Environmental Humanities Courses
Spring 2020
Yale University
The Environmental Humanities at Yale

Humanity’s relationship with the natural world is deeply shaped by history, culture, social relationships, and values. Society’s environmental challenges often have their roots in how people relate to each other and how we think about environmental problems and even “the environment” itself.

The Yale Environmental Humanities Initiative aims to deepen our understanding of the ways that culture is intertwined with nature. Faculty and students from diverse disciplines and programs across the university together can pursue a broad interdisciplinary conversation about humanity and the fate of the planet.

Each academic year, Yale offers dozens of courses that approach environmental issues from a broad range of humanities perspectives. Some of the courses are entirely focused on the environment and the humanities; others approach the environmental humanities as one of several integrated themes. This accompanying list provides a guide to course offerings for the Fall 2019 semester.

Undergraduate Courses

Graduate Courses

Web: Environmentalhumanities.yale.edu Email: Environmentalhumanities@yale.edu Twitter: @YaleEnvHum

Sign up for the Yale Environmental Humanities Newsletter for upcoming events and news

Yale Environmental Humanities gratefully acknowledges the financial support of the inaugural 320 York Humanities Grant Program, the School of Forestry and Environmental Studies, the Whitney Humanities Center, and The Edward J. and Dorothy Clarke Kempf Memorial Fund.
Undergraduate Courses

**AMST, ANTH, ARCG, ARCH, ENGL, EVST, FILM, HIST, HSHM, HSAR, HUMS, PHIL, PLSC**

**AFST 235 (20879) /ER&M 239/GLBL 235**  
*Race, Space, Power: Mapping the Global Color Line*  
Leslie Gross-Wyrtzen  
W 9:25am-11:15am  
Areas SO

This seminar is an interdisciplinary, comparative exploration of how race makes space and how space makes race in US and global contexts. We explore these relationships through historical and contemporary case studies, with attention to how geographies of white supremacy and settler/colonial power seek to erase or subsume the spatial practices of certain groups of people. Because we take a comparative approach, the cases selected are sited in various locations in the Americas, Africa, and Europe, three regions among many we could have chosen. The goal is not to provide a comprehensive survey of all the places in which race is produced, lived, and reworked, but to identify some of the domains through which race and space are co-produced to shore up powerful groups’ dominance over disempowered groups. These domains include the colony, land, the city, the nation and the body—just a few of the many overlapping domains through which we could explore how relationships of power create uneven social and material terrains. Much of the critique we engage with emanates from Black geographic thought (which itself draws upon Black feminist theorizing), postcolonial theory, and settler colonial theory. Students are invited to use the analytical concepts and cases we discuss in class as a starting point for their own explorations of the “fatal couplings of power and difference” (Gilmore 2002) in sites connected to their own research, interests, and political commitments.

**AFST 271 (20758) /ARCG 217/NELC 617/AFST 619/NELC 271**  
*From Africa to Arabia: Worlds of the Ancient Red Sea*  
Julien Cooper  
MW 4pm – 5:15pm  
Areas HU

This course introduces students to the diverse and unique worlds of the ancient Red Sea, from Ancient Egypt, the Kingdoms of South Arabia, ancient Ethiopia, and the myriad nomadic peoples who dwelt on its shores. The focus of the course is how the specific geography of the Red Sea shaped the history of trade and politics in the region, juxtaposed with much better researched ancient maritime spaces in the Mediterranean. Students learn about many ancient cultures and empires not commonly encountered in history courses, as well as how this frequently ignored space acted as one of the most important trading corridors in the ancient world.

**AFST 369 (20314) /MMES/369/FREN 369**  
*Deserts, Oceans, Islands: Literature of Migration & Refuge*  
Jill Jarvis  
M 1:30pm-3:20pm  
Areas HU

A critical study of literature and film that charts different spaces shaped by intersecting—or colliding—routes of colonization and forced migration: deserts (Sahara, Sonoran), oceans (Indian, Atlantic, Mediterranean), and islands (Haiti, Martinique, Zanzibar, Mauritius, Sri Lanka). Students contribute to the Desert Futures interdisciplinary symposium to be held at Yale in spring 2020. Seminar is conducted in English.  
Prerequisite: Reading knowledge of French required (FREN 160 or above; contact instructor with questions about language preparation).

**AMST 197 (28636) /ARCH 280/HSAR 219/URBN 280**  
*American Architecture and Urbanism*  
Elihu Rubin  
MW 11:35am-12:50pm  
Areas HU

Introduction to the study of buildings, architects, architectural styles, and urban landscapes, viewed in their economic, political, social, and cultural contexts, from precolonial times to the present. Topics include: public and private investment in the built environment; the history of housing in America; the organization of architectural practice; race, gender, ethnicity and the right to the city; the social and political nature of city building; and the transnational nature of American architecture.
AMST 255 (20041) /HIST 155
California Capitalism
Travis Ross
TTh 11:35am-12:25pm
Areas HU
This course examines the rise of California to become the world’s fifth largest economy as a case study in the history of capitalism. California offers an important case study through which to think historically about the complicated relationships between the environment, globalized capitalism, national politics, and individual choices within the world economy as they have intersected in a state defined by its booms and busts. The course begins with the earliest attempts by European empires to establish a foothold on the Pacific Ocean in California and concludes with California’s global hegemony as a powerhouse in cultural production, technological development, agricultural output, and environmental policy. We pay particular attention to how California’s culture of entrepreneurship has created both solutions to and new problems for advancements in global hunger, environmental sustainability, income inequality, labor, and media distribution.

AMST 330 (26917) /ENGL 236
Dystopic and Utopian Fictions
James Berger
M 9:25am-11:15am
Areas HU
Attempts since the late nineteenth century to imagine, in literature, cinema, and social theory, a world different from the existing world. The merging of political critique with desire and anxiety; the nature and effects of social power; forms of authority, submission, and resistance.

