College of the Atlantic Sustainable Course Inventory

Unit	Course Number	Level	Course Name	Sustainability Focused	Includes Sustainability
AD	4013	MA	**Activating Spaces: Installation Art**		
HS	5010	A	**Advanced Composition**		
HS	5032	A	**Advanced Food Policy**	1	

This course will encompass contemporary and historical strategies for addressing hunger, food insecurity and control over food system decision-making at an advanced level. It will help to prepare students to participate in the 2014 Committee on World Food Security (CFS) in Rome by exploring in depth the topics and issues that will be on the agenda this year: food waste and the role of fisheries and aquaculture in food security. Students also will be expected to track communications, monitoring, multi-year program of work, principles for responsible agricultural investment or another of the CFS process workstreams, and to attend related sessions and side-events at the CFS.

The CFS is the premier place where various actors from civil society, business, and governmental and intergovernmental agencies come together to discuss practices and policies that affect access to food and water, diets and livelihoods of millions of people. Students will gain a deeper understanding of this contested space and its context within historical and contemporary disputes over food system decision-making. While the course will be oriented to this year's CFS, students may enroll even if they do not plan to attend the CFS in Rome to learn more about food policy and decision-making.

Students will be evaluated based on regular essays through the term, contributions to class discussion and exercises, and participation either in the CFS OR close reading and reporting on related ethnographies or supplemental reading. This course will be integrated with and requires co-enrollment in Cities: Past, Present & Future for students who plan to travel to Rome. Enrollment in Power & Governance is STRONGLY ADVISED for students who plan to attend the CFS; students not planning to travel to Rome should enroll in an Independent Study as their third credit.

AD	5013	A	**Advanced Projects: Art Practice and Concepts**		
HS	5026	A	**Advanced Seminar in Ecological Economics**	1	

This seminar explores selected themes in ecological economics, which is both the economics of sustainability as well as a paradigmatic approach distinct from the mainstream neoclassical approach to the study of economic activity.

We will use the first several weeks of the term to define and outline ecological economics. We will use the remainder of the term to explore topics of student interest, focusing on three to five major themes; possible themes include; methodological issues (post-normal science, transdisciplinarity),biophysical constraints to economic growth (entropy, technological pessimism, capital substitution,critical natural capital, resource peaks), socio cultural impacts of economic growth (consumption, happiness studies),energy and resource flow analysis (entropy),system dynamics (steady state economy, resiliency, degrowth),measurement issues (growth versus development, ecological footprint, Index of Sustainable Economic Welfare), institutional arrangements (adaptations of ideas from Douglass North), trade and development (embodied trade, pollution havens), community sustainability, philosophical issues (Buddhist economics, homo economicus), historical issues of sustainability (Malthusian perspectives, Jevon’s Paradox).

HS	5017	A	**Advanced Spanish II**		
HS	3015	M	**African American Literature**		1

This survey of African American literature - from its origins in the slave narrative to the present vivid prose of some of America's best writers - considers the impact of slavery and race consciousness on literary form and power.

Readings include letters, essays, poems, short stories, and novels of some of the following authors; Phillis Wheatley,Frederick Douglass,Harriet Jacobs,Pauline Hopkins,Langston Hughes,Richard Wright,Zora Neale Hurston,Gwendolyn Brooks,Ralph Ellison,Toni Morrison.

ES	3010	M	**Agroecology**	1	

The global demand for food and fiber will continue to increase well into the next century.

How will this food and fiber be produced? Will production be at the cost of soil loss, water contamination, pesticide poisoning, and increasing rural poverty? In this course, we examine the fundamental principles and practices of conventional and sustainable agriculture with a primary focus on crops.

By examining farm case studies and current research on conventional and alternative agriculture we develop a set of economic, social, and ecological criteria for a critique of current agricultural practices in the United States, and that will serve as the foundation for the development and analysis of new farming systems.

Evaluations are based on two exams, class presentations, participation in a conference on potato production, and a final paper.

AD	4021	MA	**Analog Photography: B&W**		
ES	4040	MA	**Animal Behaviour**		
AD	3010	M	**Architectural Design Studio**		1

In this design studio students are introduced to the field of architectural design and the design process.

We examine various aspects of this functional art including scale, texture, volume, void, light, rhythm, and form. Basic principles of architectural structures and a brief historical overview are presented. Students attempt to apply these principles in solving practical problems. They are expected to develop basic architectural drafting skills to represent three-dimensional space in two dimensions.

The course includes model building skills and an actual design project.

HS	5014	A	**Austen, Bronte, Eliot**		
HS	3010	M	**Autobiography**		
HS	1019	I	**Beginning Spanish I**		
HS	1020	I	**Beginning Spanish II**		

ES	4022	MA	**Biogeography**		1

What we currently see in nature is only a snapshot of a constantly varying assortment of plants and animals that are and have been responding to an endless sequence of biotic and abiotic change. Biogeography is the study of plants and animals in space and time and is concerned with the analysis and explanation of patterns of distribution, both local and global, that have taken place in the past and are taking place today. Biogeography is also a predictive science enabling us to predict how biota might behave in the future under a given set of circumstances. As students of biogeography we will attempt to tackle questions such as why are there so many different species of animals and plants? Why are some species so common, others so rare? Why do some species show extremely local distributions while others are cosmopolitan? Why are some parts of the world more diverse than others? How have these unique patterns of distribution come about? What are the factors involved in the evolution as well as the extinction of species? Evaluations are based on class participation, bi-weekly presentations of research papers dealing with biogeography, final paper and its presentation.

ES	1010	I	**Biology I**		
ES	1036	I	**Biology II: Form and Function**		1

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 mid-term presentation. It should be stressed that this course emphasizes the unity of the organism within its environment.

HS	1031	I	**Blood: Substance and Symbol**		
HS	3011	M	**Bread, Love and Dreams**		1

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.

AD	1029	I	**Building a Kayak**		
ES	1024	I	**Calculus I**		
ES	3012	M	**Calculus II**		
AD	1010	I	**Ceramics I**		
ED	1013	I	**Changing Schools, Changing Society**		1

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.

ES	1020	I	**Chemistry I**		1

This is the first half of a two-term sequence designed to help students describe and understand properties of materials.

