(Biology/BIOLOGY) Environmentally-cued Behaviors in Animals & Plants

How do sea turtles and monarch butterflies know where to migrate after spending years (or entire lifetimes) away from mating grounds? How do plants know to flower in the spring and summer, and not in the winter? How do cicada insects all emerge at the same time after years underground? In this course, we will learn about the fascinating ways in which organisms can sense and respond to changes in their environment. We will first cover the most common environmental cues detected by organisms including temperature, sunlight, nutrients, magnetic fields, and more. We will then learn about the diverse sensory and response systems used by animals and plants to react to these cues. We will cover in-depth a number of fascinating examples of individual organisms synchronizing behaviors in response to cues, such as the mass spawning of coral larvae once per year, and we will discuss how changes in climate may affect the ability of organisms to respond appropriately to cues in the future. Lastly, we will spend time discussing how these organismal sensory systems are applicable to broad-scale engineering problems, and can potentially be used to improve the lives of humans. By the end of the course, you will have developed the ability to read scientific literature and communicate scientific ideas both orally and in writing, an appreciation and understanding of the complex and diverse ways in which organisms respond to their environments, and an ability to make predictions about the environmental cues causing a change in behavior.

(Biology/BIOLOGY) Seeking Sustainability

The term “sustainability” is a common buzzword heard in politics, the media, and product marketing, but what does sustainability mean in a biological context, and is it achievable within our current social and economic framework? This course will examine different facets of sustainability from scientific and societal perspectives. We will begin with an overview of the biodiversity crisis and what sustainability means to the biologist. You will learn fundamental principles from population and ecosystem ecology, and how those concepts apply to human population dynamics and growth. We will then proceed to examine how we obtain the necessities of life – energy, food, and water – to support a growing human population. The course will conclude by looking at sustainability as an issue of human rights and social justice. By the end of the course, you will be better equipped to think critically about claims of sustainability and make informed decisions in your daily life. Classes will be a mix of traditional lecture, discussion, and interactive in-class activities. In-class work will be structured on the collaborative learning model. You will use publicly available datasets from national and international governmental organizations to examine energy generation, food production, and water use on global and regional scales. Discussions of individual impacts will require you to utilize various calculators and modeling tools to analyze your own consumption habits. Finally, we will consider possible ways to mitigate some of the issues discussed and look at how Duke is tackling them through its campus sustainability programs. Concepts from biological sciences to be covered in the course include the following:
Population demographics (life tables, survivorship models, fecundity/fitness tradeoffs, age structure), metapopulations/population fragmentation, population growth models and carrying capacity, natural selection and life history, ecological footprint.

Community structure and dynamics (keystone species, disturbance and succession), species richness, species interactions, energy flow through ecosystems (primary productivity and trophic structure).

Biodiversity measures, endemics, diversity hotspots, biomes and aquatic ecosystems, biogeography (species distributions), biological magnification, nutrient cycling and biogeochemical cycles, climate change/destabilization, eutrophication.

(Biology/BIOLOGY) An Interactive World: How Organismal Interactions Shape Nature & Society

When was the last time you thought about how an apple grows or where we grow all the grains we use to make our breads and cereal? While often ignored, the interactions of organisms shape the world around us. Plants rely on other living things to deliver pollen between flowers, while trying to combat other organisms that eat them. Much of the natural world around us is influenced by positive and negative interactions between living things, as one species tries to outcompete, prey on, or infect another; other reactions of pollination, facilitation, or commensalism determine where organisms can live or how well they can survive and reproduce. Many of these living things are essential for human life, while they can also act as potential causes of harm. This course will explore species interactions and ecology as they shape both natural and urban settings. We will begin by introducing the basic theories of species interactions and ecology. Then, we will examine how these basic concepts affect nature and humans through case studies and specific examples. For instance, timing of flowering for both plants in nature and in agriculture can affect the rate of pollination for individual entities, which in turn affects the number of fruits that can be produced. Class lectures will introduce critical topics followed by a class session with group work and discussion. Each week we will incorporate an on-campus field trip to make observations, collect data, or introduce a topic. Popular press and scientific articles will both be examined for how they present critical scientific lessons. During the first week of class, you will be asked to choose a topic related to species interactions, ecology, or environmental sociology and then to research your topic by researching and analyzing two scientific published articles each successive week. The final class will consist of student presentations, reflecting a synthesis of the articles each individual has discovered and analyzed. The goals of this course include developing the skills to locate, evaluate, and critically read scientific and popular press articles; developing teamwork and cooperation (hallmarks of contemporary scientific investigation and discovery); and synthesizing information into written and oral communications.

