

List of CSU Sustainability Programs	
COLLEGE OF AGRICULTURAL SCIENCES	
Majors	
Environmental Horticulture (B.S.)	<p>Successful students will demonstrate: Management and leadership skills necessary for a successful career in the green industry. Technical competencies in their understanding of growth and development of horticultural plants and landscapes, including development as influenced by manipulation of horticulture technologies, such as fertility and water management, and integrated pest management for all aspects of landscape horticulture. Skills to assess site issues, provide creative environmentally sound solutions and manage designed and built landscapes. Analytical and problem solving skills that allow identification of problems related to the management or production of horticultural crops and landscapes, as well as strategies to solve them.</p>
Environmental and Natural Resource Economics (B.S.)	<p>The Major in Environmental and Natural Resource Economics prepares students to apply economic tools to evaluate the allocation and utilization of natural resources and the management of the natural environment. Economic analysis provides a strong basis to guide societal choices that directly and indirectly affect our environment. Economic theory provides a framework for understanding both environmental and natural resource issues, predicting the likely effects of government policies and regulations, and devising solutions to pressing economic and environmental problems. This major differentiates from other programs of study that address natural resource management in that it focuses on weighing the private and public implications of choices that we make ranging from a local through a global scale.</p>
Soil and Crop Sciences (B.S.)	<p>Successful students will achieve: Technical competencies, including knowledge and understanding of soil and crop science principles, the ability to apply these principles to specific issues, and the ability to synthesize information (both technical and non-technical) to meet identified needs. Problem solving skills, such as identifying a problem, collecting data, summarizing information, and drawing conclusions. Professional interpersonal and communication skills, such as presenting a topic with logical development, technical understanding, mechanical and technique correctness, and accurate documentation of sources. Develop the science, practices, and technology of feeding the world while minimizing the environmental impact of agriculture.</p>
Animal Sciences (B.S.)	<p>Successful students will be able to: Describe the role of livestock and meat production systems in our global society. Discuss biological principles and apply these principles into food animal management systems. Identify business/economic principles and their application to food animal production enterprises. Critically evaluate livestock industry issues. Apply problem-solving and leadership skills that enhance professional success.</p>
Landscape Architecture (B.S.)	<p>Landscape architects lead the stewardship, planning, and design of built and natural environments. Throughout the program, emphasis is on the relationship between design, nature, and society and the impact of environments on the individual as well as the impact of users on the environment. Landscape architects must analyze the natural elements of a site including the climate, soil, slope of the land, drainage, sunlight, and vegetation. Landscape architects often work with building architects, surveyors, engineers, and urban planners and collaborate with environmental scientists, foresters, and other professionals to find the best way to conserve or restore natural resources. Knowledge of appropriate local, state, or federal regulations such as those protecting wetlands or historic resources is essential. Nature, culture, form, and space are the classic elements of landscape architecture with which students work in a series of design studies and related courses.</p>
Minors	
Natural Resource and Environmental Economics	<p>Students will complete an integrated set of courses where they learn how to apply economics to a broad range of natural resources and environmental issues and learn how economists view climate change, parks and protected areas, renewable energy, deforestation, carbon accounting, corporate social (and environmental) responsibility and/or biodiversity and ecosystem services. Students will develop skills to evaluate private and societal choices that are made regarding human interactions with the natural world. Economic theory and analytical methods are central to most public policy discussions and investment projects. Students will build these skills and will be positioned to guide social dialogue and private investment around some of the most important issues of the modern era.</p>
Interdisciplinary Minor in Organic Agriculture	<p>The Organic Agriculture Interdisciplinary Minor is designed for students with an interest in alternative agricultural production approaches, in particular, organic agriculture. The focus of this program is on the science of organic agriculture with additional courses specifically focused on organic agriculture production techniques, business management, marketing, and decision making. Experiential learning is a critical part of this field of study and found in many levels in discussions, laboratories, and, most importantly, internship experiences.</p>
Soil Science	<p>This program explores how soils are the most amazing habitats for life on earth. In each handful of soil, there are thousands of different types of microbes and a whole soil food web. These organisms interact within the soil to decompose plant materials and cycle nutrients that are critical to life. Humans depend on soils for food production, clear water, and as the foundation for our living world.</p>
Horticulture	<p>Successful students will demonstrate: Technical competence that includes understanding plant growth and development as influenced by the manipulations of horticulture technologies such as greenhouse management, fertility management, integrated pest management, etc. Management and leadership skills that will allow them to become an entry-level supervisor in a specific business or research program. Problem solving skills such as identifying the significance of a problem, researching realistic solutions using current literature, and organizing the materials to develop appropriate recommendations and actions.</p>
Soil Restoration and Conservation	<p>The minor in Soil Resources and Conservation provides students the opportunity to complement their major by gaining the knowledge and tools to help conserve this most precious resource. Soil erosion and degradation are one of the most serious environmental challenges. At the same time, opportunities to reverse degradation and restore soils while sequestering carbon have never been greater.</p>
Concentrations	
Agricultural Business – Agriculture Economics	<p>The minor in Agricultural Business is open to all students who desire to complete an integrated set of courses where they learn how to apply economic principles and business management tools to a broad range of agricultural and small business management applications. Students will develop skills in agricultural production management, financial management, marketing, and international development and trade. These skills will be valuable to students seeking careers at agricultural companies, or as owner-operators in their own businesses.</p>

	Soils are the most amazing habitats for life on earth. In each handful of soil, there are thousands of different types of microbes and a whole soil food web. These organisms interact within the soil to decompose plant materials and cycle nutrients that are critical to life. Humans depend on soils for food production, clear water, and as the foundation for our living world. In recent years, new technologies have opened up this exciting frontier of science.
Soil and Crop Sciences – Soil and Crop Sciences Concentration	The purpose of the minor in Soil Science is to combine the fundamental sub-disciplines of soil science to provide non-majors the essential elements of soil science.
