Code	Title	Description
XEIET 132	Solar Cells	Photovoltaic cells (also known as solar cells) are used to generate electricity in residential, commercial, utility and off-grid sectors. The latest advances in photovoltaic technology provide a fascinating discovery of how solar cells work. This course compares silicon, cadmium telluride, copper indium gallium selenide, gallium arsenide, organic, dye-sensitized and multifunction solar cells.
XEIET 135	Past, Present and Future of Fossil Fuels	It is a period of rapid transformation for the energy world. Global warming, resulting from burning fossil fuels, requires us to decarbonize the entire energy system while sustaining economic growth, reducing the environmental impacts of energy development, conforming to societally acceptable modes of energy production, and respecting the needs of nations for energy security. This course reviews the historical importance of fossil fuels, current shale gas and tight oil revolutions, and the opportunity for vast quantities of natural gas to play a critical role as a 'bridge' fuel toward a low-carbon future.
XEIET 137	Smart Grid: Sensing, Data Analytics and Control	Many countries set aggressive goals to reduce greenhouse gas emissions, and renewable energy production has increased exponentially as a result. Yet renewable energies are extremely variable, making it hard to predict how much power they will produce at any given time. Smart grids counteract variability by providing more accurate information, more refined control, and tighter feedback. This course teaches the fundamental components of smart grids including sensing, data analytics and control. Learn how to optimize smart grids so they are cost effective and efficient, how to increase grid reliability, and how to measure performance through data analytics. Explore how monitoring and modeling can improve forecasting and provide critical data for decision making. Develop an understanding of the information and communications technology that enable the expanding field of smart grids.
XEIET 139	Energy Storage	From portable electronics, to vehicles, and power grids, the need for energy storage is ever-present in modern society. But as technology advances and the demand for energy grows, where will human beings turn next? How will these solutions be developed? This course examines two very important energy storage applications for the future: grid scale electricity and batteries. Learn about the chemistry and materials science behind these solutions, as well as the economics that influence their
XEIET 140	Nuclear Energy - Why, How and Prospects	Is nuclear energy experiencing a renaissance or taking its last breaths? As global demand for energy increases, costeffective, environmentally friendly sources of energy are increasingly sought after. Where does nuclear energy fit into the world's energy portfolio? In this course you will learn the fundamentals of nuclear technology and advances that could impact future use. Explore issues of cost, safety and waste disposal as well as the influence of politics. Compare energy sources and their impact on global warming, and assess the role nuclear energy has played and could play in meeting our energy needs. Learn how the international community is responding to the challenges and opportunities in this evolving field and the science behind tomorrow's nuclear reactors.
XEIET 200	Planning for a Sustainable Future with Wind, Water and the Sun	Global warming, air pollution, and energy insecurity are three of the most significant problems facing the world today. Solutions to these problems invariably require a large-scale conversion of our energy infrastructure. This course will provide you with proven methods and techniques to develop and evaluate strategies for changing the infrastructure at the local, regional, and global levels to provide a healthy and sustainable future.

XEIET 201	Economics of the Clean Energy Transition	While the debate over global warming continues, there's increasing recognition around the world of the need to reduce our collective carbon footprint. Yet disagreement remains over the benefits of renewable energies versus traditional sources like coal, natural gas and oil. Business leaders, policy makers and the general public generally seek lower carbon energy sources but struggle to accurately determine their cost effectiveness. This course will examine the economics of competing power sources from an investor perspective. Learn how to evaluate alternative technologies that have vastly different developmental and ongoing costs. Evaluate public policy instruments including taxes, regulations, and incentives and learn how they can influence outcomes. Study real-world examples of alternative energies and the financial models that can be used to assess results. Explore the potential for future cost reductions through technological
XEIET 202	Behaviorally Informed Design for Energy Conservation	Changing the behavior and practices of energy users can be just as important as finding new sources of energy. It requires an understanding of community-based social marketing, psychology and behavioral economics for successful public action and support. This course covers strategies for designing and implementing effective behavior change programs for promoting environmental sustainability using innovation and design decision frameworks.
n/a	Leadership for Sustainability	Today's leaders face one certainty: they are operating in an environment of uncertainty. Consumption is increasing. Resources are dwindling. Delivering stakeholder value is an imperative, but so is factoring in the global challenges we collectively face. Every decision has the potential to enhance – or compromise – the well-being and security of future generations. That's a lot of responsibility. And that's why Stanford created a new two-part Strategies for Sustainability Program that unpacks the core mindsets, knowledge and skills needed to promote sustainability and resilience in today's complex environment. In our short online course, we'll explore frameworks and tools needed to promote sustainability. In our 2.5 day in-person program, we'll share how you can become a change agent through transformative leadership and design thinking. Either way, you'll learn to identify opportunities, overcome barriers and influence positive change for your organization and the greater world.
ARC 47 W	The Archaeology of Human Diets: Ancient Origins, Modern Science	In recent decades, the idea that modern humans should try to eat a "paleo" diet like our long-ago ancestors did has become prominent in popular culture. Much of this discussion focuses on health issues such as modern diet-linked diseases and physical fitness. However, this topic also raises the question: What exactly did our ancestors eat? How do archaeologists and allied researchers figure this out? And to what extent do we actually understand the diet of our ancestors? In this course, we will explore the archaeological side of human diets in the past. Taking a global perspective, we will look at the diversity of what our human ancestors across environments and cultures ate in the deep (and not-so-deep) past. We will take a special look at how archaeologists know what they do about past human food procurement and diet, exploring methods such as zooarchaeology, stable isotope analysis, archaeobotany, the study of dental calculus, and chemical residue analysis. Additionally, we will consider the ambiguities and the limits of the available data in understanding the diet of our ancestors. We will consider the things popular culture gets both right and wrong about understanding human diets of the past, and learn to critically evaluate popular media reporting on the archaeology of

ART 243	The Art of Peonies in Chinese Brush Painting	Chinese brush painting belongs to a venerable living tradition of Chinese visual art, and the peony, known as the "Queen of Flowers," is one of the most revered subjects in Chinese painting. In ART 243, students are given the opportunity to learn and practice the fundamental techniques of Chinese painting, and are introduced to the basic elements, concepts, and composition of traditional peony paintings. At the end of the course, students were given the opportunity to display their work in this pop-up exhibition at the East Asian Library, curated by Dr. Lim and Dr. Makani-Lim.
BUS 174	The Business of Self- Driving Cars	Twenty self-driving cars are being road tested on the highways of the San Francisco Bay Area. Google's self-driving car (Waymo) has completed 2 million miles on city roads. Otto, owned by Uber, has successfully delivered goods on a self-driving truck in Colorado. Tesla is disrupting the automotive space partly by adding an auto-pilot autonomous mode to its battery-powered cars. And the top five automakers have promised some form of autonomous vehicle by 2021, the year when revenue from autonomous vehicles is estimated to be \$42 billion globally. We are witnessing a historic moment in car manufacturing and the birth of new business models, new mobility designs, and the transformation of related industries—automotive, transportation, freight, insurance, infrastructure, and others. This course will teach entrepreneurs and business leaders about the autonomous-vehicle landscape, covering everything from the technology of the self-driving car and artificial intelligence to regulatory and policy issues and how to create value from autonomous-vehicle data. Students will learn a framework for building new businesses in this dynamic space, and for creating new opportunities for their companies. This framework will encompass mobility solutions, product management, design, market development, partnership, and business models. Guest speakers from the autonomous-vehicle industry, transportation companies, and new innovative businesses will augment the class learning. Scheduled participating speakers include: German Matchniff, Test Engineer, Tesla Kyle Columbus, Program Launch Manager for Future Transportation, Mercedes-Benz Research and Development Oliver Cameron, CEO, Voyage Umair Akeel, Operating Partner, Bessemer Venture Partners Jane Ren, CEO and Co-Founder, Atomiton
CS 02	Blockchain, Machine Learning, the Internet of Things, and More: Meet the New Technologies Shaping Our World	If you live in Silicon Valley, you can't avoid hearing about new technologies that are changing the way we live our lives, do business, interact with people, communicate with machines, pay for products, drive cars, and accomplish other tasks. You've heard mentions of the Internet of Things (IoT), deep learning, blockchain, and other new transformative technologies. But maybe you're not really sure what these technologies are, how they generally work, what everyday products they're now living in, and how they promise to further change our world. The course will help demystify these new emerging technologies, explaining them in simple, clear terms that students not steeped in technology can understand. During this course, we will explore cloud computing, IoT and Industrial Internet of Things (IIoT), artificial intelligence, machine learning and deep learning, blockchain, edge computing, fog computing, DevOps, containers, serverless computing, and microservices, and how these technologies are transforming businesses and creating innovative solutions. We will break down what each technology (for example, blockchain) is, how it works, and why it is useful. The course will draw examples from real-world products and application. By the end of the course, students will have an

