

RWFM - RANG WILD & FISH MGMT

RWFM 601 Wildland Watershed Management

Credits 3. 3 Lecture Hours. Elements of watershed management and principles and practices of wildland management for protection, maintenance and improvement of water resources values; current literature and research advances.

RWFM 602 Wildlife Tracks and Signs

Credits 3. 3 Lecture Hours. Designed for ecologists, naturalists, and other parties who wish to have a deeper understanding of the behavior of terrestrial animals in terms of the habitats they frequent, what and where they feed, den and bedding locations, and other activities; designed for wildlife professionals who work in the field conducting animal surveys, observations, and capturing/handling wildlife or who are otherwise involved in teaching field skills. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 605/RPTS 605 Community Organization and Natural Resources Management

Credits 3. 3 Lecture Hours. Understand ways communities manage natural resources; understand the roles of collaboration, participation, agency, power, and resilience in solving local resource management problems. **Prerequisites:** Graduate classification. **Cross Listing:** RPTS 605/RWFM 605.

RWFM 608 Techniques of Wildlife Management

Credits 3. 2 Lecture Hours. 3 Lab Hours. Techniques available to directly and indirectly manipulate wild animal populations to achieve balance between socioeconomic and aesthetic values. **Prerequisite:** Graduate classification or approval of instructor.

RWFM 609/VTMI 631 Wildlife Diseases

Credits 3. 3 Lecture Hours. Overview of diseases that affect populations of wild mammals, birds, amphibians and reptiles; emphasis on diseases that are transmissible to humans or domestic animals and those found in Texas. **Cross Listing:** VTMI 631/RWFM 609.

RWFM 611 Grazing Management and Range Nutrition

Credits 3. 3 Lecture Hours. Nutritional ecology of domestic and wild herbivores on rangelands; vegetation and animal response to various grazing management practices; diet selection, quality, intake and supplementation of herbivores.

RWFM 612 Rangeland Vegetation Management

Credits 3. 3 Lecture Hours. Principles of rangeland brush and weed control with mechanical, chemical, burning and biological methods; interrelationships of brush management with grazing, wildlife and watershed management; planning and economic analysis of range improvement practices.

RWFM 616 Invasive Species Ecology and Management

Credits 3. 3 Lecture Hours. Examination of the causes, consequences, and management of biological invasions by exotic plant and animal species in North America and globally; critical evaluation and synthesis of primary literature; emphasis on original research in basic or applied invasion ecology. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 619 Wildlife Restoration

Credits 3. 2 Lecture Hours. 3 Lab Hours. Study of the fundamentals of the restoration of animal populations and the resources they require; factors that control the distribution and abundances of animals in relation to restoration; and how restoration plans for wildlife are developed.

Prerequisite: Graduate classification or approval of instructor.

RWFM 620 Ecology and Society

Credits 3. 3 Lecture Hours. Study and compare human and natural ecosystems using diversity, interrelations, cycles, and energy as the conceptual organization; central themes of the course are sustainability, stewardship and science. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 621 Communicating Natural Resources

Credits 3. 3 Lecture Hours. Principles of effectively communicating natural resource science to a diverse stakeholder group; development of critical skills for obtaining and retaining employment in the Rangeland, Wildlife, and Fisheries Management fields; experience in audience identification, mixed-media presentations and interpersonal communications skills unique to the culture of diverse natural resources stakeholders. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 625 Watershed Analysis and Planning

Credits 3. 3 Lecture Hours. Integrated framework for watershed planning that addresses the related biophysical, social and economic issues; comprehensive in scope and approach; tools and techniques for developing sound watershed management policy and practice; water issues, problems and regulations for Texas. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 627 Ecological Risk Assessment

Credits 3. 3 Lecture Hours. Approaches used to identify, evaluate and manage ecological risks of chemicals on aquatic and terrestrial environments; emphasis on methods useful to assess effects of contaminants on ecosystems; testing techniques, site assessment and monitoring procedures, regulatory requirements and field and laboratory techniques.