Soil and Crop Sciences – Soil, Land Use, and Climate Change Concentration	The Soil and Crops Sciences major with a concentration in Soil Science and Environmental Solutions applies fundamental principles and techniques in soil science to solving complex, real-world environmental sustainability challenges. Students learn how the interactions of plants, the microbiome, and the soil food web with the soil's physical and chemical environment support life on earth, improve water quality, and impact our climate. Our students receive hands-on interdisciplinary training from world leaders in soil-related research, so they are equipped to be change-makers, applying cutting-edge science to real-world challenges.
Soil and Crop Sciences – Soil Restoration and Conservation Concentration	The minor in Soil Resources and Conservation provides students the opportunity to complement their major by gaining the knowledge and tools to help conserve this most precious resource. Soil erosion and degradation are one of the most serious environmental challenges. At the same time, opportunities to reverse degradation and restore soils while sequestering carbon have never been greater.
COLLEGE OF ENGINEERING	
Majors	
Environmental Engineering (B.S)	<p>Graduates will be able to demonstrate:</p> <p>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.</p> <p>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>An ability to communicate effectively with a range of audiences.</p> <p>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <p>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p> <p>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.</p> <p>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.</p>
Minors	
Environmental Engineering	<p>Graduates will be able to demonstrate:</p> <p>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.</p> <p>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>An ability to communicate effectively with a range of audiences.</p> <p>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <p>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p> <p>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.</p> <p>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.</p>
COLLEGE OF HEALTH AND HUMAN SCIENCES	
Majors	
Construction Management (B.S.)	The Construction Management major addresses issues related to the management of multiple project sites and the applications of resource management, schedule control, cost control, design, and other requirements of the construction process. Design elements concentrate on the relationship between the built environment and the comfort of its inhabitants while safety education emphasizes the health of the individual worker.
Nutrition and Food Science (B.S)	<p>Students will demonstrate:</p> <p>Ability to identify nutrition-related public health problems, integrate information from basic nutrition sciences, critically analyze data, and develop appropriate conclusions.</p> <p>Discipline-specific knowledge, skills, and competencies needed in the field of dietetics and nutrition. Examples include knowledge of medical nutrition therapy; nutrition and metabolism; program planning, monitoring, and evaluation; management in school nutrition programs and long-term care; food safety; and the role of food in the promotion of health.</p> <p>Competent application of nutrition knowledge and skills in a work environment, including an ability to calculate and/or define diets for various health/disease conditions, screen individuals for nutritional risk, determine nutrient requirements across the lifespan, and calculate enteral and parental nutrition formulations; determine costs of services/ operations, interpret financial data, and prepare a budget.</p>
Social Work (B.S)	The Social Work curriculum focuses on the practical application of social work principles, policies, and practices within human rights and social justice perspectives. Students acquire a professional social work foundation transferable to different settings, population groups, and problem areas. Attention is devoted to understanding the social welfare system in the U.S., and working with individuals, families, and communities to effect the desired change. At the global level, human rights and economic, environmental and social needs are explored through international travel courses. Several practical experiences are required. Students work with an agency participant throughout their sophomore year, and then as seniors, participate in a social work agency internship. International placements may be available. The curriculum also includes a strong liberal arts base in social science research and statistics, arts, humanities, social science, and natural sciences.
Minors	
Construction Management Concentrations	The Construction Management minor provides students with foundational knowledge in topics such as construction document reading, structural engineering analysis, and design, project estimation, scheduling, and contracts. The minor works well with and provides a competitive advantage to students pursuing majors such as business, engineering, interior architecture and design, and horticulture and landscape architecture.

Human Development and Family Studies – Prevention and Intervention Sciences Concentration	This concentration offers students specialized training in programming related to promoting individual, family, and community health and wellness through the lifespan. Coursework emphasizes evidence-based programs, and students will learn how to design and implement community-based prevention and intervention programs for youth, adults, and families. Students can focus on a specific aspect of the lifespan or choose courses across the lifespan. The course work also serves as an excellent second concentration to students focusing on early childhood, pre-health professions, or leadership and advocacy professions.
COLLEGE OF LIBERAL ARTS	
Majors	
Anthropology (B.A.)	Students will: Employ anthropological theory and qualitative/quantitative research methods to describe and analyze human biological and cultural variation over time and across space. Describe and evaluate the inter-relationships between environments, health and well-being, and human cultural and biological evolution. Synthesize anthropological theory, methods, and data to formulate arguments both orally and in written format. Articulate anthropology to non-specialists and explain anthropological concepts across subfields and/or with other social sciences and humanities disciplines. Transfer knowledge gained in anthropology program to a career trajectory after graduation.
Geography (B.A.)	Students will demonstrate: Mastery of the unifying themes of human and physical geography, as well as knowledge of the diverse conceptual and methodological approaches present in the discipline of geography. The ability to identify, describe, and interpret spatial patterns and structures. A critical understanding of relationships between humans and the environment, with a specific focus on mountain systems and local cultures. An ability to present geographic concepts, approaches, methodologies, and applications in written, oral, cartographic, and other visual forms. An understanding of the discipline's relevance to everyday life. An ability to communicate effectively and respectfully, including critical thinking and discussion skills.
Women's and Gender Studies (B.A.)	The Women's & Gender Studies Major prepares individuals for living and working in an increasingly interconnected and interdependent world. Students learn about the complex intersection of gender with sexuality, race, ethnicity, class, ability, religion, and nationality as analyzed across various disciplines.
Ethnic Studies (B.A.)	Upon completion of the program of study, students will demonstrate: An understanding of the key concepts shaping the experiences of various racial and ethnic groups in the United States and abroad. Familiarity with social histories and experiences of racial and ethnic groups. Effective oral communication, writing, and research skills. An increase in critical thinking, intellectual, and personal growth. An understanding of the value of social consciousness and personal responsibility.
