactions. Through academic articles and films, the course exposes students to the different ways anthropologists think about food and the frameworks they use to answer questions concerning the human experience. The course also engages other disciplinary perspectives—including history, economics, and political ecology—to make larger connections between food and society. Proposed Course Description: This course uses food as a lens to explore human origins, cultural diversity, social structure, and human/environment interactions. Through academic articles and films, the course exposes students to the different ways anthropologists think about food and the frameworks they use to answer questions concerning the human experience. The course also engages other disciplinary perspectives—including history, economics, and political ecology—to make larger connections between food and society. Designed as a survey course, this course introduces students not only to writing as process—prewriting, writing, and rewriting—but also to the broad and dynamic subfield of food anthropology. The course is organized around four themes. The first—human origins, diets, and biocultural evolution—explores the uniqueness of cooking to the human species, and how the co-evolution of human diets and culture has shaped different groups' dietary needs, practices, and restrictions. The second—globalization and international trade—looks at the flow of foods and food practices around the world, from sugar to sushi. The third—hegemony and difference—considers how race, gender, and class are constructed and expressed through food. The final theme—consumption and embodiment—considers the relationship between eating and the body; readings in this section focus on body image, eating practices, and critical studies of the rhetoric around hunger and obesity. Students are evaluated based on class participation, a series of reflection papers, a dietary analysis, and a recipe project involving a prepared meal, an audio-visual presentation, and a critical analysis paper. This course meets the first-year writing requirement. Level: Intermediate. Prerequisites: None. Class limit: 12. Lab fee: $25. Meets the following degree requirements: HS, W	

	A	B	C	D
26	**Ecology**	ES3014	This course examines ecology in the classic sense: the study of the causes and consequences of the distribution and abundance of organisms. We examine the assumptions and predictions of general models of predator-prey interactions, inter- and intra-species competition, island biogeography, and resource use, and compare these models to the results of experimental tests in lab and field. In addition we discuss appropriate techniques used by ecologists in collecting data in the field, note-taking and the appropriate collation and storage of field data. Although this course is NOT a course in Conservation Biology, we examine how ecological principles are applied to conservation questions. Readings include selections from the primary literature. Students are evaluated on the basis of class participation and two in depth problem sets,drawing extensively on the primary literature. Level: Intermediate. Prerequisites: Biology: Form and Function or signature of instructor. Class limit: 12. Lab fee $75. Meets the following degree requirements: ES	
27	**Farm Animal Management**	MD1015	This course will provide an introduction to the basics of farm animal care and management with a focus on small-scale, sustainable livestock production. The course will include readings on topics ranging from traditional production agriculture to contemporary sustainable livestock farming, guest lectures from professionals within the local agricultural community (e.g., experienced farmers, Extension agents, and veterinarians), student-led discussions of assigned readings, and hands-on participatory learning through visits to working farms in our area. Students will explore the various health and nutrition needs of common livestock, including monogastrics (hogs), avian (poultry), ruminants (cattle, sheep, goats), and pseudo-ruminants (horses). The course will have a strong focus on the integration of two or more of these livestock species on a diversified farm and will cover pasture management and feed production. Students will be evaluated based on attendance, participation in class discussion and activities, short synthesis essays, and a final project focused on the integration of livestock into a farm setting. Level: Introductory. Prerequisites: Permission of instructor. Class limit: 10. Lab fee: $25.	
28	**Geographic Information Systems I: Foundations & Applications**	HS2020	Ever-rising numbers of people and their impact on the Earth's finite resources could lead to disaster, not only for wildlife and ecosystems but also for human populations. As researchers gather and publish more data, GIS becomes vital to graphically revealing the inter-relationships between human actions and environmental degradation. Much of what threatens the earth and its inhabitants is placed-based. Solutions require tools to help visualize these places and prescribe solutions. This is what GIS is about. Built on digital mapping, geography, databases, spatial analysis, and cartography, GIS works as a system to enable people to better work together using the best information possible. For these reasons, some level of competency is often expected for entry into many graduate programs and jobs, particularly in natural resources, planning and policy, and human studies. The flow of this course has two tracts, technical and applied. The course begins with training in the basics of the technology. Then, skills are applied to projects that address real-world issues. Project work composes the majority of course work and each student has the opportunity to develop their own project. Because GIS provides tools to help address many kinds of issues, GIS lends itself well to the theory of thinking globally and acting locally. Projects often utilize the extensive data library for the Acadia region developed by students since the lab was founded in 1988. The GIS Lab acts as a service provider to outside organizations and students can tap into the resources of a broad network of groups and individuals working towards a more sustainable future. Course evaluations are partially based on the on-time completion of exercises and problem sets. Most of the evaluation is based on critique of student independent final project work and related documentation. Level: Introductory/Intermediate, Pre-requisites: Basic computer literacy. Class Limit: 8. Lab Fee: $75.	

