

Sustainability Studies courses are offered in a mix of on-campus, fully online, and hybrid classes. On-campus sections rotate between the Chicago and Schaumburg campuses. Each SUST course is three semester hours. Field trip alternatives are provided for distance learning students.

SUST 210 Sustainable Future: Environment, Economy, Equity

This course provides an overview of sustainability by exploring definitions, controversies, trends, and case-studies in various systems and locales (urban/rural, local/national/global). Key topics of investigation include critical elements of sustainability, such as environmental history and urban ecology, sustainable development and landscape transformations, recycling/waste management, ecosystem restoration, and environmental justice. Students will develop a critical understanding of sustainability's various definitions; comprehend factors that contribute to and detract from environmental quality, community stability, economic and social equity, and other indicators of sustainability; and learn to identify a set of both qualitative and quantitative standards to assess levels of sustainability in an ecosystem or community. Includes field trips to selected institutions/locations in the Chicago Metropolitan Area that exemplify sustainability principles in action. *Pre-req: ENG 101*

SUST 220 Water

This course evaluates water quality and water sustainability issues through the analysis of local, regional, and global case studies. Key concepts and themes to be addressed include the science and policy of ensuring a safe water supply; water conservation strategies, particularly in urban areas; wastewater treatment and watershed management; and wetlands ecology, restoration, and management. Students will develop a thorough understanding of the water cycle and its relation to the sustainability of water systems; learn to define, measure, and sample water quality in a variety of contexts using field-based water chemistry sampling techniques; understand and assess the importance of water as an environmental as well as cultural resource; and evaluate contemporary water management and policy issues, particularly those affecting the waterways of the Chicago region as well as the Great Lakes ecosystem. Features field trips to area locations such as the Chicago River, water and wastewater treatment plants, and natural and/or restored wetlands. *Pre-req: ENG 101*

SUST 230 Food

If we are what we eat, understanding the complexities of how our food gets on our tables is vital to our health and environment. This course is an overview of worldwide sustainability issues surrounding food production and consumption. A key issue addressed is the importance of local food production, particularly in urban areas, and the assessment of how locally produced food impacts the long-term sustainability of global food production. Students leave the course with the ability to compare chemical-intensive versus organic agriculture in terms of the ecological and economic impacts of both systems; understand the advantages and challenges of local food production, the "permaculture" movement, and their relation to environmental and economic sustainability; and evaluate the capabilities of urban agriculture for improving and sustaining of economically-distressed communities. Field trip / service learning opportunities at local community gardens / urban farms. *Pre-req: ENG 101*

SUST 240 Waste

Cleanliness is next to godliness; it also is vital to the daily management of urban systems, lest we be plagued with epidemic disease and unpleasant aesthetics. How society manages sewage, garbage and recycling involves far more than dropping bins off on our curbs and watching the waste magically disappear. This course examines sustainability dilemmas involving waste management (including consideration of the public and private systems developed to address specific waste concerns), and considers consumption trends past and present, as well as future solutions. Students analyze issues of waste policy and management and learn to assess the economic, political, and chemical/environmental impacts of waste stream practices. Incorporates field-based testing of wastewater contamination in area waterways and/or the presence of contaminants in soil. *Pre-req: ENG 101*

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SUST 310 Energy and Climate Change

In a world experiencing climate change, societies must understand the consequences of energy consumption and production, and develop new sources of clean, sustainable energy. This course investigates the environmental implications of energy production and consumption, and assesses current and future problems in the energy field. Students gain an understanding of the natural phenomena and scientific principles that provide the basis of our understanding climate change, such as the carbon cycle and the greenhouse effect, and assess the social and environmental consequences of energy production and consumption, whether sustainable or otherwise. Key topics include the relation of energy production and consumption to climate change; the development of energy distribution systems that shape our present opportunities and challenges; and possible alternatives for future energy development.

Pre-req: UWR

SUST 320 Sprawl, Transportation, and Planning

Exploration of the sustainability challenges in the built environment, particularly the debate over sprawl, suburban and exurban development, smart growth, commuting patterns, city planning, and the "new urbanism." Key topics include the exploration of transportation systems, ranging from bicycle commuting to highway construction to public transportation networks to intercontinental air travel, and their relationship to sustainable planning, whether at the level of community, city, or region. Students gain an understanding of the political-economic, spatial, and public policy issues relating to sprawl; learn the history, present use, and future prospects of urban planning and its potential to reshape the urban and suburban landscape in positive ways; develop qualitative and quantitative means to evaluate current transportation systems in terms of efficiency, cost, and environmental impact; and develop critical tools and presentation skills in order to proffer alternative transportation initiatives, particularly at the community or regional levels.

Pre-req: UWR

SUST 330 Biodiversity

Development, pollution, agriculture, invasive species, and habitat destruction have resulted in an alarming loss of species worldwide. This course explores biodiversity in the context of ecology, conservation, ecosystem restoration, and regional planning. Students learn about a variety of natural science concepts and theories relevant to understanding the

biological and ecological significance of biodiversity, such as ecosystems, species, genes, ecological interactions, and evolution. Students will gain a detailed understanding of the importance of conserving biodiversity to natural systems and human communities; and will learn the value of open space, parklands, and wildlife refuges for preserving biodiversity, particularly in urban areas. Field experiences in selected ecosystems in the region (such as prairie or wetlands restorations, forest preserves, waterways, and/or dunes) provide students with opportunities to learn and apply biodiversity assessment techniques, such as field-based plant or animal surveys. Includes field trip / service learning opportunities with local conservation and restoration organizations in the Chicago region.

Pre-req: UWR

SUST 340 Policy, Law, and Ethics

An investigation into the political, legal, and ethical dimensions of sustainability in the U.S. and around the world, using case studies in public policy, environmental law, and community activism. Topics addressed include the impact of policies and laws upon communities, especially in urban areas, and the relevance of environmental policy and ethics to the development of sustainable agriculture, transportation, energy, and housing systems. Students will gain an understanding of the political terrain, the significant ethical debates, and the legal boundaries surrounding sustainability by critically evaluating policy questions in a sequence of critical writing projects. *Pre-req: UWR*

SUST 350 Service and Sustainability

Individually designed internships and/or group service-learning experiences. Students will be matched with a local organization/institution that corresponds to their personal/academic interests and career goals, where they will engage with real-world sustainability problems and solutions. As a capstone to the course, students will produce an extensive report based on their work and reflect on their experience.

Pre-req: UWR

SUST 390 Special Topics in Sustainability

In-depth case studies on specific topics in sustainability, including national parklands; environmental literature and communication; the urban environment; sustainability and environmental history; and representations of sustainability in art, literature, film, and media. *Pre-req: UWR*