Minors	
Anthropology	Students will: Employ anthropological theory and qualitative/quantitative research methods to describe and analyze human biological and cultural variation over time and across space. Describe and evaluate the inter-relationships between environments, health and well-being, and human cultural and biological evolution. Synthesize anthropological theory, methods, and data to formulate arguments both orally and in written format. Articulate anthropology to non-specialists and explain anthropological concepts across subfields and/or with other social sciences and humanities disciplines. Transfer knowledge gained in anthropology program to a career trajectory after graduation."
Geography	The minor in Geography examines the critical interactions among space, place, people and the built and natural environment. These perspectives are used to interpret the spatial and temporal distribution of features and processes by applying spatial techniques and information technologies such as Geographic Information Systems (GIS) and remote sensing.
Ethnic Studies	The minor in Ethnic Studies provides an opportunity for students to take a group of courses that address the impact of race, culture, class, gender, and sexuality in shaping institutions, social relations, and identities. Regardless of the main area of students' academic focus and career aspirations, a minor in Ethnic Studies will be advantageous as employers and organizations increasingly look for individuals capable of communicating across difference and addressing issues of equity and justice.
Indigenous Studies	The objective of the Indigenous Studies minor is to provide students with a deep understanding of the theoretical positions and practical applications central to Indigenous ways of knowing and being. The minor is dedicated to foundational knowledge and awareness of Indigenous scholarship, priorities and ways of engaging. Learning Objectives: Describe and demonstrate knowledge of traditional and contemporary Indigenous cultural experiences and knowledge production through theories and conceptual practices of Indigeneity; distinguish from stereotypical ideas and images and/or the abundance of misrepresentations. Apply and explain central environmental approaches and paradigms of nature from Indigenous values, histories, norms, and contemporary engagements. Integrate and demonstrate skills in the application of Indigeneity as it relates to kinship, gender, and sexuality that include critical, creative, concise and accessible comprehension. Assess and conduct research on historical and contemporary policy/law in written and oral content that include relevant application and accessible comprehension. Analyze research from Indigenous methodological perspectives. Describe the dissemination of knowledge from Indigenous scholarship paradigms.
Applied Environmental Policy	The minor in Applied Environmental Policy Analysis will provide students with a rigorous and in-depth study of the public sector environment, practice, and methods for analyzing and developing policy. Each course will also have the environment as a focus in the material, exams, and assignments. At the end of the minor, students will be able to recall and explain the basic rationales for public policies, apply rigorous research methods for evaluating policy, and integrate the elements of theory, methods, problem structuring, ethics, analysis and argumentation to generate reports useable in government and nonprofit management. The minor is appropriate for practicing professionals and current undergraduate students interested in expanding their applied evaluation skills and environmental policy expertise.
Environmental Affairs	The Environmental Studies in the Liberal Arts Interdisciplinary Minor is designed for students with a particular interest in environmental topics, focusing on a core of social sciences and humanities courses. Courses address domestic and international issues of concern with both current and historical perspectives, and will provide students with a well-rounded program of study. The program is open to all students and designed to complement students' primary majors. This program provides undergraduate students with an opportunity to broaden their education through the wide range of environmental topics available at CSU as they prepare themselves for environmental careers or graduate study.
Concentrations	

Anthropology – Archaeology Concentration	<p>Students will:</p> <p>Employ anthropological theory and qualitative/quantitative research methods to describe and analyze human biological and cultural variation over time and across space.</p> <p>Describe and evaluate the inter-relationships between environments, health and well-being, and human cultural and biological evolution.</p> <p>Synthesize anthropological theory, methods, and data to formulate arguments both orally and in written format.</p> <p>Articulate anthropology to non-specialists and explain anthropological concepts across subfields and/or with other social sciences and humanities disciplines.</p> <p>Transfer knowledge gained in anthropology program to a career trajectory after graduation.</p>
Anthropology – Cultural Anthropology Concentration	<p>Students will:</p> <p>Employ anthropological theory and qualitative/quantitative research methods to describe and analyze human biological and cultural variation over time and across space.</p> <p>Describe and evaluate the inter-relationships between environments, health and well-being, and human cultural and biological evolution.</p> <p>Synthesize anthropological theory, methods, and data to formulate arguments both orally and in written format.</p> <p>Articulate anthropology to non-specialists and explain anthropological concepts across subfields and/or with other social sciences and humanities disciplines.</p> <p>Transfer knowledge gained in anthropology program to a career trajectory after graduation.</p>
Political Science – Environmental Politics and Policy	<p>The Environmental Politics and Policy concentration is designed to help students develop the knowledge and skills to analyze the connections between politics and the natural world, and pursue careers in environmental politics and policy-making. Students will learn about how political forces contribute to environmental degradation, the process for developing environmental policies, strategies to assess the strengths and weaknesses of different policy approaches, and how political forces can be harnessed to develop effective responses to problems such as climate change, water and air pollution, food security, and energy provision. Students will explore these issues from both domestic and global perspectives. Environmental Politics and Policy students are strongly encouraged to complete an internship to gain practical experience working in the field.</p>
Sociology – Environmental Sociology	<p>The Environmental Sociology concentration takes sociology's long established disciplinary orientation to the world and applies it to the study of nature-society relations. Sociology is about people, institutions, and behaviors. It is about social interactions and social structures. The task of the sociologist, therefore, is to stand back from common sense views of the world and understand the structure and processes of a society as a whole, including global societies. Environmental sociology is about translating these tasks into analysis and action around environmental issues. Some of the pressing contemporary environmental issues to which environmental sociology can be applied are: transboundary pollution, climate change, biodiversity loss, and water and soil degradation. Students will find the concentration helpful in preparing them for a growing number of jobs that have a focus in environmentally related matters.</p>
Anthropology – Biological Anthropology Concentration	<p>Over the past half century, Biological Anthropology has undergone tremendous change from a discipline that was defined by a descriptive, typological approach to human morphology (the study of shape) to one that includes both experimental and comparative analyses in a population-based framework. Biological anthropologists continue to cross traditional disciplinary boundaries and interact with both the physical and natural sciences including biology, anatomy, genetics, chemistry, biometry, and endocrinology as well as the social sciences.</p>
COLLEGE OF VETERINARY MEDICINE AND BIOLOGICAL SCIENCES	
Minors	