(Biology/BIOLOGY) Genetics in the News

The ultimate goal of this course is to gain an appreciation for the relevance of genetics and biology to many aspects of daily life, while empowering students to be critical and informed consumers of popular media. This will be achieved through “just-in-time” learning of biology foundational concepts presented within the contexts of current society, recent history, and various professional
applications, such as law and medicine. There will also be an emphasis on developing students as scholars and professionals, focusing both on oral presentation skills and on study methods for sciences, which can differ substantially from other disciplines. Proposed topics break down roughly into five main areas, which are interrelated and complementary. Some of these may ultimately be deemed outside the scope of the course; however all of them are important to keep in mind.

1. Foundations in Biology, including scientific approach: correlation vs. causation, proof vs. disproof, hypothesis vs. theory; evolution: non-directional, selective pressures, populations scale; inheritance: DNA, haplotype blocks, allele frequencies; central dogma, cellular players and mechanisms; genetic and phenotypic variation (SNPs, CNVs, haplotype blocks); and cell lineage: stem cells, differentiation, tissue types.
2. Research Technologies including induced pluripotent stem cells; high-through put sequencing; and CRISPR-Cas.
3. Applications of Genetics including medicine: genetics of the individual (genetic testing, forensics); medicine: reproductive technologies (IVF, non-invasive prenatal testing, preimplantation genetic diagnosis); medicine: gene editing and gene therapies; law: wrongful birth suits, gene patents, military ethics, genetic discrimination, etc.; and other, including genetic intersections with disparate disciplines and professions.
4. Genetics in Society including genealogical research and personal identity; genetics in the media – cultural perceptions/fears/hopes for genetic technologies; and current and historical controversies in genetic technologies.

Students as Professionals including how to learn and study basic sciences; and presentation skills.

Prerequisite: One year of high school biology highly recommended.

(Biology/BIOLOGY) Do You Want to Live Forever? Science & Ethics of Stem Cells & Regeneration

Major breakthroughs in stem cell biology were made in the last fifty years, but this short history is full of scientific, ethical, and social complexity. With the global efforts to understand stem cells and regeneration leading to programs like Duke’s Regeneration NEXT Initiative and new stem cell-based therapies being proposed daily, comprehending the work in this field is crucial, not only for future researchers but also to equip future young voters to inform their opinions. In this course we will alternate between two intertwining ideas: (1) the scientific impact of stem cell research and (2) the social and ethical ramifications of this research. In exploring the field of stem cells and regeneration from its nascence to modern cutting-edge research, we will focus upon the basics of cell biology, the cell cycle, and organ maintenance in order to critically evaluate scientific literature. Utilizing hands-on learning activities, we will also practice the scientific method and experimental design in the context of stem cells in order to be able to apply it to our reading of the literature and answering our own scientific questions. Using stem cells and regeneration as a lens, we will examine the ethical issues that have arisen in science over the decades and how they have been resolved. Considering the role media plays in effective science communication nowadays, we will also form opinions and debate potential future legislative and ethical issues that can arise, how the media can exacerbate or alleviate these issues, and how they may be resolved. By the end of the
course, you will be better able to discriminate the shades of grey that exist in both scientific
discoveries and the ethical and social response to them.

(Biology/BIOLOGY) Biodiversity & Evolution

The world is full of surprising, strange, and beautiful species like fungus-farming ants, manipulative
orchids, and geometric diatoms. How on earth did these species evolve? In this course, students will
learn about biodiversity, where it comes from, and how it is maintained. We will start with a general
introduction to the different types of life. Second, we will cover the basics of evolution including
mutation, genetic drift, and natural selection with special emphasis on the processes that generate
and maintain biodiversity. Finally, we will touch on the topic of speciation by exploring the
questions “What is a species?” and “How does one species split into two?”