	A	B	C	D
29	**Hate Crimes in the Contemporary US and Europe**	HS2063	Students will learn what causes bias motivated violence in schools and communities, how to develop effective prevention strategies, how to reduce police violence toward traditionally targeted groups, and why hate crimes have such destructive impacts on individuals and communities. The course will focus on hate crimes and police and community response in the US and in Europe. The students will examine their own ethnic, racial, gender, sexual orientation and religious identities as victims and/or perpetrators of bias and violence. The course will examine bias and violence in Europe toward traditionally targeted groups such as LGBTQ, Muslim, Jewish, migrant and Roma people. Finally, the course will examine approaches to reducing bias motivated violence by police toward groups such as blacks, Muslims and Roma. Students will be evaluated based on short written responses to readings, in-class discussion, two papers and a final project. The final project will explore some aspect of bias motivated violence through persuasive writing, fiction, poetry, art, photography/film, advocacy or interviews. Course readings will include scholarly writing, reports from human rights NGOs, first person accounts and one novel. Class sessions will involve discussions led by me and at times by students, small group discussions between students and occasional guest presenters. The class will travel to Portland or Lewiston to meet with refugees from places in which bias motivated violence has been significant. Level: Introductory/Intermediate. Prerequisites: None. Class limit: 15. Lab fee: none.	
30	**Introduction to Economics & the Economy**	HS1046	This course provides students with an introduction to both economic theory and the historical and institutional background needed to understand the context, functioning, and trajectory of 21st Century economies. On the theoretical side, students will be introduced to explanations of the economic behavior of individuals and firms (microeconomics) and the workings of national economies and money (macroeconomics), including economic development and international topics such as trade and exchange rates. In addition to the standard neoclassical approaches to these topics, we will also introduce behavioral, feminist, Marxist, and ecological economics perspectives. Complementing these theoretical approaches will be a rich immersion in historical and institutional themes such as the history of capitalism, the rise of corporations, the institutional background of markets for stocks, bonds, and derivatives, inequality and poverty, state-led capitalism (e.g. as seen in China and Brazil) and the events that led up to recent financial crises in the United States and Europe. Evaluation will be based on bi-weekly problem sets, a final exam, and various forms of classroom participation. Learning will be facilitated by a weekly lab session that will be scheduled the first week of the term. Level: Introductory. Prerequisites: none. Class limit: 15. Lab fee: $15. Meets the following degree requirements: HS, QR	Talks about ecological implications of economic growth.
31	**Literature, Science, and Spirituality**	HS2010	A survey of Anglo-American literature from the Scientific Revolution to the present. Focuses on the ongoing debate about the role of science in Western culture, the potential benefits and dangers of scientific experimentation, the spiritual, religious, social and political issues that come about with the Ages of Discovery and Reason, and their treatment in literature. Specific debates include concerns over what is "natural," whether knowledge is dangerous, the perils of objectivity, and the mind/body dichotomy; works include Shelley's Frankenstein, Ibsen's An Enemy of the People, Brecht's Galileo, Lightman's Einstein's Dreams and Naylor's Mama Day as well as short stories and poems. Writing-focus ed option. Level: Introductory/Intermediate. Prerequisite: Writing Seminar I. Offered every two or three years. Lab fee: $10. Class limit: 15. Meets the following degree requirements: HS	Consists of readings and discussion on how science and technology have developed over the past several hundred years, profoundly impacting human/nature relationships.
32	**Organic Chemistry II**	ES5014	This class will continue to discuss the occurrence and behavior of additional functional groups not covered in Organic Chemistry I. Meeting twice a week, we will work our way through the remainder of the fall text and then apply the material by reading articles from the current literature of environmental organic chemistry. Assessment will be based on keeping up with the reading, class participation, and three take-home problem sets. Level: Advanced. Prerequisite: Organic Chemistry I. Offered every other year. Lab fee: $50. Meets the following degree requirements: ES	Includes labs and projects on the chemistry of environmental challenges, e.g., microplastics in the ocean.