Environmental Health	<p>Environmental Health is a branch of public health that studies how biological, chemical, and physical factors in natural and built environments impact human health and disease. Students will learn how to help prevent injuries and disease by managing environmental hazards and promoting healthier air, water, soil, homes, workplaces, and communities. A minor in Environmental Health (EH) will benefit students majoring in a variety of biosciences who want to leverage and integrate EH skill sets into their professional endeavors (e.g., medicine, dentistry, law, research, industry) as well as those students interested in career options in environmental public health, private sector occupational health and safety, environmental toxicology, and environmental epidemiology.</p>
Concentrations	
Environmental Public Health	<p>Environmental Public Health is a branch of public health that studies how biological, chemical, and physical factors in natural and built environments impact human health and disease. Students will learn how to help prevent injuries and disease by managing environmental hazards and promoting healthier air, water, soil, homes, workplaces, and communities. The EPH concentration within the Biomedical Sciences major is one of only 28 programs nationwide to be fully accredited by the standards of the National Environmental Health Science and Protection Accreditation Council, and the only such program in Colorado.</p>
INTRA-UNIVERSITY PROGRAMS	
Minors	
Global Environmental Sustainability	<p>The GES minor is a 21-credit sequence with course offerings from 25 different subject codes across all eight colleges, providing depth in learning and allowing students to tailor coursework to augment their interests. The minor provides a deep understanding of the complexity surrounding the problems we face and the solutions that we need to implement to address climate change, biodiversity, pollution, public health, oceans, food security and development on a global scale.</p>
International Development	<p>The International Development Graduate Interdisciplinary Studies Program focuses on the interconnected process of social, political, economic, cultural, and environmental change. Students learn theories, approaches, and practices of international development followed by multi-lateral, bi-lateral, and non-governmental organizations. The program prepares students for a variety of employment opportunities related to international development including volunteer work or employment in international and advocacy organizations or business, policy, and research groups. The program encourages critical thinking and responsible action in an interconnected world. The International Development Graduate Interdisciplinary Studies Program is open to graduate students from all colleges and departments.</p>
Sustainable Energy	<p>The minor provides students with the skills and knowledge necessary to understand the challenges and opportunities in the transition to a sustainable energy future. Providing society with energy in a sustainable way requires a broad understanding of technical, environmental, and social science issues. The courses in the minor span multiple colleges and cover physics, life sciences, engineering, sociology, and political science.</p> <p>Upon completing this program, a successful student will be able to understand:</p> <ul style="list-style-type: none"> Fundamental concepts of energy, including energy quantities, units, conversion, and efficiency. How to describe the science underlying each of the major energy sources. The environmental impacts of producing and consuming energy. How to evaluate the sustainability of energy resources.
Sustainable Peace and Reconciliation Studies	<p>This interdisciplinary minor is open to all students who want to understand more about the "Triple Bottom Line" of sustainability in the philosophical roots of peace and reconciliation as well as its expression within various academic disciplines, research, and service. Knowing more about the ideas that underlie nonviolent conflict resolution, especially within cross-cultural contexts, will help students evaluate how peace and reconciliation can impact their beliefs, choices and actions.</p>

Sustainable Water	Issues surrounding water supply, water quality, and ecological water relationships are increasingly important as population growth continues and water uses multiply. The complexity of these issues, and competition among various water users, demands that students interested in pursuing careers in water gain a broad introduction to the issues while specializing within a particular discipline. CSU has considerable water resource expertise in many academic fields. The Sustainable Water Interdisciplinary Minor (SWIM) requires 21 credits and a minimum of 12 upper-division (300- 400-level) courses which allow undergraduates to take advantage of this expertise and broaden their background in water resources to prepare for employment or graduate-level work.
WALTER SCOTT JR. COLLEGE OF ENGINEERING	
Majors	
Chemical and Biological Engineering (B.S)	<p>Graduates of the program will be able to demonstrate:</p> <p>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.</p> <p>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>An ability to communicate effectively with a range of audiences.</p> <p>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <p>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p> <p>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.</p> <p>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.</p>
Civil Engineering (B.S)	<p>Graduates of the program will be able to demonstrate:</p> <p>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.</p> <p>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>An ability to communicate effectively with a range of audiences.</p> <p>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <p>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p> <p>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.</p> <p>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.</p>
Environmental Engineering (B.S)	<p>Graduates of the program will be able to demonstrate:</p> <p>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.</p> <p>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>An ability to communicate effectively with a range of audiences.</p> <p>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <p>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p> <p>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.</p> <p>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.</p>
Minors	
Environmental Engineering	<p>Graduates of the program will be able to demonstrate:</p> <p>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.</p> <p>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</p> <p>An ability to communicate effectively with a range of audiences.</p> <p>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <p>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.</p> <p>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.</p> <p>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.</p>
WARNER COLLEGE OF NATURAL RESOURCES	
Majors	
Ecosystem Science and Sustainability (B.S.)	Students in the major learn: how to use natural resources and implement solutions in a sustainable way; about environmental change at local and global scales; the amazing connections between different earth system components founded in a systems thinking approach; and how to conduct research or field work in a variety of settings addressing questions important to sustainability.
Fish, Wildlife and Conservation Biology (B.S.)	Students will: demonstrate a mastery of ecological concepts and fundamental principles and techniques to manage and conserve fish and wildlife populations, and how they apply to current natural resource management issues; become effective in oral and written communication about issues related to the environment and natural resources, including as members of multi-disciplinary teams; learn approaches to solving complex natural resource management issues, including planning, organizing, creating, and presenting group projects.

Forest and Rangeland Stewardship (B.S.)	Students will gain an understanding of and learn how to manage the animal, soil, and vegetation resources on rangelands or in forests for state and federal land management agencies as well as a variety of private landowners and non-governmental agencies. All students are required to take WR/GR 204 - Sustainable Watersheds and students in 3 out of 5 Forest Rangeland Stewardship concentrations are required to take NR 425 - Natural Resource Policy & Sustainability.
