

Inventory of NMSU Courses with Sustainability, Climate Change, or Environmental Themes

Focused (146) – Related (56) Total classes = 222

August 22, 2011

Agricultural Economics and Agricultural Business

AG E 315G	World Agriculture and Food Problems	Survey of food and agricultural issues in the U.S. and other countries. Covers: role of agriculture in economic development; trade in food and agricultural products; global food production, consumption, and marketing patterns; economics of technical change and food assistance; agriculture and the environment. Same as GEOG 315G.
AG E 475	Water Resource Management and Policy	Emphasis on integrating natural and social sciences, analytic methods, and critical reasoning skills to evaluate water resource policy and management issues. Extensive use of data and numerical applications applied to a variety of water resource topics. Familiarity with MS Excel or similar software is desirable. Prerequisite: junior or above standing.
AEEC 575	Advanced Water Resource Management and Policy	Integrating natural and social sciences, analytical methods, and critical reasoning skills to evaluate water resource issues. Extensive use of data and numerical techniques applied to a variety of water resource topics.
AEEC 580	Natural Resources and Environmental Policy	Surveys and analyzes natural resource and environmental policy, both domestic and global, in terms of content and context, policy, processes, policy models, levels of government, and values and ethical positions. Includes public lands policies, private property issues, air and water quality, waste disposal, energy and sustainable development with emphasis on natural resources and agriculture. Same as GOVT 530.

Agricultural and Extension Education

AXED 348	Advanced Technology in the Agricultural Industry	Application of technology in agricultural industry that includes solar energy, irrigation techniques, computer-aided drafting, laser leveling, TIG welding, and water quality and agricultural waste management.
AXED 400/500	The Diffusion and Adoption of Agricultural Innovations	Factors that influence the rates of diffusion and adoption of innovations. Consequences of adopting or rejecting innovations. Processes by which change agents influence introduction and adoption of innovations. Same as AXED 500.
AXED 436/536	Keys for Agricultural and Rural Development	Introduction to concepts of development, the process of change, key factors that contribute to agricultural and rural development in a community, and strategies employed to effect change with implications for international students or domestic students planning to work internationally.
AXED 466V	John Muir: Lessons on Sustainability	The course examines the life of John Muir in the context

		of sustainability. Muir was a farmer, inventor, explorer, botanist, glaciologist, conservationist, and noted nature author. Living in the natural world influenced his faith and philosophy. By examining his life and the themes that shaped it, students will develop an understanding of what it means to live sustainably and to contribute beyond their personal lives to a sustainable planet.
AXED 475/575	Leadership On Agricultural and Natural Resource Issues	Investigates leadership concepts and group dynamics as they relate to a changing world and complex agricultural and natural resource issues. Topics include emotional intelligence, leading change, political leadership, facilitating agreement, team building, and managing conflict in agricultural and natural resource settings.
AXED 565	New Mexico Water Issues	Designed for agricultural and natural resource professionals who must educate others or provide leadership on complex water issues in New Mexico. Students will travel to four distinct geographic and cultural regions of the state and study water policies, issues, and delivery technologies in each region. Specific areas covered will be determined by resource professionals who will present past, current and future issues involved in the distribution of water. Urban impacts on water use will also be investigated.
AXED 589	The Role of Technology Transfer and Social Change in Development Settings	An interdisciplinary study of the international significance of technology and of the societal and human issues related to its development and adoption. Analysis of the role of science and technology in development; agents of technology transfer, such as NGOs and multinational corporations; issues and constraints in choosing an appropriate technology.

Animal and Range Sciences

ANSC 200	Introduction to Meat Animal Production
ANSC 201	Introduction to Genetics for Animal Production
ANSC 314	Swine Production
ANSC 351G	Agricultural Animals of the World
ANSC 370	Anatomy and Physiology of Farm Animals
ANSC 402	Animal Science Seminar
ANSC 414	Sheep and Wool Production
ANSC 415	Horse Science and Management
ANSC 416	Beef Production
ANSC 417	Dairy Production
ANSC 421	Physiology of Reproduction

ANSC 480	Environmental Physiology of Domestic Animals
ANSC 509	Endocrinology of Domestic Animals
ANSC 521	Advanced Nutritional Management II: Cow Calf/Stocker