AMST 452 (29386) /ER&M 453/AMST 628
Movement, Memory, and U.S. Settler Colonialism
Laura Barraclough
T 9:25am-11:15am
Areas HU
This research seminar examines and theorizes the significance of movement and mobility in the production and contestation of settler colonial nation-states. To do so, it brings together the fields of settler colonial studies, critical indigenous studies, ethnic studies, public history, and mobility studies. After acquainting ourselves with the foundations and some of the key debates within each of these fields, we examine four case studies: The Freedom Trail and the Black Heritage Trail in Boston; the Lewis and Clark expedition and its recuperation as a site of healing and education for tribal nations in the Upper Midwest and Northwest; the Trail of Tears and the contest over southern memory; and the relationships between settlement, labor migration, and regional racial formation in California. Students then conduct their own research projects that integrate primary source research on a particular organized movement (of people, non-human animals, ideas, practices) with two or more expressions of memory about that movement (in the form of public history installations, popular culture, literature, music, digital memes, etc.). This course is best suited to students who have initial ideas about a potential research topic and are exploring related ideas for their senior essay.
AMST 459 (29398)  
**Multispecies Worlds**  
Kathryn Dudley  
Th 1:30pm-3:20pm  
Areas SO  
This seminar explores the relational and material worlds that humans create in concert with other-than-human species. Through an interdisciplinary analysis of the problematic subject of anthropology—Anthropos—we seek to pose new questions about the fate of life worlds in the present epoch of anthropogenic climate change. Our readings track circuits of knowledge from anthropology and philosophy to geological history, literary criticism, and environmental studies as we come to terms with the loss of biodiversity, impending wildlife extinctions, and political-economic havoc wrought by global warming associated with the Anthropocene. A persistent provocation guides our inquiry: What multispecies worldings become possible to recognize and cultivate when we dare to decenter the human in our politics, passions, and aspirations for life on a shared planet?

ANTH 241 (27374) /EAST 406  
**Nature and Culture in and of East Asia**  
Tomo Sugimoto  
W 1:30pm-3:20pm  
Areas SO  
How is nature in East Asia shaped by distinct histories of modernization, colonialism, militarism, the Cold War, and developmentalism in the region? What is the impact of transnational flows of objects, people, ideas, and discourses—whether they are natural resources, waste, environmental activists, or green urbanism—on nature? How do recent anxieties about adulterated food, radiation, and pollution reveal environmental interconnections among Japan, China, Taiwan, Hong Kong, Korea, and beyond? Why are marginalized groups like Okinawans, indigenous people, and rural poor peasants disproportionately affected by environmental problems? By addressing such questions, this course aims to unpack the relationship between nature, culture, and power in East Asia. Reading interdisciplinary accounts from history, anthropology, and literary and cultural studies, we engage the growing field of environmental humanities from a uniquely East Asian perspective. Topics include the relationship between East Asian colonial experience and nature; state power and water resources; air pollution; nuclear radiation; the emergence of environmental conservation discourse; interspecies connections; and food safety.

ANTH 339 (26958)  
**Urban Ethnography of Asia**  
TBA  
M 9:25am-11:15am  
Areas SO  
Introduction to the anthropological study of contemporary Asian cities. Focus on new ethnographies about cities in East, Southeast, and South Asia. Topics include rural-urban migration, redevelopment, evictions, social movements, land grabbing, master-planned developments, heritage preservation, utopian aspirations, social housing, slums and precariousness, and spatial cleansing.

ANTH 399 (26964)  
**The Anthropology of Outer Space**  
Lisa Messeri  
TTh 2:30pm-3:45pm  
Areas SO  
Examination of the extraterrestrial through consideration of ideas in anthropology and aligned disciplines. Students discuss, write, and think about outer space as anthropologists and find the value of exploring this topic scientifically, socially, and philosophically.
ANTH 414 (20292) / EAST 417
Hubs, Mobilities, and World Cities
Helen Siu
M 1:30pm-3:20pm
Areas SO
Analysis of urban life in historical and contemporary societies. Topics include capitalist and postmodern transformations; class, gender, ethnicity, and migration; and global landscapes of power and citizenship.

ANTH 438 (20882) /ANTH 638
Culture, Power, Oil
Douglas Rogers
W 9:25am-11:15am
Areas SO
The production, circulation, and consumption of petroleum as they relate to globalization, empire, cultural performance, natural resource extraction, and the nature of the state. Case studies include the United States, Saudi Arabia, Nigeria, Venezuela, and the former Soviet Union.

ANTH 473 (20197) /EVST 473/ARCG 473/NELC 473
Climate Change, Societal Collapse, and Resilience
Harvey Weiss
Th 4pm-5:50pm
Areas HU, SO
The coincidence of societal collapses throughout history with decadal and century-scale abrupt climate change events. Challenges to anthropological and historical paradigms of cultural adaptation and resilience. Examination of archaeological and historical records and high-resolution sets of paleoclimate proxies.

ARCG 031 (29299) /HIST 020/CLCV 059/EVST 030/NELC 026
Rivers and Civilization
Harvey Weiss
TTh 9:00am-10:15am
Areas HU, SO
The appearance of the earliest cities along the Nile and Euphrates in the fourth millennium B.C. Settlements along the rivers, the origins of agriculture, the production and extraction of agricultural surpluses, and the generation of class structures and political hierarchies. How and why these processes occurred along the banks of these rivers; consequent societal collapses and their relation to abrupt climate changes. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.

ARCG 492 (20093) /ANTH 492/NELC 321/NELC 537/ANTH 692
Imaging Ancient Worlds
Roderick McIntosh, John Darnell, Agnete Lassen, and Klaus Wagensonner
W 9.25-11.15
The interpretation of epigraphic and archaeological material within the broader context of landscape, by means of creating a virtual model to reconstruct the sensory experiences of the ancient peoples who created the sites. Use of new technologies in computer graphics, including 3-D imaging, to support current research in archaeology and anthropology.
ARCH 230 (28632) /STCY 176
**Introduction to the Study of the City**
Alexander Garvin
T 1:30pm-3:20pm
Areas SO
An examination of forces shaping American cities and strategies for dealing with them. Topics include housing, commercial development, parks, zoning, urban renewal, landmark preservation, new towns, and suburbs. The course includes games, simulated problems, fieldwork, lectures, and discussion.

ARCH 341 (28638) /GLBL 253/LAST 318/F&ES 782/URBN 341
**Globalization Space**
Keller Easterling
MW 10:30am-11:20am
Areas HU
Infrastructure space as a primary medium of change in global polity. Networks of trade, energy, communication, transportation, spatial products, finance, management, and labor, as well as new strains of political opportunity that reside within their spatial disposition. Case studies include free zones and automated ports around the world, satellite urbanism in South Asia, high-speed rail in Japan and the Middle East, agripeoles in southern Spain, fiber optic submarine cable in East Africa, spatial products of tourism in North Korea, and management platforms of the International Organization for Standardization.