CS 03	An Introduction to Blockchain Technology and Its Applications	Blockchain is an emerging technology that can radically improve transactions security at banking, supply chain, and other transaction networks. Essentially, it provides the basis for a dynamic distributed ledger that can be applied to save time when recording transactions between parties, remove costs associated with intermediaries, and reduce risks of fraud and tampering. This course explores the fundamentals and applications of blockchain technology. Here, students will learn about the decentralized peer-to-peer network, distributed ledger, and trust model that define blockchain technology. We will examine the basic components of blockchain (transaction, block, block header, and the chain), its operations (hashing, verification, validation, and consensus model), underlying algorithms, and the essentials of trust (hard fork and soft fork). We will look at private and public blockchain networks similar to Bitcoin and Ethereum, as well as concepts of smart contracts, proof of work, and proof of stack. Finally, we will address the relationships among blockchain technology, Internet of Things (IoT), artificial intelligence (AI), cybersecurity, and digital transformation. By the end of the course, students will understand the inner workings and applications of this disruptive technology and its potential impact on all aspects of the business world and society. The course will feature practical cases, research assignments, videos, and guest speakers from the industry.
DSN 104 W	Design for Action: Applying Design Thinking in Organizations	Knowing the definition of design thinking, how it relates to creativity, and how it's supposed to trigger and sustain change is rarely enough to implement true organizational transformation. Too many organizations, from the team level on up, are stuck in a stagnant culture. To truly leverage the possibilities and promise of design thinking, you need to understand how design thinking looks and feels in the real world, in real team settings. In this course, you will learn the design thinking process by working with an interdisciplinary team (or on your own) to explore and develop solutions for common organizational challenges. With your team as your focus, you will learn to identify barriers that organizations face when they transition to a human-centered design thinking culture. By embracing ambiguity and the design process you will identify user needs, create solutions that fit your organization's culture, and learn how to effectively empower employees' creative confidence. Come to class ready to unpack the challenges of creative teams, connect with thought leaders, and, most importantly, learn how to effectively apply design thinking within your organization.
EVT 515	Summer Human Rights Film Series: Camera as Witness: Individual to Universal	STANFORD SUMMER HUMAN RIGHTS PROGRAM: The Stanford Summer Human Rights Program is an interdisciplinary collaboration that explores emerging issues in human rights through a series of courses, public lectures, and films. In 2017, the program will continue the discussion of international human rights in the 21st century, considering broad perspectives on what constitutes human rights in an increasingly diverse and global society. The Summer Human Rights Program is sponsored by Stanford Summer Session in collaboration with Stanford Continuing Studies, the Stanford Master of Liberal Arts program, and the United Nations Association Film Festival (UNAFF). Camera As Witness: Individual to Universal This program will be moderated by Jasmina Bojic, Camera As Witness program director and founder of the

EVT 516	Summer Human Rights Lecture Series: Internment of Migrants in Hot Spots (Italy and Greece) and Refugee Camps (Africa): A Comparative Case Study of Human Rights Violations	STANFORD SUMMER HUMAN RIGHTS PROGRAM: The Stanford Summer Human Rights Program is an interdisciplinary collaboration that explores emerging issues in human rights through a series of courses, public lectures, and films. In 2017, the program will continue the discussion of international human rights in the 21st century, considering broad perspectives on what constitutes human rights in an increasingly diverse and global society. The Summer Human Rights Program is sponsored by Stanford Summer Session in collaboration with Stanford Continuing Studies, the Stanford Master of Liberal Arts program, and the United Nations Association Film Festival (UNAFF). Internment of Migrants in Hot Spots (Italy and Greece) and Refugee Camps (Africa): A Comparative Case Study of Human Rights Violations Every person has a right of movement and circulation. Everyone also has the right to seek asylum. Yet, migrants often, whether they ask for refugee status or not, are incarcerated under the different administrative frameworks. This raises many legal issues. The legal framework of their administrative detention, the lawfulness of the hot spots under international law, or even closed refugee camps and the international protection of human rights are some of the serious issues that raise important concerns. Confinement without freedom of movement- classically qualified as imprisonment – is considered to be a criminal sanction in most modern societies and is reserved for perpetrators of criminal offenses. Thus, in case of migrants, it constitutes a violation of their rights and freedoms, whether in hot spots in Europe or in refugee camps in Africa. This lecture aims to analyze specific aspects of each type of detention in light of the European (and global) crisis of migrants and to compare different approaches (in legal aspects but also in humanitarian approaches).
EVT 521	Income and Wealth Inequality: Evidence and Policy Implications	SERIES: A New Social Compact? Rising Inequality, Intransigent Poverty, and the Path Forward We are all familiar with the social sciences as an academic category, but we don't often stop to think about how much is bundled into this modest label: anthropology, economics, law, linguistics, political science, communication, psychology, and sociology, just for a start. Scholars in these fields have a shared goal: to understand how we live together, what works and what doesn't in our social lives, and how we could do it all better. In 2004, Stanford established the Institute for Research in the Social Sciences (known colloquially as IRISS and pronounced like the flower) to give researchers the space and leisure to work on these goals. In this annual series of public lectures, the Executive Director of IRISS invites colleagues to Stanford for a discussion of each guest's research and to give you, the audience, ample time to engage in the conversation. This year's series, A New Social Compact?, was organized in collaboration with the Stanford Center on Poverty and Inequality. Income and Wealth Inequality: Evidence and Policy Implications How is inequality connected to our schools, our governments, and even the taxes we pay? In this lecture, Emmanuel Saez will present evidence on income and wealth inequality gathered by a group of researchers in the World Top Incomes Database. The database includes top income and wealth share for more than twenty countries. Saez will explain the key findings, focusing particularly on the United States, and will discuss the role of technology, globalization, education, government regulations, and tax policy in explaining those findings. This program is co-sponsored by Stanford Continuing Studies, IRiSS, the Center on Poverty and Inequality, and The McCoy Family Center for Ethics in Society, and the Department of Sociology. Emmanuel Saez, Professor of Economics, UC Berkeley Emmanuel Saez holds the Chancellor's Professorship of Tax Policy and Public Finance and is director of the Center fo

		There are many ways to measure violence, but until the last decade there weren't any good ways to measure peace.
		However, as billions more sensors get embedded in our environment every year, and as those sensors become ever
		better at detecting human social behavior, we can now measure positive interactions between people in real time, all
		over the world. This is revolutionary, because it enables PeaceTech entrepreneurs to see and understand peaceful
		behavior between all sorts of groups like never before. That ability, in turn, allows us to design new technologies that
		promote peaceful interactions, and then validate or redesign these innovations based on empirical measurement. The
	The Stanford Peace	results are world-changing, and provide the basis for a new theory of preventive defense and positive security. In this
	Innovation Lab:	talk, Margarita Quihuis and Mark Nelson will offer an overview of these trends and a glimpse into the future. Margarita
	Designing	Quihuis, Co-Director, Stanford Peace Innovation Lab Margarita Quihuis's career has focused on innovation, technology
EVT 532	Technology for a	incubation, access to capital, and entrepreneurship. She is a member of the research team at the Stanford Persuasive
	More Peaceful	Tech Lab and formerly the working group for the Stanford/Naval Postgraduate School/US Army Governance Innovation
	World	for Security and Development research project. Earlier, she was the first director of the technology incubator Astia, a
	World	venture capitalist, a Reuters Fellow at Stanford, and director of RI Labs for Ricoh Innovations. Mark Nelson, Co-Director,
		Stanford Peace Innovation Lab Mark Nelson focuses on designing, catalyzing, incentivizing, and generating resources to
		scale up collective positive human behavior change. He leads the Global OPEN Social Sensor Array project, and designs
		technology interventions to measurably increase positive, mutually beneficial engagement across conflict boundaries.
		Nelson is also a researcher at the Stanford Persuasive Tech Lab, where his projects include EPIC Global Challenge. He is a
		member of Stanford's Kozmetsky Global Collaboratory.