(Biology/BIOLOGY) The Hard Truth of Evolution

Through selected readings, short lectures, and class discussions, we will investigate some of the
fundamental truths of biological evolution, the consequences of evolutionary biology for society,
and the potential conflicts that emerge when evolutionary biology and (American) religion seek to
co-exist. Building on Theodosius Dobzhansky’s famous statement that “Nothing in biology makes
sense except in the light of evolution,” we will explore why some areas of evolution are easy to
accept as factually true and why some areas are much harder to grasp. The course also seeks to
broaden the discussion of evolutionary biology to include how societies have historically used and
abused evolutionary theory (ancient crop breeding, eugenics, GMOs, etc.). Finally, we will discuss
the modes of interaction between modern Western science and traditional Western (Abrahamic)
religions, focusing on the rise of Creationism and Intelligent Design in contemporary American
culture. This course will present various aspects of evolutionary biology, including phylogenetics,
adaptations, natural selection, and genetics, while also drawing on diverse elements of cultural
anthropology and theology to address the complexity of societal issues relating to evolution.
Students from a variety of backgrounds, scientific and not, religious and not, are invited to engage
in a collaborative discourse of one the thorniest scientific topics in modern society.

(Cultural Anthropology/CULANTH) Advertising and Society: A Global
Perspective

In this course we will examine the history and development of commercial advertising. Specific
topics to be addressed include the following: advertising as a reflector and/or creator of social and
cultural values; advertisements as cultural myths; effects on children, women, and ethnic
minorities; advertising and language; relation to political and economic structure; and advertising
and world culture. Although the primary emphasis will be upon American society, this emphasis will
be complemented by case studies of advertising in Canada, Japan, Mexico, Russia, Western Europe,
and selected other countries.
(Cultural Anthropology/CULANTH) Anthropology of Money

Will Rogers, the renowned twentieth century American humorist, once said, “Too many people spend money they earned, to buy things they don’t want, to impress people that they don't like.” The investor and philanthropist Warren Buffett has observed, “I will tell you the secret to getting rich on Wall Street. You try to be greedy when others are fearful. And you try to be fearful when others are greedy.” What is it about money that is so fascinating? In this course we will explore the history and theory of money. What does money represent? How does it circulate? What meanings does it carry? What are some of money’s contemporary transformations, not only in the West and also in the global south? Our investigations will lead us to consider shell currencies, gift economies, Ponzi schemes, paperless money, derivatives and futures, hedge funds, and global debt, among other topics.

(Economics/ECON) Game Theory

The interactions of human beings with other individuals, within groups, and with the earth lead us to ponder many questions concerning the ways in which people coordinate and structure their actions. It is to these questions that we turn, in trying to understand the strategic decisions that people make on a daily basis. Will it make a difference if I throw my candy wrapper in the street instead of waiting to find a trash can? How much should I pay for a used car? How will our family decide who cooks dinner? Is it feasible for a firm to enter the market for a new product? Under what conditions would a union go on strike during labor contract negotiations? In this course students learn the basic tools of game theory in order to analyze these various economic and social situations. We start by providing a background and introduction to both game theory and economics. We then proceed to define the terminology used in both fields. Our section on games begins with an analysis of normal form (strategic form) games in which we have a static setting and players move simultaneously. Concepts such as a player’s best response, dominant strategies, and the Nash equilibrium are presented, along with various examples of applications. The three classic games of chicken (hawk-dove), coordination (battle of preferences), and the prisoners’ dilemma are introduced, with an extension to the mixed strategy Nash equilibrium. Next we turn to extensive form games in order to analyze dynamic games in which players move sequentially. The notion of a sub-game perfect Nash equilibrium is discussed, and the technique of backward induction is taught. Repeated interactions between players are then considered as we discuss both infinitely repeated games and finitely repeated games. Topics in public and environmental economics are introduced in order to apply these game theory concepts to situations pervaded by free-riding and collective action problems. Evolutionarily stable strategies are also discussed, allowing us to understand how repeated games can lead to the stability of social inequalities by class, gender, race, and ethnicity. The role of institutions (such as norms, customs, traditions, beliefs, and property rights) in maintaining these inequalities is discussed from a game theoretic standpoint. Lastly, we study situations of asymmetric information between players. We give specific references to issues of principal-agent problems, moral hazard, and adverse selection as applied to monitoring, signaling, and “lemons” markets. We will also discuss bargaining models. The course concludes with a critical analysis of the theories and assumptions used in game theory. In particular, students debate the usefulness of concepts of “rationality.”
(Education/EDUC) Race, Power and Identity: From (Muhammed) Ali to (Colin) Kaepernick

