

Stanford University Continuing Education Sustainability Course Inventory
May 2016

Code	Title	Description
ART 56	Landscape Photography in Yosemite: A Field Workshop	<p>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.</p>
BIO 39 W	The Seven Dimensions of Wellness	<p>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. The first week will explore the relationship between biology and wellness, showing how different choices in our lives affect our DNA. Then, we will move on to discuss the seven dimensions, covering one dimension each week. As the course unfolds, students will discover how healthy habits (exercise, food choices, etc.) contribute to an important level of physical wellness. But they will also see how wellness goes beyond the purely physical and into other realms. Social wellness (the ability to connect with other people), emotional wellness (the capacity to understand ourselves and share feelings of anger, fear, hope, and love), occupational wellness (the ability to get personal fulfillment from our jobs or our chosen career fields)—these other forms of wellness (in addition to the others listed above) also contribute to an integrated sense of well-being. By the end of the course, students will understand how to achieve wellness in the broadest sense. They will also learn about integrative health therapies for common health problems such as lower back pain, stress, and cardiovascular diseases.</p>

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<p style="text-align: center;">BIO 84</p>	<p style="text-align: center;">Your Genes and Your Health</p>	<p>Analyzing your DNA can reveal a lot about your potential health and future well-being. Although knowledge of your genetic frailties may suggest a predisposition to a disease, genetics alone does not seal your fate. Common diseases such as diabetes, coronary heart disease, obesity, and cancer are strongly influenced by your behavior and your environment. Changing one’s lifestyle can alleviate or even prevent disease. Hence, understanding genetic indicators can alert one to the importance of being vigilant about lifestyle and medical follow-ups. In this course, students will be empowered with the tools to learn more about diseases, treatments, clinical trials, and genetic tests, knowledge that will help them to understand any genetic disease. The instructor will use data from his own genome analysis to show students how to look into their own ancestry, family relationships, and inherited diseases. Students will see how knowing one’s own genetic profile can lead to reduced healthcare costs and a new approach to a healthy lifestyle.</p>
<p style="text-align: center;">BIO 93</p>	<p style="text-align: center;">Human Longevity: The Quest for Immortality</p>	<p>Is human immortality a scientific possibility? Humans have been fascinated with the notion of the “fountain of youth” for centuries—a potion or concoction that can allow us to live forever. However, the past three decades of scientific research seem to suggest that the fountain of youth may actually be within our own biology, flowing through our bodies and only needing to be harnessed and activated. In this multidisciplinary course, we will explore emerging biological theories regarding human longevity and the emerging biotechnologies that attempt to extend lifespan. Aging experts will demystify the biological pathways involved in aging, the cellular and genomic targets that can extend our lifespans, and the long-living human populations around the world, from the Laron dwarfs of Ecuador to the Japanese centenarians, that seem to have thwarted aging and extended lifespan already. Finally, we will explore concerns about commercializing longevity and the emergence of an immortal population. Tentative guest speakers include Aubrey De Grey (SENS Research Foundation) and Judith Campisi (Buck Institute for Research and Aging), among others.</p>

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<p style="text-align: center;">BOT 60</p>	<p style="text-align: center;">Designing Your California Native Plant Garden</p>	<p>Low-water-use gardens are becoming ever more important in our naturally arid climate, and water-wise California native plants are a good choice for the landscape—drought or not. Summer is a perfect time to plan your California native plant garden, and this course will take us on the path from site assessment to master plan. In the course, students will learn how to bring the natural beauty of our native flora into the landscape. We will explore the various types of native plants, from tree to annual, and—based on their natural habitat—the conditions in which they grow best. Students will come to know how native plants adapt their form, color, and size to best serve their function in nature and how we can employ these strategies in our own successful gardens. Of related importance, we will review nursery specimen selection, the basics of irrigating native plants, and laundry-to-landscape (gray-water system) fundamentals. By the end of the course, students will be able to choose plants that attract specific wildlife, grow well under oaks, and address many other goals and conditions commonly found in the world of gardening. Students will be well on their way to welcoming Fall, the best season to shop for and install California native plants.</p>
<p style="text-align: center;">EGL 82 W</p>	<p style="text-align: center;">Writing the Wild: Nature and Outdoor Writing</p>	<p>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 subject 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 the fundamental questions of writing about nature. What is the connection between our “normal” life and our life in the outdoors? Is nature sacred? We’ll 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. In the second portion of the course, students will workshop a longer piece with the goal of 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.</p>