Anthropology

ANTH 361	Social Issues in the Rural Americas	Examines agriculture and economic patterns in rural US
ANTH 362	Environmental Anthropology	Focus on environmental management, large scale development, biodiversity and indigenous systems of resource management, sustainable environmental management
ANTH 357V	Medical Anthropology	Evolutionary and epidemiological perspectives on disease, impact of social change and health care systems
ANTH 472	Primate Behavior and Ecology	Survey of ecology and behavior of non-human primates, focus on conservation and habitat preservation
ANTH 535	Economic Anthropology	Examines impact of international economic systems and indigenous subsistence societies
ANTH 536	Anthropology of Development	Study of global processes of social and economic change
ANTH 538	Plants, Culture, and Sustainable Development	Study of indigenous knowledge systems of plants, ethno-ecology, preservation of traditional crop diversity
ANTH 539	Culture and Foodways	Examines impact of globalization of food systems on traditional cultures, food systems, and food security
ANTH 540	Cultural Resource Management	Examines legal and ethical issues in preservation of historic and prehistoric resources. Role of archaeology in project planning and mitigation of loss of archaeological sites
ANTH 572	Advanced Primate Behavior and Ecology	Survey of ecology and behavior of non-human primates, focus on conservation and habitat preservation

Biology

BIOL 101G/BIOL 101GL	Human Biology	Introduction to modern biological concepts. Emphasis on relevance to humans and their relationships with their environment.
BIOL 111G/BIOL 111GL	Natural History of Life	Survey of major processes and events in the genetics, evolution, and ecology of microbes, plants and animals, and their interactions with the environment.
BIOL 301	Principles of Ecology	A survey of ecology including general theory, the adaptations of organisms, population dynamics, species interactions, and the structure and function of natural communities and ecosystems.
BIOL 314	Plant Physiology	Photosynthesis, respiration, water relation of plants, minerals and organic nutrition, growth and development.
BIOL 381	Animal Physiology	Principles of integrative function in animals, emphasizing tissues, organs, organ systems, and regulation. Includes adaptations of animals to their environments.
BIOL 408	Ecology of Plants	Controlling factors, succession, community dynamics, and the classification of vegetation.
BIOL 439	Animal Behavior	A survey of the field of animal behavior.

BIOL 445	Herpetology	The ecology, behavior, systematics, morphology, and conservation of amphibians and reptiles.
BIOL 454	Biology of Respiration	How aquatic and terrestrial animals obtain oxygen and dispose of carbon dioxide. Includes respiratory-system structures and functions, gas-exchange and gas-transport mechanisms, and control systems. Emphasizes animals that live or travel in extreme environments.
BIOL 462	Conservation Biology	Examination of the value of biological diversity, the natural processes that control biological diversity, and the ways in which human activities have resulted in the loss of biological diversity, both regionally and globally.
BIOL 473	Ecology of Microorganisms	The metabolic interactions of microorganisms in the environment, with emphasis on their roles in ecological processes.
BIOL 477	Applied and Environmental Microbiology	A lecture-laboratory course on the microorganisms and the reactions they mediate which either impact the environment or have industrial applications. Reading of current literature will be emphasized. Topics include bioremediation, water quality, and aspects of industrial and food microbiology.
BIOL 488	Principles of Conservation Genetics	Fundamentals of the genetics of small populations. Genetic technologies used in studying small populations. Application of genetics and evolution to the conservation of biological populations.
BIOL 517	Seminar in Physiological Ecology	Discussion of original research literature on the physiological responses of organisms and their adaptive value in ecological settings. Examples of plants, animals, and microbes as suited to student interest.
BIOL 533	Environmental Physiology of Plants	Integral responses of plants and crop productivity to naturally occurring and modified environmental factors such as radiation, temperatures, water vapor, carbon dioxide, and air flow. Same as AGRO 533 and HORT 533.
BIOL 540	Science and Ethics	Ethical concerns facing researchers in the basic and applied biological sciences. Coverage of responsible conduct in research. Discussion of ethical and societal implications of issues selected from environmental sciences and other fields.
BIOL 552/GEOG 552	Landscape Ecology	Analysis of the structure, function and change of natural and anthropogenic landscapes. Patches, corridors, matrix and network, spatial organization, landscape dynamics, and role of disturbance in overall functioning of landscapes. Role of landscape heterogeneity in landscape management. Same as BIOL 552.
BIOL 567	Individuals and Populations	Study of ecological systems at the levels of the individual and population. Topics include physiological responses of individuals to their environment, life history theory, and spatially-explicit models of population and metapopulation dynamics.
BIOL 568	Communities and Ecosystems	Study of ecological systems at the levels of the community and ecosystem. Topics include species interactions, community structure and dynamics, and flow of material and energy through ecosystems.