This course explores historic and contemporary psycho-social and socio-cultural aspects of the African American sport experience. Over the course of the term, we will examine research that addresses the effect of physical differences, racial stereotyping, identity development, gender issues, and social influences on African American sport participation patterns. This course offers an analysis of sport as a microcosm of society through its examination of associated educational and societal issues.

(English/ENGLISH) Cyborgs in Literature & Beyond

The term “cyborg” was first coined in 1960 to refer to an organism with both biological and technological parts. In this class, we will trace the development of the idea of the cyborg, reaching back to before the term itself even emerged (including the work of Edgar Allen Poe and early science-fiction), through Donna Haraway’s seminal essay *The Cyborg Manifesto* (1984) and on to massive cultural phenomena such as *Westworld* and the Marvel Cinematic Universe. Along the way, we will consider how cyborgs can help us think about our definitions of self. Where do our biological boundaries end and our technological selves begin, especially today? We will extend these same questions to the idea of literature – can the category itself be “expanded beyond normal human limitations” (to borrow from another dictionary definition) as science-fiction and digital forms of writing become mainstream? What can these new questions teach us? Later in the term, we will look beyond fictional depictions of cyborgs to the realm of real science as new technological augmentation to humans emerges every day. We will examine the ways in which science fiction informs the way we talk about, and thus how we think about, both scientific research and science journalism, and their purposes. Texts will include short fiction, non-fiction, television, film, music, and a handful of novels. Assessment will be based upon weekly blog posts (included in participation, 200-250 words), one short paper (2-3 pages), one longer final paper (5-7 pages, with time dedicated to work on both in class), and an ongoing project of cataloguing cyborgs in pop culture and media.

(English/ENGLISH) Language and Social Identity

Whenever we hear someone speak, we inevitably make guesses about his or her gender, age, occupation, place or origin, ethnicity, sexual orientation, and religion. We also often refer explicitly to the language and identity connection. For example, we talk of expressing our identity through our choice of vocabulary, or ‘losing’ our identity along with our regional accent when we enter a new environment such as college. In this course, we will draw on examples from the media, literature, the internet, pop culture, and politics to explore how speakers portray themselves to others through the use of language. We will also consider how language is talked about, and what
assumptions people make about others based on how they speak. Students will be encouraged to bring their own examples to class for discussion.

**(English/ENGLISH) Intercultural Communication**

This course introduces students to the theoretical and practical aspects of analyzing intercultural communication, which can be defined as any interaction between individuals or groups coming from different cultural backgrounds or contexts. Often, even when participants in an interaction are able to speak the same language fluently, culturally-specific cues and messages may be misread and misinterpreted by the speaker’s interlocutors. In this course, we will examine how such cultural misunderstandings come about and how people go about resolving and repairing them. We will do this by examining current approaches to the study of culture, communication, and identity, and by applying these to specific examples from existing research, media, and real-life situations. The course is intended to include student input, in that the students’ particular cultural backgrounds will be taken into account in the choice of contexts we will look at, and students will be invited to bring personal examples to the discussion table. In analyzing intercultural encounters, we will also study and apply sociolinguistic methods of discourse analysis, in particular conversation analysis (or CA), which has been

**(Evolutionary Anthropology/EVANTH) Introduction to Evolutionary Anthropology**

Have you ever wondered about human origins, anatomy, and behavior from an evolutionary perspective? This course traces the historical development of pre-Darwinian evolutionary thinking and Darwin's contribution to evolutionary theory and then moves to consider genetics, microevolution and macroevolution, and the modern synthesis framing the study of human origins and behavior in the context of modern evolutionary biology. Along the way we will consider primate behavioral ecology and evolution, primate and human paleontology, adaptation and variation, the origins of human social organization and culture, and the impact of modern humans on biodiversity.