ARCH 360 (28641) /URBN 360
**Urban Lab: An Urban World**
Joyce Hsiang
Th 10:30am-1:20pm
Areas HU
Understanding the urban environment through methods of research, spatial analysis, and diverse means of representation that address historical, social, political, and environmental issues that consider design at the scale of the entire world. Through timelines, maps, diagrams, collages and film, students frame a unique spatial problem and speculate on urbanization at the global scale.

ENGL 114 - Section 05 (13024)
**Black and Indigenous Ecologies**
Rasheed Tazudeen
MW 2.30-3.45
Areas WR
“Red earth, blood earth, blood brother earth” —Aimé Césaire, Notebook of a Return to My Native Land (1965)
Who gets to define the meaning of ecology, along with the earth we stand on, and how is this definition bound up with the legacies of colonial power, empire, slavery, and other forms of racialized oppression? And what new modes of ecological thought might emerge once we engage with the perspectives of indigenous peoples and communities of color—traditionally excluded from dominant environmentalist discourses—and their alternative ways of thinking and imagining a relation to the earth? Through readings in anthropology, geology, critical race studies, philosophy, literature, and poetry, this course explores the ecologies and counter-ecologies born of anti-imperial opposition, from 1492 to the present. Struggles for liberation, as we will examine, are never separable from struggles for land, food, water, air, and an earth in common. From Standing Rock to Sao Paulo, the Antilles to New Zealand, and Mauna Kea to Lagos, we will engage with anti-colonial and anti-racist attempts to craft an image of the earth no longer made in the ecocidal image of imperialist Western Man (or the anthropos of “Anthropocene”), and to imagine a future to be held and composed in common by all.
What is healing about Nature? What are the things for which we seek healing? What is the "Nature" that we refer to when talking about its therapeutic qualities? In this course, we will explore these questions through an interdisciplinary approach. Nature is often held up as therapeutic and curative in our sociocultural imagination. From architectural designs of hospitals that seek to bring in elements of the natural environment, to writing about one’s walk out in the woods to capture a sense of well-being and fulfillment, the range of interconnections between health and Nature is vast. In talking about the healing qualities of Nature, we will also grapple with the definition of Nature itself, and the distinction between nature and Nature. What do we mean when we say that we go out to Nature? Does a tuft of weed growing through the cracks of the sidewalk count as Nature? How about an idyllic, rolling farmland that produces excess runoff, and was created by deforestation? What are we expecting from such encounters?

Study of central works by three foundational writers of the nineteenth century. Cultural and historical context; questions concerning American identity, ethics, and culture, as well as the function of literature; the authors’ views on the intersections of philosophy and religious belief, culture, race, gender, and aesthetics. Readings include novels, poems, short fiction, and essays.

Poetry and prose of Byron, Shelley, and Keats with emphasis on both their differences and their common qualities. Special attention is given to the complex interactions of these poets with Wordsworth and Coleridge.

Writing about food within cultural contexts. Through reading essays written by the luminaries of the food world, students explore food narratives from many angles, including family meals, recipes, cookbooks, restaurant reviews, memoir, and film.

An exploration of reading and writing about place. Definitions of home; different meanings and intent of travel. Readings include exemplary contemporary essays from the eighteenth century to the present. Workshop for assigned student essays.
EVST 189 (27789) /HIST 246
The History of Food
Paul Freedman
TTh 10:30am-11:20am
Areas HU
The history of food and culinary styles from prehistory to the present, with a particular focus on Europe and the United States. How societies gathered and prepared food. Changing taste preferences over time. The influence of consumers on trade, colonization, and cultural exchange. The impact of colonialism, technology, and globalization. The current food scene and its implications for health, the environment, and cultural shifts.

EVST 211 (27729) /HSHM 211/G&G 211/HIST 416
Global Catastrophe since 1750
William Rankin
MW 10:30am-11:20am
Areas HU
A history of the geological, atmospheric, and environmental sciences, with a focus on predictions of global catastrophe. Topics range from headline catastrophes such as global warming, ozone depletion, and nuclear winter to historical debates about the age of the Earth, the nature of fossils, and the management of natural resources. Tensions between science and religion; the role of science in government; environmental economics; the politics of prediction, modeling, and incomplete evidence.

EVST 247 (28265) /PLSC 219/EP&E 497
Politics of the Environment
Peter Swenson
TBA
Areas SO
Historical and contemporary politics aimed at regulating human behavior to limit damage to the environment. Goals, strategies, successes, and failures of movements, organizations, corporations, scientists, and politicians in conflicts over environmental policy. Focus on politics in the U.S., including the role of public opinion; attention to international regulatory efforts, especially with regard to climate change.

EVST 255 (29823) /F&ES 255/GLBL 282/PLSC 215
Global Food Challenges: Environmental Politics and Law
John Wargo
MW 1:00pm-2:15pm
Areas SO
We explore relations among food, environment, health, and law. We consider global-scale avoidable challenges such as: starvation and malnutrition, obesity, other food related human diseases, climate instability, soil loss, water depletion and contamination, microbial hazards, chemical contamination, food waste, dietary convergence, air pollution, energy, packaging, culinary globalization, and biodiversity loss. We focus on laws that influence the world’s food system, including those intended to reduce or prevent environmental and health damages. Other laws protect rights of secrecy, property, speech, confidential business information, free trade, worker protection, equal opportunity, and freedom from discrimination. Ethical concerns of justice, equity, and transparency are prominent themes. Examples of effective law, consumer movements and corporate innovations provide optimism for the future of responsible food.
EVST 368 (27748) /HSHM 479/HIST 491J/RLST 368
The History of the Earth from Noah to Darwin
Ivano Dal Prete
Th 1:30pm-3:20pm
Areas HU, WR
Young earth creationism and flood geology have long been among the most divisive features of American culture and politics. Yet a basic postulate is shared across the spectrum: for better or worse, the old age of the Earth is regarded as the recent product of a secular science, consistently rejected by traditional Christianity. This seminar challenges this long-established narrative, by uncovering the surprising boldness, complexity, and societal diffusion of pre-modern debates on the history of the Earth, and of humankind itself. Students have opportunity to explore the nature, assumptions, and methods of Earth sciences before the advent of modern geology, to question ingrained assumptions about their relation to religion and society, and to place outstanding issues into historical perspective. How have the great monotheistic religions dealt with the possibility of an ancient Earth? Was a young creation always important in traditional Christianity? If not, what led to the emergence of young Earth creationism as a force to be reckoned with? What are the intellectual roots of American preadamism, which claims that the black and white races were created at different times and do not descend from the same ancestor? These and other questions are addressed not only through scholarly literature in the field, but also with the analysis of literary, visual, and material sources available on campus.