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33	**Philosophy of Nature**	HS2013	Because of the number of serious environmental problems that face the modern world, the theories and images that guide our interaction with nature have become problematic. This course examines various attempts to arrive at a new understanding of our role in the natural world and compares them with the philosophies of nature that have guided other peoples in other times and other places. Topics range from taoism and native american philosophies to deep ecology and scientific ecological models. Readings include such books as Uncommon Ground, Walden, and Practice of the Wild. Level: Introductory/Intermediate. Offered occasionally. Class limit 20. Meets the following degree requirements: HS	
34	**Supporting Students with Disabilities in the Reg. Classroom**	ED3012	This is an introductory course in special education. We will explore the needs of children with disabilities and techniques for meeting these needs in the regular classroom. The course will emphasize both the social and instructional aspects of the concepts of inclusion, differentiation and serving students in the "least restrictive environment". Participants will be introduced to concepts central to understanding the role of regular classroom teachers in meeting the academic, social, and emotional needs of students with disabilities. Objectives: By the end of the course students will be able to: identify and describe current issues and trends in education related to individuals with disabilities and their families; describe the Special education laws and procedures impacting individuals with disabilities; develop a working definition for each area of exceptionality in relation to achievement of educational goals, and develop strategies and resources for modifying, adapting and/or differentiating curriculum and instruction. Level: Intermediate. Prerequisite: Introductory course in Education. Class limit: 15. Meets the following degree requirements: ED	
35	**Winter Ecology**	ES4012	In higher latitudes and higher altitudes of the world, up to nine months of each year can be spent locked in winter. Although migratory species appear to have a selective advantage over non-migratory species during the winter season, year-round resident animals have evolved a remarkable array of physiological, morphological, and behavioral adaptations that allow them to cope with potentially lethal environmental conditions. In this course, we focus on the special challenges of animals wintering in northern latitudes. Some of the topics that we address are: the physical properties of snow and ice, general strategies of animals for coping with sub-freezing temperatures, life in the subnivean environment, animal energetics and nutrition, physiological acclimatization, and humans and cold. There are two discussions/lectures and one field exercise every week, as well as two weekend field trips. Students should be prepared to spend a significant amount of time outdoors in winter conditions. Students are evaluated on class participation, exams, and a student term project. Level: Intermediate/Advanced. Prerequisites: Permission of instructor. Class limit: 14. Lab fee $150. Meets the following degree requirements: ES	
36	**Bees and Society**	HS3073	In the last decade the plight of wild and domesticated bees has pervaded the media and public discourse, yet bees remain largely misunderstood in our society. This course examines the interconnected relationship between humans and bees and asks what bees can teach us about ourselves and our food systems. Through readings, fieldtrips, and guest lectures, students will examine the social, economic, and political dimensions of human-bee interactions, investigating topics such as: historical and contemporary beekeeping practices; the political economy of honey; the role of pollination in agriculture and agroecosystems; domestication and human-animal relationships; biodiversity loss in agricultural systems; pollinator conservation and policy; and cooperation and decision-making in human and bee societies. A truly human-ecological course, Bees & Society integrates the humanities, natural sciences, and social sciences to examine the applied problem of protecting pollinators in a time of abrupt environmental change. Students will be evaluated based on: (1) participation in class discussions, fieldwork, and field trips; (2) a series of short reflection papers; and (3) a final class project. For their final project, students will develop two native bee conservation workshops—one for elementary school students and one for farmers and gardeners—and host the workshops at COA's farms. Level: Intermediate. Prerequisites: None. Class limit: 14. Lab fee: $60. Meets the following degree requirements: HS	Includes a unit on the importance of bees for the maintenance of biodiversity

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37	**Biology: Form and Function**	ES1054	This is one half of a 20-week, two-term introductory course in biology, providing an overview of the discipline and prerequisite for many intermediate and advanced biology courses. The course will emphasize biological structures at the level of whole organisms and organs and their role in the survival and reproduction of individuals and the evolution of populations . We will explore principles of evolution, classification, anatomy and physiology, epidemiology, behavior, and basic ecology. The primary focus of the course is on vertebrate animals and vascular plants, but we will make forays into other phylogenetic lineages at intervals. Weekly field and laboratory studies introduce students to the local range of habitats and a broad array of protists, plants, and animals. Attendance at two lectures and one lab each week is required; course evaluation is based on class participation, exams, preparation of a lab/field notebook, and a presentation. It should be stressed that this course emphasizes the unity of the organism within its environment. Ideally students will subsequently enroll in Biology:Cells and Molecules in order to further their exploration of issues in a more reductionist form, but neither course is a pre-requisite for the other. Level: Introductory. Offered every year. Lab fee $40. Binoculars and a good pair of walking boots strongly advised. Meets the following degree requirements: ES	
38	**Bread, Love, and Dreams**	HS3011	This course is an introduction to the unconscious. It begins with the problem of knowing something which by definition is unknown. It then proceeds to examine two classic approaches to the unconscious: dreams and love. Students are expected to keep dream notebooks and to recognize their own unconscious life in the light of readings. Readings start with the unconscious in its classical formulation according to Freud and Jung. We read The Interpretation of Dreams and Two Essays in Analytical Psychology. We consider these themes in fiction using Henry James' The Beast in the Jungle. We then move to more contemporary writers, particularly James Hillman's The Dream and the Underworld, Michel Foucault's History of Sexuality, and finally consider some of the negative implications of the material in Elaine Scarry's The Body in Pain. The writing part of this course is done in pairs, with groups of two students cross-examining each other's dream notebooks and self-analysis. Level: Intermediate. Prerequisite: A course in literature or psychology. Offered every other year. Class limit: 20. Lab fee: $20. Meets the following degree requirements: HS	Includes an examination of the way that place and environment is linked with dreams and the subconscious.