**(Linguistics/LINGUIST) Language and the Media: The New York Times to Twitter**

The focus of this course is upon the linguistic analysis of texts – from the past and the present, including social media – with a view to understanding how they create, sustain, or challenge "common-sense" understandings of society and politics. English first-language speakers will be equipped with the tools to understand how *their own* language works in the media; second-language (L2) speakers will learn invaluable skills in identifying and understanding idiom, nuance, and rhetoric in both academic and media texts, thus offering preparation for undergraduate classes in a range of disciplines. If possible, writers from the Duke News and Communication Office will visit class to engage students in a few intensive writing and analysis workshops. The instructor of this
course has written for news outlets such as *The Huffington Post*, *The London Guardian*, *The Seattle Times*, *The Taipei Times*, and *The News and Observer* (of Raleigh, North Carolina).

**(Literature/LIT) Contemporary Science Fiction**

This course explores recent novels, short stories, and films in the robust genre of science fiction. We begin by surveying the history of science fiction and its relationship to scientific practice, enabling us to discuss and interpret contemporary examples through the genre’s traditional preoccupations, themes, and narrative strategies. We then concentrate on works that, exemplifying the major occupations of recent science fiction, will allow us to discuss how contemporary human civilizations might be impacted by scientific and technological developments, including interplanetary exploration and settlement, ecological apocalypse, alien encounters, and the consequences of artificial intelligence (AI). Throughout the course we will consider what the value of science fiction is today, and what it tells us about our own time, even as it imagines the future. We will think about the many different aesthetic and intellectual choices contained within each work, and we will discuss how these narrative objects respond to their historical circumstances and imagine future ones. This course will consider the particularity of current human societies by comparing them to both alien and future human civilizations; by confronting a plethora of imagined civilizations, students will gain a better sense of what distinguishes contemporary life. We will discuss throughout this course the ethical questions raised by science fiction; indeed, a primary question in this class is how science fiction helps us reimagine and think through the political and ethical problems of our time. We will, for example, encounter the ethical dilemma we might face with the construction of AI (what counts as human?), and we will also discuss the ethics of bioengineering new organisms (to what extent should humans interfere with genetics?).

**(Literature/LIT) Theorizing Chaos**

This course will examine how scientific paradigms shape our conceptions of reality and the terms we use to represent and understand that reality. Specifically, we will focus upon an evolving trajectory of cultural significations around the concept “chaos” in the wake of the emergence of “chaos theory” in the sciences. The emergence of chaos theory in the latter half of the twentieth century is a very significant cultural event because it marks a major scientific turning point. Prior to the insights derived from “chaos theory,” science understood the reality of the world according to mechanistic and immutable laws of nature, according to the philosophies of Euclidean-space and Newtonian-movement. In order to assess how the emergence of chaos theory revolutionizes contemporary civilization’s understanding of chaos as positive, we consider it in the context of earlier civilizations that relegate “chaos” to the absence of coherence or meaning. Chaos theory radically complicates this paradigm by suggesting that dynamic systems are not incoherent aberrations from the laws of nature but are instead dynamically complex and highly ordered systems. In fact, this revolution in chaos theory echoes to other fields including technology and information sciences, literature, the arts, philosophy, politics, and religion as well. Some thinkers argue that chaos theory has ushered in “third wave civilization” which refers to a scientific paradigm invested in thinking through concepts including non-equilibrium, irreversible temporality, self-organization, spontaneous emergence, and process – in other words, that which has been
entirely unknown in earlier civilizations until very recently. We will explore a range of cultural objects including novels, short stories, films, musical compositions, and architectural theory to assess the ways various disciplines theorize “chaos” in contemporary culture. We will focus on the social and political implications of how “chaos” functions as both theme and guiding structure across different mediums in different ways. This course does not focus on interpretations of the mathematical models and formulas that designate nonlinear dynamics. Instead, it expands its scope to interpret the cultural context which allows for the possibility of this kind of new scientific and epistemological framework to emerge. Chaos theory calls for new transdisciplinary assessments and interpretative frameworks for such phenomena as hurricanes, political movements, intracellular processes, economic cycles, fetal development, chemical reactions, internet sensations, geological formations, phase transitions, plant growth, the spread of disease, and more.

