Range Science (RNG)

RNG 136. Introduction to Range Management. 3 Credits.
Principles of range management which include plant identification, range evaluation, and range improvement. 3 lectures. F.

RNG 213. Rangeland Sampling Techniques. 3 Credits.
Introduction to rangeland aquatic, invertebrate, soil, and vegetation sampling techniques, and the proper procedures for basic data entry and interpretation. Prereq: RNG 136.

RNG 225. Natural Resource & Agro-Ecosystems. 3 Credits.
Introduction to scientific theories and their relation to natural resources and agriculture. Influence of these theories on current perspectives toward the environment. 3 lectures. Cross-listed with NRM 225.

RNG 326. Modeling of Range and Agro-Ecosystems. 3 Credits.
Introduction and applications of systems analysis and simulation modeling to agriculture, biology, range ecology, and natural resources management. 2 lectures, 1 two-hour laboratory. (even years).

RNG 450. Range Plants. 3 Credits.
Identification, distribution, and forage value of important U.S. range plants. 1 lecture, 2 two-hour laboratories. Prereq: BOT 314. F {Also offered for graduate credit - see RNG 650.}.

RNG 451. Ecology of Fire-Dependent Ecosystems. 3 Credits.
Overview of the evolution and ecology of wildland fire in fire-dependent ecosystems globally, with an emphasis on the ecology and management of fire in North America. Prereq: RNG 336, BOT 460 or RNG 460. {Also available for graduate credit - see RNG 651.}.

RNG 452. Geographic Information Systems in Range Survey. 3 Credits.
Analysis of methods for determining range composition, condition, and productivity. Emphasis will be given to the use of Geographic Information Systems. 3 lectures. Prereq: RNG 136. S (odd years) {Also offered for graduate credit - see RNG 652.}.

RNG 453. Rangeland Resources Watershed Management. 3 Credits.
Study of the management of physical/biological settings and processes along with human activities on water and watersheds considering preventative and restorative strategies in a rangeland setting. Prereq: RNG 136 or NRM 225. Cross-listed with NRM 453. {Also offered for graduate credit - see RNG 653.}.

RNG 454. Wetland Resources Management. 3 Credits.
Principles of wetland systems, wetland management, wetland functions, wetland delineation, wetland assessment, and wetland improvement. Prereq: SOIL 210. Cross-listed with NRM 454 and SOIL 454. F (even years) {Also offered for graduate credit - see RNG 654.}.

RNG 456. Range Habitat Management. 3 Credits.
Study of specific techniques and systems approaches to maintenance and improvement of rangeland ecosystems. 3 lectures. Prereq: RNG 136. F (odd years) {Also offered for graduate credit - see RNG 656.}.

RNG 458. Grazing Ecology. 3 Credits.
Grazing processes and systems and their effects on plants and herbivores. 3 lectures. Prereq: RNG 136. F (even years) {Also offered for graduate credit - see RNG 658.}.

RNG 460. Plant Ecology. 3 Credits.
Ecological structure, processes, and patterns observed with plant communities and populations as influenced by environmental conditions. Illustrations provided with local fieldwork. Prereq: BIOL 151, BIOL 151L. Cross-listed with BIOL 461. {Also offered for graduate credit - see RNG 660.}.

RNG 462. Natural Resource and Rangeland Planning. 3 Credits.
Capstone experiencefor School of Natural Resources Sciences majors: students use advanced planning tools and different management strategies to demonstrate integrated knowledge in managing public and private natural resources. Prereq: at least senior standing and must be a Natural Resources Management, Range Science or Soil Science major. Cross-listed with NRM and SOIL. {Also offered for graduate credit - see RNG 662.}.

RNG 650. Range Plants. 3 Credits.
Identification, distribution, and forage value of important U.S. range plants. 1 lecture, 2 two-hour laboratories. Cross-listed with BOT 650. {Also offered for undergraduate credit - see RNG 450.}.

RNG 651. Ecology of Fire-Dependent Ecosystems. 3 Credits.
Overview of the evolution and ecology of wildland fire in fire-dependent ecosystems globally, with an emphasis on the ecology and management of fire in North America. {Also available for undergraduate credit - see RNG 451.}.

RNG 652. Geographic Information Systems in Range Survey. 3 Credits.
Analysis of methods for determining range composition, condition, and productivity. Emphasis will be given to the use of Geographic Information Systems. 3 lectures. S (odd years) {Also offered for undergraduate credit - see RNG 452.}.

RNG 653. Rangeland Resources Watershed Management. 3 Credits.
Study of the management of physical/biological settings and processes along with human activities on water and watersheds considering preventative and restorative strategies in a rangeland setting. Cross-listed with NRM 653. {Also offered for undergraduate credit - see RNG 453.}.

RNG 654. Wetland Resources Management. 3 Credits.
Principles of wetland systems, wetland management, wetland functions, wetland assessment, and wetland improvement. {Also offered for undergraduate credit - see RNG 454.}.

RNG 656. Range Habitat Management. 3 Credits.
Study of specific techniques and systems approaches to maintenance and improvement of rangeland ecosystems. 3 lectures. F (odd years) {Also offered for undergraduate credit - see RNG 456.}.

RNG 658. Grazing Ecology. 3 Credits.
Grazing processes and systems and their effects on plants and herbivores. 3 lectures. F (even years) {Also offered for undergraduate credit - see RNG 458.}.

RNG 660. Plant Ecology. 3 Credits.
Ecological structure, processes, and patterns observed with plant communities and populations as influenced by environmental conditions. Illustrations provided with local fieldwork. Cross-listed with BIOL 661. {Also offered for undergraduate credit - see RNG 460.}.

RNG 662. Natural Resources and Rangeland Planning. 3 Credits.
Capstone experience for School of Natural Resources Sciences majors: students use advanced planning tools and different management strategies to demonstrate integrated knowledge in managing public and private natural resources. Cross-listed with NRM and SOIL. {Also offered for undergraduate credit - see RNG 462}.

RNG 716. Agrostology. 3 Credits.
Identification and description of U.S. grasses and grass-like plants. 2 lectures, 2 two-hour laboratories. F (even years).

RNG 717. Aquatic Vascular Plants. 3 Credits.
Identification of major aquatic vascular plants in the Northern Great Plains, utilization of major plant identification keys for the region, and descriptions of ecological roles of species for utilization in assessment, monitoring, and delineation. 1 lecture, 2 two-hour laboratories. F (odd years).

RNG 737. Agroecosystem Management and Conservation. 3 Credits.
Discussion and field course that emphasizes current conservation and management practices influencing agroecosystems. The overarching concepts will link soils, vegetation, invertebrates, vertebrates and society.

RNG 749. Applied Global Change Ecology. 3 Credits.
Discussion driven course that emphasizes current peer-review literature investigating the influence of human-driven global changes on natural resources. The class will include topics ranging from climate change to energy expansion and assisted colonization.

RNG 765. Analysis Of Ecosystems. 3 Credits.
Introduction to advanced statistical techniques to evaluate plant communities, plant-animal interactions, and plant-soil relationships. Emphasis on multivariate analysis. 2 lectures, 1 two-hour laboratory. S (even years).