39	**Curriculum Design and Assessment**	ED5010	Human ecologists who educate, embrace not only the interdisciplinarity of knowledge, but also the complexity of individual student development in political school environments. This course focuses on two essential nuts and bolts of teaching: curriculum design and assessment. How can a teacher learn what students know, how they think, and what they have learned? How can a teacher use this knowledge of students and subject matter to plan learning experiences that will engage diverse interests, adapt to a wide range of learning styles and preferences, accommodate exceptional needs, and meet state-mandated curriculum standards? This course is a required course for prospective secondary school teachers that provides an introduction to the backward design process and diverse assessment strategies. Students will engage in examining theory and practice designing and implementing curricula and assessments. A service-learning component will provide students with the opportunity to observe and participate in a variety of assessment methods in the subject they aim to teach. The final project will be a collaboratively designed, integrated curriculum unit, including lesson plans and assessments. Evaluation will be based on participation, reflective writing, individually designed lesson plans and assessments, and the final project. Level: Advanced. Prerequisite: Supporting Students with Disabilities in the Regular Classroom. Class Limit: 12. Meets the following degree requirements: HS ED	

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40	**Drawing Mineral and Botanical Matter in the Forest of Maine**	AD2017	Viewed as a regular practice, the descriptive power of drawing can intensify the experience of observational fieldwork, provide the draughtsperson with a richer understanding of the cycles within a landscape, and deepen our relationship with the natural world. The primary setting for this studio course is Mount Desert Island. The subject matter of our visual attention includes trees, rock features, and other indigenous plant life of the island. Students will learn a variety of drawing methods in order to document the natural history of a specific place. Coursework includes: maintaining a field sketchbook, graphically recording the development of a singular botanical life-form over the course of the term, and producing visual notations in the sketchbook during a bi-weekly slide lecture on the history of artistic representations of the natural world. Evaluation is based on class participation, evidence of completion of weekly assignments, and final project. Level: Introductory/Intermediate. Prerequisites: permission of instructor. Lab fee: $120. Class limit: 12. Meets the following degree requirements: ADS	This course uses drawing to engage with and better understand the ecology in which we live and come into closer contact with those with whom we want to be in sustainable relationship.
41	**Economics of Cooperation, Networks & Trust**	HS4053	Economics is slowly expanding from equilibrium-based, atomistic optimization, through dyadic strategic interaction, to the consideration of networks and complexity. At the same time, it is beginning to incorporate more complex human motivations beyond simple optimization as means of explaining economic outcomes. This course captures these trends by the study of the economics of cooperation, networks, and trust. We will focus on four major ways of understanding cooperation: individual optimization, strategic optimization, institutions, and embedded social relationships (networks), and we will apply cooperation to the contexts of commonly held resources (such as fisheries and climate), networks and strategic alliances, and formal economic organizations (cooperatives). After an introduction to the relevant issues and an examination of the standard neoclassical approach of optimization (with cooperation as part of the choice set), we will enrich our understanding of group cooperation through the examination of social capital, tacit knowledge, and common pool resources. We will then have a brief exposure to game theoretic approaches to conceptualizing strategic behavior, along with graph theory as a means of conceptualizing networks. With these tools in hand, we will examine the role of networks in economic contexts such as the networks of Emilia Romagna, the Mondragón complex, and worker-owned businesses in the United States and Canada. This course will be of interest to students interested in business and organizational management, natural resource management, sociology, community development, globalization, social movements, economic democracy, and a host of other topics. Evaluation will be based on participation in classroom discussions, several major assignments, and responses to reading questions. We will collaboratively decide on a final project; possibilities poster presentations, a community presentation, or a jointly produced research or policy paper. Level: Intermediate/Advanced. Prerequisites: One course in college or IB economics. Class limit: 20. Lab fee: $40. Meets the following degree requirements: HS	