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		SERIES: A New Social Compact? Rising Inequality, Intransigent Poverty, and the Path Forward In 2004, Stanford
		established the Institute for Research in the Social Sciences (known colloquially as IRiSS, and pronounced like the flower)
		to give social scientists—economists, sociologists, political scientists, and others—the space and leisure to work on
		focused research projects. Last year, Stanford Continuing Studies began a collaboration with IRiSS to bring some of the
		Institute's research findings to the broader public. In this second annual series, IRiSS invited the Stanford Center on
		Poverty and Inequality to co-sponsor three programs devoted to the study of economic and social inequality which now
		characterize much of American life. Each talk will offer compelling historic and comparative analyses, and explore
		practicable solutions. Building Oligarchy: Are There Links Between Economic and Political Inequality in the United
	Building Oligarchy:	States?It is a recognized fact that economic inequality is growing in the United States. One of the gravest dangers of this
	Are There Links	situation is that the unequal concentration of economic resources could generate increased political inequality, which in
5) (7 5 2 2	Between Economic	turn might lead to government policies that perpetuate or further increase economic inequality. With notable
EVT 539	and Political	exceptions, most political scientists have argued that there isn't empirical evidence for such a tight linkage between
	Inequality in the	economics and politics. In this talk, Paul Pierson will briefly outline their rationale before suggesting why he believes that
	United States?	it is mostly mistaken. He will argue that, in fact, there is reason to fear a much greater impact of economic inequality on
		American governance, and ample reason to worry that politics is now a major channel for the self-perpetuation of
		economic elites. This program is co-sponsored by Stanford Continuing Studies, IRiSS, the Stanford Center on Poverty and
		Inequality, the McCoy Family Center for Ethics in Society, the Department of Sociology, the Center for Comparative
		Studies in Race and Ethnicity, and the Program on Urban Studies. Paul Pierson, John Gross Professor of Political Science,
		UC Berkeley Paul Pierson is co-director of the Successful Societies Program of the Canadian Institute for Advanced
		Research, and a member of the American Academy of Arts and Sciences. His research focuses on American and
		comparative public policy and political economy. His most recent book, co-authored by Jacob Hacker, is American
		Amnesia: How the War on Government Led Us to Forget What Made America Prosper.
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EVT 554	Summer Human Rights Film Series: Camera As Witness - Humanity Is Indivisable	STANFORD SUMMER HUMAN RIGHTS PROGRAM: The Stanford Summer Human Rights Program isan interdisciplinary collaboration that exploresemerging issues in human rights through a seriesof courses, public lectures, and films. In 2018, theprogram will continue the discussion of internationalhuman rights in the 21st century, considering broadperspectives on what constitutes human rights inan increasingly diverse and global society. The Human Rights Program is sponsored by Stanford Summer Session in collaboration with Stanford Continuing Studies, and the United Nations Association Film Festival (UNAFF). Camera As Witness: Humanity Is Indivisable. This film series is moderated by Jasmina Bojic, Camera As Witness program director and founder of the UNAFF international documentary film festival.
EVT 546	Child Support in a Complex-Family Society: It's Critical, but It's Broken	SERIES: A New Social Compact? Rising Inequality, Intransigent Poverty, and the Path ForwardWe are all familiar with the social sciences as an academic category, but we don't often stop to think about how much is bundled into this modest label: anthropology, economics, law, linguistics, political science, communication, psychology, and sociology, just for a start. Scholars in these fields have a shared goal: to understand how we live together, what works and what doesn't in our social lives, and how we could do it all better. In 2004, Stanford established the Institute for Research in the Social Sciences (known colloquially as IRiSS and pronounced like the flower) to give researchers the space and leisure to work on these goals. In this annual series of public lectures, the Executive Director of IRiSS invites colleagues to Stanford for a discussion of each guest's research and to give you, the audience, ample time to engage in the conversation. This year's series, A New Social Compact?, was organized in collaboration with the Stanford Center on Poverty and Inequality. Child Support in a Complex-Family Society: It's Critical, but It's BrokenFamily instability and complexity have grown dramaticallyin the United States in recent decades, trendsthat are concentrated among the most disadvantagedof our citizens. Child support is critical but our policiesare ill-equipped to handle the reality of today's families. Drawing on more than 400 in-depth interviews withlow-income noncustodial fathers, Kathryn Edin of JohnsHopkins argues that child support is the key institutionto insuring that resources flow from the noncustodialparent to the child. Child support must deliver asmany paternal resources—both material and socioemotional—to children as possible through strengtheningco-parenting relationships and father/child bonds. This program is co-sponsored by Stanford Continuing Studies, IRiSS, the Stanford Center on Poverty and Inequality, the McCoy Family Center for Ethics in Society, the Department of Sociology, the Center

		STANFORD SUMMER HUMAN RIGHTS PROGRAM: The Stanford Summer Human Rights Program isan interdisciplinary
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		byStanford Summer Session in collaboration withStanford Continuing Studies, and the United NationsAssociation Film
	Stanford Summer	Festival (UNAFF). Taking Care: Alternative Narrativeson CaregivingCaregiving is emotionally laborious and
	Human Rights	traditionallygendered work and is usually seen as diametricallyopposed to self-care—that is, the language we
	Lecture Series:	associatewith giving care to someone often means that we, thecaregivers, are unable to take care of ourselves. In
EVT 555	Taking Care:	the "helping professions" such as social work, we hearabout burnout, compassion fatigue, or vicarious trauma, all of these
	Alternative	connoting that somehow caregiving depletesus of these essential emotions. In a larger framework ofhuman rights, how
	Narrativeson	does this particular perspective shapeour personal and professional work? Can we search foralternative narratives when
	Caregiving	thinking about caregiving?In this talk, Raji Manjari will share the constantlyevolving narratives of caregiving experiences
		fromher perspective as a union organizer, social worker, and caregiver. Raji Manjari, Psychosocial Counselor, Blue
		Diamond SocietyRaji Manjari is from Kathmandu, Nepal. She moved tothe United States in 2004 to attend Grinnell
		College. In2006, her work at Adhikaar, a women-led worker andcommunity center that serves and organizes the
		Nepalispeakingimmigrant community in Queens, NY, sparkedher passion for community organizing, particularlycentered
		on domestic worker organizing and advocacy.
		STANFORD SUMMER HUMAN RIGHTS PROGRAM: The Stanford Summer Human Rights Program isan interdisciplinary
		collaboration that exploresemerging issues in human rights through a seriesof courses, public lectures, and films. In 2018,
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		on what constitutes human rights inan increasingly diverse and global society. The Human Rights Program is sponsored by
	Stanford Summer	Stanford Summer Session in collaboration with Stanford Continuing Studies, and the United Nations Association Film
		Festival (UNAFF). Borders of Personhood: Migration, HumanRights, and SovereigntyThe terms human and person are
		taken to be synonymousin everyday language, but person is alsoa legal term reserved for those entitled to rights
	Human Rights	anddesignating a status historically denied to variouscategories of human beings (e.g., slaves and women). The
EVT 556	Lecture Series:	international human rights framework attempts tobreak with that historical record by declaring that everyhuman being
LV1 330	Borders of	shall be recognized as a person equalbefore the law.Contemporary struggles of migrants, navigating thebyzantine and
	Personhood	often lethal world of borders, call intoquestion the key assumptions of the human rights framework,however, and bring
	reisonnoou	to view the divisions within itsuniversalistic formulation of personhood. In this lecture, Ayten Gündog du looks at the
		dilemmas of human rightsin the context of border-control practices. Borders aretaken to be legitimate markers of
		sovereign statehood, but they install hierarchies within humanity, relegating migrants to a precarious legal status and
		often effectivelydenying them even the most fundamental human rightssuch as the right to life or the right to be free
		from indefinitedetention. In particular, the racialized constructionof "illegality" turns many migrants into non-
		personsdeemed unworthy of rights, condemns them to a formof civil death in life, and renders even their deaths
		legallyunaccountable and socially ungrievable.

EVT 573	Why Are More Than 100 People Dying Every Day? A History of Opiates in America	In 2017, one American died every thirteen minutes from an opiate-related overdose. The epidemic has been described as "America's worst drug crisis ever" and "a disaster with no end in sight." A frequent explanation for today's emergency focuses on the 1990s, when Purdue Pharmaceuticals introduced OxyContin and marketed it aggressively. At the same time, physicians were being told that they had been under-treating pain and that new medicines, including OxyContin, were less dangerous than older opiates. The full story of how this tragedy has unfolded goes far beyond marketing and clinical practice. In this lecture, medical historian Steve Beitler shows how Americans have embraced opiates since the early 1800s, when a twenty-one-year-old amateur chemist isolated morphine, a key opium component. By 1900, opium dens were common, heroin was inexpensive and fully legal, and the majority of opiate addicts were women. For more than 200 years, opiates have been central to medicine, commerce, geopolitics, and our tumultuous drug culture. This is the dramatic, largely untold story of Americans' tangled embrace with opiates—molecules that are indispensable to medical practice and formidable agents of dependence.
EVT 575	Governance in an Emerging New World	SERIES: GOVERNANCE IN AN EMERGING NEW WORLDGeorge Shultz has observed that the world ahead will not be like the world behind us. His project on Governance in an Emerging New World explores the challenge posed by changing demographics, the information and communications revolution, emerging technologies, and new means of production of goods near where they are used. Its contributors aim to understand the impact of these global transformations on our democracy, our economy, and our national security, and on other countries, including Russia and China.Latin America in an Emerging World Monday, December 33:30 pm - 5:00 pm, Hauck Auditorium, Traitel BuildingThe project's fourth public panel discussion will address how a tighter labor supply, alongside new means of production, will affect the economic development of our southern neighbors. The December 3 speakers include:Richard Aitkenhead, former minister of economics and minister of public finance of GuatemalaSilvia Giorguli and Claudia Masferrer, El Colegio de MéxicoAndré Lara Resende, former director of the Central Bank of Brazil and president of the Brazilian Development BankModerator: Pedro Aspe (Former Secretary of Finance of Mexico)Papers written for this session by each of the speakers will be posted on the Hoover website in advance of the session.PREVIOUS SESSIONS Russia Wednesday, October 33:30 pm - 5:00 pm, Hauck Auditorium, Traitel BuildingThe Information Challenge to Democracy Tuesday, November 133:30 pm - 5:00 pm, Hauck Auditorium, Traitel BuildingThe Information Challenge to Democracy Tuesday, November 133:30 pm - 5:00 pm, Hauck