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<p style="text-align: center;">GEO 03 W</p>	<p style="text-align: center;">The Geology and Wines of California and France</p>	<p>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 firsthand knowledge of many of the tastes that result. The wines we will taste will be comparable from both Old World (France) and New World (California) wineries: chardonnay, sauvignon blanc, Bordeaux and Bordeauxstyle blends, and Rhone and Rhone-varietal blends.</p>
<p style="text-align: center;">GEO 05</p>	<p style="text-align: center;">Majestic Sites: A Survey of the Most Unusual Places on Earth</p>	<p>In this course, we will focus on some of the most dramatic geological sites in the United States and around the world—“magical” places like the Danxia and Guilin landforms of China; the Bungle Bungles of Australia; Goblin Valley, Utah; Devil’s Tower, Wyoming; the Fairy Towers and underground cities of Cappadocia and the travertine terraces of Pamukkale, Turkey; the “lost city of Atlantis”; and the Chocolate Hills of the Philippines, among others. Like geologists, you will learn to “read” the rocks and see how your increased understanding can enhance their aesthetic appeal and transform the commonplace into a creative adventure. We will explore locations on most continents and investigate some of the most visually distinctive sites at home. We will look at the full range of geologic environments, from mountains and deserts to glaciers, volcanoes, rivers, and coasts. Lectures will include an abundance of images, and the course will conclude with an all-day field trip.</p>

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GEOG 07	The History and Geography of Current Global Events	<p>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 might 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 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 reports. Weekly topics will vary in accordance with current events. We will tentatively cover such issues as the migration crisis in Europe, the ongoing wars in Syria and Iraq, and the presidential primary elections in the United States. 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.</p>
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<p align="center">HIS 02</p>	<p align="center">Golden Gate Metropolis: A History of San Francisco</p>	<p>San Francisco, with its steep hills and sand dunes, often shrouded by fog and geographically isolated at the tip of a long peninsula, might have seemed an unlikely candidate to become a great metropolis. It was Oakland, not San Francisco, that was the terminus transcontinental railroad; and Oakland, not San Francisco, that became Northern California's busiest port. How, then, did San Francisco become the most exciting city in the West shortly after the mid-19th-century gold rush—the place where Mark Twain chose to live and sharpen his skills as a writer and satirist? How did successive waves of immigration shape the city? How did its distinctive urban topography develop, its industries, houses, neighborhoods, and parks? The course will examine the city's role as an outpost of Spanish colonial power; the boom- and-bust impact of the gold rush; the role of successive modes of transportation in reshaping the city; urban corruption and environmental degradation; architectural styles and literary innovation; the arrival of Irish, Italian, Jewish, African-American, Chinese, and Japanese immigrants; and the crisis of 1906 and its aftermath. Exploring the interplay between geography, geology, and urban life, this survey of San Francisco will start in prehistory and then follow the story of the city down to its recovery from the earthquake of 1906.</p>
<p align="center">POL 180</p>	<p align="center">International Human Rights: Strategies, Struggles, and the Quest for Dignity</p>	<p>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 ever-evolving, system of rights, principles, and norms guided by the firm conviction that human dignity ought to be valued and protected. 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.</p>

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POL 182	Refugee Crises Across the Globe	<p>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.</p>
SCI 06	Photographing Nature: Using a Camera to Study the Natural World	<p>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 photographic work 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 field trips 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.</p>