FILM 344 (27575)
Landscape, Film, Architecture
Fatima Naqvi
W 7pm-10pm and Th 9:25am-11:15am
Areas HU
Movement through landscapes and cityscapes as a key to understanding them. Simulation of travel, using movie cameras and other visual-verbal means, as a way to expand historical, aesthetic, and sociological inquiries into how places are inhabited and experienced. Exploration of both real and imaginary places traversed in works by Edgar Allan Poe, Jules Verne, César Aira, Georges Rodenbach, Patrick Keiller, Georges Perec, and Andrei Tarkovsky.

FILM 442 (28480) /RUSS 403/LITR 403
The City in Literature and Film
Katerina Clark
TTh 2:30pm-3:45pm
Areas HU
Consideration of the architecture, town planning, and symbolic functions of various cities in Europe, Latin America, the United States, and East Asia. Discussion of the representation of these cities in literature and film. Works include older Soviet and Chinese films about Shanghai and contemporary films about Hong Kong and Beijing.

FREN 307 (27610) /LITR 302
France by Rail: Trains in French Literature, Film, and History
Morgane Cadieu
F 1:30pm-3:20pm
Areas HU, WR
Exploration of the aesthetics of trains in French and Francophone literature and culture, from the end of the nineteenth-century and the first locomotives, to the automatically driven subway in twenty-first century Paris. Focus on the role of trains in industrialization, colonization, deportation, decolonization, and immigration. Corpus includes novels, poems, plays, films, paintings, graphic novels, as well as theoretical excerpts on urban spaces and public transportation. Activities include: building a train at the CEID and visiting the Beinecke collections and the Art Gallery.
**HIST 006 (27765) /HSHM 005**
*Medicine and Society in American History*
Rebecca Tannenbaum
TTh 1pm-2:15pm
Areas HU, WR
Disease and healing in American history from colonial times to the present. The changing role of the physician, alternative healers and therapies, and the social impact of epidemics from smallpox to AIDS. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.

**HIST 128J (27746) /HSHM 475**
*Race and Disease in American Medicine*
Sakena Abedin
T 9:25am-11:15am
Areas HU, WR
An exploration of the history of race and disease in American medicine from the late 19th century to the present, focusing on clinical practice and clinical research. We discuss cancer, psychiatric disease, sickle cell disease, and infectious diseases including tuberculosis and HIV. We examine the role of race in the construction of disease and the role of disease in generating and supporting racial hierarchies, with special attention to the role of visibility and the visual in these processes. We also consider the history of race and clinical research, and the implications of racialized disease construction for the production of medical knowledge.

**HIST 244 (29035) /HSHM 321**
*Cultures of Western Medicine*
John Warner
MW 11:35am-12:25pm
Areas HU
A survey of Western medicine and its global encounters, encompassing medical theory, practice, institutions, and healers from antiquity to the present. Changing concepts of health, disease, and the body in Europe and America explored in their social, cultural, economic, scientific, technological, and ethical contexts.

**HIST 289J (27734) /HSHM 407/HSAR 399/HUMS 220**
*Collecting Nature and Art in the Preindustrial World*
Paola Bertucci
W 1:30pm-3:20pm
Areas HU, WR
A history of museums before the emergence of the modern museum. Focus on: cabinets of curiosities and Wunderkammern, anatomical theaters and apothecaries’ shops, alchemical workshops and theaters of machines, collections of monsters, rarities, and exotic specimens.

**HIST 321 01 (27799) /EAST 220**
*China from Present to Past, 2015–600*
Valerie Hansen
TTh 1:30pm-2:20pm
Areas HU
Underlying causes of current issues facing China traced back to their origins in the premodern period. Topics include economic development, corruption, environmental crises, gender, and Pacific island disputes. Selected primary-source readings in English, images, videos, and Web resources. *Optional additional Chinese-language and English-language sections.
The Middle East Before Oil
Camille Cole
W 3:30pm-5:20pm
Areas HU, WR
For many of us, oil defines Middle Eastern modernity. In fact it defines the Middle East—its economies, its politics, its societies. Focusing on the parts of the Middle East now associated with oil, this course looks first at states and next at economies to ask what, who, and where was modern in the Middle East before oil? How has the Middle East participated in crafting the global modern? Considering issues of capital, empire, and technology, before ending with a discussion of some of the less-studied cultural aspects of oil modernity, the course ultimately asks us to consider what is special—and not—about the Middle East, and about oil. Cultural and political material produced by individuals and states in the region—from maps to music and diaries to film—provide a variety of perspectives on the last years of empire in the region. The diverse economic, political, and technical responses Middle Eastern actors offered to European imperialism and global capital, and the ways those responses in turn shaped imperialism and capitalism, outline an unexpected Middle Eastern modernity.

Vaccination in Historical Perspective
Jason Schwartz
M 1:30pm-3:20pm
Areas HU
For over two centuries, vaccination has been a prominent, effective, and at times controversial component of public health activities in the United States and around the world. Despite the novelty of many aspects of contemporary vaccines and vaccination programs, they reflect a rich and often contested history that combines questions of science, medicine, public health, global health, economics, law, and ethics, among other topics. This course examines the history of vaccines and vaccination programs, with a particular focus on the 20th and 21st centuries and on the historical roots of contemporary issues in U.S. and global vaccination policy. Students gain a thorough, historically grounded understanding of the scope and design of vaccination efforts, past and present, and the interconnected social, cultural, and political issues that vaccination has raised throughout its history and continues to raise today.