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42	**Environmental Geoscience Field Methods: Eastern CA**	ES4043	This 4-week summer field course will take place during the months of June-July (dates TBD). A maximum of 8 COA students will join peers from University of San Francisco and Mt San Antonio College for a combined cohort of ~24 students and 4 faculty to study and work in the eastern Sierra Nevada region of California. In this field methods-based course, topics will include hydrology, geomorphology, geology, ecology as well as the human dimension of each topic (education, policy, hazards, resources). This region of CA is a perfect natural laboratory for students to engage in classic field activities such as geologic and geomorphic mapping that are critical to helping students develop geospatial skills. The region hosts major active faults, striking variations in relief, a rich glacial history, a wide range of bedrock lithologies spanning multiple timescales, as well as resource availability (e.g. geothermal, salts) and scarcity (e.g. water), and susceptibility to different types of geohazards (e.g. rockfalls, volcanic, earthquakes, drought, fires). We will also take advantage of the opportunities in the region to experience applied geoscience through research opportunities and engagement with local stakeholders (YNP and SSCZO). Field exercises will be designed to capitalize on existing infrastructure at the Sierra Nevada Aquatic Research Laboratory (SNARL), the Southern Sierra Critical Zone Observatory (SSCZO) and Yosemite National Park (YNP). Field exercises and exchanges with local stakeholders will provide opportunities to earn badges that represent mastery of skills and content knowledge relevant to potential environmental-STEM careers. Students will be assessed based on their performance on field exercises and a final field report. This course is linked to a follow-up Professional Development Seminar that students will take upon returning to COA in the fall term. Level: Intermediate/Advanced. Prerequisites: Two ES courses, one being an introductory geoscience course (Geology and Humanity, Geology of MDI, Natural Resources, Rocks and Minerals, Quantitative Geomorphology, Critical Zone I or II); Ecology would be very helpful; permission of instructor. Class limit: 8. Lab fee: TBA. Meets the following degree requirements: ES	
43	**Environmental Physiology**	ES3030	The manner in which animals survive in extreme environments or function at levels that far exceed human capacities has always fascinated us. In this course, we examine how an animal's physiology fashions its functional capacities under various environmental conditions. We explore the interrelationships between physiology, behavior, and ecology using an integrated and evolutionary approach in order to understand regulatory responses in changing environments. Major areas to be covered include thermoregulation, behavioral energetics, and osmoregulation. Emphasis is placed on vertebrate systems to elucidate general patterns in physiological attributes. This course has two lecture/discussion sessions per week and students are evaluated on class participation, a series of take-home exams, and a class presentation. Level: Intermediate. Prerequisites: Biology: Form and Function and Biology: Cellular Processes of Life, or equivalent. Class limit: 15. Lab fee: $65. Meets the following degree requirements: ES	
44	**European Political Institutions**	HS2084	The European Union is a fascinating, ongoing experiment in international cooperation. Currently twenty-eight countries have joined together in a supra-national political and economic union, creating a political entity unique to a world of sovereign individual nation-states. This course focuses on understanding this complex and evolving union through study of its main political institutions: the European Council of Ministers, the European Parliament, and the European Commission. We will look at the workings of and functional relationships between these institutions through readings, meetings with politicians, bureaucrats, and NGOs involved in European-level politics, and visits to each of the institutions during two weeks in Brussels. We will also spend some time in the course looking at the broader political and cultural context in which the institutions operate, through examination of several important current topics in European politics. Topics could include: refugees and migrants in Europe, the reauthorization of the Common Agricultural Policy, Brexit, the rise of right-wing movements across countries in the EU. Students will be evaluated based on participation in class discussions, a reflective journal kept during their time in Brussels, and a presentation and final essay on a current EU-relevant political issue of their choosing. Level: Introductory/Intermediate. Prerequisites: Prior French language instruction, permission of instructor, and co-enrollment in 2-cr HS6015 Immersion Program in French Language and Culture. Class limit: 12. Lab fee: 0. Meets the following degree requirements: HS	Included discussion of a range of environmental issues in Europe, including organic agriculture and climate refugees. Students met with representatives of Greenpeace and International Federation of Organic Agriculture Movements.

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45	**Experiential Education**	ED1010	Even before John Dewey published Experience and Education in 1938, experiential education had been practiced in various forms around the world. This course explores the philosophy of experiential education and its diverse practices in the realms of adventure education, service learning, workplace learning, environmental education, museum education, and school reform. Group activities and fieldtrips will provide opportunities to participate as both learner and teacher in a variety of teacher-led and student-designed experiences. The final project involves researching an existing experiential education program, its philosophy, and its practices. Evaluation is based on class and fieldtrip participation (including one multi-day fieldtrip), reflective logs, curriculum design, service-learning journal, an oral presentation of the service-learning, and a final essay that articulates a philosophy of experience in education. Level: Introductory. Offered every other year. Lab fee: $100. Class limit: 15. Meets the following degree requirements: HS ED	Topics include environmental education.