BIOL 569	Evolutionary Ecology	Overview of current knowledge and modern research into ecological adaptation, evolutionary processes acting on contemporary populations, and the consequences of natural selection for population and community processes.
BIOL 570	Ecological Biogeography	Survey of modern theory incorporating ecological mechanisms governing distribution and abundance of species over space and time.

Chemistry and Biochemistry

CHEM 422	Environmental Chemistry	This course teaches the chemistry of organic chemical and metal ion pollutants in the environment and principles important to their remediation with chemical and biochemical strategies.
CHEM 472	Analytical Methods for Toxic Organics and Metal Ions in the Environment	This course teaches principles of analytical methods related to environmental monitoring of pollutants and waste management.
TOX 361	Basic Toxicology	This course teaches principles of toxicology, discussion of toxic agents, environmental problems related to toxic agents, testing procedures, and judicial regulations.
TOX 423/523	Environmental Toxicology	This course teaches toxicological testing that is required by the EPA to determine human and environmental safety of pesticides, herbicides, and industrial pollutants.

College of Business, Doctor of Economic Development (DED)

ECDV 671	Sustainable Economic Development	The study of environmental aspects of economic development. This course teaches students theoretical environmental, ecological, and natural resource economics and includes a semester long development project that teaches students cost-benefit and financial analysis that includes environmental impacts and issues in the analysis. The project develops student's theoretical and practical knowledge of key environmental/ecological resources that are vital to economic development and trains students to build sustainable economic development plans for communities.
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Communications Studies

COMM 477	Environmental Communication	The study of the intersection of communication and human experience with environment: everything from debates between different groups over the preservation, conservation, or use of land, the meaning of land, sense of place, spirit of place, the relationship between environment and identity, the ways that our understanding of environment is grounded in culture, the psychology of environment, even the meaning of water.
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Computer Science

CS 484/584	Computer Networks I/II	Courses include components dedicated to sensor networks and their use in performing environmental monitoring.
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Economics

Econ 324V	Developing Nations	Discussion of sustainable development; discussion of the role of the environment in economic development; impact of economic development on the environment.
Econ 325V	Latin American Economic Development	Discussion of sustainable development; discussion of the role of the environment in economic development; impact of economic development on the environment.

English

ENGL 111 summer class (DACC)	Rhetoric and Composition	
ENGL 462/562	Interdisciplinary, Client-Based Project Practicum	Joins technical communication students with students in a capstone design course. Together they work on individual projects in small teams consisting of students from Industrial Engineering and Mechanical Engineering. While the main focus is on design, environmental issues and sustainability are key factors that teams must consider in the products they are designing.

Entomology, Plant Pathology and Weed Science (EPWS)

EPWS 100	Introduction to Pest Management	Introduction to sustainability as it relates to pest control
EPWS 301	Agricultural Biotechnology	Basic introduction to ag biotech including numerous discussions on the implications for sustainability
EPWS 303	Economic Entomology	Core class importance of sustainable insect management
EPWS 310	Plant Pathology	Core class importance of sustainable plant disease management
EPWS 311/511	Weed Science	Core class importance of sustainable weed management
EPWS 325	Human, Insects, and the Environment	Importance of insects and human interaction consequences to sustainability and disease
EPWS 380V (formerly AGHE 380)	Ecosystem Earth	Most of the class concerns human impact on climate and sustainability
EPWS 420/520	Environmental Fate Pesticide	Where do pesticides go in the environment
EPWS 452	Applied Pesticide Toxicology	What impact do pesticides have on target and non-target organisms