Sacred Space in South Asia
Subhashini Kaligotla
MW 11:35am-12:50p,
Areas Hu
“Sacred” space in the Indian subcontinent was at the epicenter of human experience. This course presents Buddhist, Hindu, Islamic, and Jain monuments and the gamut of social meanings and activities associated with them. Moving from the ritual spaces of the Indus Valley Culture to nineteenth-century colonial India, we learn how the organization and imagery of these spaces supported devotional activity and piety. We learn too how temples, monasteries, and shrines supported the pursuit of pleasure, amusement, sociability, and other worldly interests. We also explore the symbiotic relationship between Indian kingship and religion, and the complex ways in which politics and court culture shaped sacred environments. The course concludes with European imaginings of Indian religion and religious places.”
**HSHM 441 (20050) /HIST 322J**  
**Bodies, Science, and Goods: Exchanges in the Early Modern Mediterranean**  
Barbara Di Gennaro  
Th 3:30pm-5:20pm  
Areas HU, WR  
The Mediterranean is the liquid surface that facilitated constant exchanges of knowledge, people, and goods between Europe, Africa, and Asia and, at the same time, the sea that constituted a barrier between religions and cultures. This seminar explores the Mediterranean in the Early Modern period. We approach the Middle Sea from two main perspectives. First, through scientific knowledge about the sea itself and its inhabitants, such as cartography, medicine, and theories about human diversity. Secondly, we study the experiences of men and women moving across shores because they chose to do so or were forced to: merchants, converts, pirates, and slaves. The contradictory essence of the Mediterranean in this period (16th-18th centuries) emerges from the interplay of constraints—geographic and political boundaries, epidemics and poverty—and possibilities, such as commercial and maritime practices, or malleable religious and social identities.

**HSHM 477 (20024) /HUMS 463/RLST 437**  
**Critical Theories of Science and Religion**  
Joanna Radin, Noreen Khawaja  
M 1:30pm-3:20pm  
Areas HU  
This course is an introduction to new thinking about the relationship of science and religion in global modernities. Drawing from work in feminist and indigenous studies, critical race theory, postcolonial studies, and multispecies thought, we explore systematic questions at the intersection of metaphysics, history of science, and politics. How can attending to the role of practice alter our understanding of how knowledge is produced across scientific and religious worlds? What is a world, and who gets to define it? How might a new contract between science and religion reveal fresh possibilities for an ethical response to late capitalism: addressing historic exclusions, structural inequalities, and human-nonhuman relations? Readings may include: Bruno Latour, Donna Haraway, Kim TallBear, Anna Tsing, Isabell Stengers, Cathy Gere, Mary-Jane Rubenstein, Karen Barad, Robert Bellah, Gabriel Marcel, Elizabeth Povinelli, Nadia Abu El-Haj, Aicha Beliso-De Jesus, Marilyn Strathern, Catherine Keller, Abou Farman, Webb Keane.

**HUMS 247 (28501) /SOCY 352/SOCY 620**  
**Material Culture and Iconic Consciousness**  
Jeffrey Alexander  
M 3:30pm-5:20pm  
Areas HU, SO  
How and why contemporary societies continue to symbolize sacred and profane meanings, investing these meanings with materiality and shaping them aesthetically. Exploration of "iconic consciousness" in theoretical terms (philosophy, sociology, semiotics) and further exploration of compelling empirical studies about food and bodies, nature, fashion, celebrities, popular culture, art, architecture, branding, and politics.
PHIL 269 (28198)
The Philosophy of Science
Mark Maxwell
MW 2:30pm-3:45pm
Areas HU
Central questions about the nature of scientific theory and practice. Factors that make a discipline a science; how and why scientific theories change over time; interpreting probabilistic claims in science; whether simpler theories are more likely to be true; the laws of nature; whether physics has a special status compared to other sciences; the legitimacy of adaptationist thinking in evolutionary biology.

PLSC 257 (28271)
Bioethics and Law
Stephen Latham
HTBA
Areas SO
The treatment by American law of major issues in contemporary biomedical ethics: informed consent, assisted reproduction, abortion, end-of-life care, research on human subjects, stem cell research, and public health law. Readings include legal cases, statutes, and regulations. No background in law assumed.
Graduate Courses

AFAM, AFST, AMST, ANTH, CPLT, ENGL, F&ES, HSAR, HSHM, REL

AFAM 752 (27761) /HSHM 761/HIST 937
**Medicine and Empire**
Carolyn Roberts
M 9:25am-11:15am
A reading course that explores medicine in the context of early modern empires with a focus on Africa, India, and the Americas. Topics include race, gender, and the body; medicine and the environment; itineraries of scientific knowledge; enslaved, indigenous, and creole medical and botanical knowledge and practice; colonial contests over medical authority and power; indigenous and enslaved epistemologies of the natural world; medicine and religion.

AFST 833 (27830) /HIST 833
**Agrarian History of Africa**
Robert Hams
W 1:30pm-3:20pm
This course examines changes in African rural life from precolonial times to the present. Issues to be examined include land use systems, rural modes of production, gender roles, markets and trade, the impact of colonialism, cash cropping, rural-urban migration, and development schemes.

AFST 619 (20762)/NELC 617
**From Africa to Arabia: Worlds of the Ancient Red Sea**
Julien Cooper
MW 4pm – 5:15pm
Areas HU
This course introduces students to the diverse and unique worlds of the ancient Red Sea, from Ancient Egypt, the Kingdoms of South Arabia, ancient Ethiopia, and the myriad nomadic peoples who dwelt on its shores. The focus of the course is how the specific geography of the Red Sea shaped the history of trade and politics in the region, juxtaposed with much better researched ancient maritime spaces in the Mediterranean. Students learn about many ancient cultures and empires not commonly encountered in history courses, as well as how this frequently ignored space acted as one of the most important trading corridors in the ancient world.

AMST 667 (26930)
**Critical Human Geography**
Laura Barraclough
M 9:25am-11:15am
This readings courses immerses students in the critical/radical tradition of human geography, which investigates how power relations and structural inequalities are spatially produced, contested, and transformed. Topics include the relationship between geography’s development as a discipline and histories of imperialism; indigenous geographies and spatial persistence; spatial theories of capitalism and uneven development; feminist and queer geographies; geographies of blackness, white supremacy, and settler colonialism; gentrification and urban change; critical geographic information science and counter-mapping; and new approaches to landscape and region.
AMST 767 (29325) /HIST 724
Research Seminar in U.S. Urban History
Mary Lui
Th 9:25am-11:15am
Students conduct archival research to write an original, article-length essay on any aspect of U.S. urban history in any century. The first half of the seminar consists of weekly readings and discussions while the latter half consists of article workshop meetings focused on student writing.