(Mathematics/MATH) Mathematics of the Universe

This course will survey, in precise mathematical terms, what is known and not known about the universe, from special relativity, the big bang, and black holes to dark matter and theoretical astrophysics. Einstein’s idea that “matter curves spacetime,” which is the fundamental principle behind general relativity, requires a field of mathematics called differential geometry, for example. Students will learn special relativity and gain an introduction to general relativity. We will also study and discuss theories of dark matter, which makes up most of the mass of galaxies. Students will work problems in class and for homework, from calculus problems to performing boosts in special relativity. Boosts are linear transformations of the t-x spacetime. Students will relate the information presented in one person’s frame of reference to another observer’s frame of reference, and understand how to interpret both sets of information. All of the problems that we solve, in class and on homework, will be related to facts about the universe. Students will be able to explain the relationship between what is observed in the universe and the results of computations that they do. The pace and emphasis of the class will be highly influenced by the questions asked by the students. Mastery of single variable calculus is highly recommended.

(Mathematics/MATH) Game Theory and Democracy

What is democracy? Using preferential ballots in elections is a natural idea since it allows voters to express a first choice, a second choice, a third choice, etc., on each ballot, thereby collecting more information from each voter and creating the potential for an outcome which better represents the voters. However, there are many ways to determine the winner of a preferential ballot election, and each “preferential ballot vote counting method” has its own game theory, both for the candidates and the voters, some better and some worse, and often very different from the game theory of the single vote ballot. So which preferential ballot vote counting method is the best? Does there exist a vote counting method which incentivizes politicians to seek out centrist, consensus building positions and to focus on issues important to voters, more than game theoretic tactics meant to manipulate the electorate? Or is there another goal we should be pursuing? In this course, we will use game theory and mathematics to study these questions.
(Philosophy/PHIL) Introduction to Philosophy (emphasis on ethics and value theory)

What exactly do philosophers do? This remains a mystery to most people who envision philosophers sitting around pondering the meaning of life. So we will begin this course by clarifying what philosophy is. Next, we will study the tools that philosophers use to assess arguments. After we practice distinguishing good reasoning from bad, we will use these skills to evaluate arguments in epistemology (theory of knowledge), metaphysics, and ethics. Discussion topics will be tailored to student interest, but potential topics to be addressed include the possibility and nature of scientific progress; the nature of mind; space and time; the ethics of environmentalism, genetic engineering, immigration, and the 2008 financial crisis; and, yes, the meaning of life.

(Philosophy/PHIL) Logic

Are you ever puzzled by reading a paragraph that seems to make no sense or a debate that seems to go in a circle? Would you like to improve your test-taking skills for standardized admission tests? Why do pre-law advisors recommend taking a course in Logic as the best preparation for admission to law school? This course will examine the conditions of effective thinking and clear communication. To this purpose, we will look at the most fundamental principles of deductive reasoning and cover the basics of sentence and predicate logic. Some of the topics we will investigate include truth-functional connectives, quantifiers, translation, derivations, and truth trees.

(Philosophy/PHIL) Chinese Philosophy

This course will explore the major schools of classical Chinese philosophy: Confucianism, Mohism, Daoism (Taoism), and Legalism. We will discuss philosophers including Kongzi (Confucius), Mengzi (Mencius), Mozi, Laozi, Zhuangzi, Xunzi, and Han Feizi. Topics include:

- Confucianism: self-cultivation; human nature, good or bad; the role of women.
- Mohism: defense of impartial or inclusive caring of all people against graded love.
- Daoism: Laozi and Zhangzi’s view on the Dao (“Way”) and Wu Wei.
- Legalism: pragmatic rejection of moral idealism based on its emphasis on the role of law.

