GLOBAL ENVIRONMENT SUSTAIN-GES (GES)

Courses

GES 101 Foundations of Environmental Sustainability Credits: 3 (3-0-0)
Course Description: Concepts, foundations, and metrics of global environmental sustainability applied to global challenges.
Prerequisite: None.
Registration Information: Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 120 Water Sustainability in the Western US Credits: 3 (3-0-0)
Course Description: Water and the sustainability of its use in the West. Historical perspectives on the development of water resources in the West. Exploration of the issues involved in meeting the needs for water by people, agriculture and wildlife. Impacts of important human and natural influences on the use and sustainability of water supplies in the West.
Prerequisite: None.
Registration Information: Credit not allowed for both GES 120 and GES 180A4.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 130 Introduction to Sustainability Engagement Credit: 1 (1-0-0)
Course Description: Sustainability engagement via experiential learning.
Prerequisite: None.
Restriction: Must be a: Undergraduate.
Registration Information: Written consent of instructor. Enrolled in Eco-leaders Peer Education Program. Credit not allowed for both GES 130 and GES 180A2.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 135 Applied Community Sustainability Credits: 3 (3-0-0)
Course Description: Engaging with communities on real projects, teams of students develop workable solutions to problems related to food security, green infrastructure, urban wildlife conservation, and other sustainability topics. This course will be fully integrated with a writing course providing a complementary emphasis on values, ethics, meaning, critical thinking, writing, and speaking.
Prerequisite: None.
Registration Information: Written consent of instructor. Must register for special section of CO 150 or CO 300. Credit not allowed for both GES 135 and GES 180A3.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

GES 141 Introduction to Sustainable Energy Credits: 3 (3-0-0)
Course Description: Fossil, nuclear, and renewable energy sources. Energy conversion, distribution, and storage. Energy and the environment. Energy economics and policy.
Prerequisite: None.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 192 Global Environmental Sustainability Seminar Credit: 1 (0-0-0)
Course Description: This seminar introduces students to methods, practices, and ways of knowing in the disciplines represented in this multi-disciplinary field of study.
Prerequisite: None.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 201 Systems Thinking in Sustainability Credits: 3 (3-0-0)
Course Description: Build competencies in systems thinking, quantitative and qualitative modeling.
Prerequisite: GES 101 and PHIL 110.
Registration Information: Completion of AUCC Category 1B. Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 310 Sustainable Decision Making Credits: 3 (3-0-0)
Course Description: Develop techniques to engage in finding solutions for environmental sustainability issues from local to global contexts. Consider the processes of negotiations, facilitations, conversations, and storytelling in the history of climate change, environmental movement, and other areas of sustainability. Practice skills in engaging among stakeholders, policy makers, and public audiences.
Prerequisite: GES 101.
Restriction: Must not be a: Freshman, Sophomore.
Registration Information: Junior standing. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 330A Sustainability in Practice: Project Credits: 2 (1-0-1)
Course Description: Engages students in real-world sustainability applications and empowers them to design and execute their own program or research project. A) Project. B) Service Learning.
Prerequisite: GES 101 or GES 130.
Restriction: Must be a: Undergraduate.
Registration Information: Credit not allowed for both GES 330A and GES 330B.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 330B Sustainability in Practice: Service Learning Credits: 3 (1-0-2)
Course Description: Engages students in real-world sustainability applications and empowers them to design and execute their own program or research project. A) Project. B) Service Learning.
Prerequisite: GES 101 or GES 130.
Restriction: Must be a: Undergraduate.
Registration Information: Credit not allowed for both GES 330A and GES 330B.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 362 Systems Thinking and Sustainability Credits: 3 (3-0-0)
Course Description: Building competence in systems thinking. Core activities include using quantitative and qualitative modeling, exploring the history of systems analysis in sustainability, and deepening the understanding of the concept of environmental sustainability and what it means for systems change.
Prerequisite: GES 101.
Restriction: Must not be a: Freshman, Sophomore.
Registration Information: Completion of AUCC categories 1A and 1B. Sections may be offered: Online. Credit not allowed for both GES 362 and GES 380A2.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 382A Study Abroad--Mexico: Sustainability in a Complex Environment Credits: 3 (0-0-3)
Course Description: Explores the challenges and solutions that exist in the Baja California Sur at the nexus of the ocean, mountains, and desert. Develops an understanding of the ecosystems found in the region, and the human impact on them.
Prerequisite: ANTH 100 to 499 - at least 3 credits or BZ 100 to 499 - at least 3 credits or GES 100 to 499 - at least 3 credits or GR 100 to 499 - at least 3 credits or SOC 100 to 499 - at least 3 credits.
Restriction: Must not be a: Freshman.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 440 Sea Level Rise and a Sustainable Future Credits: 3 (3-0-0)
Also Offered As: ATS 440.
Course Description: Overview of sea level rise (SLR), with lectures on basic geophysics of SLR, the projected future impacts from climate models, and uncertainty around these projections. Impacts of SLR are discussed in a historical, present, and future context, focusing on social, cultural, economic, and political dimensions.
Prerequisite: None.
Registration Information: Completion of AUCC categories 1A, 1B, and 3A. Sections may be offered: Online. Credit allowed for only one of the following: ATS 440, GES 440, or GES 480A3.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 441 Analysis of Sustainable Energy Solutions Credits: 3 (3-0-0)
Course Description: Methods of evaluating sustainable energy technologies, including life cycle assessment, energy return on investment, technoeconomic analysis, and political ecology.
Prerequisite: GES 141.
Registration Information: Sophomore standing.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 450 Global Sustainability and Health Credits: 3 (3-0-0)
Course Description: Impact of anthropogenic environmental change on human, animal and environmental health.
Prerequisite: GES 101.
Registration Information: Junior standing.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 460 Law and Sustainability Credits: 3 (3-0-0)
Course Description: Introduction to the domestic and international laws that influence and interact with the implementation of sustainability in the U.S. and abroad.
Prerequisite: GES 101.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 462 Sustainable Life Cycle Analysis Credits: 3 (3-0-0)
Course Description: The study of systems impacts on environment, public health and society is necessary for the implementation of environmental sustainability. Focus is on life cycle assessment procedures and processes.
Prerequisite: GES 101.
Restriction: Must not be a: Freshman.
Registration Information: Completion of AUCC 1B and AUCC 2. Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 465 Sustainable Strategies for E-Waste Management Credits: 3 (3-0-0)
Also Offered As: MSE 465.
Course Description: Trans-disciplinary overview of the electronics industry, with an emphasis on sources and impacts of e-waste on human & natural systems. Systems approaches to mitigating environmental and social impacts of electronics--from product design, materials and manufacture to use, re-use, recycle and disposal. Apply learnings in trans-disciplinary project teams to evaluate opportunities for improving the sustainability of the industry and its products.
Prerequisite: None.
Registration Information: Junior standing. Sections may be offered: Online. Credit allowed for only one of the following: GES 465, GES 481A1, MSE 465, or MSE 481A1.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 470 Applications of Environmental Sustainability Credits: 3 (3-0-0)
Course Description: Integration of the dimensions of global environmental sustainability--environment, society, and economy--through case studies and team project.
Prerequisite: GES 101.
Registration Information: Must have completed 12 credits of GES interdisciplinary minor; junior or senior standing. Sections may be offered: Online. Required field trips.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 494 Independent Study in Global Sustainability Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: GES 101.
Registration Information: Written consent of instructor.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