AMST 785 (20298)
Religion and the Performance of Space
Sally Promey
Th 1:30pm-3:20pm
This interdisciplinary seminar explores categories, interpretations, and strategic articulations of space in a range of religious traditions in the United States. The course is structured around theoretical issues, including historical deployments of secularity as a framing mechanism, conceptions of space and place, and perceived relations between property and spirituality. Examples of the kinds of case studies treated in class include public displays of religion, the enactment of ritual behaviors within museums, the marking of religious boundaries of various sorts, and emplaced articulations of “spiritual” properties or real estate. Several campus events, including research group presentations, are coordinated with the seminar.
Permission of the instructor required; qualified undergraduates are welcome.

AMST 839 (29327) /HIST 743/HSHM 744
Readings in Environmental History
Paul Sabin
T 9:25am-11:15am
Readings and discussion of key works in environmental history. The course explores major forces shaping human-environment relationships, such as markets, politics, and ecological dynamics, and compares different approaches to writing about social and environmental change.

AMST 854 (27525) /ENGL 847
Colonial and National: American Literature to 1830
Michael Warner
M 9:25am-11:15am
An introduction to both the primary texts and the current scholarship in the field, including transatlantic and hemispheric perspectives; the public sphere; evangelicalism and the secular; the rise of African American public intellectuals; varieties of pastoral in contexts of settler colonialism; cultural geographies of literary capitals and the backcountry; nationalism; polite letters and popular genres; Native American literacies; the early American novel; and the modern social imaginary. Writers and preachers studied include Cotton Mather, Jonathan Edwards, Benjamin Franklin, Samson Occom, Ukawsaw Gronniosaw, Phillis Wheatley, John Marrant, Thomas Jefferson, Thomas Paine, Judith Sargent Murray, Timothy Dwight, and Charles Brown. The course ends with the generation of Washington Irving, William Cullen Bryant, James Fenimore Cooper, and Catharine Sedgwick.
ANTH 539 (28622)

Urban Ethnography of Asia
Erik Harms
T 9:25am-11:15am
Introduction to the anthropological study of contemporary Asian cities. Focus on new ethnographies about cities in East, Southeast, and South Asia. Topics include rural-urban migration, redevelopment, evictions, social movements, land grabbing, master-planned developments, heritage preservation, utopian aspirations, social housing, slums and precariousness, and spatial cleansing.

ANTH 575 (20297)

Hubs, Mobilities, and Global Cities
Helen Siu
M 1:30pm-3:20pm
Analysis of urban life in historical and contemporary societies. Topics include capitalist and postmodern transformations, class, gender, ethnicity, migration, and global landscapes of power and citizenship.

ANTH 594 (28625) /AMST 747/WGSS 633

Affect and Materiality
Kathryn Dudley
T 1:30pm-3:20pm
Recent scholarship in the fields of affect studies and the new materialisms raises important questions about the ethnographic encounter and the kind of knowledge it produces. Refusing to grant ontological status to classic oppositions between nature/culture, self/other, subject/object, and human/nonhuman, this work encourages anthropologically inclined ethnographers to rethink longstanding assumptions about the composition of the “social” and the “political” in an anthropocentric world that ignores the vulnerabilities and agential capacities of global ecosystems at its peril. Reading across ossifying disciplinary divides, this seminar examines the intellectual projects of writers such as Jane Bennett, Bruno Latour, Lauren Berlant, and Kathleen Stewart, among others. Our objective is to theorize the intersection between public and private feelings and human and nonhuman materiality in ways that bring the political and aesthetic implications of ethnographic research and writing to the fore.

ANTH 638 (20883)

Culture, Power, Oil
Douglas Rogers
W 9:25am-11:15am
The course analyzes the production, circulation, and consumption of petroleum in order to explore key topics in recent social and cultural theory, including globalization, empire, cultural performance, natural resource extraction, and the nature of the state. Case studies from the United States, Saudi Arabia, Nigeria, Venezuela, and the former Soviet Union, among others.

ANTH 692 (20102) /ARC 492 /ANTH 492/NELC 321/NELC 537

Imaging Ancient Worlds
Roderick McIntosh, John Darnell, Agnete Lassen, and Klaus Wagensonner
W 9:25-11:15
The interpretation of epigraphic and archaeological material within the broader context of landscape, by means of creating a virtual model to reconstruct the sensory experiences of the ancient peoples who created the sites. Use of new technologies in computer graphics, including 3-D imaging, to support current research in archaeology and anthropology.
ANTH 710 (21050) / ARCG 710
Settlement Patterns and Landscape Archaeology
Oswaldo Chinchilla Mazariogos
T 9:25am-11:15am
An introduction to the archaeological study of ancient settlements and landscapes. Topics include an overview of method and theory in settlement and landscape archaeology; field methods of reconnaissance, survey, and remote sensing; studies of households and communities; studies of ancient agricultural landscapes; regional patterns; roads and networks of communication; urbanism and ancient cities; and symbolic interpretations of ancient landscapes.

ANTH 964 (28915) / HIST 964/ HSAR 842/ HSHM 692
Topics in the Environmental Humanities
Kalyanakrishnan Sivaramakrishnan, Tomo Sugimoto
W 5:30pm-7:20pm
This is the required workshop for the Graduate Certificate in Environmental Humanities. The workshop meets six times per term to explore concepts, methods, and pedagogy in the environmental humanities, and to share student and faculty research. Each student pursuing the Graduate Certificate in Environmental Humanities must complete both a fall term and a spring term of the workshop, but the two terms of student participation need not be consecutive. The fall term each year emphasizes key concepts and major intellectual currents. The spring term each year emphasizes pedagogy, methods, and public practice. Specific topics vary each year. Students who have previously enrolled in the course may audit the course in a subsequent year. Open only to students pursuing the Graduate Certificate in Environmental Humanities.

CPLT 968 (20983)
The End of the World
Jesus Velasco
TTh 11:35am-12:50pm
In this course we study different kinds of narratives about the end of times and its consequences in Iberian and Latin American cultures. We include political, theological, social, and environmental narratives across periodizations in Iberian and Latin American cultures.

ENGL 756 (27523) / ENGL 318
The Possibilities of Romanticism: Byron, Shelley, Keats
Paul Fry
Th 1:30pm-3:20pm
Poetry and prose of Byron, Shelley, and Keats with emphasis on both their differences and their common qualities. Special attention is given to the complex interactions of these poets with Wordsworth and Coleridge.