Natural Resource Management (B.S.)	Students will: demonstrate knowledge of a wide range of natural resource topics spanning ecological, social, and physical aspects of wildland ecosystems; and be able to apply their broad natural resources knowledge to create sustainable solutions at local, national, and global scales.
Restoration Ecology (B.S.)	Students in this program will: gain the important knowledge and skills necessary to restore damaged ecosystems; learn how to manipulate soil, water, vegetation and animal resources in order to implement successful restoration for local, state and federal land management agencies as well as for a variety of private entities, landowners and non-governmental agencies; knowledge of important concepts of ecology and natural resources management; and an understanding of economics related to evaluating alternatives.
Geology (B.S.)	The Geology concentration provides a strong general science background for primary and secondary school teaching, science writing, environmental and resource law, and resource and/or hazards specializations within the construction, insurance, land use, securities, and other industries. Students will demonstrate: an awareness of sociopolitical, economic factors, and ethical practices and standards relevant to professional careers in geosciences.
Human Dimensions of Natural Resources (B.S.)	Students will: recognize and articulate the interdependencies and linkages within social-ecological systems, and how these linkages assist in understanding the drivers, processes and outcomes of environmental issues; gain appreciation for the value and benefit in addressing environmental issues through inclusive processes that invite a diversity of perspectives, world views and ways of knowing; acquire skills to critically analyze social science research, and examine the role between human dimensions research and environmental decision-making; and comprehend and critically analyze the policies, institutions and actors that influence environmental decision-making at different scales.
Watershed Science and Sustainability (B.S.)	Students will: gain foundational knowledge in physical, geological, and biological controls on how water moves through ecosystems and how these systems, in turn, are controlled by social and legal systems; and be able to engage in the quickly expanding fields of water resource management, watershed monitoring, sustainable water decision making, and other related fields.
Natural Resource Tourism (B.S.)	Graduating students are familiar with skills useful in a business setting and the historic evolution of environmental conservation; and develop an appreciation for how their discipline contributes to environmental stewardship and sustainability.
Minors	
Ecological Restoration	The minor in Ecological Restoration allows students in related majors to gain knowledge of the science and art of restoring ecosystems. This background is especially valuable to students who will be working in the various natural resource management fields. Since the prevalence of damaged, degraded or destroyed ecosystems is likely to increase in the future, restoration will be imperative for transforming these lands to once again provide ecosystem services. Students are required to take RS 300 - Rangeland Conservation & Stewardship.
Watershed Science	Students will be able to: Articulate core concepts in watershed science and sustainability including climate processes, surface and subsurface hydrology, water quality, human uses of water, and sustainable water management. Apply data science techniques to spatial and temporal datasets to address watershed and water resource problems. Collect, analyze, and interpret meteorological, hydrological, and water quality, water use and management data. Analyze watershed problems and sustainability challenges using geospatial data, field observations, sensor data, and watershed models. Demonstrate strong critical thinking, writing, and oral communication skills. Students are required to take WR/GR 204 - Sustainable Watersheds.
Fishery Biology	The Fisheries and Aquatic Sciences concentrations allows students to focus on a strong background in basic fishery ecology, management, and conservation, which includes an understanding of the linkages between land and water.
Diversity and Inclusion in Natural Resources	Students will develop an understanding of the importance of, and types of, diversity in human-environment interactions; how this diversity contributes to vulnerability and/or resilience to environmental change; and the barriers and opportunities for recognizing and protecting human diversity in the context of natural resource conservation and management. This includes proposing solutions to environmental injustices, facilitating intercultural environmental communication, integrating multicultural perspectives in assessment of natural resource issues and development of policy and management solutions, and cultivating a deeper understanding and respect for diverse ways of knowing and experiencing the environment.
Geology	Students will demonstrate: A solid foundation in the physical sciences and broad understanding of geological processes. Application of field and classroom scientific reasoning skills to data analysis and problem solving in the geosciences, both individually and in teams. An awareness of sociopolitical, economic factors, and ethical practices and standards relevant to professional careers in geosciences.
Forestry	The minor in Forestry provides students with the opportunity to obtain exposure to forest sciences. It provides insight into the management of forested lands and is particularly appropriate for students majoring in other natural resource disciplines or natural sciences. Students are required to take two sustainability focused courses: F 325 - Silviculture and F 421 - Ecological Forest Management.
Range Ecology	The minor in Range Ecology provides an academic background for students interested in wildlife habitat, integrated land management, ranch management, applied ecology, and international development of arid lands. Students are required to take RS 300 - Rangeland Conservation & Stewardship, a sustainability-focused course.
Concentrations	
Forest and Rangeland Stewardship – Forest Biology Concentration, Forest Fire Science Concentration, Forest Management Concentration, Rangeland, and Forest Management Concentration	Join us on a groundbreaking path to become action-based land stewards of our natural resources. Forge a sustainable future by taking care of the earth's forests and rangelands from the ground up. All students are required to take WR/GR 204 - Sustainable Watersheds and students in 3 out of 5 Forest Rangeland Stewardship concentrations are required to take NR 425 - Natural Resource Policy & Sustainability.
Fish, Wildlife and Conservation Biology – Wildlife Biology Concentration, Fisheries, and Aquatic Sciences Concentration, and Conservation Biology Concentration	The curriculum has a strong foundation in the biological, physical, and social sciences with the focus on solving current and future issues related to conservation and sustainability of wild animals and their habitats. Students are required to take at least one course from a Human Dimensions category relating to environmental governance, justice, ethics, or sociology.
Natural Resource Tourism – Global Tourism Concentration	The Global Tourism concentration is focused on a unique blend of subjects. Business and tourism topics provide students with planning, management, marketing, financial, and entrepreneurship skills essential in the tourism industry. Because sustainable tourism requires a healthy natural environment, the environment is another area of study.