We will see how the advocates of these different philosophies debated and borrowed ideas from each other. We will often view these philosophies from a comparative perspective, addressing the questions, to what extent does Chinese philosophy touch on problems and issues that appear in different cultural and philosophical traditions, and to what extent can its insights be appreciated and incorporated into our own lives across these traditions? Texts will be read in English translation, with some reference to Chinese terms and phrases that does not presuppose familiarity with the language.
(Philosophy/PHIL) Applied and Environmental Ethics

The aim of this course is to understand and critically examine central issues in applied and environmental ethics. There are ethical issues that arise at different levels of our lives. In this course, after introducing what ethics is and how it works, we will examine and discuss those ethical issues in three parts: 1) ethics of birth, 2) personal and social ethics, and 3) global and environmental ethics. In the first part, we will discuss topics related to giving birth to a person (for example, abortion, genetic engineering, and disability). The second part will address ethical issues that arise as we live interacting with people around us (for example, family, sexual morality, and gender). The last part will be devoted to ethical issues related to the entities in an ‘expanded circle’ (for example, strangers, non-human animals, and the natural environment as a whole). The questions we will address include the following: is it wrong to abort a baby with potential disability? what do we owe to our parents? who can we have sex with, morally speaking? are we responsible for the poverty of people on the other side of the world? how should we treat chimpanzees? what about frogs? why should we protect our Mother Nature?

(Philosophy/PHIL) Existentialism

This course places literature and philosophy in conversation with one another, pointing to their close connections. Existentialism asks about the foundations of mind, morals, and the meaning of life. It asks about ways of living, ways of reading, and ways of writing. Key themes will be existence, ethics, meaning of life, freedom, death, and writing. Questions – such as is God dead and is there any reason to be moral – will be explored alongside consideration of nihilism, racism, and sexism. Texts may include writings by Soren Kierkegaard, Fredrich Nietzsche, Fyodor Dostoevsky, Leo Tolstoy, Martin Heidegger, Jean-Paul Sartre, Albert Camus, Simone de Beauvoir, Frantz Fanon, Iris Murdoch, and others.

(Physical Education/PHYSEDU) Administration in Sports Management

If you enjoy college or professional sports, you benefit from the efforts of sports administrators who oftentimes seem to work ‘behind the scenes.’ In this introductory course, you will be introduced to an overview of this major industry. Attention will be given to philosophy, financial structure, fund-raising (development), NCAA (the U.S. National Collegiate Athletic Association) legislation, personnel decisions, and scheduling events.

(Physics/PHYSICS) Introductory Seminar on Big Questions in Physics

This course will provide an introduction to six major questions representing frontiers of twenty-first century physics, such as what are the ultimate laws of nature, how does complex structure arise, and how can physics benefit society. Individual class sessions will involve presentations by researchers and by students, discussions of journal articles, and tours of physics labs involved with related research.
(Political Science/POLSCI) Introduction to Political Philosophy

In this course we will examine some of the most important and challenging texts and thinkers of the Western political tradition. Studying these works, we will gain a working understanding of concepts like authority, justice, the good life, rights, freedom, community, power, and sovereignty. We will also examine broad themes including: the polis experience (Plato, Aristotle), the state (Niccolo Machiavelli, Thomas Hobbes), constitutional government (John Locke), democracy (Jean-Jacques Rousseau), and liberty (John Stuart Mill). In the final days of the course we will focus on contemporary debates. Careful attention will be given to the ways argument and rhetoric operate in texts of political philosophy, as well as diverse modes of interpretation.

(Psychology/PSY) Cognitive Psychology

Psychology is a discipline that seeks to understand the origins, processes, and consequences of human and animal behavior. A major sub-field, cognitive psychology examines cognitive processes including pattern recognition, concept formation, attention, memory, imagery, mental representation, language, problem solving, and modes of thinking. The basic approach is both empirical (using data collection and analysis) and theoretical (building models using inductive/deductive reasoning). This course will apply basic laboratory results to cognition in everyday life. Students will be expected to participate in psychological research. A survey or other psychology class is strongly recommended as background.

(Psychology/PSY) Social Psychology

Social psychology is the scientific study of how people's thoughts, feelings, and behaviors are influenced by others. The primary purpose of this course is to provide a general introduction to the theories, research methods, and major findings of social psychology. We will examine a wide variety of topics involving how we perceive and interact with other people, including person perception, the self, stereotypes and prejudice, group influences, and pro-social behavior. Some of the questions we may examine include the following: why does someone who is 'good' act in an evil fashion? Why would people act in ways that are alien to their nature? Why would someone who is considered intelligent do something that is irrational? Where possible, we will apply the knowledge and skills learned to examine events and situations in the real world and everyday life.