The course first explores how atomic and molecular structure relates to the physical properties of materials and their reactivity. The course explores the reasons, rates, and outcomes of chemical reactions. Course material is applied to better understand living systems, the natural environment, and industrial products. The course meets for three hours of lecture/discussion and for three hours of lab each week. Students are strongly urged to take both terms of this course. Evaluations are based on class participation, lab reports, and quizzes.

ES	1030	I	**Chemistry II**		1

This is the second half of a two-term sequence designed to help students describe and understand properties of materials.

This course begins with a survey of how the internal structure of atoms leads to the formation of different sorts of bonds between them. It then considers how weaker forces can arise between molecules and the sorts of physical phenomena that such forces explain.

The class concludes by considering how to describe and explain the rates at which (and the extents to which) chemicals

reactions occur and applies such descriptions and explanations to common types of reactions (acid/base and redox). Throughout the course, examples are drawn from living systems, the natural environment, and industrial products.

The course meets for three hours of lecture/discussion and for three hours of lab each week. Chemistry I is a strongly recommended a prerequisite for this course.

Evaluations are based on class participation, homework, midterm and final exams and a term project or paper.

ED	1014	I	**Child Development**		
AD	1028	I	**Chinese Calligraphy**		
AD	3021	M	**Cities: Past, Present and Future**		
HS	2037	IM	**Classic Shorts: What's in Our Hands**		
HS	2019	IM	**Community Planning and Decision Making**		
HS	3034	M	**Conspiracy Theory and Political Discourse**	1	

The fear of the "hidden" enemy that lurks behind the shadows is a narrative theme that appears periodically in the political discourse of all democratic societies.

Yet, this narrative of fear (often labeled as conspiracy theory) is regularly criticized as somehow being inherently anti democratic, irrational, or dangerous. At the same time, this form of argument can also be "mainstreamed" and defended as a legitimate response to the events of the moment. How do we make sense of this tension? If conspiracy theory as a mode of explanation is inherently "irrational," what does this mean for its enduring presence in our political discourse? Is the only difference between a reasonable claim rooted in fear and the conspiracy theories of "kooks" and "nutjobs" simply a matter of which one is "correct?"

This class will address the role fear and anxiety plays in our social and political lives. We will explore a variety of topics related directly to how threats, conspiracies, agents of "evil," and "otherness" become manifest in public discourse. Specific topics include: the possible tension between "rational" deliberative decision making and the cultivating of anxiety in public governance; why we dismiss some claims as mere conspiracy theory and yet have no problem accepting other similarly formed arguments; what role the "outsider" plays in cementing cohesion within an "in" group; and the disturbing possibility that fear is actually a healthy component of democratic debate.

The class will look at both contemporary and historical examples from the United States and around the world. There are three primary goals of the class: first, to expose students to the analysis of primary texts rooted in public fear and anxiety; second, to provoke discussion about the role of conspiracy and threats in democracies; and third, to provide students with a survey of secondary work that seeks to situate and make sense of these topics.

Readings will be a combination of primary artifacts for interpretation (such a speeches, manifestos, pamphlets, and movies) as well as secondary analytical readings. In addition to the regular class meeting time, students will be expected to attend a weekly evening lab session devoted to the screening of visual works and/or presentations by speakers. Evaluation will be based on readings driven discussion as well as individual student writing assignments. Students will produce several short length essay assignments during the term as well as a longer research paper at the end of the term. This class is open to students of all interests regardless of their experience with politics, government, or social theory.

AD	2013	IM	**Constructing Visual Narrative**		
HS	4014	MA	**Contemporary Psychology: Body, Mind and Soul**		

HS	2045	IM	**Contemporary Social Movements: Bolivia**		1

Social struggles for human rights, indigenous community autonomy, ecological sustainability, equality, sovereignty and other concerns invoke values, draw on methods and appeal to allies from the larger international context and yet play out with their own very distinctive dynamics at community, regional and national levels.

When social movements achieve political power that enables them to use the state in advancing their goals, these dynamics become even more complex. An especially rich and important case study of these complex dynamics is provided by the struggles leading up to the election of Bolivia's first indigenous president, Evo Morales, and the subsequent efforts to establish a pluri-national state in which rights of Nature ("Pacha Mama") and of indigenous communities are embedded in a vision of sustainability as "Vivir Bien" (living well as opposed to living "ever better" with more GDP).

The goals of this course are to introduce students to the history and current dynamics of Bolivia with the aim to: a.) develop understanding of development issues as applied to Bolivia's current context; b.) develop abilities to use theories of social change to interpret and critically analyze cases like Bolivia, and c.) develop their skills in research to generate useful knowledge for activists and change agents.

The class format will include readings, discussion, visiting lectures from other COA faculty, short analytical papers, and term long projects in which students will define and pursue research on a specific topic such as the struggles over issues related to water, food, climate change, coca production, or indigenous culture.

Students will also organize poster presentations as part of the October session of the Society for Human Ecology in which a session on the concept of Vivir Bien in Andean countries is being organized. Evaluation will be based on the extent to which student work in discussion and in these papers, presentations, and other activities provide evidence of achieving the three goals for the course.

Readings will include shorter excerpts from texts in general theories of social change by Charles Tilly, Bill Moyer, Paulo Freire, and others and extensive readings related to Bolivia's geography, culture, history, economy, and politics. Some summer reading will be assigned as preparation for the course.

HS	4015	MA	**Creative Writing**		
HS	2047	IM	**Criminal Justice and Criminal Injustice**		
HS	1024	I	**Debate Workshop**		
ES	3022	M	**Differential Equations**		
AD	3012	M	**Documentary Video Studio**		
AD	3017	M	**Dramatic Writing for Stage and Screen**		
AD	2017	IM	**Drawing Mineral and Botanical Matter in the Forest of Maine**		
ES	4042	MA	**Ecological Research in Aquatic Ecosystems**		1

This course is an intensive field course that focuses on research design, collaborative fieldwork, and data analysis and interpretation for ecological studies done in local aquatic ecosystems.

Within the broad category of aquatic habitats the course focuses on intertidal mudflats and streams. Both of these habitats have ongoing field research and restoration work where faculty and students can make substantial contributions to local applied

research while learning methodologies and rationale for various types of research.