RWFM 628 Wetland Ecology and Pollution

Credits 3. 3 Lecture Hours. Wetlands as ecological systems that are prime habitats for wildlife and fish; geomorphology, hydrology, limnology, plant and animal communities, and humans use and management; wetlands as ultimate reservoirs of environmental pollutants; distribution, fate and effects of environmental pollutants on aquatic and terrestrial wildlife. **Prerequisite:** Graduate classification or approval of instructor.

RWFM 630 Conservation Principles and the Role of Hunting

Credits 3. 2 Lecture Hours. 2 Lab Hours. Integration of past conservation actions and icons with modern day polices; exploration of conservation funding mechanisms; instruction in hands-on learning related to firearm safety, components; hunter education certification; field exercises on departmental facilities and field trip to state conservation agency.

Prerequisites: Graduate classification or approval of instructor.

RWFM 633 Aquaculture

Credits 4. 3 Lecture Hours. 3 Lab Hours. Principle of fish production for stock enhancement and human food. Species of fish used for production, cross-breeding and selection; feeds and feeding of fish and nutritional and environmental requirements for optimum productivity; effects of fish production on land and water uses as related to conservation.

Prerequisite: Graduate classification or approval of instructor.

RWFM 640 Wetland Delineation

Credits 3. 2 Lecture Hours. 2 Lab Hours. Application of the 1987 Wetland Delineation Manual in use by the Army Corps of Engineers; field indicators of hydrophytic vegetation, hydric soils, wetland hydrology, methods for making jurisdictional determination in non-disturbed and disturbed areas, recognition of problem wetlands and technical guidelines for wetlands. **Prerequisite:** Graduate classification or approval of instructor.

RWFM 641 Sustainable Military Land Management

Credits 3. 3 Lecture Hours. Overview of the Department of Defense (DOD) lands within a temporal, geographic, and environmental context and perspective; major policies/laws impacting military land use and areas critical to mission sustainment; management strategies important to sustaining installations and ranges. **Prerequisite:** Graduate classification or approval of instructor.

RWFM 642 Field Military Land Management

Credit 1. 0 Lecture Hours. 2 Lab Hours. Review of land management practices and challenges on military and adjacent private lands through field visits of select military installations. Field trips required. Previous or concurrent registration in WFSC 636 is strongly encouraged. **Prerequisite:** Graduate classification or approval of instructor.

RWFM 643 Wildlife and Natural Resource Policy

Credits 3. 3 Lecture Hours. Review formation and implementation of major natural resource laws and policies that impact land uses; overview of natural resource laws/policies followed by presentations of a selected case study; current natural resource management (including forestry, air, water, wildlife, climate change and energy) programs and institutions analyzed and related to current natural resource policy challenges.

RWFM 645 Fish Health and Diseases

Credits 3. 3 Lecture Hours. Health disorders and diseases of finfish and shellfish including water quality issues and management, environmental endocrine disruptors, biosecurity and practical techniques used to isolate, identify and manage or mitigate diseases. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 649 Nutrition of Range and Wild Animals

Credits 3. 3 Lecture Hours. Connects the life history of wild and domestic animals with the quality of their habitat by examining the transfer of energy and nutrients from foods to body tissues and activities for survival, growth and reproduction; exploration of the use of nutrition for management and conservation of animal populations and their habitats.

Prerequisite: Graduate classification; ECCB 205 or BIOL 357; ANSC 107 or BIOL 107; or approval of instructor.

RWFM 651 Geographic Information System for Resource Management

Credits 3. 2 Lecture Hours. 2 Lab Hours. Geographic Information System (GIS) approach to the integration of spatial and attribute data to study the capture, analysis, manipulation and portrayal of natural resource data; examination of data types/formats, as well as the integration of GIS with remote sensing and Global Positioning System; laboratory includes extensive use of GIS applications to conduct analyses of topics in natural resources. **Prerequisites:** Graduate classification. **Cross Listing:** BAEN 651 and ECCB 651.

RWFM 653 Conservation Psychology

Credits 3. 3 Lecture Hours. Theories and methods of psychology applied to conservation behavior for the improvement of relationships between people and natural systems; understand challenges and generate solutions related to the human psyche and wilderness, children and nature, role of culture.