(Psychology/PSY) Adolescence

This course will explore adolescent development across domains of physical, cognitive, and social development. Topics will include those related to normal/typical development as well as abnormal development, particularly with regard to issues of health and mental health in this age group. Additionally, students will learn about the broader world in which adolescents live and the contexts within which development occurs – families, peer groups, schools, neighborhoods, and cultures. This course features a service learning component that allows class members to interact with adolescents in our community by means of a variety of activities on the Duke campus. This class is
particularly appropriate for students interested in counseling or clinical psychology, teaching, educational policy, or medicine.

(Science and Society/SCISOC) Science, Media & Perception

We are constantly bombarded with science coverage in our media – through flashy videos on YouTube, articles in Slate Magazine, or even debates in friends’ comment threads on Facebook. There are major pushes to close the “gap” between scientists and the public, which should improve science perception — yet we see many accounts of science denial or warped views. Why with more communication do we get more pushback? What accounts for this disconnect? From GMOs to climate change, AI to precision medicine, the way science is presented to the world has a strong role in how people interpret it and construct their own views. In this course, students will examine how media and science communication participate in the way people consume scientific content and develop their perception of scientific information, which contributes to choices we make and beliefs we hold. We will discuss different forms of science communication and media, analyze examples of current coverage of breaking scientific topics, and evaluate the effects they have on people’s perception of science, ultimately proposing guidelines to reduce some of the issues we see in media coverage of science. At the end of this course, students will have a thorough understanding of how science media coverage impacts our perception of science, the choices we make, and how we construct our scientific worldview based on values. They will also be able to distinguish between informative and manipulative media coverage and identify ways to judge the effect certain media coverage could have in regard to public perception of science. Students will be able to see how science media and the perception it creates have a strong effect on the relationship between science and society. This will empower students to think critically about information they encounter in the world, evaluate its merit, and make informed decisions. A combination of online articles and book passages will be used to guide this course, including “The Science People See on Social Media” by Peter Hitlin from the Pew Research Center; “How the news media activate public expression and influence national agendas” by Gary King, Benjamin Schneer, and Ariel White; and passages from The Age of Propaganda by Anthony Pratkanis and Elliot Aronson, Worldviews by Richard DeWitt, and writings by Daniel Levitin. A combination of news articles on current scientific events will also be used to attach the concepts we learn to the world.

(Theater Studies/THEATRST) Creating Arts Access

This course will focus attention on the opportunities for the arts (theaters, museums, galleries, concert venues, school programs, etc.) to increase the participation of persons with disabilities and to include persons with disabilities as part of the discussions for increasing diversity. The course will explore the changing societal values with regards to including access for persons with disabilities and examine arts access as both an ethical/societal obligation as well as an opportunity. The course will study the various ways in which arts presenters have improved arts access since the passage of the Americans With Disabilities Act (ADA) in 1990; similar to the concept of “universal design,” the course will explore concepts and means of providing universal arts access. The service learning component of the course will include working with local arts organizations or venues (or arts components of broader organizations) to assess their accessibility and assist with developing
programs to improve their accessibility. The course is a service-learning course. Students will work with the DADA project – Durham Audio Described Art – a project designed to provide some arts accessibility for people who are blind or with very low vision. Students will learn audio description skills and draft and then record audio descriptions of visual art in Durham.  [http://acb.org/adp/dadaproject.html](http://acb.org/adp/dadaproject.html). Ellison

(Writing & Communication/WRITING) Public Speaking

This course will explore theoretical and practical elements of effective advocacy, not only as applied to public policy issues, but also as related to personal image presentation. While the focus is on efficient oral communication and effective presentation skills (both in large public speaking environments, and in smaller interactive exchanges), stress is also given to the development of compelling arguments, debate, and written expositions for presentation. Emphasis is also placed on the human dimensions of the communication process: vocal intonation, body behavior, audience evaluation, focus, control, distraction, and self-awareness. Individuals who will benefit from this course range from students entering the public arena, scholars entering the political arena, and athletes wanting to develop confidence in the presentation of their public image.