ENVIRONMENTAL SCIENCES (ENVS)

ENVS 1044 - Introduction to Environmental Sciences (3 Credits)
This survey course develops a basic understanding of ecological relationships and environmental systems. Issues such as the effects of human activities on earth's environment, extinction or diversity, greenhouse effect, hazardous or toxic wastes and human population growth are discussed. Students must also take the accompanying laboratory ENVS 1045. No co-credit with ENVS 1042. Prereq or co-req: ENVS 1045. Term offered: fall, spring, summer. Max hours: 3 Credits.
Grading Basis: Letter Grade
Prereq or co-req: ENVS 1045
Additional Information: Denver Core Requirement, Biol Phys Sci - Lec.

ENVS 1045 - Introduction to Environmental Sciences Laboratory (1 Credit)
Introduces the basic scientific approach through investigations, observations, and experiments in environmental science. Students must also take the accompanying lecture ENVS 1044. No co-credit with ENVS 1042. Prereq or co-req: ENVS 1044. Max hours: 1 Credit.
Grading Basis: Letter Grade
Prereq or co-req: ENVS 1044
Additional Information: Denver Core Requirement, Biol Phys Sci - Lab.

ENVS 1342 - Environment, Society and Sustainability (3 Credits)
Overview of perspectives on environmental issues within the context of sustainable development and taking a systems approach. The focus is on social science approaches to explore the human footprint on the earth, environmentalism, scientific uncertainty, policy creation and social change. Note: This course is a prerequisite for GEOG 4680 Urban Sustainability: Perspectives and Practice. Term offered: fall, spring. Max hours: 3 Credits. GT: Course is approved by the Colorado Dept of Higher Education for statewide guaranteed transfer, GT-SS2.
Grading Basis: Letter Grade
Additional Information: Denver Core Requirement, Biol Phys Sci - Lec.; GT courses GT Pathways, GT-SS2, Soc Behav Sci: Geography.

ENVS 2939 - Internship (3 Credits)
Experiences involving application of specific, relevant concepts and skills in supervised employment situations. Note: students must work with the Experiential Learning Center advising to complete a course contract and gain approval. Prereq: sophomore standing or higher. Repeatable. Max Hours: 9 Credits.
Grading Basis: Letter Grade
Repeatable. Max Credits: 9.
Restriction: Sophomore standing or higher.

ENVS 3082 - Energy and the Environment (3 Credits)
For students of various backgrounds who wish to increase their understanding of the environmental and technical issues of supplying the energy demands of our society. Alternative energy sources and conservation are explored as solutions to promote a sustainable society. Note: One college-level science course and MATH 1110 or equivalent are strongly recommended as preparation for optimal student success. Cross-listed with PHYS 3082. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 3232 - Weather and Climate (3 Credits)
Introduces the processes and systems that govern both day-to-day weather and longer-term climate variations. Covers instrumentation and weather forecasting techniques. Prereq: GEOG 1202 or ENVS 1042 or (ENVS 1044 and ENVS 1045) Cross-listed with GEOG 3232. Term offered: fall, spring. Max hours: 3 Credits.
Grading Basis: Letter Grade
Prereq: GEOG 1202 or ENVS 1042 or (ENVS 1044 and ENVS 1045)

ENVS 3500 - Topics in Environmental Sciences (1-6 Credits)
Note: Topics may vary from one offering to the next. Repeatable.
Grading Basis: Letter Grade
Repeatable. Max Credits: 9.

ENVS 4210 - Mining and the Environment (3 Credits)
Mineral resources such as metals have played an important role in human civilization. However, the extraction, processing, and use of metals have left a legacy of damage to the environment and human health. These impacts and their mitigation are examined. Note: this course assumes that students have completed one course in college science or mathematics. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 4300 - Children's Geographies (3 Credits)
This seminar is an interdisciplinary investigation of children, childhood and environment in the context of sustainability and equity. Theoretical and methodological perspectives are applied to understand children's interactions with/in different spaces. Cross-listed with GEOG 4300, GEOG 5300 and ENVS 5300. Restriction: Restricted to students with junior standing or higher or with instructor permission. Term offered: spring. Max hours: 3 Credits.
Grading Basis: Letter Grade
Restriction: Restricted to undergraduate students at a junior standing or higher.