HIS 156	The History of Modern Feminism in the United States: 1960s Through Today	The history of US feminism is still being written today, as the struggle for gender equality continues, arguably now with renewed vigor. This course will take a close look at the history of feminism in the United States, particularly in our modern times. Students will dive deeply into the Second and Third Wave feminist movements starting in the 1960s and consider the following questions: We will look at the writing of Second Wave feminists such as Pauli Murray, Susan Brownmiller, and Audre Lorde and explore how the agenda for Second Wave feminism was shaped. What thwarted the passage of the Equal Rights Amendment, and what effects resulted from that defeat? What strides did the Second Wave make for reproductive rights, and what was left unfinished? From there we will focus on the conditions that sparked the Third Wave in the early 1990s, and read the ideas of a new generation of feminist activists, including Rebecca Walker's "Becoming the Third Wave," and Jennifer Baumgardner and Amy Richards's Manisfesta: Young Women, Feminism, and the Future. How have these Third Wave activists redefined feminism, and how have they broken the boundaries of the Second Wave? What is the current agenda of feminists, and is there a nascent Fourth Wave in the making? Finally, how can history help us speculate about the future of US feminism?
POL 115	Forces of Change in the Middle East	This course will help students decipher the latest trends and forces reshaping the Middle East now and anticipate future scenarios as the region looks set for further upheaval. As most ruling Arab elites adopt a new posture aimed at preventing a repeat of the popular uprisings of the Arab Spring, new players, forces, policies, and adversaries are rising. How will those new actors influence the future of this geopolitically important region? This course will explain trends such as adventurism by Riyadh's new de facto ruler Crown Prince Mohammed bin Salman; the Arab Wealth Funds, which have reportedly been used to influence US Middle East policy; the role played by the military economy and the persistent muzzling of dissent in Egypt; the possibility of a peace treaty between Gulf Arab nations and Israel; the unprecedented Arab calls for a joint Arab-Israeli action against Iran; the rise of a Turkish-Qatar axis rivaled by a Saudi-led coalition that seeks to enlist Israel; and how young secular democrats and the Islamic political movement are adapting to heavy-handed tactics to restrain their activities. By the end of the course, students will be able to detect political and economic undercurrents and better identify the Middle East's new generation of political and economic players.
SCI 56	The Evolution of Evolution	Charles Darwin's theory of evolution by means of natural selection was the beginning of a radically new approach to understanding the source of the diversity of life on earth. How plants and animals have come to be so exquisitely adapted to their respective environments could be explained for the first time by a natural principle. Darwin's theory, first published in On the Origin of Species in 1859, has itself undergone its own evolution, as it responded to new scientific challenges. This course will trace the path Darwin's theory of evolution has taken from the mid-19th century until today. It began in the 19th century as a groundbreaking theory. Then, in the 20th century, it underwent a synthesis with genetics (the neo-Darwinism of Theodosius Dobzhansky). More recently, it has entered the realm of epigenetics and evolutionary development, which has diminished the importance of natural selection as the driving force behind evolution. By the end of the course, students will have gained a deeper insight into evolution and how, from its humble beginnings, it has evolved into a complex theory that continues to be tested in every field of biology. Primary texts, in addition to Darwin's Origin, will be The Evolution of Darwinism by Timothy Shanahan and Evolution: The History of an

WSP 151	The History and Geography of Current Global Events	While global news accounts focus on current events, the geographical and historical context necessary for fully comprehending what is actually occurring is seldom provided. For example, stories on the current war in Syria often mention the fact that the country's embattled regime is dominated by members of the Alawite "offshoot" of Shia Islam, but they seldom explain why radical Sunni groups such as ISIS (or the so-called Islamic State) regard the Alawites with particular disdain, nor do they show how the complex geography of Syria's numerous ethnic and religious minorities influences the ongoing struggle. This course will delve deeply into the geographical and historical background of major international news stories. The actual topics covered will vary depending on newsworthy developments. We will tentatively cover such issues as the migration crisis in Europe and its political ramifications, the ongoing wars in the Middle East, and the geopolitical tensions in East Asia generated by the rise of China and the belligerence of North Korea. Lectures will be structured partly around the explication of maps, ranging from historical maps to topographic maps to Google Earth images. We will examine these cartographic products with a critical eye, focusing not only on what they reveal, but also on what they obscure and how they can encode ideologically charged perspectives.
WSP 151	The History and Geography of Current Global Events: Spring 2018 Edition	While global news accounts focus on current events, the geographical and historical context necessary for fully comprehending what is actually occurring is seldom provided. For example, stories on the current war in Syria often mention the fact that the country's embattled regime is dominated by members of the Alawite "offshoot" of Shia Islam, but they seldom explain why radical Sunni groups such as ISIS (or the so-called Islamic State) regard the Alawites with particular disdain, nor do they show how the complex geography of Syria's numerous ethnic and religious minorities influences the ongoing struggle. This course will delve deeply into the geographical and historical background of major international news stories. The actual topics covered will vary depending on newsworthy developments. We will tentatively cover such issues as the migration crisis in Europe and its political ramifications, the ongoing wars in the Middle East, and the geopolitical tensions in East Asia generated by the rise of China and the belligerence of North Korea. Lectures will be structured partly around the explication of maps, ranging from historical maps to topographic maps to Google Earth images. We will examine these cartographic products with a critical eye, focusing not only on what they reveal, but also on what they obscure and how they can encode ideologically charged perspectives.
WSP 30	The Business of Autonomous Vehicles: An Intensive Bootcamp	Thirty self-driving car pilots from Silicon Valley technology companies, startups, and global car manufacturers are redefining the future of human mobility. We are on the cusp of a revolution in the automotive industry that will usher in new business models, new vehicle designs, and the transformation of other related industries—energy, freight, insurance, infrastructure, and beyond. This two-day bootcamp will prepare entrepreneurs and business professionals to identify the business opportunities emerging in the autonomous vehicle (AV) field. On day one, we will survey the AV landscape to understand the players creating this ecosystem. Next, you will learn how to look at the AV space as a business by engaging in a digital transformation case study with speakers from Mercedes. This exercise will teach you how to look at the AV space as a business and provide a step-by-step framework for analyzing business drivers, mobility solutions, design, car cognition, car data, digital transformation, and business models. On day two, we will take a close look at the AV investment landscape, and you will have a chance to meet venture capitalists and learn how to position yourself for success in the evolving AV and smart mobility markets. By the end of the workshop, you will better understand trends driving the autonomous vehicle revolution and create a framework for successfully pivoting into this

WSP 324	Philanthropy 2017: New Politics, New Realities	Since the November 2016 election, America has witnessed a dramatic shift in its political climate and policy priorities. Understanding these developments is crucial for those in philanthropy—both new and experienced alike. In this interactive daylong seminar, we will start with an overview of how the policy landscape has changed and how philanthropy has responded. We will explore the ways in which nonprofits, philanthropists, and the general public have mobilized resources and developed an organized response on various issues ranging from immigration, environmental protection, and healthcare, to civil rights and liberties. With the help of case studies and a panel of knowledgeable guest speakers, we will then identify ongoing opportunities and implications for philanthropy. How will institutions and individuals find new and more effective ways to achieve their goals of influencing social change and action? What crucial needs are emerging from the changing political landscape? Are there new partners and alliances to leverage the impact of specific initiatives? Participants will leave the workshop with pragmatic tools and ideas for infusing their own giving practice, mindful of the latest shifts in philanthropy and public policy.
WSP 355	Making a Difference in Your Community: New Models of Civic Engagement	In an era of great political division, many of us have felt a growing responsibility to increase our civic engagement, whether through taking leadership positions in our communities or advocating for better policies on issues we care about. After decades of decline in civic participation, a wide variety of new civic-minded groups and organizations are also emerging. These range from organizations that support young people in developing their voices as social-change advocates, to weekend gatherings designed to discuss and debate civic issues, to festivals intended to make the act of voting more accessible and celebratory. This one-day workshop will review the research behind the decline in civic participation over the past decades and highlight innovative efforts to reverse this trend. The seminar will include case studies and guest speakers from leading nonprofits and philanthropic foundations working to promote civic engagement and foster dialogue across the ideological spectrum. The workshop is designed for those thinking about how to best direct their volunteer efforts, work with their schools or nonprofits, or otherwise support efforts to increase a stronger culture of citizenship. Participants will learn about the most promising new strategies and models being utilized to rebuild a more fully robust and inclusive democracy.
WSP 95	Artificial Intelligence and Machine Learning: Make Your Business More Effective and Profitable	Artificial intelligence (AI) and machine learning (ML) are taking the business world by storm. For many entrepreneurs and executives, though, it is hard to go beyond the hype to clearly see how AI can help make your business more effective and profitable. AI/ML can be a great competitive advantage, or a drain on money and resources. How to best get started? This workshop will give you the practical tools you need to identify and act on the many AI advantages these tools offer. The course will start with an overview of the most useful AI tools, applications, and business cases, including: optimizing product pricing and placement, optimizing marketing budgets, ad targeting, sales forecast and analysis, customer service, financial analysis and risk assessment, and hiring and performance management, along with much more. We will also discuss what type of data and infrastructure a business needs to get started with AI and how to measure its readiness, how to evaluate AI/ML roles and responsibilities in an organization, and what skills and technologies are needed to successfully incorporate AI into an organization's processes. Finally, we will consider what results you can realistically expect to achieve, versus what is hype. By the end of the workshop, students will have a solid understanding of the trends driving the AI revolution, as well as the processes and tools needed to successfully bring AI