Potential project partners and collaborators include Acadia National Park, Maine Department of Marine Resources, Maine Department of Inland Fish and Wildlife. Somes-Meynell Sanctuary, Town of Bar Harbor Marine Resources Committee, Frenchman Bay Regional Shellfish Committee, Frenchman Bay Partners, the George Mitchell Center at the University of Maine, and Maine Coast Heritage Trust.

This class meets twice weekly with an additional lab period that will include some weekend days. Evaluation will be based on homework, short-answer essays and work with 1-2 other students as co-leaders on one of the small-group projects in the class.

ES	3014	M	**Ecology**		1

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.

ES	3034	M	**Ecology and Biology of Fungi**		
ES	4038	MA	**Ecology and Natural History of the American West**	1	

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.

ES	2010	IM	**Ecology: Natural History**		1

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.

HS	4023	MA	**Economic Development: Theory and Case Studies**	1	

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.

ES	2016	IM	**Edible Botany**		1

Is the tomato a fruit or a vegetable? Why are potatoes modified stems and sweet potatoes modified roots? Did you know that the true fruits of the strawberry are the achenes (seed-like structures) embedded in the flesh of the strawberry? Why is the fruit of the peanut a legume and not a nut? This introductory botany course of edible plants is aimed at enhancing your understanding of and appreciation for the plant world. We will cover general plant anatomy and morphology focusing on plant organs such as leaves, stems, fruits, seeds, and roots we use as food and discuss the botany of plant families dominating the world of agriculture. Evaluations are based on class participation, weekly laboratory/field quizzes, and term project.

ES	5030	A	**Energy and Technology**	1	

This is an advanced energy course that expands on basic energy principles to take a more in-depth look at several sustainable

energy technologies. This will be a project-centered course with a focus on renewable energy and conservation efforts on campus and within the community. Students will examine energy issues from several perspectives, determine possible solutions and formulate a plan to collect needed data, secure funds and work with stakeholders. Over the course of the term students will learn about technologies such as heat pumps and energy storage devices as well as conservation methods and the power grid. The overarching goal of this course is to develop the skills needed to orchestrate a successful renewable energy endeavor, taking into account time, cost, social, logistical and technological constraints.

Students will be graded on homework assignments, class participation, presentations and a final report. This course will be integrated with and requires co-enrollment in Impact Investing and Islands: Energy, Economy and Community.

ES	3046	M	**Environmental Chemistry**	1	

The goal of this class is to improve students' understanding of the properties of the earth's atmosphere and hydrosphere, of the processes that maintain them, and of threats to them.

Roughly the first half of the term will focus on the atmosphere (e.g. ozone depletion, urban and indoor air quality, and climate change). The rest of the term will focus on the hydrosphere (e.g. eutrophication, acidification and contamination by organic and metallic toxins).

Evaluations will be based on weekly homework exercises, weekly lab reports, and a final presentation exploring the chemistry of some environmental issue in more depth than class time allows

ES	3030	M	**Environmental Physiology**		1

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.

HS	2034	IM	**Ethics: The History of the Problematic**		1

This is a course on the history of ethical thinking in the West.

It deals with ways that philosophers from Socrates, Plato and Aristotle, to Aquinas, Bentham, Kant, Marx, Nietzsche, Kierkegaard, A. J. Ayer, Sartre, de Beauvoir, Sara Ruddick, Gandhi, Nozick, Rawls, and Alasdair MacIntyre have addressed questions like the following: What is the best way to live as individuals—and what does this imply about how we should structure our society? Why are there so many types of moral disagreements in modern societies? Why do these disagreements never seem to end but go on indefinitely? Are there ways to resolve these disputes that are persuasive between ethical traditions and across cultures? The central text for the course will be MacIntyre's *After Virtue,* which provides a systematic narrative for the history of Western ethics that claims to diagnose its core problems and provide solutions.

Key texts and passages from the philosophers central to that narrative will be examined in detail and interpreted in light of their historical contexts using material from texts such as W. T. Jones *History of Western Philosophy* and Copleston's *History of Philosophy*. Students will develop skills to critically analyze philosophical texts and arguments in both their theoretical and historical contexts through class discussion, role plays, and a series of short papers. There are no prerequisite courses but students must be prepared to deal with complex arguments that move between philosophy, history and other disciplines.

ES	3026	M	**Ethnobotany**		1

From the dawn of human history, plants have played an integral role in human societies across the world.

The course is aimed at generating an appreciation for the myriad uses of plants by human societies, both past and present. We will explore the use of plants as food and beverages, raw materials, fuel, medicine and psychoactive drugs, spices and perfumes, genetic resources, and for religious and spiritual needs.

The future ecological, economic, and social implications of our dependency on plants will also be discussed in light of current threats to plants and their native habitats, including threats to plant-human relations in traditional societies.

The important roles played by human societies in maintaining floristic and associated cultural diversity will be a primary focus of readings and discussions. Evaluations will be based on class participation, involvement in class discussion, and a term project involving a half-hour oral presentation.

HS	3060	M	**Financials**		
HS	2048	IM	**Food, Power and Justice**	1	

This course will examine power and politics in the food system: which actors hold power over resources, decision-making and markets, which actors want to hold more power, and how they are contesting or defending their respective positions. We will study the role of social movements, as well as governmental and non-governmental actors, in domestic and international food systems. Students will learn to identify the main actors in food politics and discover how to track their actions and agendas. They will also gain experience in conference organizing, teamwork, and public speaking. Students will be evaluated on demonstrated ability (and growth or deepening of ability) in thoughtful and respectful classroom participation, small group interaction, writing and public speaking.

AD	1019	I	**Four Dimensional Studio**		
HS	3058	M	**FRANCE: French Food Politics and European Political Institutions**	1	

France has long been a hotbed of radical food politics. Current day leaders include José Bové and the Confédération Paysanne, Greenpeace France, and the anonymous “faucheurs volontaires” (harvesters) of genetically engineered maize.

Yet well before GMOs made French food politics famous around the world, French producers were protecting their local products with designations of Appellation d’Origine Contrôll ée, and using international legal accords to prevent the use of the term “champagne” for any sparkling wine produced outside of the region of Champagne.