EPWS 455/505	Advanced Insect Pest Management	Managing insects with minimal environmental impact
EPWS 456/506	Biological Control	Organic production and techniques of insect control without chemicals
EPWS 462	Parasitology	Insect medical and veterinary disease interactions
EPWS 481	Nematology	Role of nematode microfauna in soil nutrient cycling and rhizosphere ecosystem function

Engineering Technology

ET 304	Electrical Machines	
ET 365	Building Utilities	
ET 374	Electric Power Distribution	
ET 381 (co-listed with WERC)	Renewable Energy Technologies	
ET 382	Solar Energy	
ET 384	Wind and Water Energy	
ET 386	Sustainable Design and Construction	
ET 396	Heat Transfer and Applications	
ET/ME 401	Heating & Air Conditioning Systems	
ET 420	Senior Internship (relevant to renewable energy projects)	
ET 435	Senior Design and Project Management (relevant to renewable energy projects)	
ET 440/441	Senior Design and Senior Project (relevant to renewable energy projects)	

Fish, Wildlife and Conservation Ecology

FWCE 110	Intro to Natural Resource Management	
FWCE 255	Principles of Fish and Wildlife Mgmt	
FWCE 301	Wildlife Ecology	
FWCE 409	Population Ecology	
FWCE 458	Ecology of Inland Waters	
FWCE 459	Aquatic Ecology	
FWCE 463	Conservation Biology	
FWCE 464	Mgmt of Aquatic and Terrestrial Systems	
FWCE 466	Advanced Management—Mammals	
FWCE 488	Conservation Genetics	

Geography

Geography 112G	World Regional Geography	
Geography 120G	Culture and Environment	
Geography 315G	World Agriculture and Food Problems	
Geography 326	U.S. National Parks	
Geography 328V	Geography of Latin America	
Geography 351	Fundamentals of Biogeography	
Geography 363V	Cultural Geography	

Geography 365	Urban Geography	
Geography 444/555	Southwestern Environments	The U.S. Southwest: physical and human geography, coupled human-environment interactions, causes and consequences of environmental issues, and implications for sustainable development.
Geography 552	Landscape Ecology	

Geology

GEOL 111G	Survey of Geology	How the Earth Works, including global climate changes through history
GEOL 305V	Fossils and the Evolution of Life	Evolution of life through time, and how life has interacted with changing environment
GEOL 335V	Geologic Hazards	How humans are affected by hurricanes, volcanoes, earthquakes, and other environmental hazards, and how we deal with the consequences of these environmental events

Government

GOVT 324	Environmental Policy	This course explores environmental policy issues. Students study perspectives of policy-makers, political activists and policy analysts, and apply policy models to solve pressing environmental problems. Focus may be on U.S. or global concerns.
GOVT 383	Contemporary Political Theory	This course contains a section on the problem of scale in industrial and technological societies, with a comparative study of sustainable economies centered on agrarian and small-scale communal values.
GOVT 396/596	International Law	
GOVT 399	New Mexico Law	
GOVT 469/569	Globalization	
GOVT 411	Service Learning Experience	
GOVT 537	Environmental Policy	Contains sections on Sustainability

Health Science

HLS 305V	Global Environmental Health Issues	
HLS 452	Environmental Health	
HLS 454	Environmental Epidemiology	
MPH 550	Environmental Public Health Issues	

History

HIST 429/529	Plague, Plunder and Preservation: American Environmental History	
HIST 401/508	Environmental History	

Hotel, Restaurant and Tourism Management

HRTM 201	Introduction to Tourism	Survey of travel and tourism development and operating characteristics/
HRTM 430	Hospitality Facilities Management	Exploration of the engineering and maintenance requirements specific to the hospitality industry. Emphasis on environmental issues, renovation and management of the physical plant

Honors College

HON 320G	Food and Humanity: World in Crisis	In spite of great advances in food production technology, famines affecting millions continue to occur in the world. Focus on the interrelationship between food production, hunger, and population growth. Covers brief introduction to the culture, history and geography of food production; the dynamics of population growth and the prospects of control; the evolution and structure of the American food system, the politics of food, the development of technology, and the impacts of natural resource and environmental issues.
HON 321G	Agriculture in an Urban World	Study of the impact of agriculture on cultural and social systems, with special emphasis on twentieth century urban development.