46	**Human Relations: Principles and Practice**	HS1022	Antoine de Saint-Exupery - World War II French pilot and author of The Little Prince - once noted: "There is but one problem - the problem of human relations....There is no hope or joy except in human relations." Beneath this sanguine notion, however, dwells a complex web of ideas and questions. The purpose of this team-taught course is to explore these underlying issues from two different, but overlapping, perspectives. On the one hand, we will review foundational theories and research from intra-psychic, social and organizational psychology - emphasizing topic areas such as attitude theory and change, social influence, group dynamics, conflict resolution and leadership. On the other hand, we will simultaneously draw on real-world case studies from business and organizational management. The emphasis here will be on issues of personnel assessment and management, market performance, negotiation, crisis management and the role self-knowledge in the "inside game" of commercial enterprise. Connections between these two realms will be drawn via class discussions, presentations from the instructors, and selected visitors with significant backgrounds from a range of organizational, business and government settings. Lessons derived from failure events and the 'cost of not knowing' will be investigated, as well as examples from models of successful human relations experiences. The overall aim of the class will be guided by the ideals and practices of: the psychologist Abraham Maslow, who advised "The best way to see everything is to consider the whole darn thing" and Steve Jobs - founder and CEO of Apple - who expressed his success succinctly as "It was small teams of great people doing wonderful things". Student evaluations will be based on multiple criteria, including class participation, several individual papers and research reports and contribution to team projects. Level: Introductory. Lab Fee: $40. Class limit: 15. Meets the following degree requirements: HS	Includes discussion of workplace discrimination and bias and uses local community-based organizations as case studies.
47	**Introduction to Botany**	ES1062	Green plants power the Earth’s ecosystem and make possible the existence of life as we know it. Because they lack obvious movement, it is easy to dismiss plants as passive beings without behavior or intelligence. Yet plants integrate environmental signals and respond in subtle, remarkable ways that increase their Darwinian fitness. Understanding plant behavior and plant intelligence requires a shift of perspective into the world of plants. This class explores their evolutionary origins, metabolism and physiology, anatomy and morphology, life cycles, and their modern-day diversity. The last third of the class focuses on the ecological roles of plants and their relationships with other organisms in their environment. Designed for students with no science background beyond high school biology, this course offers an overview of important topics in the study of plants and a window into their fascinating lives. Through lab work and field trips, we will explore the diversity of plants and the structures and adaptations that allow them to thrive in an enormous range of environments. Students will be evaluated based on quizzes and take-home exams, a brief in-class presentation, and a field/lab notebook. Level: Introductory. Prerequisites: None. Class limit: 20. Lab fee: $40. Meets the following degree requirements: ES	

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48	**Introduction to Oceanography**	ES1022	Planet Earth is misnamed. Seawater covers approximately 70% of the planet's surface, in one giant all-connected ocean. This ocean has a profound effect on the planet's climate, chemistry, ecosystem, and energy resources. Billions of years ago life began there, in what now we regard as the last unexplored frontier of this planet. In this course we examine the various disciplines within oceanography, including aspects of geology and sedimentology, chemical, dynamic and biological oceanography. The course concludes with an introduction to marine ecosystems examined at various trophic levels, including phyto/zooplankton, fish and other macrofauna. Fieldwork (weather dependent) includes trips on RV Indigo, trips to intertidal and estuarine ecosystems, and possible visits to the college's islands, Mount Desert Rock and Great Duck Island. Evaluation will be by lab, quizzes and a final paper. Level: Introductory. Lab fee: $150. Class limit: 20. Meets the following degree requirements: ES	The course reviews impacts of climate change and acidification on marine flora and fauna
49	**Introduction to the Legal Process**	HS1012	The "law" affects every aspect of human activity. As human ecologists we must garner some basic understanding of how law is used (or misused) to shape society and human behavior. This course examines two aspects of the American legal system: 1) the judicial process or how we resolve disputes; and 2) the legislative process or how we enact policy. Course readings cover everything from classic jurisprudence essays to the daily newspaper. We use current environmental and social issues to illustrate specific applications of the legal process. Legal brief preparation, mock courtroom presentations, lobbying visits to the Maine legislature, and guest lectures are used to give a practical dimension to course subjects. Students analyze Federal Election Commission documents to understand the impact of campaign financing on public policy and look closely at other current issues facing the legislative and judicial systems. Evaluation is based upon two papers and several other exercises. Level: Introductory. Offered every other year. Class limit: 30. Lab fee $20. Meets the following degree requirements: HS	One of of the case studies was the Mastpiece Cakeshop Supreme Course concerning the right of same-sex couples to be treated equally under the law. The class includes a day-long field trip to the state capitol in which student lobby state legislators about environment, wildlife, and indigenous rights.