In this course we will explore the history and politics of several contemporary issues of food politics within France and the European Union (EU), such as: the GMO debate; laws protecting seeds, cheese, and wines; agriculture linked with climate change politics leading up to COP21 in Paris; and elements of the EU Common Agricultural Policy, through readings and direct interactions with key figures on those issues. Through our study of food politics in France, students will become familiar with the European political institutions, and over the term will learn the workings of and functional relationships among the European Council of Ministers, the European Parliament, and the European Commission.

Students will travel to Paris, Brussels, and Marseille during the last two weeks of the term to meet with key political figures. Readings will be primarily in French. Discussion will involve as much French as the group language capacity allows. Students will be evaluated based on participation in class discussions, regular writing assignments based on the readings, and a final project.

HS	3057	M	**FRANCE: Taking the Waters: The Politics and Culture of Water**	1	

France is renowned for its waters. Whether it is the spa cities like Vichy where people flocked to "take the waters," the marketing of Perrier that started the global bottled water craze, the pilgrimages to the sacred waters of Lourdes, the home of global water giants like Suez Lyonnaise des Eaux, or the rivers that define its various regions, water provides a lens through which to understand France.

This course will look at the multiple dimensions of water in France and Europe and ultimately at the question of the meaning of water. This class will be taught in conjunction with Doreen Stabinsky's class and the French language course at CAVILAM (Immersion Program in French Language and Culture). The first five weeks of the course will be based in Vichy. Vichy owes its existence to its mineral springs that have drawn people since Roman times to "faire une cure thermale."

Looking at both the mythology and the current practice of thermal medicine, we will examine the use of water for healing and renewal. In addition, we will investigate the conflict between efforts to commodify water globally and citizen efforts to build a "water democracy" around the idea of water as a human right. The final three weeks of the course will explore related issues through excursions in France and to Brussels to understand the history of humans' relationship with water. From ancient Roman water structures, to the engineering marvel of Paris sewers, contested dam sites, and multinational water conglomerates, the class will experience the changes in water paradigms over time.

The class will also seek to assess the success of Europe's continent-wide attempt at holistic water management. The EU Water Framework Directive provides an excellent opportunity to investigate the new federalism of Europe, ambitious efforts to improve water quality, and the strengths and weaknesses of Integrated Water Resource Management. Class readings and discussions will take place in English, though some conversations with outside experts may be in French.

ES	1014	I	**Gardens and Greenhouses: Theory/Practice of Organic Gardening**	1	

This class offers a good foundation of knowledge for a gardener to begin the process of organic gardening, as well as an understanding of what defines organic gardening.

The information presented focuses on soil fertility and stewardship, the ecology of garden plants, soil and insects, and practical management of the above. The garden is presented as a system of dynamic interactions.

Emphasis is given to vegetable crops and soil fertility. Laboratories include soil analysis, tree pruning, seedling establishment, weed and insect identification, garden design, cover cropping, composting, and reclamation of comfrey infested area. Evaluations are based on participation in class and lab, written class work, exam, and final individual garden design.

ES	3032	M	**Genetics**		
HS	2020	IM	**Geographic Information Systems I: Foundations and Applications**		1

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.

ES	1038	I	**Geology of Mt. Desert Island**		1

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 skill sets (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.

GS	6011		**Global Climate Politics: Market and Finance**	1	

This Group Study will prepare students for the Twentieth Session of the United Nations Conference of the Parties (COP) in Lima, Peru. There will be two mandatory class sessions per week as well as at least one informal session. It will be begin by mapping the historical contexts, language and actions of the United Nations Framework on Climate Change to date. Through this focus, a clear and strong understanding of the UNFCCC, the literacy used and the politics surrounding it will be gained.

Time will also be spent looking into climate justice, civil society and global perspectives as well as spaces at COP. Each student will participate in meetings, discussions, presentations and working group participation. There will be weekly assigned conference calls with policy experts and members of NGOs who work within the UN Climate regime. There is required reading into past decisions, negotiations and other documents submitted throughout previous COPs from Parties as well as NGO's and other stakeholder.

This Group Study will additionally focus on the negotiation texts, political debates, and institutionalized mechanisms within the UNFCCC that surround market mechanisms for mitigating emissions or "climate finance." This work will include following the Party submissions and political developments on the Framework for Various Approaches and the broader market and non-market mechanisms. Students may also delve into Flexibility Mechanisms, the Emissions Trading facilitated by the Kyoto Protocol as well as the Protocol's Clean Development Mechanism and the Mechanism for Joint Implementation. Students will also look into the various funding strategies and bodies under the Parties including the Global Environment Facility (GEF) Green Climate Fund, the Standing Committee on Finance, fast-start finance, and long-term finance. Students will be graded on presentations (20%), blogs(20%), attendance (20%), and class facilitation and participation (40%).

HS	1042	I	**Globalization/Anti-Globalization**		
AD	2011	IM	**Graphic Design Studio I: Visual Communication**		1

Visual communication is one of the most pervasive means of human communication.

Graphic design, within the realm of visual communication, is a process used to effectively convey ideas and information visually through print, electronic media, products in the marketplace, and structural elements in the built environment. Its application may be promotional, editorial, informational, expositional or instigational. It may cater to, or critique—commercialism, colonialism, capitalism, and advertising—or alternately be used to organize information and visualize complex data, or concepts.

Is it possible to construct a visual message that will be received through the din and noise of our overstuffed media environment? Past other competing messages? What are some of the contemporary issues surrounding design and the roles and responsibilities of graphic designers in the workplace and in their communities? In this introductory/intermediate level studio course you will become familiar with visual rhetoric and the basic elements, principles, and processes of graphic design that will help you to construct effective visual messages.

You will work on a variety of conceptual visual communication projects in the realms of information design, editorial design, and promotional design. Lectures, demonstrations, assignments and critiques will offer a balanced framework for developing skills in creative perception, critical thinking and visual communication.

An emphasis is placed on these elements and evaluation will be weighted more heavily in these areas than technical expertise on the computer. You will however, be required to learn the basics of several computer graphic applications (Adobe Photoshop, Adobe Illustrator, and Adobe InDesign and/or Quark) in order to complete coursework. You will receive basic instruction in these programs in class, but will be expected to refer to computer manuals and guide books for specific tools and techniques that may be required to visualize your ideas.