F&ES 637 (20240) / HIST 818
Commodity Production and Environmental History
Reinaldo Funes Monzote
T 3:30pm-5:20pm
This seminar is designed as an introduction to the history of the environment of the Caribbean and Latin America with an emphasis on the human relationship to the ecology over the last five centuries, and especially on the social and ecological impact of commodity production. The course is composed of weekly readings and discussions in which students make presentations and lead the weekly discussions. The instructors make short presentations each week highlighting various themes that intersect with the readings or that explore other themes and related materials.
F&ES 653 (30013)  
**Maple: From Tree to Table**  
Joseph Orefice  
M 5:30pm-6:50pm  
This course covers the cultural, industrial, and sustainable practices of nontimber forest products through the lens of maple sap and syrup. Maple sugar is a forest product unique to northeastern North America, and it has seen a resurgence in interest as global consumers seek nutritious, natural, and sustainably produced foods. This course covers the booming industry and culture around maple syrup, from backyard operations through modern 100,000-tap investment operations. Maple producers are on the front lines of climate change and forest health threats. The course provides students with the knowledge of how challenges related to forest health and climate change are directly impacting maple producers and how these producers are learning to adapt in ways that are environmentally friendly, ecologically sound, and financially competitive in a global market.

F&ES 764 (29986)  
**Nature, Rationality, and Moral Politics**  
Justin Farrell  
Th 9:00am-11:50am  
This course equips students to think critically and imaginatively about the social aspects of natural landscapes and the communities who inhabit them. It draws on empirical cases from the United States to examine interrelated issues pertaining to culture, morality, religion, politics, power, elites, corporations, and social movements. Because of the deep complexity of these issues, and the fact that this is a reading- and writing-intensive course, it requires a significant time commitment from each student. Students gain fluency with cutting-edge empirical research on these issues; better recognize the social, moral, and political roots of all things; and finally, are able to apply philosophical theory to concrete environmental problems.

F&ES 769 (29987)  
**Public Lands and Policy in the American West**  
Justin Farrell  
W 4:00pm-5:50pm  
Nearly 30 percent of land in the United States is owned and managed by the federal government, almost all of which is in the western U.S. (e.g. 85% of Nevada is federally owned, compared to 0.03% of Iowa and Connecticut). Thus the problems, policies, and management issues facing western lands are remarkably different than other contexts, especially in light of the west’s unique ecological, social, and political landscapes. This seminar takes up these issues with a focus on the nuts and bolts of public land policy and management, using a variety of historical and contemporary case studies.

F&ES 782 (29985) /ARCH 341/GLBL 253/LAST 318/URBN 341  
**Globalization Space: International Infrastructure and Extrastatecraft**  
Keller Easterling  
HTBA  
The course researches global infrastructure space as a medium of polity. It considers networks of trade, energy, communication, transportation, spatial products, finance, management, and labor as well as new strains of political opportunity that reside within their spatial disposition. Case studies include free zones and automated ports around the world, satellite urbanism in South Asia, high-speed rail in Japan and the Middle East, agripoles in southern Spain, fiber-optic submarine cable and mobile telephony in East Africa, spatial products of tourism in the DPRK, and the standards and management platforms of ISO.
Journey of the Universe
John Grim, Mary Tucker
T 4pm-6pm
This semester long course draws on the resources created in the Journey of the Universe project—a film, a book, and a series of twenty interviews with scientists and environmentalists. Journey of the Universe weaves together the discoveries of evolutionary science with cosmological understandings found in the religious traditions of the world. The authors explore cosmic evolution as a creative process based on connection, interdependence, and emergence. The Journey project also presents an opportunity to investigate the daunting ecological and social challenges of our times. This course examines a range of dynamic interactions and interdependencies in the emergence of galaxies, Earth, life, and human communities. It brings the sciences and humanities into dialogue to explore the ways in which we understand evolutionary processes and the implications for humans and our ecological future.

Human-Animal Relations: New Anthropological Approaches to the Nonhuman
Michael Dove
Th 1:00pm-3:50pm
Advanced seminar on the “post-humanist” turn toward multispecies ethnography. Section I, introduction to the course; and “sacred cows.” Section II, theory and practice of multispecies ethnography; the question of human consciousness; and the tradition of natural history studies. Section III, current work on human-animal relations: wildlife conflict; biopower/biopolitics; hunting and mimesis; colonial/postcolonial politics. Section IV, presentations by the students and teaching fellow. One other class is devoted to student selections of influential current literature; and there are two guest lectures by prominent scholars in the field. Enrollment capped. Prerequisite: F&ES 520/ANTH 581, F&ES 838/ANTH 517, or F&ES 839/ANTH 597.

Perspectives on Environmental Injustices
Amity Doolittle
MW 10:30am-11:50am
In this seminar we explore domestic and global environmental issues from a perspective that foregrounds questions of social justice. This course is based on three fundamental premises: (1) all individuals and communities, regardless of their social or economic conditions, have the right to a clean and healthy environment; (2) there is a connection between environmental exploitation, human exploitation, and social justice; and (3) many environmental and social injustices are rooted in larger structural issues in society that must be understood. With these premises as a starting point, we turn to more difficult questions such as, Why and through what political, social, and economic processes are some people denied this basic right to a clean and safe environment? What is the state of scientific evidence surrounding environmental injustice and what are the current scientific challenges in assessing environmental injustices in relationship to human health? What legal frameworks exist within the United States to address environmental injustice?
F&ES 857 (29998) / REL 906H  
Environmental History and Values  
John Grim, Mary Tucker  
W 4:00pm-6:00pm  
This course provides an overview of major figures, ideas, and institutions in American environmentalism. The course explores the development of environmental awareness in America as distinct historical strands with diverse ethical concerns. It begins with an examination of Native American perspectives on land and biodiversity and then focuses on writings by Thoreau and Emerson to explore early American voices in the discourse on “nature.” Readings from Pinchot, Muir, and Leopold have been selected to investigate the emergence of conservation and forest management. The beginnings of urban and park planning are considered in relation to these positions on the management of nature. Students survey the environmental movements from the 1960s onward in readings from the social sciences and humanities. The course explores the major debates in environmental ethics and the broader reach for global ethics. Writings celebrating biodiversity are examined along with the emergence of conservation biology as an example of engaged environmental scholarship. New efforts to widen the interdisciplinary approaches toward environmental issues are introduced in investigating world religions and ecology as well as cosmology and ecology.