COLLEGE OF AGRICULTURAL SCIENCES	
Majors	
Agricultural and Resource Economics (M.S.) (Ph.D.)	Completion of the Ph.D. in Agricultural and Resource Economics generally signifies a mastery of advanced microeconomic theory and quantitative methods, with a particular expertise in either agricultural economics or natural resource and environmental economics.
Agroecosystems Management (M.S.) (Ph.D.)	The Master of Science in Soil and Crop Sciences Agroecosystems Management program has an emphasis on a systems approach to research that incorporates the interactions of the ecosystem with soil and crop management. Local studies are integrated to the global scale including efforts focused on global climate change and carbon cycling. Emphasis is on understanding processes and mechanisms controlling the interaction of soils, plants, nutrients, and climate.
Natural Resource and Environmental Economics (M.S.) (Ph.D.)	The Major in Environmental and Natural Resource Economics prepares students to apply economic tools to evaluate the allocation and utilization of natural resources and the management of the natural environment. Economic analysis provides a strong basis to guide societal choices that directly and indirectly affect our environment. Economic theory provides a framework for understanding both environmental and natural resource issues, predicting the likely effects of government policies and regulations, and devising solutions to pressing economic and environmental problems.
Horticulture (Ph.D.)	Successful students will demonstrate: Technical competence that includes understanding plant growth and development as influenced by the manipulations of horticulture technologies such as greenhouse management, fertility management, integrated pest management, etc. Management and leadership skills that will allow them to become an entry-level supervisor in a specific business or research program. Problem solving skills such as identifying the significance of a problem, researching realistic solutions using current literature, and organizing the materials to develop appropriate recommendations and actions.
Soil and Crop Sciences (Ph.D.)	Develop deep knowledge and understanding of soils, plants, microbiomes, genomics, or related topics through the development of original research. This is an exciting time of rapid scientific and technological advancements that are poised to transform agriculture and environmental stewardship. Our department's strengths in crop breeding and genetics, crop production systems, soil ecology, microbiome sciences, precision agriculture, agriculture extension, and irrigation management lie at the nexus of some of the biggest challenges facing humanity including climate change, sustainable food production, soil degradation, and depletion of critical aquifers.
Concentrations	
Agricultural Sciences – Integrated Resource Management Soil and Crop Sciences – Soil Sciences Concentration	Through the Master of Agriculture in Agricultural Sciences, Integrated Resource Management Specialization, students receive interdisciplinary training in animal science, business, range science, ecology, wildlife, policy, and human resources. This fusion of topics allows students to understand how agricultural resource systems work together in a comprehensive way and how to apply them in an agricultural management setting. The purpose of the program is to provide students with an understanding of the land resource system and how to manage land-based enterprises. The program is designed to empower students to effectively utilize and care for land resources while addressing a broad range of private and social objectives.
COLLEGE OF BUSINESS	
Majors	
Impact MBA	The program aims to provide business solutions that achieve positive economic, environmental, and social impact. The program educates and prepares future business leaders to take effective roles in organizations that integrate economic, social, and environmental sustainability into core strategy and operations. Graduates will develop the skills to: assess opportunities for enterprise approaches to address social and environmental challenges; and develop, implement, and manage initiatives or enterprises that address global social and environmental challenges.
Concentrations	
Impact MBA – Social Entrepreneurship	Graduates of the Impact MBA program develop the skills to: Assess opportunities for enterprise approaches to address social and environmental challenges. Develop, implement, and manage initiatives or enterprises that address global social and environmental challenges.
Impact MBA – Corporate Sustainability	Graduates of the Impact MBA program develop the skills to: Assess opportunities for enterprise approaches to address social and environmental challenges. Develop, implement, and manage initiatives or enterprises that address global social and environmental challenges.
COLLEGE OF HEALTH AND HUMAN SCIENCES	
Majors	
Construction Management (M.S.) (Ph.D.)	Construction Engineering and Management refers to the managing of construction projects by applying knowledge and skills in engineering, resource management, ethics, sustainability, schedule and cost control, design, safety, and other aspects of the construction process.. All students in the M.S. program must take CON 521 - Sustainable Building & Infrastructure Systems.
Nutrition and Food Science (M.S.) (Ph.D.)	The M.S. program includes advanced studies oriented toward food science, food microbiology, fermentation science, food preservation and safety, health properties of foods and food components and advanced nutrition science and nutrient metabolism, recent developments in human nutrition, research statistics, and nutritional epidemiology. One sustainability inclusive course FSHN 551 - Advanced Nutritional Science II. The Ph.D. includes advanced studies oriented toward food science, food chemistry, food microbiology, food preservation and safety, health properties of foods and food components, coursework in advanced nutrition sciences and nutrient metabolism, and depending on the research area will include supporting basic and applied sciences, and the communication of nutrition principles in the community. .
Master of Social Work/Master of Public Health Dual Degree	The MSW/MPH provides an integrated approach to preventing, addressing, and solving global health and behavioral health problems, which includes individuals' physical health conditions and the behavioral and social ecological determinants of health. The program has a strong commitment to social justice, the elimination of health, behavioral health, and care disparities, as well as a holistic definition of community and population health and well-being. The program aims to: improve global health by promoting well-being and preventing the occurrence of problems, not solely addressing them after they have developed; apply all prevention and intervention tools, including research, policy analysis, clinical intervention, and macro and community-based approaches that comprise social work and public health; work with multiple systems, organizations, and professions to reach individuals, groups, communities, and populations globally; and utilizes multiple approaches to reduce risk, exposure to hazards, and to promote resilience thereby increasing overall well-being.
Concentrations	
Construction Management – Construction Engineering and Management Concentration	Construction Engineering and Management refers to the managing of construction projects by applying knowledge and skills in engineering, resource management, ethics, sustainability, schedule and cost control, design, safety, and other aspects of the construction process.

Education, Equity and Transformation – Construction Management Concentration	All students in the M.S. program must take CON 521 - Sustainable Building & Infrastructure Systems.