HS	5022	A	**Hatchery**	1	

The Hatchery is applied Human Ecology in action; it offers students a bridge from coursework to actively creating their vision of the future.

The Hatchery gives students from across the campus the opportunity to move from ideas to action. Hatchery students work either individually or in teams on a wide array of enterprises. Past projects have included: urban farming; international development; policy and planning; photography and film; alternative transportation; biofuel production; renewable energy; food systems; the arts; furniture production; technology development; social enterprise.

Ventures have been for-profit and nonprofit, encompassing the range from local businesses to scalable start-ups. Students selected for the Hatchery are required to devote an entire term to launching their venture. Each Hatchery enterprise, whether a team or an individual, must take the course for a minimum of three credits. Along with weekly instructional meetings, students receive office space, supplies, professional services, mentors and potential access to seed capital to develop their ventures. After the initial ten weeks of class, if students decide to continue their enterprises, they have access to the Hatchery space and resources for an additional nine months.

The Hatchery takes place in three phases: –Application: Students apply for a position in the Hatchery over winter term. –Rapid Prototype: The ten weeks of the Hatchery course. Students create a rapid prototype to test their ventures in the marketplace. These prototypes vary widely depending on the type of ventures. –Creating an Enterprise Structure: During the ten weeks of the course, students will have weekly assignments that introduce key elements in an organizational structure and highlight operational considerations that are universal amongst enterprises. –Development: The following 9-months.

Students have access to the Hatchery space and resources to continue developing their enterprises.

ES	3018	M	**Herpetology**		
HS	4018	MA	**Histories of Power: States and Subalterns in Modern Latin America**		
AD	1027	I	**History of Filmmaking (1895-1945)**		
AD	3018	M	**History of FIlmmaking II (1946-present)**		

AD	2020	IM	**History of Photography**		
HS	1021	I	**HIstory of the American Conservation Movement**	1	

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.

HE	1010	I	**Human Ecology Core Course**		1

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.

HS	6014		**Immersion Program in French Language and Culture**		
HS	5034	A	**Impact Investing**	1	

Impact Investing focuses on the emerging field of impact investing, which seeks to generate returns for society, the environment and financial investors. Impact investing seeks to create avenues for private investment to work alongside existing efforts of NGOs and others to help solve global and local problems. Impact investing can be used to fund solutions in areas as diverse as food systems, climate change, poverty, affordable housing and clean technology among other issues.

This course will examine the strategy of various impact investing mechanisms from crowdfunding to “localvesting.” In addition, students will examine case studies to understand the benefits and pitfalls of different strategies and their potential 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 structure an investment platform that generates returns financially, socially and/or environmentally.

Students will be evaluated based on class participation, written assignments and verbal presentations. This course will be integrated with and requires co-enrollment in Energy and Technology and Islands: Energy, Economy and Community.

Level: Advanced. Prerequisites: At least one of the following: Math and Physics of Sustainable Energy (preferred), Energy Practicum, Financials, Business Nonprofit Basics, Sustainable Strategies or Launching a New Venture. Class limit: 10 COA students and 5 Islanders. Lab fee: none. Meets the following degree requirements: HS

HS	1047	I	**Indian People and the Down East Coast**		

HS	2061	IM	**Indigenous America**		
HS	1046	I	**Introduction to Economics and the Economy**		1

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.

ED	5014	A	**Integrated Methods I: Gr. K-4 Reading and Writing**		
HS	3041	M	**Intermediate Atelier In French Language and Conversation**		
AD	1011	I	**Introduction to Arts and Design**		1

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 principles are applied in garden design, historic architectural styles, and planning.

Students will 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.

MD	1013	I	**Introduction to Farm Animal Management**		1

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.

HS	1044	I	**Introduction to Feminist Philosophy**		

AD	1026	I	**Introduction to Photography**		
ES	2012	IM	**Introduction to Stats and Research Design**		
HS	2024	IM	**Introduction to the Philosophy of Mind**		
ES	2022	IM	**Introductory Entomology**		
HS	1028	I	**Introduction to French I**		
ES	3020	M	**Invertebrate Zoology**		
MD	5011	A	**Islands: Energy, Economy and Community**	1	

This course is focused on developing initiatives in the renewable energy and finance sectors on MDI and Maine Islands and is being offered in conjunction with the Island Institute and the Samsø Energy Academy in Denmark. This will be a comprehensive, intensive, interdisciplinary course. Students and community members from Maine's Islands will learn from the Samsø Island experience of transforming to a carbon negative island through a community driven, grass-roots approach to create investment opportunities for both individuals and businesses in enterprises that developed and scaled, efficiency upgrades, wind, and solar power production and biofuel distributed heating and other elements of a renewable energy portfolio.

Three weeks of the term will be spent at Samsø's Energy Academy learning the community process, investment and engineering strategies that the small rural farming and tourist community used to transform themselves into an independent energy community and rejuvenate their local economy. The course will push students to identify opportunities within their communities and develop significant energy-related ventures accordingly. COA students and island resident participants will use this knowledge to develop plans for adapting and creating appropriate technology, investment platforms or services to reduce energy consumption and to boost renewable energy production here in Maine.

Students will be evaluated based on class participation, written assignments and verbal presentations. This course will be integrated with and requires co-enrollment in Impact Investing and Energy and Technology.