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SCI 51	Climate Change: Our Global Ecology and What You Can Do	<p>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. 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.</p>
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SOC 11	Technology for Social Good	<p>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 at the beginning of using these digital tools to imagine new strategies to address 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. We will consider the use of technologies such as 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 philanthropy will also be discussed.</p>
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WSP 190	California Coastal Photography: From the Monterey Peninsula to Big Sur	<p>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 a class meeting 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.</p>
WSP 281	Wine and Geology in Napa Valley: A Weekend Exploration	<p>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 mega-landslides, 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.</p>

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WSP 90	Food Literacy 101: The Key to Eating Healthy and Sustainable Food	<p>Food is central to our lives, yet the overwhelming choices in the grocery stores and the influence of big business has made something that should be so easy to understand, quite complex. This workshop will help you understand our complicated food system and learn how to make decisions that will benefit your health and the environment. We will begin with an introduction to the US food system and unravel the complex world of food policy. Students will learn how our food is grown, processed, and consumed; how chemicals in our food system affect our health; and how international markets affect our food. The course will also look at organic foods, describing what they are, and which organic foods are particularly important to eat. Finally, students will learn to decode the many food labels we encounter while shopping and identify which ones are meaningful and which are just marketing hype. By the end of this workshop, students will be able to make informed decisions to purchase healthy and sustainable foods at the grocery store and farmers' market.</p>
XEIET 132	Solar Cells	<p>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.</p>
XEIET 135	Past, Present and Future of Fossil Fuels	<p>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.</p>

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<p align="center">XEIET 137</p>	<p align="center">Smart Grid: Sensing, Data Analytics and Control</p>	<p>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.</p>
<p align="center">XEIET 140</p>	<p align="center">Nuclear Energy - Why, How and Prospects</p>	<p>Is nuclear energy experiencing a renaissance or taking its last breaths? As global demand for energy increases, cost-effective, 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.</p>
<p align="center">XEIET 200</p>	<p align="center">Planning for a Sustainable Future with Wind, Water and the Sun</p>	<p>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.</p>

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XEIET 201	Economics of Competing Energy Technologies	<p>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 improvements.</p>
XEIET 202	Behaviorally Informed Design for Energy Conservation	<p>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.</p>
XIATA 110	Air Transport Fundamentals	<p>This course will provide you with an overview of the air transportation system that illustrates the interdependence among its components: Airlines, Airports, Civil Aviation Authorities and Air Navigation Services. Topics include an overview of the air transport system, aviation law, the role and function of World Aviation Organisations, Civil Aviation Authorities (CAAs), airlines, airports, Air Navigation Services (ANS) Providers, impact of technology on air transportation, and the future of air transportation.</p>

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XSDR 223	Ethical Decision Making	<p>Every day in life and work we're confronted with small ethical decisions—and most of us accept that sometimes we'll do the right thing and other times we'll have 'harmless' lapses. We have all asked ourselves, "What's the harm?" when we make small ethical compromises for "good" reasons: We lie to a customer because our boss asked us to. We exaggerate our accomplishments on our résumé to get an interview or inflate our sales numbers to impress a potential client. We get comfortable with transgressions. Temptation blindsides us. And we make snap decisions we later regret. Minor ethical lapses may seem harmless, but they instill in us a hard-to-break habit of distorted thinking. We make up the rules as we go. We lose control of our decisions, fall victim to the temptations and pressures of our situations, taint our characters, and sour business and personal relationships. Packed with real-life examples and hands on exercises, this course develops practical tools to respond skillfully to life's inevitable ethical challenges. This includes skillful decision-making in both work and life, as well as how to overcome lying, deception, insincere promises, inappropriate secrets and other temptations. Not only can you make right decisions, you can acquire new habits that will allow you to draw clear ethical lines to consistently guide right action. We all yearn to realize the best in ourselves. What confidence can we have that we are succeeding if we feel uncertain about whether we are handling ethical decision-making the right way? By developing new thinking habits, we learn how to respond intelligently to ethical challenges and live lives of meaning and integrity.</p>
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