COLLEGE OF LIBERAL ARTS	
Majors	
Anthropology (M.A.) (Ph.D.)	The program builds on the diverse research interests of our faculty who specialize in cultural anthropology, archaeology, and biological anthropology as well as human and physical geography. The Doctoral Program focuses on critically evaluating the impact of place and space on human/ecosystem adaptation. Doctoral students are required to take ANTH 617 - Place, Space and Adaptation or ANTH 650 - Edge Effects: Place, Embodiment, and Environment.
Ethnic Studies (M.A.)	The Master of Arts in Ethnic Studies provides students with a comprehensive understanding of the enduring and transformative nature of race and ethnicity in the United States and around the globe. The program develops professional competencies in working with diverse communities to bring about meaningful social change.
Concentrations	
Anthropology – Humans and the Environment Concentration	Specialization looking at how human activities, past and present, influence the environment and how ecological processes affect human evolution and the human condition today.
Anthropology – International Development Concentration	Specialization focused on the issues of food security, environmental and economic sustainability, and paths to economic growth and human achievement.
Anthropology – Interdisciplinary Studies Program in Resilience of Social Ecological Systems Concentration	Specialization concentrated on environmental knowledge and the framework of resilience for solving linked social and ecological problems.
Certificate Programs	
Ethics and Society	The Certificate in Ethics and Society aims to provide students with a broad background in ethics and social philosophy. The objective of the certificate is for students to competently navigate questions of social and ethical values on a wide range of issues.
Gender, Power and Difference	The Graduate Certificate in Gender, Power and Difference provides students with a solid foundation in feminist frameworks that address gender, power, and privilege.
COLLEGE OF NATURAL SCIENCES	
Majors	
Applied Social and Health Psychology (M.S.) (Ph.D.)	Students trained in this program develop a strong methodological background and learn to use multiple research techniques to investigate social issues that have major impacts on people, organizations, and communities. Students choose one from 4 areas to find a research focus: environmental psychology, occupation health, prevention science, and relationship and family health.
COLLEGE OF VETERINARY MEDICINE AND BIOLOGICAL SCIENCES	
Majors	
Environmental Health (M.S.) (Ph.D.)	Students and researchers in environmental health investigate how natural and built environments affect human and animal health and seek solutions to minimize negative health consequences of environmental and workplace exposures.
Concentrations	
Environmental Health – Epidemiology (M.S.) (Ph.D.)	The Environmental Health - Epidemiology specialization focuses on the cause and spread of disease in both humans and animals. Students and researchers in environmental health investigate how natural and built environments affect human and animal health and seek solutions to minimize negative health consequences of environmental and workplace exposures.
Environmental Health – Industrial Hygiene (M.S.) (Ph.D.)	Students study the science and art of recognizing, assessing, and controlling workplace hazards in order to protect the health of workers and community citizens. Students and researchers in environmental health investigate how natural and built environments affect human and animal health and seek solutions to minimize negative health consequences of environmental and workplace exposures.
Environmental Health – Occupational Ergonomics and Safety (M.S.) (Ph.D.)	The program takes a systems approach to human-centered design, and is rooted in the most current safety theories and practices. To better understand and optimize human well-being and overall system performance in the workplace, the program integrates concepts from psychology, engineering, and the health sciences and safety. Students and researchers in environmental health investigate how natural and built environments affect human and animal health and seek solutions to minimize negative health consequences of environmental and workplace exposures.
INTRA-UNIVERSITY PROGRAMS	
Majors	
Ecology (M.S.) (Ph.D.)	The overall objective of the M.S. and Ph.D. in Ecology is to develop students to be science professionals who use their interdisciplinary problem-solving skills to address ecological challenges from local to global scales.
Concentrations	
Ecology – Human Environment Interactions Concentration	The HEI program aims to develop students as scientists and policy makers with interdisciplinary problem-solving skills focused particularly on social-environmental approaches to addressing global challenges in the ecological sciences from local to global scales.
Certificates	
Applied Global Stability – Water Resources	The Graduate Certificate in Applied Global Stability: Water Resources is geared toward non-commissioned officers and company and field-grade officers in the Special Operations and Civil Affairs communities, as well as Department of Defense, USAID, Peace Corps, and other professionals working to address the United Nations Sustainable Development Goals. The certificate courses focus on global environmental sustainability and water resources. GES 520 - Issues in Global Environmental Sustainability is required.
Applied Global Stability – Natural Resources	The Graduate Certificate in Applied Global Stability: Natural Resources is geared toward non-commissioned officers and company and field-grade officers in the Special Operations and Civil Affairs communities, as well as Department of Defense, USAID, Peace Corps, and other professionals working to address the United Nations Sustainable Development Goals. The certificate courses focus on global environmental sustainability and natural resources. GES 520 - Issues in Global Environmental Sustainability is required.
Applied Global Stability – Agriculture	The Graduate Certificate in Applied Global Stability: Agriculture is geared toward non-commissioned officers and company and field-grade officers in the Special Operations and Civil Affairs communities, as well as Department of Defense, USAID, Peace Corps, and other professionals working to address the United Nations Sustainable Development Goals. The certificate courses focus on global environmental sustainability and agriculture. GES 520 - Issues in Global Environmental Sustainability is required.