AD	1013	I	**Jazz, Rock and Blues: From their Origins to the Present**		
HS	2046	IM	***La Respuesta*: Representation and Literature of Witness**		
ES	2028	M	**Landforms and Vegetation**		1

The course is directed at those interested in descriptive and applied research on taxonomic and ecological aspects of plants. Using field observations and experimental methods students will explore the influence of lithology (parent material), geomorphology (landforms, including topography), and land-use history on the composition and ecology of plant communities of Mount Desert Island and other settings in Maine. Lectures will cover a broad range of topics in geoecology, including plant-soil-microbe relations, plant ecology and evolution, plant ecophysiology, stressors influencing plant species and communities of the Northeast, and conservation and restoration. Students will learn the theory and practice of plant taxonomy and the nomenclature of over 150 species of vascular plants, including the morphological and ecological traits characterizing their families. As part of the evaluation, students are responsible for making a 25-specimen plant collection from one or more plant communities and providing a detailed description on the biotic and abiotic features characterizing the chosen plant-habitat association. Students will also be exposed to methods in plant ecology, including techniques in vegetation surveying and the collection of ecological data on below- and above-ground habitat features to better characterize plant-habitat associations. While students are encouraged to explore a range of habitats on and off the island, students working on plant-habitat associations in the Northeast Creek Watershed will be able to incorporate their plant-habitat data into the Watershed Database managed by COA's GIS Laboratory. Evaluations are based on a 25-specimen plant collection and report (30%), weekly field quizzes on plant taxonomy and ecology (30%), final project presentation on a plant community ecology topic (30%), and class participation (10%).

HS	6012		**Learning a Language on Your Own**		
ES	5020	A	**Lichen Biology**		
AD	4011	MA	**Life Drawing**		
HS	3046	M	**Macroeconomic Theory**		
ES	1028	I	**Marine Biology**		1

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.

ES	2030	IM	**Marine Mammal Biology I**		1

This course provides an introduction to the biology and natural history of marine mammals, specializing in species resident within the North Atlantic.

Topics covered include: phylogeny and taxonomy; anatomy and physiology; behavior; sensory ecology; and management/conservation issues. The course includes field trips to observe animals in their natural habitat, dissection of specimens, and exposure to the professional peer review field.

Students are expected to complete two individual literature-based reviews, one species- and one system-based, to be presented in class.

Assessment is based on class participation, presentations, and written submissions. Lab fee covers costs of field trips, including potential boat and field station time, and optional travel to a regional conference during the term.

MD	4010	MA	**Marine Policy**		1

According to the Chair of the Pew Oceans Commission, *"America's oceans are in a state of crisis. Pollution, unplanned coastal development, and the loss of fisheries, habitat, and wildlife threaten the health of the oceans and the tens of thousands of jobs that form the backbone of coastal communities."*

This course will provide a general understanding of both marine resources and current regional, national, and international policy regarding these resources.

Because oceans and the life they support transcend national and state boundaries, the course will explore international, national, and local ocean policy-making frameworks, including specific legislation addressing fisheries, coastal development, species protection, pollution, and resource extraction.

We will examine some of the controversies that exist in marine environments today using historical case studies of ocean management policy. These case studies include management of Atlantic salmon, tuna-dolphin interactions, off-shore oil drilling, and New England fisheries. Because of the interdisciplinary nature of these problems, it is necessary to understand how scientists and policy makers think about the same issues, how they attempt to solve problems, and how these two views can be brought together successfully.

Assessment will include several question sets, a final small group paper and presentation that investigates a current marine policy issue, and class participation.

HS	2049	IM	**Marvelous Terrible Place: Human Ecology of Newfoundland**		1

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 US 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.

HS	5013	A	**Methods of Teaching Writing Across the Curriculum**		
HS	3027	M	**Microeconomics for Business and Policy**		1

What is the best way to insure that communities can provide dependable, well-paying jobs to their citizens? Why does Coca Cola spend millions of dollars to advertise a product with which most people are already very familiar?

What can the game of blackjack tell us about how industries are structured? How can we get coal-burning power utilities to reduce their carbon emissions while they save millions of dollars in the process? How can we provide much better healthcare to all Americans, at much less cost, while making it easier for small businesses to grow? All of these questions, and many more like them, are answered by microeconomic theory.

This intermediate-level course exposes students to basic microeconomic theories, models, and concepts that shed insight on the economic behavior of businesses, individuals, governments and politicians, and international organizations. We will emphasize approaches that have numerous overlapping applications to both business and policy evaluation: markets, pricing, firm structure and decision-making, strategic behavior (using game theory), consumer behavior, externalities (such as greenhouse gas emissions), and the provision of public goods (such as military, education, and environmental conservation).

We will pay special attention to the economics of asymmetric information (adverse selection, moral hazard, and principal-agent situations) that have a wide range of applications, including issues such as the ineffectiveness of the American healthcare system, the structuring of business finance, and the hiring and paying of employees.

This will be a non-calculus course, but will give students exposure to technical economic modeling, with heavy emphasis on graphical modeling of complex social phenomena. We will use a lab period to conduct extensive experiments and games that illustrate or test economic concepts and hypotheses.

ES	3065	M	**Molecular Genetics Workshop**		1

This workshop teaches students how to apply and use a variety of molecular genetic and cellular laboratory techniques

at Mount Desert Island Biological Laboratory (MDIBL).

Students learn how to do basic molecular genetic techniques, including some subset of DNA extraction, RNA extraction, PCR, RT-PCR, cloning, and bioinformatics. Students work on how to carry out a research design around a specific question, and how to carry out the research and interpret results.

The material will be taught around a research question that the group will work on for a one-week period over spring break. The course is taught by various MDIBL research staff. Successful completion of the workshop requires attendance for the entire week.

ES	1050	I	**Morphology and Diversity of MDI Plants**		
HS	3019	M	**Mountain Poets of China and Japan**		
HS	3059	M	**Native American LIterature**		1

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.

ES	1040	I	**Natural Resources**	1	

This course will focus on various types of natural resources we have on Earth including water, soil, rock and mineral, and various energy resources (fossil fuels, alternatives).

Students will learn fundamental geologic principles through a discussion of the processes forming and influencing these resources. We will explore how each type is extracted/refined/exploited/conserved for human use. We will also discuss the many environmental issues associated with each industry. Finally, we will look at the local industries built on the many natural resources available in our region of Maine.

This course will appeal to students interested in geologic processes and how they relate to our resource needs. This course will also provide scientific grounding in the relevant geology for students whose primary interests are in the policy or politics of resources. Class time will be spent as lectures, discussions, labs or demonstration, and occasionally visiting a local field site.

Students will be evaluated based on weekly labs and/or problem sets, a field trip report, and a final report.

HS	2011	IM	**Nineteenth Century American Women**		
HS	3036	M	**Oceans and Fishes: Readings in Environmental History**		1

This course will explore the rapidly expanding field of marine environmental history and historical studies that focus on fish and fisheries.

