

## SNRE Summer Courses Available!

Want to lessen your credit load during the school year or graduate sooner?

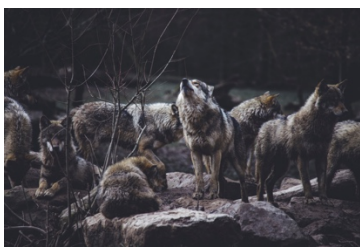
SNRE has several courses available over the summer semester, many of which are offered completely online. This is a great opportunity to knock out required credits or take a class you don't otherwise have time for.

### Summer 1 (5 week)



#### **RNR 150C1 Sustainable Earth: Natural Resources and the Environment** 3 units, ONLINE

Life support systems on Earth are challenged by a growing global population. We will explore through lectures and discussion, the strategies humans might develop to become effective stewards of our natural resources and achieve a sustainable Earth.



#### **RNR 160D1 Wildlife, Conservation and American Culture** 3 units, ONLINE

Wildlife, Conservation, and American Culture explores the significance of wild animals in society as reflected in governmental agencies and laws, how people spend their time and money, and in the social controversies that stem from efforts to conserve animal populations in the face of human development.



#### **RNR 200 Conservation of Natural Environments** 3 units, ONLINE

An exciting introduction to the history of conservation in the US and the evolving concepts of conservation and sustainability. The course also examines the critical roles of various scientific disciplines in conservation biology and natural resource management, the concepts of wilderness, and the impact of the industrial and recreational use of these resources.



#### **RNR 230R Field Botany** 2 units, ONLINE

In this course we address fundamental knowledge that supports the study and appreciation of plants in their natural environments. Emphasis is placed on species found in the southwestern United States. The course begins with the fundamental elements of plant growth, development, physiology, and reproduction. Using this foundation, we then cover plant identification and taxonomy, and how environmental factors affect plant growth, distribution, and assemblage into communities. We conclude with a consideration of roles played by plants in ecological processes and how human-driven processes affect these processes. RNR 230R is open to students in all majors and is a core course in the Natural Resources undergraduate curriculum in the School of Natural Resources & the Environment



### **RNR 400**

3 units, ONLINE

An overview of the impacts and management strategies and tactics for noxious, invasive plants in (or near) Arizona.



### **WFSC 430 Conservation Genetics**

3 units, ONLINE

Basic methods and theories of genetic/genomic analyses together with the application of these analyses to promote conservation, proper management, and long term survival of free-ranging species, including the exploration of current conservation genetic/genomic literature



### Summer 1 (7 week)

### **RNR 417 Geographic Information Systems for Natural Resources and the Social Sciences**

3 units, ONLINE

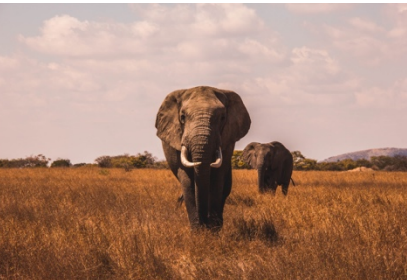
Introduction to the application of GIS and related technologies for both the natural and social sciences. Conceptual issues in GIS database design and development, analysis, and display.

### Summer 2 (5 week)

### **WFSC 385 Zoo and Aquarium Conservation**

3 units, ONLINE

Contemporary conservation often involves *ex situ* (outside of natural environments) efforts in zoo and aquarium facilities to provide opportunities for species to persist until challenges in the wild are remedied. This course will focus on current topics in zoo and aquarium conservation and management. Subjects covered include captive breeding and releases, the role of education in zoos, enclosure habitat enhancement, animal behavior, handling and monitoring techniques, and other topics that are important in the conservation of captive wild animals.



### **WFSC 447 Wildlife Conservation Behavior**

3 units, ONLINE

Conservation behavior is the application of knowledge of animal behavior to solve wildlife conservation problems. This course reviews basic principles of animal behavior in the context of applied problems in conservation and management of wildlife populations. Topics include behavior in human-impacted landscapes, antipredatory responses, use of space and habitat, demographic consequences of social and mating systems, mitigation of human disturbance, captive breeding and reintroduction programs, reserve design, and challenges of climate change.



## Summer 2 (7 week)



### **RNR 310 Agave, Cacti and other Succulents of Southern AZ**

3 units, IN PERSON

A survey of the Agave, Cacti, and other succulents of southern Arizona both native and common landscaping plants. The course will include the natural history, identification, and physiology as well as the practices for propagation and common uses.

### **RNR 322 Field methods in Natural Resources**

2 units, IN PERSON

This course provides experience with a wide array of field sampling and study design methods for natural resource management and policy-making. Over two days in the classroom and eight days in the field, students will gain experience with field and lab techniques in wildlife and fisheries, vegetation sampling, soil and carbon dynamics, range management, hydrology, and GIS. These topics will allow students within a given sub-discipline to gain practical field experience with other sub-disciplines. Recent wildfires will serve as an example of a landscape-scale process that has indirect and direct effects on almost all natural resources. The course will highlight how natural systems are interrelated, demonstrating that natural resource decisions cannot be made in isolation. How do managers and researchers collect, synthesize, and present data? How do data shape decision-making processes? How do natural resource managers balance multiple natural resource concerns and administrative complexity in dynamic ecosystems? This course will address all of these issues through classroom learning, field experiences, and in-person meetings with researchers, conservation practitioners, and natural resource managers.



### **WFSC 444 Wildlife Ecology, Conservation, and Management**

4 units, ONLINE

WFSC 444 is a senior level course that introduces students to the ways in which society influences the distribution and abundance of animals and communities viewed as ecologically, economically or intrinsically valuable and presents the mathematical and analytical tools available to wildlife professionals whose purpose is to understand population dynamics and manipulate the human-wildlife interface towards specific goals. WFSC 444 is centered primarily on vertebrate (fish, birds, mammals, reptiles, amphibians) populations but also considers community and ecosystem perspectives. WFSC 444 explores socio-political perspectives, biological and ecological concepts, and mathematical underpinnings to population regulation and human-wildlife interactions.