WALTER SCOTT JR. COLLEGE OF ENGINEERING	

Majors	
Atmospheric Science (M.S.) (Ph.D.)	<p>Successful students in the M.S. program demonstrate the following (as determined by their committee):</p> <p>Broad knowledge of the fundamental areas of atmospheric science that include Climate and Atmospheric Dynamics, Weather and Weather Systems, Radiation and Remote Sensing, and Atmospheric Chemistry. This knowledge is gained through core curriculum, electives, weekly cross-disciplinary colloquia, and area-specific group meetings.</p> <p>Understanding and practice of research ethics and broader issues related to social responsibility through a responsible conduct of research course, research projects, and weekly colloquia.</p> <p>Completion of a high-quality original research project.</p> <p>Proficiency in oral and written communication of research through presentations at professional conferences/meetings and preparation of manuscripts for professional journals.</p>
Chemical Engineering (Ph.D.)	<p>The Chemical and Biological Engineering programs at CSU will empower graduates with the educational foundation to:</p> <p>Be highly successful, as defined by accomplishments, advanced certifications, and job satisfaction, in chemical and biological engineering practice, post-graduate education, or other careers making use of engineering knowledge.</p> <p>Be identified for both their mastery of fundamental chemical and biological engineering principles and their creative application of those principles to the solution of problems across a diverse range of career disciplines.</p> <p>Be recognized as critical, creative and independent thinkers who use their technical expertise and leadership to address the needs of society and advance their fields of expertise.</p> <p>Be recognized for their effectiveness in teamwork, communication, and service to society through their professional contributions.</p> <p>Hold paramount health and safety of the public and the environment.</p> <p>Demonstrate the highest standards of professional, ethical, and civic responsibility in all endeavors.</p> <p>Demonstrate continued professional growth through a commitment to lifelong learning.</p>
Civil Engineering (M.S.) (Ph.D.)	<p>Focus areas include construction engineering and management (Ph.D. only), environmental engineering, geoenvironmental engineering, groundwater engineering, hydraulic engineering/stream restoration and river mechanics, hydrologic science and engineering, irrigation and drainage engineering, structural engineering and structural mechanics, water and international development, water resources planning and management, and fluid mechanics/dynamics.</p>
Certificates	
Power and Energy	<p>Power and Energy plays a vital role in all aspects of our economy, from biotechnology to green energy, aerospace to automotive, pharmaceuticals to nanotechnology, and more. Innovations in technology are rapidly changing the way products are conceived, designed, fabricated, distributed, and supported.</p>
WARNER COLLEGE OF NATURAL RESOURCES	
Majors	
Forest Sciences (M.S.) (Ph.D.)	<p>In the Forest Sciences discipline, students conduct research on forest ecology, forest fire science, forest ecosystem management, forest economics, or natural resource policy.</p>
Rangeland Ecosystem Science (M.S.) (Ph.D.)	<p>In the rangeland ecosystem science program, students investigate soil-plant relations, restoration ecology, riparian ecology and management, grazing and/or weed management, or community based natural resource management.</p>
Natural Resource Stewardship (M.S.)	<p>Students in this program receive a broad natural resources training and specialized resource management skills in one of three core specialties: 1) ecological restoration, 2) forest sciences, and 3) rangeland ecology and management.</p>
Ecosystem Science and Sustainability (M.S.) (Ph.D.)	<p>Students in the M.S. and Ph.D. program explore solutions to global problems related to water and natural resources, food supplies, energy, greenhouse gas management, land-use change, climate change, and environmental justice, among others, and will acquire: a transdisciplinary understanding of social-ecological processes; the ability to apply critical thinking in the development of sustainable systems at local and global scales; and advanced training in the methods of urban ecology and managing the sustainable cities of the future. Students in the Professional Masters program will be able to: describe ecosystem processes and sustainable management strategies to maintain those processes; describe current issues in environmental policy related to ecosystem sustainability; evaluate the linkages between socioeconomic and ecological processes that influence ecosystem sustainability; and apply quantitative and qualitative methods to assess ecosystem sustainability using systems approaches and integrative methods.</p>
Watershed Science (M.S.) (Ph.D.)	<p>The Watershed Science program focuses on how water moves through the landscape, what factors affect its quality, and how to manage water resources sustainably.</p>
Geoscience (M.S.) (Ph.D.)	<p>Geosciences Ph.D. students work in a wide range of subdisciplines that includes geology, seismology, economic geology, environmental geology, glaciology, paleoclimatology, geochemistry, geophysics, geochronology, geodynamics, geomorphology, hydrogeology, igneous and metamorphic petrology, petroleum geology, sedimentology, sedimentary petrology, stratigraphy, structural geology, and tectonics.</p>
Fish, Wildlife and Conservation Biology (M.S.) (Ph.D.)	<p>This program focuses on the ecology and management of wild animals, for their benefit and the benefit of humans. Students learn and research: conservation biology theory and practice; and issues in wildlife-human conflicts.</p>
Conservation Leadership (M.S.)	<p>The Master of Conservation Leadership is a graduate degree which prepares leaders to address complex conservation issues at local, regional, and global scales.</p>
Human Dimensions of Natural Resources (M.S.) (Ph.D.)	<p>The Human Dimensions of Natural Resources programs are designed to educate and develop professionals in social science aspects of natural resources issues. Required courses in the program provide students with a background in the methods of developing, conducting, analyzing, and interpreting the results of social science research and the use of social science perspective in broader, integrative research of natural resources within coupled human-natural systems.</p>
Tourism Management (M.S.)	<p>The Masters of Tourism Management emphasizes the combination of tourism, business, and sustainability concepts. Students learn: the social, technological, economic, environmental, and political implications of tourism activities (emphasizing the triple bottom line of sustainable practice) and the impacts on land use and natural resources; and the foundations of sustainable tourism development.</p>
Certificates	
Agritourism Management	<p>The Graduate Certificate in Agritourism Management is a 6 course, 12 credit offering that provides students with practical, managerial, and theoretical skills needed for the successful creation and management of an agritourism operation. Courses include spatial and community dimensions as well as financial management.</p>
Adventure Tourism	<p>The Graduate Certificate in Adventure Tourism is a 6 course, 12-credit offering that provides theoretical, managerial, and entrepreneurial knowledge and skills required for successfully developing and managing land-, water-, and air-based adventure tourism enterprises.</p>

Communications for Conservation	The Graduate Certificate in Communications for Conservation is a 6-course, 12-credit offering covering concepts and strategies, research and case studies, and tools and skills for successful conservation communications. Focus is given to various methods of community and stakeholder outreach, and public and media relations as they relate to conservation and conservation planning.
Carbon Management	Students are required to take ESS 524: Foundations for Carbon/Greenhouse Gas Mgmt, ESS 542: Greenhouse Gas Policies and ESS 543/ATS 543: Global Climate Change