Marketing

MKTG 489	Strategic Marketing Decision Making	A "Green Marketing Strategy course" where the two course projects are to 1) produce a Design for Sustainability Plan following UNEP Guidelines for Sustainable Innovation, and 2) develop a Marketing Plan for the D4S innovation.
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Management

MGT 332	Human Resource Management	Includes the greening of organizations, and sustainable HRM practices, in a section on social responsibilities of organizations.
MGT 375V	Environmental Management	
MGT 388G	Leadership and Society	Has a unit on leadership and sustainability

Philosophy

PHIL 322	Environmental Ethics	
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Physics

PHYS 110G	The Great Ideas of Physics	Among other things, the course covers climate change, greenhouse gases, nuclear and solar energy, our Nation's energy supply, etc.
PHYS 211G	General Physics I	Algebra-based treatment of mechanics, including forces, energy, power, mechanical machines.
PHYS 212G	General Physics II	Algebra-based treatment of electricity, magnetism, circuits, and electrical machines.
PHYS 213	Mechanics	Calculus-based treatment of mechanics, including forces, energy, power, mechanical machines. For physics and chemistry majors.
PHYS 214	Electricity and Magnetism	Calculus-based treatment of electricity, magnetism, circuits, and electrical machines. For physics and chemistry majors.
PHYS 215G	Engineering Physics I	Calculus-based treatment of mechanics, including forces, energy, power, mechanical machines.
PHYS 216G	Engineering Physics II	Calculus-based treatment of electricity, magnetism, circuits, and electrical machines.
PHYS 217	Heat, Light, and Sound	Calculus-based treatment of heat and thermodynamics.
PHYS 217L	Experimental Heat, Light, and Sound	Laboratory for PHYS 217
PHYS 221G	General Physics for Life Sciences I	Algebra-based treatment of mechanics, including forces, energy, power, mechanical machines. For life science majors.
PHYS 222G	General Physics for Life Sciences II	Algebra-based treatment of electricity, magnetism, circuits, and electrical machines. For life science majors.
PHYS 211GL	General Physics I Laboratory	Laboratory for PHYS 211G
PHYS 212GL	General Physics II Laboratory	Laboratory for PHYS 212G
PHYS 213L	Experimental Mechanics	Laboratory for PHYS 213
PHYS 214L	Electricity and Magnetism Laboratory	Laboratory for PHYS 214
PHYS 215GL	Engineering Physics I Laboratory	Laboratory for PHYS 215G
PHYS 216GL	Engineering Physics II Laboratory	Laboratory for PHYS 216G
PHYS 303V	Energy and Society in the New Millenium	Not taught recently due to loss of faculty lines
PHYS 305V	The search for water in the solar system	Formation, abundance, and ubiquity of water in the solar system.
PHYS 315	Modern Physics	Applications include atoms, molecules, solids, nuclei, and elementary particles.
PHYS 315L	Experimental Modern Physics	Laboratory for PHYS 315
PHYS 454	Intermediate Modern Physics I	Quantum mechanics is the fundamental science behind chemistry and nuclear physics, and important discoveries in quantum physics underlie advances in sustainable energy production.
PHYS 455	Intermediate Modern Physics II	Continuation of PHYS 454
PHYS 461	Intermediate Electricity and Magnetism I	Upper-division treatment of electricity and magnetism, including AC circuits, power transmission, energy of electromagnetic waves, etc.
PHYS 462	Intermediate Electricity and Magnetism II	Continuation of PHYS 461

PHYS 480	Thermodynamics	Upper-division treatment of heat, energy, combustion engines, energy conservation, etc.
PHYS 489	Modern Materials	Includes materials for energy storage, photovoltaics, fuel cells, etc.
PHYS 490	Nuclei and Elementary Particles	Basis for nuclear energy.
PHYS 584	Statistical Physics	Graduate-level treatment of thermodynamics