BUS 159	How to Find Success: Uncover Your Purpose and Direct Your Life	Are you having the success you wish to attain in your professional life? Knowing your purpose gives you greater focus in all you do; resulting in higher performance, meaningful impact, and increased potential to exert a positive influence on the environment and people around you. However, many of us have not seriously re-examined our core values and purpose; thus, we may lack clear direction for our efforts. This course is designed to lead you through a multifaceted exploration of your inherent core strengths that will help you to be more adaptable and effective in self-direction and professional performance. We will follow an "inside out" process where you will do the internal "excavation work" to explicitly define your current mission, driving motivators, values, strengths, needs, and voice. You will learn tools and skills for the recovery of your hidden talents that may be covered within by limiting beliefs. Based on your mission and talents, you will clarify your unique vision of success. Especially in your professional life, you will be able to confidently engage in high-pressure, highly competitive, and high-visibility situations to ensure success. You will have crucial alignment of your vision with your organization's challenges and be prepared to negotiate the unknowns of business and life with ease, agility, and peace.
HIS 66	The Origins of Democratic Society: Europe and America in the Modern Age	As Toqueville predicted, in the modern world, democracy has come to dominate our political imagination. With few exceptions, every government claims to represent the popular will; every society aspires to promote those principles of equality that Tocqueville believed were at the heart of democracy's brightest promise and its deepest problems. Yet few if any of those societies can claim to have fully realized democracy's promise—and some are even questioning its viability. This course will probe the factors that have both facilitated and frustrated democracy over the last two centuries, and will explore the hopes as well as the fears that are invested in its future. In a series of five class sessions, David Kennedy and James Sheehan will examine the epic struggles by Europeans and Americans to realize the democratic ideal. They will analyze the 18th-century revolutions in America and France with which the history of modern democracy begins. They will consider the crucial relationship between equality and democracy: Can popular government coexist with deep social and economic inequalities? They will also look at the problem of race. Issues of racial justice once almost destroyed the democratic project in Abraham Lincoln's era, and even today challenge the integrity and viability of American democracy. In Europe, ethnic conflicts have both inspired and divided democratic movements—never more urgently than now, in the context of mass refugee migrations, raising unsettling questions about the sustainability of democracy in multinational societies. Gender, like race and ethnicity, poses similar questions about how to balance equality and difference. In lectures on the status of women in modern society, Kennedy and Sheehan will examine the historic American and European battles for women's rights and their relationship to changing patterns of work and family life. Finally, they will turntheir attention to the role of democracy in the international system, explaining how the principle of national self-determination, so

BUS 145	Product Management for the Internet of Things	By 2020, it is estimated that 50 billion devices—from smartphones to kitchen appliances and well beyond—will be connected to the Internet, providing data to both individuals and organizations about user behaviors, from acting sustainably to increasing knowledge to ensuring safety. This phenomenon is known as the Internet of Things (IoT). With this kind of explosive growth, consumer and industrial companies alike are seeking a new breed of business and technology professionals who can make the unique strategic decisions that IoT products require, and manage the added complexity and risk that IoT products present. In this course, you will learn how to successfully create and manage products for IoT from a business and technology perspective. First, we will examine the general principles of how an IoT solution works, from the devices that produce data, to the embedded software that sends data to the cloud, to the applications users interact with. You will learn a step-by-step strategic framework for making IoT product decisions related to business strategy, user experience, technology, data, security, and industry regulation. Throughout the course, you will work in teams to gain hands-on experience using this framework as we apply it to real-world IoT situations. Whether you have a business, technology, or design background, this course will provide a well-rounded overview of what it takes to build products in the era of the IoT.
BUS 145	Product Management for the Internet of Things: A Hands-On Course	By 2020, it is estimated that 50 billion devices—from smartphones to kitchen appliances and well beyond—will be connected to the Internet, providing data to both individuals and organizations about user behaviors, from acting sustainably to increasing knowledge to ensuring safety. This phenomenon is known as the Internet of Things (IoT). With this kind of explosive growth, consumer and industrial companies alike are seeking a new breed of business and technology professionals who can make the unique strategic decisions that IoT products require, and manage the added complexity and risk that IoT products present. In this course, you will learn how to successfully create and manage products for IoT from a business and technology perspective. First, we will examine the general principles of how an IoT solution works, from the devices that produce data, to the embedded software that sends data to the cloud, to the applications users interact with. You will learn a step-by-step strategic framework for making IoT product decisions related to business strategy, user experience, technology, data, security, and industry regulation. Throughout the course, you will work in teams to gain hands-on experience using this framework as we apply it to real-world IoT situations. Whether you have a business, technology, or design background, this course will provide a well-rounded overview of what it takes to build products in the era of the IoT.

PDV 91	How to Think Like a Futurist: Improve Your Powers of Imagination, Invention, and Capacity for Change	Can you picture the three most important technologiesin your life twenty years from today? Could you tell a vivid story about the single biggest challenge you'll personally face five years from now? What about the biggest challenge the world will face in fifty years? Thinking about the far-off future isn't just an exercise in intellectual curiosity. It's a practical skill that, new research reveals, has a direct neurological link to greater creativity, empathy, and optimism. In other words, futurist thinking gives you the ability to create change in your own life and the world around you, today. In this course, you'll learn essential habits for thinking about the future that will increase the power of your practical imagination. These futurist habits include counterfactual thinking (imagining how the past could have turned out differently, such as a different country winning a war); signals hunting (looking for leading-edge examples of the kind of change you want to see in the world, such as varied responses to cliamte change); and autobiographical forecasting. We'll discuss the scientific research that explains how each habit can have a positive impact on your life, from helping you become a more original thinker to making you a more persuasive communicator. By the end of this course, you will have the playful and practical tools you need to imagine how the world (and your life) could be very different—and to use your newfound imagination to create change today.
WSP 246 A	Women Leaders: Mastering Organizational Strategy	Crafting an individual leadership style is essential to earning a seat at the table. From this seat of power, you'll be able to steer organizational decisions. This workshop takes your leadership competencies to the next level, enabling you to impact organizational strategy and execution. In this highly interactive two-day workshop, you will learn to address the unique challenges women leaders face. We will focus on designing and refining your leadership style signature, developing tools for coaching yourself and others, expanding your leadership presence, and enhancing strategic thinking around managing difficult conversations. Academic research on gender biases, especially unintentional ones, will be discussed, and tools will be provided for addressing gender bias. A robust structure of lecture, role-play, coaching techniques, and experiential exercises will provide the practice necessary to create new leadership approaches.
SOC 11	Technology for Social Good	Digital tools are changing how we volunteer our time, donate our money, and work together to help other people. In the last few years, disaster response organizations have become reliant on global volunteer corps using their smartphones to guide responders. Humanitarian organizations now use tweets and online video to identify war criminals, and communities use remote cell signals to monitor water pumps. We are beginning to use these digital tools to imagine new strategies for addressing age-old challenges of hunger, poverty, and injustice. This course will consider digital technologies being used for social good across many domains, from education to healthcare, environmental monitoring to poverty alleviation. Technologies we will look at include data mining, crowdfunding platforms, drones, satellite imagery, and mobile payments. The course will focus on discerning what these different examples have in common, what leads to their success, and where there may be opportunities for the next innovation. We will also consider the context in which digital technologies can be most valuable, and zero in on the organizational and social settings that shape successful implementation of digital interventions. The emerging fields of digital data ethics, privacy rights, and data

SCI 51	Solving Climate Change: Promising Solutions of the 21st Century	Human activity is resulting in climate change. That is beyond scientific dispute. Today's greenhouse-gas emissions are the highest in history and are affecting every aspect of life on earth. Given that our personal and social well-being is inextricably linked to environmental well-being, what can be done? How can we restore the earth's natural balance while feeding an ever-industrializing and technocratic lifestyle? These questions are at the heart of this course, which will interest those who are curious about the science of climate change, their personal impact on the climate, and practical solutions to this mounting problem. br> The course will provide an overview of historic and current drivers of climate change, their far-reaching impacts, and powerful examples of ecological conservation and positive change. The course will feature guest speakers who will discuss a range of timely subjects. Topics will include: global ice melt and ocean acidification, and how they affect delicate ecosystems; the impact of overconsumption versus a minimal-waste lifestyle; the food systems that offer a sustainable alternative to factory farming; the eco-village movement; and the dawn of experiential education. The course will also feature a special module on the current drought in California and its roots in climate change. By the end of the course, students will come away understanding our impact on global climate systems and empowered to make changes in their daily lives.
EVT 494	Earth Matters: How Cutting Greenhouse Gas Emissions Improves Our Water, Air, and Health	