GES 520 Issues in Global Environmental Sustainability Credits: 3 (3-0-0)
Course Description: Analysis of the different major dimensions/ definitions of sustainability in current issues involving environmental, social and economic systems.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Graduate standing. Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

GES 528 Assessing the Food, Energy, Water Nexus Credits: 3 (3-0-0)
Also Offered As: CIVE 528.
Course Description: A broad overview of Food/Energy/Water (FEW) nexus issues, including the science underpinning FEW and the trade-offs, socio-economic constraints, and policy limitations inherent in FEW challenges. Introduction to tools that enhance systems-level thinking and problem solving.
Prerequisite: CHEM 103 or CHEM 107 or CHEM 111.
Restriction: Must be a: Graduate.
Registration Information: Graduate standing. Written consent of instructor. Credit allowed for only one of the following courses: CIVE 528, CIVE 580B5, or GES 528.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 535 Foundations of Environmental Justice Credits: 3 (0-0-3)
Also Offered As: LB 535.
Course Description: A multidisciplinary introduction to environmental justice organized around three themes: parameters of environmental justice; inequalities and environmental justice; and environmental justice across issue areas.
Prerequisite: None.
Restriction: Must be a: Graduate.
Registration Information: Credit not allowed for both GES 535 and LB 535.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

GES 542 Biobased Fuels, Energy, and Chemicals Credits: 3 (3-0-0)
Course Description: Science and engineering aspects of biobased fuel, energy, and chemical production, including plant biology, thermochemical conversion, biomass deconstruction, fermentation, and biofuel properties. Aspects of sustainable production and economics will be discussed.
Prerequisite: None.
Registration Information: Junior standing. Required field trips. Sections may be offered: Online. Credit allowed for only one of the following: AGRI 601, ENGR 601, or GES 542.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.