Plant and Environmental Sciences

AGRO/HOR T 100G +Lab	Introduction to Plant Science	Introduction to the physical, biological, and chemical principles underlying plant growth and development in managed ecosystems. In the laboratory portion of the class, students perform experiments demonstrating the principles covered in lecture. The course uses economic plants and agriculturally relevant ecosystems to demonstrate basic principles.
AGRO/HOR T 250	Plant Propagation	Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques.
AGRO 303V	Genetics and Society	Relates the science of genetics with social ramifications. Ways in which genetics and evolution interact with social, political, and economic issues. Includes genetic engineering, gene therapy, DNA finger-printing, ancient DNA, plant and animal improvement, and future prospects. Students required to formulate value judgments on contemporary biological issues that will impact society.
AGRO/HOR T 315/515	Crop Physiology	Whole plant physiological processes as related to growth, development, yield, quality and post harvest physiology of crop plants within the environment of the crop community. Prerequisite(s): EPWS/BIOL 314 or consent of instructor. Includes impacts of climate/atmospheric change on plant growth and productivity.
AGRO 357	Climatology	Elements and controls of climate. Energy and hydrologic cycles, general circulation, climate classification, distribution of climate types, microscale effects, applications.
AGRO/HOR T 365	Principles of Crop Production	Basic principles of crop production including environmental and physiological factors limiting production, plant nutrition and soil science, soil-water management, cropping systems and management, pest management, and economic factors influencing crop production
AGRO 377/HORT 377	Introduction to Turfgrass	Establishment and maintenance of turfgrass with emphasis on seeding methods, soil and water management, mowing, disease, insects and turfgrass varieties
AGRO 462/HORT 462	Plant Breeding	Principles and practices involved with the genetic improvement of plants.
AGRO/HOR T/EPWS 471	Plant Mineral Nutrition	Water quality concerns, crop nutrient recovery, proper nutrition management
AGRO 483	Sustainable Crop Production	Characteristics and objectives of sustainable agricultural systems with application to the production, utilization, and improvement of cereal grain, fiber, forage and oilseed crops

AGRO/HOR T 506	Plant Genetics	Advanced treatment of the principles of classical genetics and heredity with emphasis on the nature and action of the gene including molecular analysis.
AGRO 514	Soil-Plant Relationships	Physical, chemical, and biological soil environment as it affects plant and crop growth. Prerequisites: BIOL 314, SOIL 252. Same as HORT 514 and SOIL 514.
AGRO/HOR T 515	Crop Physiology	Whole plant physiological processes as related to growth, Development, yield, quality and post harvest physiology of crop plants within the environment of Prerequisite(s): EPWS/BIOL 314 or consent of instructor. Includes impacts of climate/atmospheric change on plant growth and productivity.
AGRO 609	Breeding/Plant Disease Resistance	A practically-oriented course of lectures and discussion on concepts and principles of breeding for disease and pest resistance. Labs familiarize students with preparation, quantification, and application of inoculum to hosts.
AGRO/HOR T 685	Plant Genetic Engineering	Analysis of plant genome structure and potential applications of emerging molecular techniques to the genetic improvement of plants.
ES 110	Introduction to Environmental Science	Introduction to environmental science as related to the protection, remediation, and sustainability of land, air, water, and food resources. Emphasis on the use of the scientific method and critical thinking skills in understanding environmental issues.
ES 256/ES 256L	Environmental Science	Principles in environmental engineering and science: physical chemical systems and biological processes as applied to pollution control.
ES 330	Environmental Management Seminar	Survey of practical and new developments in environmental management field, hazardous and radioactive, waste management, and related health issues, provided through a series of guest lectures and reports of ongoing research.
ES 370/SOIL 370	Environmental Soil Science	Continuation of SOIL 252 that emphasizes soil properties and processes that directly relate to environmental pollution problems.
ES 460 (Fall 2011 as AGRO 450)	Introduction to Air Pollution	An introduction to the physics and chemistry of tropospheric air pollution including sources of air pollution, local and long-range transport, instrumentation, regulatory requirements, control technology.
ES 462	Sampling and Analysis of Environmental Contaminants	Field trip components allow students to evaluate management practices including aspects of their sustainability.
ES 470	Environmental Impacts/Land Use	Capstone course for the environmental science major. Case studies of environmental problems impacting land.
ES/SOIL 477/477L	Soil Physics	A description of the physical characteristics of porous media including soil. Examination of processes describing the transport of water, chemicals, heat and gases through porous media with application to environmental quality, waste management, and crop production.
ES/SOIL 652	Advanced Soil Physics	Philosophy and organization of various soil classification systems, some international in scope, with emphasis on the new USDA system and classroom and field experience in using this system.
ES/SOIL 655	Contaminant Transport	Provides clear coverage of the basic principles of heat, moisture and contaminant transport through porous media, and a step-by-step guidance and hands on application on the use of some spreadsheet based and physically based one-and two-dimensional transport models. A similar course does not