EVT 517	Summer Human Rights Lecture Series: Just Water	In October 2014, the United Nations Special Rapporteur for Water came to Detroit and accused the city of human rights violations. Since 2013, Detroit's Water and Sewerage Department had been shutting off water to tens of thousands of households with overdue water bills; while the city posed the shut-off program simply as sound fiscal management in the wake of municipal bankruptcy, the UN Special Rapporteur argued that this program violated the human right of the people in those households to water. Deemed a human rights violation, Detroit's water shut-off program is also deeply sedimented in the racial history of the city—a history that stretches back to the French colonization of indigenous territory where land and water were held and
		used in common and that encompasses the race-based inequalities that the city's twentieth-century development at once relied upon and advanced. The water shut-off program, which has primarily targeted working-class and poor Black communities, is one of the manifold forms that this history has taken in the present. The demand for the recognition of water as a human right, then, can solicit a still larger demand for the recognition of the ongoing structural exclusion of Black communities from American political, social, and economic life. Water is a human right because it is necessary for life, but water is also a material that, in Gaston Bachelard's words, "remembers the dead"—here, the Black dead of past and present who are not redeemed by, and even accompany, calls for rights and
DSN 112 W	Design Your Future: Design Innovation for Global Teams	In these times of rapid change, successful design innovation is distributed, global, and highly collaborative. This course provides you the mindset, solutions, and tools—along with cases and stories drawn from around the world—to build a team that can work across cultures to solve problems. We will focus on the ways that leading design innovators pull together partners, customers, and diverse team members across the entire development process, from vision formation through the test and validation of new business opportunities. For part of the course, you will work in small groups to solve problems that major international organizations have posed, such as compliance, environmental impact, or increasing diversity in the workforce. In the development of solutions, you'll learn techniques in global teamwork, creativity, and design. Through the combination of short videos, readings, demonstrations, field work, and open forums with faculty, plus personal feedback, you will gain fast practice in understanding design innovation in a globally

BUS 160 W	Leadership Skills for Women in the Workplace: How to Aim High and Achieve Impact	In today's workplace, women are underrepresented in many key fields and positions. Studies show that women hold just 20 percent of board seats and make up only 4.6 percent of S&P 500 CEOs. And an astounding 56 percent of women in technology leave the industry within ten years, largely because they face an inhospitable work culture or lack support. This course is designed to help women develop a leadership toolkit that lets them strategically re-engage with their careers and achieve long-term professional growth and satisfaction. Specifically, the course will help students cultivate a proactive and authentic leadership style by learning how to negotiate effectively, showcase their performance, advocate for themselves, and build strong relationships with key people across their organizations. In addition, students will discover how to leverage their individual strengths so they can serve as changemakers and positively influence their teams and overall work environment. Designed for women, or anyone concerned with addressing the imbalances mentioned above, this course will feature real-world case studies, interactive assignments, guest speakers, and online discussion. Students will come away from this course with highly actionable and practical tools that will help them grow into leadership positions in their given fields.
BUS 160 W	Leadership Skills for Women in the Workplace: How to Aim High and Achieve Impact	In today's workplace, women are underrepresented in many key fields and positions. Studies show that women hold just 20 percent of board seats and make up only 4.6 percent of S&P 500 CEOs. And an astounding 56 percent of women in technology leave the industry within ten years, largely because they face an inhospitable work culture or lack support. This course is designed to help women develop a leadership toolkit that lets them strategically re-engage with their careers and achieve long-term professional growth and satisfaction. Specifically, the course will help students cultivate a proactive and authentic leadership style by learning how to negotiate effectively, showcase their performance, advocate for themselves, and build strong relationships with key people across their organizations. In addition, students will discover how to leverage their individual strengths so they can serve as changemakers and positively influence their teams and overall work environment. Designed for women, or anyone concerned with addressing the imbalances mentioned above, this course will feature real-world case studies, interactive assignments, guest speakers, and online discussion. Students will come away from this course with highly actionable and practical tools that will help them grow into leadership positions in their given fields.
РНОТО 56	Landscape Photography in Yosemite: A Field Workshop	Join us for a hands-on field photography workshop in Yosemite National Park in late April. This workshop will explore four different areas of the park with group shoots in the morning and afternoon. There will also be ample free time to explore other areas of the park with our cameras. Before the Yosemite excursion, we will meet twice on campus to cover the basics of landscape photography, drawing inspiration from the classic black-and-white works of Ansel Adams and the color photography of Galen Rowell. After the trip, we will meet two more times in the classroom to review student work from the weekend excursion and discuss how photography brings us closer to the natural landscape.

BUS 153	Managing the Human Supply Chain	Many companies have molded great technologies into breakthrough products with elegant launch strategies, but something is often missing. And that something is frequently the alignment of the people practices with those elegant strategies within the reality of the day-to-day business. This course will be helpful for anyone with people responsibilities who wants to bring out the very best in their people at every point along the human supply chain. The human supply chain represents every touchpoint along the employment lifecycle. Every time we "touch" an employee, for example when we do a performance review or offer a training opportunity,we are appreciating or depreciating this critical human asset. This course will help you understand core people practices and how to remediate most of the common failure points. Examples of the topics to be discussed include how to acquire the right talent with a thoroughly researched approach to interviewing, in order to avoid the shocking failure rate of experienced hires (between 50 percent and 85 percent); the fundamentals of compensation and why we may be rewarding people in all the wrong ways; and what managers need to understand about people development. We will examine why so many companies fail to effectively measure their single biggest investment, how the employee experience may soon be more salient than employee engagement, the intrinsic benefits of diversity, performance management, and how to inspire and lead. The course will be a combination of lecture, role-play, and team exercises.
EGL 82 W	Writing the Wild: Nature and Outdoor Writing	Nature and the natural world have inspired much of the most insightful writing about American life, from Henry David Thoreau to Cheryl Strayed. Our finest voices have gone to find themselves in the natural world, or sought refuge there, or grappled for clarity about the messy life they separated themselves from. This course is for writers interested in the reflective and explorative possibilities of the natural world. A great essay can find as much meaning from an hour in the garden as from a hike up K2. Through readings by John Muir, Edward Abbey, Cheryl Strayed, Cormac McCarthy, Terry Tempest Williams, and Wallace Stegner, we will consider fundamental questions of writing about nature: What is the connection between our "normal" life and our life in the outdoors? Is nature sacred? We will examine the role writing about nature plays in engaging environmental, social, and political issues, and then turn to our own work, learning techniques to connect a reader's senses to the world of the wild. Then, we will workshop a longer piece with the goalof creating a deeply layered, original piece of polished prose, informed by the tradition of writing about nature. Finally, we will survey publications interested in conservation, adventure travel, and essays on the natural world.
EVT 510	Earth Matters: Radar Glaciology: A Window into Ice	One of the largest sources of uncertainty in understanding climate change and planning for future sea level rise is estimating the impacts of the Antarctic and Greenland ice sheet melts. One of the great open questions about our place in the universe is whether life exists elsewhere in the solar system. Whether we're responding to the challenges of an evolving climate or exploring Jupiter's icy moon Europa, humanity's ability to understand and respond to the natural world can be limited by our ability to observe conditions beneath kilometers of ice. Radio echo sounding is a uniquely powerful geophysical technique for studying the interior of ice sheets, glaciers, and icy planets. In this talk, Dustin Schroeder will discuss how his team is addressing this challenge by advancing ice-penetrating radar system design and data analysis for terrestrial and planetary glaciology. This research is filling a fundamental gap in our ability to understand the evolution, stability, and sea level contribution of ice sheets in a changing climate as well as the habitability of ocean