F&ES 951 (20508)  
Policy, Politics, and Public Lands  
James Lyons  
Th 2:30pm-5:20pm  
The federal government is responsible for the management of over 600 million acres of public lands in the Western United States, or about 28 percent of the land in the continental United States, and more than 100 million acres (26 percent) of the lands in Alaska. Over the course of the nation’s history, these public lands and natural resources have been critical to the settlement and growth of the western states and the health of their communities and the U.S. economy. At the same time, decisions associated with the management and use of the public lands and natural resources have often been and continue to be contentious and controversial. In this course, students learn how policy, politics, and other factors influence the decisions affecting the use, management, and protection of our public lands. Using a case study approach, students discuss both past and present natural resource/public land policy issues to understand the conflicts and controversies at play as well as the means by which people with different values, policy objectives, and political affiliations can work together to resolve contentious land and resource management issues. Students gain a greater understanding of how natural resource and public land management decisions are made and the factors that are critical to resolving the complex public land management issues. Students then use this knowledge to work in teams with clients in Washington, D.C., on a current public land management issue of concern to their client. The take-away from the course should be an appreciation and deeper understanding of the important skills needed and role played by resource management and policy professionals in finding consensus within polarized decision processes subject to special interest advocacy and partisan politics.

HSAR 730 (29956)  
Religion and the Performance of Space  
Margaret Olin, Sally Promey  
Th 1:30pm-3:20pm  
This interdisciplinary seminar explores categories, interpretations, and strategic articulations of space in a range of religious traditions. In conversation with the work of major theorists of space, this seminar examines spatial practices of religion in the United States during the modern era, including the conception, construction, and enactment of religious spaces. It is structured around theoretical issues, including historical deployments of secularity as a framing mechanism, ideas about space and place, geography and gender, and relations between property and spirituality. Examples of case studies treated in class include the enactment of rituals within museums, the marking of religious boundaries such as the Jewish “eruv,” and the assignment of “spiritual” ownership in Hawai‘i Volcanoes National Park. The seminar coordinates with several campus events, including research group presentations and an exhibition of work by Thomas Wilfred at the Yale University Art Gallery. Prerequisite: permission of the instructors; qualified undergraduates are welcome.
HSHM 702 (27754) /HIST 931
**Problems in the History of Science**
Deborah Coen
T 1:30pm-3:20pm
Close study of recent secondary literature in the history of the physical and life sciences. An inclusive overview of the emergence and diversity of scientific ways of knowing, major scientific theories and methods, and the role of science in politics, capitalism, war, and everyday life. Discussions focus on historians’ different analytic and interpretive approaches.

HSHM 710 (27756) /HIST 921
**Problems in Science Studies**
Joanna Radin
Th 9:25am-11:15am
Exploration of the methods and debates in the social studies of science, technology, and medicine. This course covers the history of the field and its current intellectual, social, and political positioning. It provides critical tools—including feminist, postcolonial, and new materialist perspectives—to address the relationships among science, technology, medicine, and society.

HSHM 749 (29217) /HIST 925
**Visual and Material Cultures of Science**
Paola Bertucci
T 1:30pm-3:20pm
The seminar discusses recent works that address the visual and material cultures of science. Visits to Yale collections, with a particular emphasis on the History of Science and Technology Division of the Peabody Museum. Students may take the course as a reading or research seminar.

REL 677 (28759)
**Natural Disasters in the Christian Tradition: Ritual and Theological Responses**
TBA
MW 1:30pm-2:50pm
Natural disasters are uniquely productive sites of ritual action and theological reflection, cutting to the core of a group’s identity and threatening the stability of theological systems. In the Christian tradition, natural disasters have been critical moments in which the relationship among humans, God, and the world are negotiated, both in ritual action and theological reflection. This seminar explores natural disasters in the Christian tradition by examining ritual and theological responses to environmental catastrophe from early Christianity to the present. The questions raised by the course are: How does environmental instability affect the practice and theory of Christianity? What continuities and discontinuities can be seen in Christian responses to natural disasters across time and space? What resources can the history of disaster responses provide for contemporary religious practice? Students are expected to participate actively in class discussions and write a 10–12-page research paper related to the themes of the course. Students present their work to the class, conference style, in the final two weeks of class. Area II and Area V.
REL 964 (26827)
**Imagining the Apocalypse: Scripture, Fiction, Film**
David Mahan
T 6:00pm-8:00pm

This course explores the literary-theological and sociological facets of the apocalyptic, primarily through modern works of the imagination. Sessions begin with an introduction to various definitions and ideas of the apocalyptic, with special reference to biblical literature in the Hebrew Scriptures as well as the New Testament. From these distinctively theological/religious visions, in which God is the primary actor and God's people figure as the main subjects, the course explores how that framework for the apocalyptic has undergone significant transformations in the literary imagination of late-modern, particularly Western, societies. Through such prose works as *A Canticle for Leibowitz* by Walter Miller, *Oryx and Crake* by Margaret Atwood, and Cormac McCarthy's *The Road*, the course considers how literary portrayals of apocalypse contemplate themes that resonate with significant theological concerns. Area V.

REL 994 (28766)
**Visual Cultures of the Sacred in the Pre-Columbian and Colonial Andes**
Ananda Cohen-Aponte
T 8:30am-11:20am

This seminar focuses on visual and material cultures of the Andes, with a special focus on modalities of the sacred from the Inca empire (ca. 1438–1534) to the period of Spanish colonial rule (1532–1821). The first part of the course focuses on pre-Hispanic expressions of the sacred through the built environment, exploring Inca practices of place-making through the construction of shrines and religious architecture. The remainder of the course considers the persistence of Andean ontologies in the articulation of localized, syncretic forms of Catholicism. We trace the literature, architecture, and visual and material cultures of the colonial encounter, from evangelization efforts of the sixteenth century to the adoption of “popular” and vernacular religious representations on the eve of Independence. The course focuses primarily on the Cuzco region of Peru due to its special status as capital of the Inca empire and cultural hub for indigenous artistic and religious expression from the colonial period into the present day. Nevertheless, we also touch on other areas of the Andean world, including modern-day Bolivia and northern Chile. We analyze a range of visual material, including textiles, paintings, architecture, sculpture, and manuscripts, to understand the intersections between religiosity and visual expression in the Andes. Readings are drawn from an array of disciplines, including art history, visual culture studies, literary studies, and anthropology.