ENVS 4380 - Anthropocene Futures (3 Credits)
We are living in the "Anthropocene"—an era of rapid environmental and societal changes, and of decline and loss resulting from accelerating human interactions with Earth systems. Warming climates, wildfires, floods, water and food insecurity, novel ecosystems, and even pandemics such as COVID-19, are phenomena of the Anthropocene. With a still growing human population and a finite planet, understanding and overcoming such challenges is more pressing than ever, if people are to co-evolve with Earth toward a sustainable future. This interdisciplinary seminar course tells the scientific story of humanity's intensifying interactions with the planet and explores possible future paths. Through presentations, readings and discussion, students will examine topics that include the origin and significance of Anthropocene in Earth's evolutionary history, the debates and evidences for a new geologic epoch, large-scale trajectories of environmental change, a safe operating space, and planting seeds for a "good" Anthropocene. In doing so, students will acquire skills and experiences in critical thinking and analytical reasoning to grapple with many uncertainties and tensions of the Anthropocene. Cross-listed with GEOG 4380, GEOG 5380, and ENVS 5380. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 4500 - Topics In Environmental Sciences (1-6 Credits)
Note: Topics may vary from one offering to the next. Note: necessary prior coursework varies according to the topic. Students should consult with the instructor. Repeatable. Max Hours: 6 Credits.
Grading Basis: Letter Grade
ENVS 4650 - Environmental Education (3 Credits)
This course links the theory and practice of environmental education to inform curricular development and pedagogical knowledge. Cross-listed with ENVS 5650 and SCED 5650. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 4720 - Climate Change: Causes, Impacts and Solutions (3 Credits)
Examines science behind past, present & future climate change & environmental, social & political implications & solutions. Explores recent scientific research, syntheses & mainstream literature advancing knowledge about causes & consequences of natural & anthropogenic climate change. Prereq: GEOG 3232. Cross-listed with GEOG 4720/ GEOG 5720/ ENVS 5720. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 4740 - Soil Science and Geography (3 Credits)
Reviews chemical and physical properties of soils, soil development, and geographic distributions of soil types in the context of the role that soils play in natural and human-altered ecosystems. Cross-listed with GEOG 4740, GEOG 5740, ENVS 5740. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 4750 - Beeography: Geography of Bees (4 Credits)
Beeography is an introduction to the bee world and the amazing diversity in Colorado and beyond. The course will examine the distribution of bees and the pressures they face in different environmental and cultural contexts. It will examine different methods to support and increase bee populations and pollination services, especially in populated environments, including backyard beekeeping of honeybee and native bee populations. Field and lab activities will include beekeeping, native bee collection and identification, bee dissections, pollen processing and identification, and trips to area bee museum collections and apiaries. Prereq: ENVS 1044 and 1045 or BIOL 2010 (or 2061/2097/2030) and BIOL 2011 (or 2081/2098/2031) or BIOL 2020 (or 2051/2095/2040) and BIOL 2021 (or 2071/2096/2041) with a C- or higher. Cross-listed with GEOG 4750, GEOG 5750, and ENVS 5750. Max hours: 4 Credits.
Grading Basis: Letter Grade

ENVS 4780 - Directed Research (1-6 Credits)
Students will engage in original research projects supervised and mentored by faculty. Students must work with faculty prior to registration to develop a proposal for their project and receive permission to take this course. Repeatable. Max Hours: 6 Credits.
Grading Basis: Letter Grade

ENVS 4900 - Colloquium (1 Credit)
Engages students and faculty in discussion of current and pertinent world topics, including specific readings, (guest) presentations, and creation of working research papers, among other items. Students and faculty may work in research groups to accomplish specific goals. Prereq: Junior standing or higher. Cross-listed with ENVS 5900, GEOG 4900 and 5900. Repeatable. Max Hours: 4 Credits.
Grading Basis: Pass/Fail Only
Repeatable. Max Credits: 4.

ENVS 4992 - Advanced Regional Field Study (1-6 Credits)
Directed, hands-on study of concepts involved in understanding geographic regions. Utilizes field observations, field techniques/methods, & data observation, collection, analysis, & interpretation related to the specific region being studied. May include physical as well as cultural phenomena. Note: Instructor permission required. Cross-listed with ENVS 5992, GEOG 4992, GEOG 5992. Repeatable. Max Hours: 12 Credits.
Grading Basis: Letter Grade
Repeatable. Max Credits: 12.

ENVS 4995 - Global Study Topics (3-9 Credits)
This course is reserved for CU Denver faculty-led study abroad experiences. The course topic will vary based on the location and course content. Students register through the Office of Global Education. Repeatable. Max Hours: 12 Credits.
Grading Basis: Letter Grade
Repeatable. Max Credits: 12.

ENVS 4880 - Directed Research (1-6 Credits)
Interdisciplinary course that presents a balanced overview of common field methods and how to communicate them effectively to a general audience. Includes hands-on experience with various field methods (e.g., transects, survey design, historical assessment, GIS, etc.) and communication strategies. Note: this course assumes that students have completed an introductory geography or environmental science course. Prereq: Junior standing or higher. Cross-listed with ENVS 5880 and GEOG 4880/5880. Max hours: 3 Credits.
Grading Basis: Letter Grade

ENVS 4840 - Independent Study: ENVS (1-3 Credits)
Repeatable. Max Hours: 6 Credits.
Grading Basis: Letter Grade

ENVS 4850 - Understanding and Communicating Field Methods (3 Credits)
Prereq: ENVS 1044 and 1045 or BIOL 2010 (or 2061/2097/2030) and BIOL 2011 (or 2081/2098/2031) or BIOL 2020 (or 2051/2095/2040) and BIOL 2021 (or 2071/2096/2041) with a C- or higher. Cross-listed with GEOG 4750, GEOG 5750, and ENVS 5750. Max hours: 4 Credits.
Grading Basis: Letter Grade

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Students will engage in original research projects supervised and mentored by faculty. Students must work with faculty prior to registration to develop a proposal for their project and receive permission to take this course. Repeatable. Max Hours: 6 Credits.
Grading Basis: Letter Grade

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Grading Basis: Pass/Fail Only
Repeatable. Max Credits: 4.

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