WSP 281	Wine and Geology in Napa Valley: A Weekend Exploration	Soil is only the top layer of what winemakers call terroir. Millions of years of geologic upheavals have contributed to the unique properties of each wine region of the world. In this unique hands-on exploration of the relationship of geology and wine, we will spend a weekend in Napa Valley exploring the connection between wines and their terroir—the complete natural environment in which a wine is produced. We will see for ourselves how the geologic history of the land—along with the grapes, their viticulture, the climate, and the winemaker's skills—is crucial to the characteristics of wines. Though geology and terroir will be a focus of the workshop, no previous knowledge of either is necessary to understand the stories of deep-sea sediments, volcanic eruptions, uplifted mountains, earthquake faulting, gigantic megalandslides, and torrential flooding—all active players in the making of the modern Napa Valley. Participants will explore a cross-section of the Oakville American Viticultural Appellation (AVA), located in the heart of Napa Valley, including four private tastings to see how the earth and the wine compare and contrast from place to place. In essence, we will bring the geology to the wine and the wine to the geology.
SSU 109	Stanford Saturday University: 2017	Stanford Saturday University is a day of shared intellectual stimulation featuring some of Stanford's most engaging faculty. Sessions at this workshop include "Entangled at Catalhoyuk: How Did Humans Get Caught Up Living in Towns and Cities?", "Climate Change and the Environment," "Misled by the Map: Geography Gets Political," and "Tipping Point for Planet Earth: How Close Are We to the Edge?"
SPT 02	Inside the Box: How Television Has Changed Sports in America	Television has been referred to as the monster of the sports world. TV has dramatically changed sports in Americafor better or worse. More than any other single factor, it has fueled the tremendous growth, insatiable demand, and astronomical salaries that characterize sports in this country. TV is now the number one source of income for all major sports leagues in the United States, college and professional, far outstripping ticket sales, sponsorships and merchandising. All in all, TV has had such a profound effect that many believe it now controls sports in America. This course will provide an informative, entertaining, behind-the-scenes look at how TV has changed sportsin the US and what other changes may be in store. Students will hear from industry insiders—national and local sports network executives, conference and team officials, announcers, and promoters—as well as media experts and economists who have observed and critiqued this national phenomenon. Topics will include: TV's impact on the economics of professional and collegiate sports; the history of TV sports regulation in the US; the pursuit of TV rights fees and the collateral damage to conferences and traditional rivalries; how networks control scheduling, news, and celebrity; the role of regional sports networks and their effect on team policies and promotion; why conference networks succeed or fail; TV as a promotional tool in building fan bases and selling tickets, stardom, and sponsorship; "made-for-TV" rule changes; the impact of TV-controlled scheduling on student-athletes and class time; the complicated and self-serving relationships among TV networks, teams, and conferences; and the story behind the unusual game times, interruptions in play, and gimmicks that frustrate fans but meet programming and advertising needs.

POL 180	International Human Rights: Strategies, Struggles, and the Quest for Dignity	The advancement of human rights globally is an epic narrative of strategic innovation, visionary leadership, popular collective action, technological change, and institutional development. It is also a story of elite resistance, interest protection, high politics, conflict, and, in many cases, the unrestrained application of raw power and brutal force. From the first social movements to eliminate slavery and human trafficking through contemporary struggles for the right to privacy and Internet freedom, the tension among these varied forces and motivations has shaped an imperfect, but everevolving, system of rights, principles, and norms guided by the firm conviction that human dignity ought to be valued and protected. str>This course is an introduction to key strategies and struggles that have contributed to the body of law, institutions, and practices that are associated with international human rights. Through the lenses of historic and contemporary cases, we will examine why particular strategies succeed or fail, and how individuals and groups manage to achieve reform, often against substantial odds.
SCI 48	An Introduction to Artificial Intelligence: How Neuroscience Is Creating Smarter Technologies	The age of artificial intelligence (AI) is undoubtedly here. In 2015 alone, more than \$10 billion of investment went into developing "smarter" computer systems that use neuroscience (artificial neural networks and computational technique) to perform tasks that require high-level intellect, including visual perception, speech recognition, and autonomous decision-making. The self-driving car is but one highly visible example. Even the automated customer service representative onthe phone is artificial intelligence at work. In this course, students will look at the neuroscience concepts and techniques that underpin artificial intelligence and the design of intelligent computer systems. Once we understand these essential concepts and techniques, we will see how scientists and programmers build artificial intelligence platforms and applications. This includes a discussion of artificial neural networks and machine learning. Speakers from academia, industry, and AI startups will be invited to discuss their innovations and new AI technologies. Lastly, we will begin to explore the ethics of artificial intelligence and the challenging questions we will soon be forced, as a society, to address, as well as the positive and negative consequences of AI on the society and the environment. By the end of the course, students will have a basic understanding of artificial intelligence and its roots in neuroscience, and how AI contributes to existing and new technologies.
SCI 48	Artificial Intelligence: From Neural Networks to Artificial Consciousness	The age of artificial intelligence (AI) is undoubtedly here. In 2015 alone, more than \$10 billion of investment went into developing "smarter" computer systems that use neuroscience (artificial neural networks and computational technique) to perform tasks that require high-level intellect, including visual perception, speech recognition, and autonomous decision-making. The self-driving car is but one highly visible example. Even the automated customer service representative onthe phone is artificial intelligence at work. In this course, students will look at the neuroscience concepts and techniques that underpin artificial intelligence and the design of intelligent computer systems. Once we understand these essential concepts and techniques, we will see how scientists and programmers build artificial intelligence platforms and applications. This includes a discussion of artificial neural networks and machine learning. Speakers from academia, industry, and AI startups will be invited to discuss their innovations and new AI technologies. Lastly, we will begin to explore the ethics of artificial intelligence and the challenging questions we will soon be forced, as a society, to address, as well as the positive and negative consequences of AI on the society and the environment. By the end of the course, students will have a basic understanding of artificial intelligence and its roots in neuroscience, and how AI contributes to existing and new technologies.

WSP 190	California Coastal Photography: From Point Lobos to Big Sur	The California coastline stretching from Monterey to Big Sur is a natural collage of bold headlands and beaches strewn with rugged stone, brightly colored aquatic plants, and sand. For decades, the natural beauty of this place has played an important role in the evolution of modern photography, inspiring such masters as Ansel Adams, Edward Weston, and Imogen Cunningham. This workshop begins with two class meetings on the Stanford campus, where we will cover field session logistics and outdoor photography skills, including understanding light, modifying light with reflectors and flash, lens selection from wide-angle to telephoto to macro, effective composition, and digital tools. In the weekend field sessions on the Monterey Peninsula, we will sharpen our photographic skills at the famed tide pools of Point Lobos and at spots along the dramatic Highway 1 coastline between Carmel and Big Sur. With a thoughtful blend of guided and independent photography carefully choreographed with the low tides to allow for macro and wide-angle opportunities, this workshop will offer valuable resources for the novice and experienced photographer alike. After the field sessions, we will have a final class meeting to review student work and discuss the impact of the natural environment on shaping your perspectives, both actually and figuratively.
BUS 20	Building a Successful Business with the Internet of Things	The Internet of Things (IoT) connects everyday objects such as thermostats, lights, baby monitors, security alarms, garage doors, and T-shirts to the Internet and provides a mobile interface to manage them. For example, fitness trackers have become part of the dress code for men and women alike, tracking health and exercise patterns and empowering us to take charge of our health while disrupting the healthcare industry. Connected objects are creating a big shift in consumer behavior and causing disruptions in existing markets. The transformative power of mobile and the IoT will impact companies' revenue, new user growth, and opportunities to innovate. This coursewill take a case study approach and allow entrepreneurs and product managers to tap into mobile and IoT disruptions to build their product and business strategies. Students will learn a new framework to design mobile and IoT products, understand the right data to collect for multiscreen experiences, and learn how to apply this data to build the product roadmap and develop the marketing channels that will inform the overall business strategy. At the end of the course, students will have the opportunity to present a case study to apply their learning.
POL 182	Refugee Crises Across the Globe	The surge in refugees from Africa, the Middle East, and West Asia to Turkey and Europe is the most recent chapter in an unfolding human story of transition and adaptation. A succession of migrations globally has energized debates about a number of salient issues, including: the causes of displacement; the motivations of those seeking safe haven; the risks for vulnerable people when official channels for moving to safer situations are restricted; the political, legal, and practical complexities for governments receiving large numbers of asylum seekers; and, what constitutes a humanitarian response and how to share these responsibilities. This course introduces students to key concepts and institutions governing the international legal and humanitarian system with respect to refugees. Against this backdrop, we will delve into the causes of migrations currently taking place; the discourses, conflicts, and policies in relation to them; and the implications and impact of various approaches. Using a variety of aesthetic and academic materials, including witness narratives, documentary, photography, reportage, academic research, and policy briefs, we will weave together the human experience and the processes shaping events.