Recent methodological and conceptual work as well as growing interest in the history of these topics driven by conservation and policy issues has made this an important and innovative field. Using the work of a variety of scholars from different fields the class will explore how historical accounts can be constructed with an emphasis on the types of available sources, the use of

evidence, and how each author builds her or his argument.

We will explicitly compare the methods, use of evidence, and other aspects of different disciplinary approaches to the topic to highlight the strengths and limitations of each approach. This dimension of the class is particularly interesting because of the dynamic and interdisciplinary nature of scholarship right now that brings a wide range of research into dialogue. Students will learn about the history of oceans and fishes by looking at how historians and other scholars frame their works and make their arguments.

Students will be evaluated on their preparation for discussion, mastery of the material, short written assignments, and a final project made up of a presentation and essay. This course is appropriate for students with interest in history, community-based research, marine studies, and environmental policy. Students who are just curious and interested in lots of things are also most welcome.

ES	1016	I	**Ornithology**		
HS	2012	IM	**Personality and Social Development**		
HS	2060	IM	**Philosophies of Liberation**		
ES	1034	I	**Physics and Mathematics of Sustainable Energy**	1	

In this course students will learn content and skills so that they can participate effectively in sustainable energy projects, make personal and community decisions that reduce carbon emissions, and work in ventures in sustainable energy. Additionally, this course will be useful for those interested in energy and climate policy, either internationally or domestically.

We will begin with a quick overview of current CO2 emissions levels and look at how this is related to energy use. We will then turn our attention to basic ideas from physics, including the definition of energy and the difference between energy and power. The bulk of the course will consist of a survey of different forms of energy consumption and generation. Throughout, we will quantitatively analyze technology from both a local and global point of view. For example, we will calculate how much electricity one can generate on a rooftop, and we will also examine the role that solar PV could play toward the goal of eliminating fossil fuel use worldwide. In a unit on financial mathematics, students will learn about the time value of money and several ways of quantifying investments, including ROI (return on investment) and IRR (internal rate of return). Students will apply these financial tools in several short case studies. If time permits, we may also cover negative emissions technologies and the electrical grid, including grid stability issues and the potential of smart-grid technology. This will be a demanding, introductory, class. Evaluation will be based on weekly problem sets.

ES	1018	I	**Physics I: Mechanics and Energy**		
ES	1044	I	**Physics II**		
ES	1049	I	**Plant Life: A Brief History**		
ES	2029	IM	**Plants in the Campus Landscape**		1

This course adopts a workshop format, focusing on the management of living plant collections on the COA campus. Emphasis will be on planting and maintenance of woody plants, but some attention will be paid to perennial herbaceous ornamentals. Class activities will include hands-on projects, e.g. pruning campus trees, shrubs, and vines, planting new accessions for the campus-wide arboretum, identifying and labeling plants, developing a map and tour guide for campus plants, studying planting design principals and site requirements, and developing a plan for future additions to the campus-wide arboretum, strategies for dealing with invasive exotics, and replacement of specimen trees. This course may be especially appropriate for those interested in horticulture and landscape architecture. There are no course prerequisites, but some background in design or horticulture is helpful, such as a prior course in plant taxonomy, gardening, arts and design, or architecture. Students will be evaluated on class participation, completion of assignments and an individual project.

HS	1041	1	**Platforms of Thought: Introduction to Social Theory**		

HS	3050	M	**Poetry Workshop**		
HS	1039	I	**Political Persuasion and Messaging Fundamentals**		
HS	1045	I	**Politics of Israel**		
HS	2052	IM	**Popular Psychology**		
HS	3061	M	**Postcolonial Islands**		
HS	4031	MA	**Power and Governance**		
HS	2026	IM	**Practical Skills in Community Development**		1

In rural areas throughout the world, citizens, non-profit leaders, agency staff, and elected officials are coming together to frame complex issues and bring about change in local policy and practice.

This course will outline the theory and practice of community development, drawing on the instructor's experience with the D_thchas 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.

Students will gain practical community skills in listening, designing effective meetings, facilitation, framing complex public issues, project planning and development of local policy. Readings, discussions and guests will introduce students to community development theory and practice. Class projects will be connected to community issues on Mount Desert Island including the areas of community design/land use planning, transportation, community health, housing, economic development, the arts and youth empowerment. Short written papers will provide opportunity to reflect on class content, community meetings, newspaper stories and reading assignments. This class is designed to include both COA students and community members.

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.

AD	2010	IM	**Problems in Painting: Techniques, Skills and Vision**		
HS	1040	I	**Publics Speaking Workshop**		
HS	4042	MA	**Reading the West**		1

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.

HS	2050	IM	**Religious Intolerance in the United States**		
HS	5036	A	**Russia and International Security**		

ES	3063	M	**Seminar in Climate Change**	1	

In this seminar-style class, students will learn about climate change over multiple timescales.

We will discuss the major forcings driving global climate fluctuations - on both long (millions of years) and short (days) timescales, both natural and anthropogenic in nature. Students will learn about the main paleoclimate methodologies being used today to quantify and understand past climates over tens to millions of years. We will also discuss current modeling efforts to predict future climate scenarios.

This course will use primary scientific literature to broadly explore some of the major topics related to climate change including: paleoclimate methods, modeling, feedbacks, atmosphere-ocean interaction, and predicted environmental changes. We will discuss some of the broader impacts of climate change (stresses on resources, water, food, economies, land-use, etc.) according to student interest and expertise.

Beyond discussions in class, students will be required to attend lectures by a few visiting experts in the field. Students will take turn leading discussions on specific topics at least twice during the term.

Assessment will be based on written responses to readings and a final project and presentation.

HS	3029	M	**Shakespeare: Character, Conflict and Cinematography**		
ES	3048	M	**Soils**		1

Soils are one of the most important natural resources that affect the sustainability of agricultural, recreational, forest, and disturbed soil (mining, urban) systems.

This course seeks to introduce students to basics of soils science and contemporary issues in soils science and management. The primary themes running through this course are how soil properties influence and are influenced by human activities. Classes will cover the basic physical, chemical, and biological properties of soils and the processes which create, maintain and transform them.