RWFM 658/ECCB 658 Human-Wildlife Conflict and Coexistence

Credits 3. 3 Lecture Hours. Ecological, cultural, and historical dimensions of human-wildlife interactions; root causes of conflict; multidisciplinary frameworks of analysis; lessons learned from practitioners; examples of coexistence; case studies across taxa and continents. **Prerequisites:** Graduate classification. **Cross Listing:** ECCB 658/RWFM 658.

RWFM 659 Human Dimensions of Parks and Protected Areas

Credits 3. 3 Lecture Hours. Theoretical and applied literature on the interaction between individuals, communities and parks and protected areas; study of socio-ecological systems, individual and societal values of parks and protected areas, visitor experiences, human impacts, environmental policy and sustainability. **Prerequisites:** Graduate Classification or permission from the instructor.

RWFM 660 Leadership in Natural Resource Management

Credits 3. 3 Lecture Hours. Development and application of leadership theories and models within natural resource settings; introduction to and examination of historical, philosophical and theoretical aspects of leadership; exploration and evaluation of the ethical and influential dimensions of leadership within a natural resource context; critical examination of the contemporary research characteristics of effective leadership in relation to natural resources; engagement with natural resources leaders and exploration of case studies within the profession. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 665 Environmental Law and Policy

Credits 3. 3 Lecture Hours. Analysis of the legal theories used to allocate and protect environmental resources; common law, federal and state statutes, and international treaties dealing with the environment; policies and laws for controlling air, water, solid waste, toxic waste and water pollution; species protection and natural resource use.

RWFM 670 Environmental Impact Assessment

Credits 3. 3 Lecture Hours. Evolution of natural resources regulatory policies and how this influences current procedures for environmental and natural resources assessment and management; demonstration of the environmental impact assessment procedures and policy issues associated with environmental impacts. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 671 Fisheries and Small Impoundment Management

Credits 3. 3 Lecture Hours. Practices and principles with a focus on the variations in regional management techniques in North America, from north to south; history of fisheries and pond management, the pond environment, stocking strategies for recreational small impoundments, fisheries management in small bodies of water, water quality management, problem troubleshooting in small impoundments and management opportunities. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 672 Aquatic Vegetation Identification and Management

Credits 3. 3 Lecture Hours. Identification and management of common and problematic aquatic vegetation species; aquatic plant ecology and management of aquatic vegetation as aquatic animal habitat; management methods include physical, chemical and biological methods as well as propagation and introduction and restoration. **Prerequisites:** Graduate classification or approval of instructor.

RWFM 678/RPTS 678 Latent Variable Model Applications

Credits 3. 3 Lecture Hours. Introduction to structural equation modeling (SEM); background on conceptual issues, application of the method, and insight on SEM software; measurement theory, missing data analysis, non-normal data, confirmatory factor analysis, path analysis, multi-group models. **Prerequisites:** STAT 636, STAT 652, EPSY 641, EPSY 643, EPSY 650 or approval of instructor. **Cross Listing:** RPTS 678/RWFM 678.

RWFM 681 Seminar

Credit 1. 1 Lecture Hour. Important current developments in wildlife or fisheries fields with special reference to literature. Students may register up to but no more than two sections of this course in the same semester.

RWFM 684 Professional Internship

Credits 1 to 16. 1 to 16 Other Hours. On-the-job training in fields of wildlife and fisheries sciences. **Prerequisite:** Graduate classification in Wildlife and Fisheries Sciences.

RWFM 685 Directed Studies

Credits 1 to 6. 1 to 6 Other Hours. Individual study and research on selected problem approved by instructor and graduate advisor. Credit adjusted in accordance with requirements of each individual case.

Prerequisite: Approved proposal.

RWFM 689 Special Topics in...

Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours. Special topics in wildlife ecology, fisheries ecology, vertebrate systematics, evolutionary biology of vertebrates and conservation education. May be repeated for credit.

RWFM 691 Research

Credits 1 to 23. 1 to 23 Other Hours. Original research on selected wildlife and/or fisheries problem to be used in thesis or dissertation.