

COURSES OUTSIDE THE JOURNALISM SCHOOL

Students are not limited to the science courses on this list and may select classes from additional specialties. In accordance with University policy, 400-level courses must include a graduate increment to count towards a master's degree.

General Studies:

GPHY 432 - The Human Role in Environmental Change. Offered autumn, even-numbered years. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.

ECNS 433 - Economics of the Environment. Offered intermittently. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Consult instructor for prerequisites.

PHL 504 - Topics in Environmental Philosophy. Offered every year. Critical study/discussion of current (as well as benchmark) texts and issues in environmental ethics, environmental politics, and the philosophy of ecology. Interdisciplinary; open to concerned students from all disciplines.

HSTR 564 - U.S. Environmental History. Intensive reading.

Policy Studies:

WILD 410 - Wildlife Policy and Biopolitics. Offered autumn. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced. Impact of politics, interest groups and agency jurisdictions.

NRSM 422 - Natural Resources Policy and Administration. Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.

GPHY 465 - Planning Principles and Processes. Offered autumn. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States, and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.

ENST 513 - Foundations of Natural Resources Conflict Resolution. Offered spring. Provides a conceptual framework for understanding the history of ideas that have shaped the policies, institutions, and strategies used to resolve natural resource and other public policy conflicts in the American West. Focus on natural resource and environmental dispute resolution.

FORS 622 - Advanced Problems in Environmental Policy. Offered spring even-number years. Examines environmental policy problems and contemporary issues in environmental policy, law and administration. Policy tools, concepts and research resources introduced. Numerous problems, themes, and issues in environmental policy analyzed. Readings-based seminar; students lead most reviews and discussions.

GPHY 561 - Land Use Planning Law. Offered autumn. Basic overview of the law of land-use planning including, background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land-use planning; consideration of constitutional limits of the authority of state and local governments. Focus on skills in interpreting, drafting, and applying state legislation and local ordinances.

LAW 650 - Introduction to Environmental Law. Provides an introduction to the regulation of pollution, an issue of increasing importance internationally, nationally and at a regional level. It also provides a brief review of common law theories of environmental protection, an overview of the ecological and economic theories underlying much of modern environmental law and a basic introduction to

administrative law and environmental litigation. Students then explore three key environmental statutes: the National Environmental Policy Act, Clean Water Act and Clean Air Act. The course concludes with a discussion of domestic and international answers to climate change and Montana environmental constitutional provisions.

LAW 654 - Public Land and Resources Law. Offered spring. Historical development of United States public land law, state-federal relations, and the roles of Congress, the executive and the courts; the law applying to specific public land resources: water, minerals, timber, range, and preservation. Prerequisite: consent of instructor.

LAW 663 - Water Law. Offered spring. Interstate water problems; federal/state powers; federal/Indian water rights/Montana water law.

ECNS 445 - International Environmental Economics and Climate Change. Offered autumn every other year. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis. Prerequisite: ECNS 201S.

COMM 575 / ENST 575 - Seminar in Rhetoric and Environmental Controversy. Offered every other year. The study of how advocates use symbols to influence meaning and action in environmental controversies. Rhetorical concepts used to examine recurring strategies and tactics in specific controversies.

Science Studies:

NRSM 408 - Global Cycles and Climate. Offered spring even-numbered years. An analysis of the earth's major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.

WILD 408 - Advanced Fisheries. Offered spring. Quantitative analysis and interpretation of fish populations and community data for use in management. Selection, application and evaluation of management techniques. Prerequisite: consent of instructor.

PTRM 451 - Tourism and Sustainability. Offered spring. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts. Prerequisite: consent of instructor.

EVST 450 - Food, Agriculture, and Environment. Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.

PTRM 482 - Wilderness and Protected Area Management. Offered autumn. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management. Prerequisite: consent of instructor.

ENSC 501 - Scientific Approaches to Environmental Problems. Offered autumn. The strength and limitations of the scientific approach to investigating and solving selected environmental problems with an emphasis on the natural sciences. Prerequisite: consent of instructor.

NRSM 501 - Research Methods. Offered autumn. The nature of scientific research, planning research projects, organization and presentation of research results. Emphasis on the development of study plans for specific research projects. Prerequisite: course in statistics or consent of instructor.

NRSM 532 - Forest Ecosystem Analysis. Offered autumn. Current research on important processes in forest ecosystems, including carbon, water and nutrient cycles, with emphasis on recent computer simulation models. Prerequisite: FOR 330 or equivalent.

WILD 460 - International Wildlife Conservation Issues. Offered spring. Review of major international wildlife conservation issues with emphasis on the social context of the issues and applied solutions. Prerequisite: course in wildlife biology and/or conservation biology or consent of instructor.

WILD 470 - Conservation of Wildlife Populations. Offered autumn and spring. Application of population ecology principles and theory to the conservation and management of wildlife populations. Prerequisite: 300-level animal ecology class and senior standing or consent of instructor.

WILD 560 - Landscape Conservation. Offered spring. Examination of how various spatial and temporal scales influence wildlife and their habitats. Prerequisite: consent of instructor.

NRSM 570 - Political Ecology. Graduate seminar on key theories, issues and literature in the subfield of Political Ecology, an interdisciplinary environmental social science approach which integrates how political, economic, cultural and ecological processes interact and shape society nature relations. Case examples are drawn from both the north and south.

RSCN 571 - International Conservation and Development. Offered spring. Critical review of selected international natural resource development, conservation and management approaches and experiences. Prerequisite: Consent of instructor.

Analysis & Representation Studies:

GPHY 421 - Sustainable Cities. Offered spring even-numbered years. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.

GPHY 434 - Food and Famine. Offered autumn intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.

GPHY 433 - Cultural Ecology. Offered spring. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.

GPHY 468 - Community and Regional Analysis. Offered autumn. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. Prerequisite: Math 115 or higher or consent of instructor. Co-requisite: GPHY 460 (GEOG 469)

GPHY 481 - Advanced Cartographic Design (GIS). Offered autumn. Concentrates on the presentation of spatial data and the construction of cartographic products that have clear communication and excellent aesthetic design. Includes a semester-long project where students consult with a client, design and construct a map and deliver a final product. Prerequisite: GPHY 284 or GPHY 381 or FORS 250 or consent of instructor.

FORS 350 - Forestry Applications of GIS **-OR-** GPHY 488/9 -Thematic Cartography and GIS. FORS course offered autumn and GPHY course offered spring. Application of GIS for managing natural and cultural resources. Covers choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises. Students must register for a required lab section. Prerequisite: GPHY 284 or GPHY 381 or FORS 250 or consent of instructor.

GPHY 580 - Seminar in GIS and Cartography. Offered spring. Seminar topics in cartography and GIS. Applications to advanced studies in human and physical geography. Prerequisite: Consent of instructor.

STAT 451 - Statistical Methods I. Offered autumn. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making

statistical inferences, random variables, basic ideas of inference and hypothesis testing.

Prerequisite: one year of college mathematics in probability or consent of instructor.