		exist in the college for students that can encourage them to pursue modeling as a means of solving vadose zone and groundwater contamination and remediation problems.
HORT/AGRO 100G + lab	Introduction to Plant Science	Introduction to the physical, biological, and chemical principles underlying plant growth and development in managed ecosystems. In the laboratory portion of the class, students perform experiments demonstrating the principles covered in lecture. The course uses economic plants and agriculturally relevant ecosystems to demonstrate basic principles.
HORT 110	Sport Turf Management	Survey of proper management of athletic fields, golf courses and other turfgrass stands. Career opportunities in athletic field and golf course management will be discussed. Course includes field trips to local and regional sports turf facilities.
HORT 205	Introduction to Horticulture	Principles and practices of horticulture. Basic chemical, physical, and biological principles that govern plant growth in different environments. Economics of plant science as related to the field of horticulture. Online course entirely.
HORT 210	Ornamental Plants I	Covers identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on deciduous trees, native shrubs, and evergreens.
HORT 211	Ornamental Plants II	Identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on flowering trees, cacti, and members of the pea and rose families.
HORT/AGRO 250	Plant Propagation	Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques.
HORT 301	Introduction to Landscape Horticulture	Overview of landscape horticulture including identification and use of selected ornamental plant material and the principles of landscape design, construction, and maintenance.
HORT 302V	Forestry and Society	Global study of the development and use of forest resources for production of wood, fuel, fiber, and food products. Climatic, edaphic, cultural, and economic influences on forests of the world evaluated.
HORT 307	Landscape Design	Design elements, the design process, and contemporary planting design used in the design of residential and small commercial landscapes. Basic drafting, drawing, and landscape plan presentation techniques.
HORT/AGRO 315/515	Crop Physiology	Whole plant physiological processes as related to growth, development, yield, quality and post harvest physiology of crop plants within the environment of the crop community. Prerequisite(s): WS/BIOL 314 or consent of instructor. Includes impacts of climate/atmospheric change on plant growth and productivity.
HORT/AGRO 365	Principles of Crop Production	Basic principles of crop production including environmental and physiological factors limiting production, plant nutrition and soil science, soil-water management, cropping systems and management, pest management, and economic factors influencing crop production
HORT/AGRO 377	Introduction to Turfgrass	Establishment and maintenance of turfgrass with emphasis on seeding methods, soil and water management, mowing, disease, insects and turfgrass varieties
HORT 378	Turfgrass Science	Introduction to the scientific fundamentals for turfgrass management cultural practices, pest management, rootzone construction and ecology.