50	**Marvelous Terrible Place: Human Ecology of Newfoundland**	HS2049	Where is the largest population of humpback whales in the world, the largest caribou herd in North America, the only confirmed Viking settlement in North America, and Paleozoic water bottled for consumption? The remote Canadian province of Newfoundland and Labrador presents a stunning landscape, an astoundingly rich ecological setting, and a tragic history of poverty amidst an incredible natural resource, the northern cod fishery, that was ultimately destroyed. The province has been alternately invaded or occupied by different groups of Native Americans along with Norseman, Basques, French, British, and the U.S. military, because of its strategic location and rich fishing and hunting grounds. One of the first and one of the last British colonies, this richest of fisheries produced a very class based society, composed of a wealthy few urban merchants and an highly exploited population of fishing families often living on the edge of survival. But within the past 50 years, Newfoundland society has been forced to evolve. The provincial government looks towards oil and mineral exploitation to turn around the economy, while ex-fishermen consider eco- and cultural tourism with growing ambivalence. This then is our setting, and background, for an intense examination of the human ecology of this province; the relationship between humans and their environment, sometimes successful, sometimes otherwise, the struggle between the tenuous grasp of civilization and this marvelous, terrible place. To do this we will discuss various readings, examine case studies and review the natural and human history of this unique province. Our learning will culminate with a two-week trip to Newfoundland to examine its issues firsthand. Evaluation will be based on class and field trip participation, responses to reading questions, a field journal, and a final project. Level: Introductory/Intermediate. Prerequisites: Signature of Instructor. Lab fee: $850. Class limit: 14. Meets the following degree requirements: HS	Includes treatment of a range of environmental issues, including declining fisheries, that have impacted Newfoundland and its people.

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51	**Poetry and the American Environment**	HS3012	Since Anne Bradstreet in the seventeenth century, American poets have responded to the natural environment and its human transformation. Poets have learned to see by their exposure to nature, then in turn have used their techniques of vision, music and metaphor to teach us how to see who and where we are. This class considers poets of the Romantic and Transcendental movements, spends some time with Walt Whitman and Emily Dickinson, then focuses on the twentieth century, especially T.S. Eliot, Wallace Stevens, Robert Frost, Robinson Jeffers, and Elizabeth Bishop. We end with some contemporaries: Robert Hass, Charles Simic, Gary Snyder, and Mary Oliver. Students may write either an analytical paper or a collection of their own poetry. Class meetings are supplemented by additional workshop sessions for student poets. Level: Intermediate. Class limit: 15. Lab fee: none. Meets the following degree requirements: HS	
52	**Politics, Body, Representation**	MD5012	Drawing on performance studies, movement training, postcolonial studies and feminist theory, this class will investigate understandings of what is made to count as "political" in relation to claims about representation and the body. Over the course of the term, we will investigate and produce a range of conditions through which we consider ideas about responsibility, decision, the unknown and unexpected, repetition and difference, translation and dialogue, and relations of individual to group. We will do so through learning about the ways in which bodies matter in the fields of theatre, anthropology and literature. Both anthropology and theatre are often presumed to be vehicles for representation and for political change, but they have also posed questions about how the body challenges assumptions about representation and politics. This course will grapple with assumptions that politics is primarily about representation, speaking in "one's own name," or in the name of others. We will take questions about representation and its limits as a point of departure to consider the significance of the body (and bodies) for understandings of politics. We will focus on questions of affect, the sensory, proximity, temporality, scale and place. In so doing, we will consider the idea of politics as based on a relation and response to an other, rather than on representation. In turn, we will address questions about the relationship between art and politics. Classes will include movement training practices and seminar discussion. Course materials may include works by Hannah Arendt, Anne Bogart, Charlie Chaplin, Charles Darwin, Jacques Derrida, Sarah DeLappe, Cornelius Eady, Shoshana Felman, Sigmund Freud, Brandon Jacobs-Jenkins, Valeria Luiselli, Jean-Luc Nancy, William Shakespeare, Sophocles, Tadashi Suzuki and Anna Tsing. Students will be evaluated based on class participation, collaborative group projects, seminar discussion, short topic responses, and a final project. Level: Advanced. Prerequisites: permission of instructor; priority will be given to students who have successfully completed advanced coursework in Literature, Anthropology or Performance Studies. Class limit: 12. Lab fee: $50.	Focuses on gender, body, assumptions about body and political ramifications.