PDV 39 W	The Seven Dimensions of Wellness	There is no one key to sustaining or achieving an overall healthy lifestyle. That is because wellness is a multifaceted affair, and healthy living is the product of the choices we make across seven dimensions: (1) physical, (2) intellectual, (3) emotional, (4) social, (5) spiritual, (6) occupational, and (7) environmental. In this course, we will unlock the science behind the seven dimensions of wellness. Initially, we will explore the relationship between biology and wellness, showing how choices in our lives affect our DNA. Then, we will discuss the seven dimensions, covering one each week. Students will discover how healthy habits (such as exercise and smart food choices) contribute to an important level of physical wellness. They will also see how wellness goes beyond the purely physical and into other realms. Emotional wellness (the capacity to understand ourselves and share feelings of anger, fear,hope, and love); social wellness (the ability to connect with other people); occupational wellness (the ability to get personal fulfillment from our jobs or our chosen career fields)—these other forms of wellness also contribute to an integrated sense of well-being.
GEO 03 W	The Geology and Wines of California and France	This course is designed for curious people who enjoy wine, especially wine from California and France, and would like to learn more about it. We will examine the connection between wines and their terroir—the complete natural environment in which a wine is produced—and learn why "place" and its geologic history—along with the grapes, their viticulture, the climate, and the winemaker's skills—are all crucial to the characteristics of wines. We will explore the geologic setting of wine regions in California and France and, with comparative tastings, form the basis for understanding why certain grapes seem to prosper and others do not. As we delve into the geologic history of wine country, we will also learn about the geography, the wines, the names, and the history of numerous wine regions in California and France. By the end of the course, we will have gained a better understanding of why wines are a reflection of "place" and have
FLM 16	Camera as Witness: Politics, Culture, and the Power of Documentary Filmmaking	This course offers a unique chance to become familiar with global political and cultural issues, understand the aesthetic capacities of documentary filmmaking, and view films that are rarely screened. Honoring themes of tragedy and triumph and the transformative power of art, the course will present films ranging from Academy Award-nominated Genghis Blues to documentaries dealing with obstacles of language and ideology such as in A Dream in Hanoi. The course will also cover Sierra Leone's Refugee All Stars, a film that chronicles a band over three years, from Guinean refugee camps back to war-ravaged Sierra Leone; Sing Your Song, an up-close look at a great American musician and champion for worldwide human rights, Harry Belafonte; The Dancing Boys of Afghanistan, an award-winning documentary that spotlights the disturbing sex trade of Afghan boys; and Missing in Tibet, a film about Tibetan-born Ngawang Choephel, who was sentenced to eighteen years in prison by Chinese authorities.
BUS 13	Social Impact Marketing: Integrating Social Purpose with Business Goals	This course provides a framework for creating social impact strategies and initiatives to help marketers reimagine the relationship between their business, philanthropic endeavors, and communities of customers, investors, and employees.

POL 184	A New American President: A New American Foreign Policy	This course will examine the prospects for change in American foreign policy as the new Trump presidency begins to take shape. We will begin by exploring the history of presidential transitions as they apply to America's international relations. What did the foreign policy transitions at the beginning of the Obama and George W. Bush administrations look like? What do the changes so far in the very first months of the new administration seem to be portending? Who are the key leaders on the foreign policy team, and what are their views and credentials in international affairs? Importantly, how does the history of American foreign policy impact the ability of the new administrationto carve out its own distinctive directions? We will then examine the most challenging problems that the new foreign policy team will need to address: an aggressive, Putin-driven, Russian foreign policy; a fast-rising and powerful China vying for power in Asia and international superpower status; the seemingly endless turmoil in the Middle East, especially the continuing and complex conflicts in Syria, Iraq, and Afghanistan; the Palestinian/Israeli troubles; the problems of migration and international terror; compliance with the international Paris agreement on climate change; and finally, our often-tense relations with our allies in Europe and elsewhere.
РНОТО 226	Travel Photography: Around the Corner and Around the World	This course will explore how to translate the fundamentals of photography into work that conveys a sense of place. We will discuss how to create expressive landscapes, environmental portraiture, and photographic essays that reveal your unique impression of a destination. You will learn how to do preparatory research, select and pack equipment appropriate for your destination, improvise on the road, anticipate action, and apply familiar rules of composition to unfamiliar scenes. Additionally, you will explore how different focal lenses portray scenes in different ways, and how shutter speeds and apertures can be used to create your unique interpretation of time and space. You will learn how to use people or other elements to show scale; photograph in low light; capture action and activity; and make images from different perspectives that may help capture the destination's true impact on you.
SCI 06	Photographing Nature: Using a Camera to Study the Natural World	This course will utilize the idiom of photography to help students learn about nature, enhance their powers of observation, and better understand scientific concepts. The course builds upon the pioneering photographicwork of Eadweard Muybridge (1830–1904), who used his camera to answer questions about human and animal locomotion. (Much of this work was funded by Leland Stanford Sr.) A secondary goal will be to discuss the grammar, syntax, composition, and style of nature photography in order to enhance the use of this medium as a form of scientific communication. Themes to be explored include change across time and space; taxonomy; habitat preservation; weather and climate change; species diversity; survival and reproductive strategies; ecological niches and co-evolution; carrying capacity and sustainability; population densities; predator/prey relationships; open-space management; and the physics of photography. We will make use of the abundance of local areas that preserve and showcase nature through optional Saturday fieldtrips to Jasper Ridge, Año Nuevo, the Stanford Dish,the Palo Alto Baylands, and the Stanford Arizona Cactus Garden. Assignments will have a photographic, a written, and an oral component.

SSU 45	Making Sense of the Trump Presidency: A Stanford Continuing Studies Forum	To help citizens understand the first weeks of the Trump presidency and their short- and long-term policy implications, Stanford Continuing Studies will host a forum for the community on March 11 to explore five pivotal issues with experts from Stanford and beyond. The sessions will examine Trump administration policies and actions involving national security, the environment, the media, terrorism, justice, and the courts. The day's program will feature eight distinguished faculty from across the disciplines at Stanford. The program will be hosted by Larry Diamond, from the Freeman Spogli Institute for International Studies and the Hoover Institution, and Philip Taubman, from the Center for International Security and Cooperation (CISAC)
HIS 97	The History of Feminism in the United States	United States history has witnessed three feminist movements. The First-Wave began with the Seneca Falls Convention in 1848 and lasted until the winning of women's suffrage in 1920. The Second-Wave started in the early 1960s with the publication of Betty Friedan's The Feminine Mystique and ended with the defeat of the Equal Rights Amendment in the early 1980s and the splintering of the movement. And finally, Third-Wave feminism started in the early 1990s with Anita Hill's accusations of sexual harassment against Supreme Court nominee Clarence Thomas, and continues today. What historical conditions gave rise to each movement? What constellation of ideas shaped these different waves of American feminism? How did the social status and racial composition as well as the sexual orientation of activists change each subsequent feminist movement? How did the diversity of feminists change the scope and agenda of each women's movement? And what historical impact did each movement have? In this course, we will begin by reading selections from classic feminist theory such as Mary Wollstonecraft's "A Vindication of the Rights of Woman", John Stuart Mill's "The Subjection of Women," and Simone deBeauvoir's "The Second Sex," and the more recent (1989) book by Susan Moller Okin, "Justice, Gender, and the Family." And we will explore how these political theories and changing historical conditions stimulated and defined feminism in the United States.
BIO 102 W	Immune Health Basics	What does it mean when a product claims that it supports "immune health" or promises to "boost immunity"? We hear these claims frequently, but what is required for good immune health, and can we really modulate the immune system to our advantage? In this online course, we will explore the complex and dynamic workings of the human immune system. You will be introduced to the basic biology of the immune system, the cornerstone to understanding your immune health. We will pay special attention to the impact our environment has on our immune system, and we will take a close look at what current research tells us about improving our immune health by improving the environment we are in.
WSP 246 B	Women Leaders: Mastering Organizational Strategy	Women leaders face unique challenges. Although women hold more than 50 percent of middle management positions, only 4.2 percent of CEOs in Fortune 500 companies are women. Developing strong leadership skills, especially in the areas of resilience, influence, networking, self-promotion, and risk taking, will better equip women to address these challenges and thrive as leaders in the workplace. This highly interactive two-day workshop is designed to enable women to step into leadership roles and lead effectively. We will focus on finding the meaning that will inspire you in your career, and learning tools that will enable you to reframe obstacles and work toward solutions. You will enlist sponsorship and followership by building meaningful networks. And, you will develop a communication style to take ownership of your accomplishments. Utilizing a robust structure of lecture, role-play, experiential exercises, and coaching techniques, this course draws upon content from cutting-edge female leadership models.

WSP 236	Women Leaders: Mastering Influence, Authenticity, and Power	Women leaders face unique challenges. Although women hold more than 50 percent of middle management positions, only 4.2 percent of CEOs in Fortune 500 companies are women. Developing strong leadership skills, especially in the areas of resilience, influence, networking, self-promotion, and risk taking, will better equip women to address these challenges and thrive as leaders in the workplace. br>This highly interactive two-day workshop is designed to enable women to step into leadership roles and lead effectively. We will focus on finding the meaning that will inspire you in your career, and learning tools that will enable you to reframe obstacles and work toward solutions. You will enlist sponsorship and followership by building meaningful networks. And, you will develop a communication style to take ownership of your accomplishments. Utilizing a robust structure of lecture, role-play, experiential exercises, and coaching techniques, this course draws upon content from cutting-edge female leadership models.
WSP 46	Building a Career of Meaning and Impact	You spend more than half of your life at work. And you want your time to matter and your work to make an impact, whether through direct human support or broader efforts in areas such as social justice or sustainability. So, how do you do more of the activities that energize you? How can you develop a career that plays to your unique strengths and honors your priorities? In this interactive workshop, you will participate in individual and small-group exercises that will help you articulate your values, strengths, and priorities—who you are and what matters to you. You will spend time envisioning your desired future and explore the limiting beliefs that impede you from realizing that vision. You will learn three key strategies to test your options, allowing you to take action immediately and move toward more fulfillment and greater positive impact. You can expect to leave this workshop with a framework and insights, a connection to others on a similar path, and a renewed conviction to building a career of meaning and impact.