HORT/AGRO 462	Plant Breeding	Principles and practices involved with the genetic improvement of plants.
HORT 465	Landscape Construction and Maintenance	Basic principles of crop production including environmental and physiological factors limiting production, plant nutrition and soil science, soil-water management, cropping systems and management, pest management, and economic factors influencing crop production.
HORT/AGRO/EPWS 471	Plant Mineral Nutrition	Water quality concerns, crop nutrient recovery, proper nutrition management
HORT 479	Advanced Turfgrass Science	Extensive reviews of turfgrass sciences including ecology, physiology, entomology, pathology, weed science, and soil science.
HORT 484	Ornamental Plant Production and Management	Covers the principles and practices of greenhouse and nursery crop production and management. Greenhouse irrigation and water quality, fertilization, containers and media, lighting, CO2 enrichment, growth control, and crop scheduling.
HORT 485	Vegetable Crop Management	Physiological, environmental and cultural aspects of vegetable crop production. (200)
HORT 488	Greenhouse Management	Energy conservation and biocontrol in protected culture
HORT/AGRO 506	Plant Genetics	Advanced treatment of the principles of classical genetics and heredity with emphasis on the nature and action of the gene including molecular analysis.
HORT/AGRO 515	Crop Physiology	Whole plant physiological processes as related to growth, development, yield, quality and post harvest physiology of crop plants within the environment of the crop community. Prerequisite(s): EPWS/BIOL 314 or consent of instructor. Includes impacts of climate/atmospheric change on plant growth and productivity.
HORT 533	Environmental Physiology of Plants	Integral responses of plants and crop productivity to naturally occurring and modified environmental factors such as radiation, temperatures, water vapor, carbon dioxide, and air flow. Prerequisite: BIOL 314 or consent of instructor.
HORT/AGRO 685	Plant Genetic Engineering	Analysis of plant genome structure and potential applications of emerging molecular techniques to the genetic improvement of plants.
SOIL 252/252L	Soils	Origin, classification, morphology, and physical, chemical, and biological properties of soils.
SOIL 312/312L	Soil Management & Fertility	Management, conservation, and fertility of soils; physical conditions affecting growth, nutrition, and plant production.
SOIL 370/ES 370	Environmental Soil Science	Continuation of SOIL 252 that emphasizes soil properties and processes that directly relate to environmental pollution problems.
SOIL 424	Soil Chemistry	Basic elements of soil chemistry including clay mineralogy, cation and anion exchange and the chemistry of problem (acid, saline and flooded) soils. .
SOIL 456	Irrigation and Drainage	Principles and practices required for irrigation to exist as a permanent economy. Equipment and methods for measurement and control of water.
SOIL 472	Soil Morphology/Classification	Terminology used to describe soils. Soil classification systems of the world with emphasis on systems used in the United States. Theory of classification and taxonomy as applied to soils.

SOIL 476/476L	Soil Microbiology	Nature and physiology of soil microorganisms, how they affect plant growth and recycle nutrients. Land farming, bioremediation and other environmental problems as influenced by soil microorganisms.
SOIL/ES 477/477L	Soil Physics	A description of the physical characteristics of porous media including soil. Examination of processes describing the transport of water, chemicals, heat and gases through porous media with application to environmental quality, waste management, and crop production.
SOIL 479	Environmental Soil Chemistry	Basic elements of soil chemistry including discussion of clay mineralogy, cation and anion exchange and the chemistry of problem (acid, saline and flooded) soils.
SOIL 630	Advanced Soil Classification	Philosophy and organization of various soil classification systems, some international in scope, with emphasis on the new USDA system and classroom and field experience in using this system.
SOIL 651	Advanced Soil Chemistry	Advanced treatment of soil chemistry phenomena with emphasis on arid zone soils. Particular attention is given to reactions involved in environmental pollution and management of wastes.
SOIL/ES 652	Advanced Soil Physics	Philosophy and organization of various soil classification systems, some international in scope, with emphasis on the new USDA system and classroom and field experience in using this system.
SOIL/ES 655	Contaminant Transport	Provides clear coverage of the basic principles of heat, moisture and contaminant transport through porous media, and a step-by-step guidance and hands on application on the use of some spreadsheet based and physically based one-and two-dimensional transport models. A similar course does not exist in the college for students that can encourage them to pursue modeling as a means of solving vadose zone and groundwater contamination and remediation problems.

Psychology

PSY 201	Introduction to Psychology	Includes ongoing reciprocal interactions among self, society, and environment
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Social Work

MSW 511	Human Behavior in the Social Environment	
MSW 523	Advanced Social Work Practice with Organizations and Communities	Impact of environmental degradation and water resource depletion on communities, including poverty, environmental racism, and health as impacted by increasing population and climate change.

Sociology

SOC 465/565	Environmental Sociology	Examination of societal responses to environmental problems including social adjustments to natural and technological hazards, socio-cultural aspects of technological risk and impact assessment, and emergence of environmental social movements.
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