53	**Popular Psychology**	HS2052	Humans have an inherent need to make sense of their lives. Their search may be simply to improve everyday experience or it may involve a life-long quest for meaning and wisdom. Nonetheless, in every age, they have found written advice to address these perennial needs: ranging from the Bhagavad-Gita and the Bible, through Marcus Aurelieus' Meditations and Ralph Waldo Emerson's Self-Reliance AF to the ever-popular, self-help book. In the past half-century of the New York Times' Best Sellers List, there has usually been one or more popular psychology books on the list. Hundreds of millions have been sold and read. Some focus on how to improve relationships, raise children, or build wealth; others promise ways to discover happiness, expand memory, or find a deeper self. Their authors may be serious scholars, well-known psychologists, insightful leaders, or shallow self promoters. The purpose of this course is to critically examine the literature of popular psychology: to explore why people are or are not so drawn to this literary genre and to analyze its deeper psychological significance. A further goal is to evaluate how and when they do work or why they don't. These questions will be guided by an in depth evaluation of the implicit structure of each book, as well as a comparative mapping of it within the theories and methods of professional psychology. In order to investigate a broad cross-section of styles and themes, we begin with several 'classic' popular books as a common foundation. Thereafter, we move on to more varied approaches within small groups and individually. Evaluations will be based on participation in class discussions, several short papers, shared book reviews, and final paper comparing popular and academic psychology. Level: Introductory/Intermediate. Class Limit: 15. Lab fee: $25 Meets the following degree requirements: HS	Includes units on race, gender, and other identities, and skills to address environmental and sustainability challenges: including listening and cooperation.

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54	**Soundscape**	AD3014	Soundscape may be defined as an environment of sound (or sonic environment) with emphasis on the way it is perceived and understood by the individual, or by a society. It thus depends upon the relationship between the individual and any such environment. The term may refer to actual environments, or to abstract constructions such as musical compositions and tape montages, particularly when considered as an artificial environment. In this interdisciplinary course we investigate a broad range of acoustic concepts, ranging from a scientific treatment of the nature and behavior of sound both in air and underwater, the biology of hearing, the use of sound by animals in communication, and the cultural applications of sound and music in human society. Students will explore methods of composition using sounds as materials for assigned projects. Various approaches to understanding and experiencing sound will be examined, including spoken word, radio shows, music, and experimental forms. Labs will focus on understanding the nature of sound, and practical application of sound equipment, technique and theory. Students will learn about microphones, sound recording, amplification, and the physics of sound. The course will culminate in a performance to the community of student presentations that expresses the wide use of sound as part of our culture. Evaluation will be based on class participation and a set of assignments, including a final project. Emphasis will be placed on an artistic interpretation of soundscape, although students will be expected to have a basic understanding of the scientific basis of acoustic phenomena. Level: Intermediate. Prerequisites: One AD and one ES course. Class Limit: 12. Lab fee $60. Meets the following degree requirements: ADS	This class looks at a changing sound environment as an indicator of degraded environments. It also considers the emotional and psychological impacts of sounds on animals and people.
55	**Studio Printmaking**	AD4019	Printmaking is the process of transferring an image from one surface to another. A print mirrors the surface whence it came and also performs as a reflection of the physical and/or immaterial realms of objects and ideas. Representing concepts clearly in any medium requires an artist to engage in thoughtful collaboration with materials in order to realize the potential of form as a means of expression. This studio course will explore ways to address this aesthetic challenge through printmaking. Students will acquire basic skills as printmakers with an emphasis on relief (woodcut and linocut) and intaglio (line etching, engraving and aquatint) techniques. They will also develop a broad understanding of the history of prints; how they have functioned to communicate, document, and transmit information through images on paper. Students will be evaluated on their projects, participation in critiques, level of engagement with materials, ability to work in a collaborative studio, and final project. Level: Intermediate/Advanced. Prerequisite: Permission of the instructor, Introduction to Arts and Design, and a drawing class. Class limit: 10. Lab fee: $200. Meets the following degree requirements: ADS	Includes ongoing disucssion about the sustainability and health/toxicity implications of printmaking materials.
56	**Wildlife Ecology**	ES4036	This course is intended to complement the overall sequence of classes developed with a focus on the landscape and ecology of the Northeast Creek Watershed and is intended to provide students with practical skills in observation, data collection, analysis and presentation. It is particularly suitable for students wishing to pursue careers in field biology with federal or state agencies or land conservation NGOs. We will examine measures of distribution and abundance in animals and relate these to quantitative and qualitative measures of habitat complexity. Much of this class will be field based. Students will work in teams collecting data on vegetation structure and topography, trapping small mammals and estimating abundance through mark/re-capture techniques, radio telemetry and game cameras. Data will be analyzed using simple statistics including ANOVA, regression analysis, and means-separation tests. Spatial components will be included in an on-going GIS for the watershed region. Readings will come from a text and primary sources. Students should expect to spend significant amounts of time outside of formal class meetings in data collection, analysis and write-up. Assessment will be based on participation, a number of quizzes, and an end-of term team report/presentation. Level: Intermediate/Advanced. Prerequisites: Biology and Ecology and permission of the instructor. Critical Zone 1, GIS, Statistics strongly encouraged. Class limit: 10. Lab fee: $50. Meets the following degree requirements: QR ES	