Evaluation of students will be based on quizzes, problem sets and a final presentation.

HS	3062	M	**Solutions**		
AD	3014	M	**Soundscape**		
ES	5024	A	**South American Earth Systems**		1

This course will explore a number of Earth Systems shaping a portion of the longest mountain belt on the planet.

We will discuss processes forming the Andes Mountains on timescales spanning millions of years to tens of years! Some of these processes include plate tectonics, erosion (glacial, wind, river), active faulting, regional climate patterns (ENSO, glacial cycles), land use (agriculture, water and mining), and geohazards (earthquakes, volcanoes, and landslides!) This course will involve multiple case studies focused in the Cordillera Blanca region of northern Peru.

Students will read primary scientific literature and become “experts” in some area that fascinates them. The course capstone (although not required to take the course) will be a ~14 day field trip to the Cordillera Blanca of Peru where the students will have a chance to see and explore the environments they studied so intensely during the term. The program fee for students wishing to participate in the trip covers all in-country costs (plane ticket not included).

Who should take this course: You must have taken at least one of the other geology courses (or equivalent) to take this course.

In this course we will attempt to synthesize various Earth System datasets focused on a specific location. The field component of this course is an opportunity to 1) practice basic geology field tools, 2) experience world-class geological and ecological field sites, and 3) enjoy a cultural experience (practice your Spanish!). The field trip will not be a vacation—it will be physically, mentally, and emotionally demanding!

AD	4019	MA	**Studio Printmaking**		
ED	3012	M	**Supporting Students with Disabilities in the Reg. Classroom**		
HS	2030	IM	**Systems Dynamics**		
HS	4019	MA	**Technical Writing**		
ES	3036	M	**The History of Natural History**		
AD	1017	I	**The History of Rock**		
HS	3028	M	**The Mystics**		
HS	5018	A	**The Nature of Narrative**		
HS	5028	A	**The Nature of Narrative II**		
HS	1026	I	**The Renaissance and the Reformation**		
AD	4016	MA	**The Wilderness in Landscape Art I: Proto-Ecological Visions**		1

This course is concerned with the visualization of what is wild in the landscape and how artists pictured that which others saw as untamed.

Course readings will engage with a variety of texts written by art historians, geographers, historians, writers, and theoreticians that address the invention of the modern idea of wilderness.

Assumptions governing what constitutes wilderness and how artists have shaped our perception of it are among topics which we will consider. Landscapes contain life that seems to fluctuate between haggard or feral states of nature. We will investigate how an artist distinguishes between that which is cultivated and that which is natural; what images evoke nostalgia for a lost past or suggest the preference for a human dominance over those origins we have isolated ourselves from.

Students will examine visual evidence in the fine arts that indicates a growing awareness of the effect of the Industrial Revolution in North America and in Europe. Although we look at ecologies through the eyes of artists, students interested in the science, history, and literature are encouraged to take the course.

Evaluation will be based on a research paper and class presentation. There will be a class trip to view art and/or sites relevant to our discussion.

HS	2054	IM	**Theory and Method in the Study of Religion**		
HS	2053	IM	**This Changes Everything: Cases in Future Studies**		1

This course examines strengths and weaknesses of different ways of dealing with the future by looking in depth at two case studies: climate change and artificial intelligence.

When dealing with potential existential threats of these sorts, what are the powers and limits of specific methods for trying to

know the future and/or act with regard to it? Of what use, for example, are tools such as trend spotting, extrapolation, quantitative modeling, prediction markets, SWOT analysis, imaging, narrative science fiction, scenario building, or Delphi processes of consensus? And what precisely are they useful for? Learning about the inevitability, probability or possibility of various futures? Or perhaps learning about ourselves our societies and the ways in which reality is currently constructed? And how can we frame meanings for our lives, our work, our communities and the social movements in which we may participate in order to act with integrity and hope in the face of pressing problems that are "wicked" in character and may call for dramatic transformations?

Readings on the climate change case study will focus on Naomi Klein's *This Changes Everything: Capitalism vs. the Climate* and critics of her work. Readings on artificial intelligence will include, for instance, James Barrat's *Our Final Invention* and selections by Ray Kurzweil and Peter Bostrum. Readings on Futures Studies as a field of study and the specific methods within it will include, for example, selections from James Dator's anthology, *Advancing Futures: Future Studies in Higher Education*, the Millenium Project's *State of the Future* and works by Alvin Toffler, John Naisbitt, Eliezer Yudkowsky and Elise Boulding, as well as articles from *The Futurist*. The course will include a weekend workshop in futures invention using methods developed by Warren Ziegler and Elise Boulding. This workshop will be open to public participation.

Members of the COA community interested in renewing the College curriculum are especially encouraged to participate. The course goals are to: 1.) increase students' understanding of the possible uses and limitations of the broad range of methods in Futures Studies; 2.) develop student's abilities to apply and critically assess others' applications of these methods in substantive cases dealing with wicked problems; and 3.) develop students insight into the complexities and possible ways of addressing issues related to climate change and developments in artificial intelligence.

Assignments will include a critical analysis paper on each of the two case studies, an in-class report on a Futures Studies/Action method, a reflective essay on the futures invention workshop, and a problem set on methods and their applications to the two case studies.

Evaluation will be based on the extent to which class participation and performance in the assignments demonstrates significant advance in achieving the three core goals of the course.

AD	1015	I	**Two Dimensional Design I**		
ES	3010	M	**Understanding and Managing Group Dynamics**		
HS	4047	MA	**Waste**		
HS	4043	MA	**Wilderness in the West: Promise and Problems**		1

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 accounts 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 entries, contributions to the class discussions, response papers, 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.

ES	4036	MA	**WIldlife Ecology**		1

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.

ES	4012	MA	**Winter Ecology**		1

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.

HS	4034	MA	**World Literature**		
HS	1043	I	**Writing Seminar I: Exposition**		
HS	2055	IM	**Writing Seminar II: Argumentation**		
HS	2021	IM	**YUCATAN: Immersion Practica in Spanish and Yucatecan Culture**		
HS	3055	M	**YUCATAN: The Mayas of Yesterday and Today**		

	TOTALS		**163**	**20**	**42**
				0.1227	**0.2577**