GRASSLAND STUDIES (GRAS)

GRAS 240 Forage Crop and Pasture Management
Crosslisted with: AGRO 240, RNGE 240
Prerequisites: AGRO/HORT 131 or BIOS 101 or LIFE 120
Description: Principles basic to the establishment, management, and utilization of forage crops and pastures. Plant identification and selection, seedling, fertilization, irrigation, forage quality and utilization, hay and silage preservation, and grazing management. The role of forages and ranges in developing a sustainable agriculture.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL/SPR

GRAS 242 North American Wildland Plants
Crosslisted with: AGRO 242, HORT 242, RNGE 242
Prerequisites: Permission.
Description: Identification and description of two-hundred important wildland plants of North America. Characteristics of these plants evaluated in terms of management implications.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 4
Grading Option: Graded with Option
Offered: FALL/SPR

GRAS 340 Range Management and Improvement
Crosslisted with: AGRO 340, RNGE 340
Prerequisites: AGRO 240.
Description: The principles of range management within the ecosystem framework. Range improvement practices and grazing systems, plant control using biological, chemical and mechanical factors; prescribed burning; range seeding; range fertilization; and the integration of range with other forage resources.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL/SPR

GRAS 341 Perennial Plant Function, Growth, and Development
Crosslisted with: AGRO 441, AGRO 841, HORT 441, HORT 841, RNGE 441
Prerequisites: AGRO 325 or equivalent.
Description: Principles of crop physiology and developmental morphology in relation to function, growth, development, and survival of perennial forage, range, and turf plants. The relationship of physiology and morphological development on plant use and management.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: SPRING

GRAS 440 Great Plains Ecosystem
Crosslisted with: AGRO 440, AGRO 840, NRES 840, RNGE 440, NRES 444
Prerequisites: Junior standing.
Notes: BIOS 101 and 101L, or equivalent, recommended.
Description: Characteristics of Great Plains ecosystems, interrelationships of ecological factors and processes, and their application in the management of grasslands. Interactions of fire, vegetation, grazing animals and wildlife.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: SPRING

GRAS 441 Ecosystem Monitoring and Assessment
Crosslisted with: AGRO 444, AGRO 844, NRES 844, RNGE 444, NRES 444
Prerequisites: Junior standing.
Notes: NRES 220 or equivalent, recommended.
Description: Measurement and monitoring of the important vegetation and environmental factors used to develop management guidelines in grasslands, savannas, woodlands, and wetlands. Emphasis on using ecosystem monitoring protocols for assessment of wildlife habitat, fuels management for wild-land fire, livestock production, and watershed function. Requires field sampling and travel to local field sites.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL

GRAS 442 Wildland Plants
Crosslisted with: AGRO 442, AGRO 842, NRES 842, RNGE 442, NRES 444
Prerequisites: Junior standing.
Notes: BIOS 101 and 101L, or equivalent, recommended.
Description: Wildland plants that are important to grassland and shrubland ecosystem management and production. Distribution, utilization, classification, identification (including identification by vegetative parts), uses by Native Americans, and recognition of grasses, forbs, shrubs, exotic and wetland plants.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: SPRING

GRAS 444 Livestock Management on Range and Pasture
Crosslisted with: AGRO 445, AGRO 845, ASCI 451, ASCI 851, RNGE 445
Prerequisites: AGRO/HORT 131 or BIOS 101 or LIFE 120
Notes: AGRO 445, AGRO 845, ASCI 451, ASCI 851, RNGE 445, GRAS 445
Description: Analyzing the plant and animal resources and economic aspects of pasturage. Management of pasture and range for continued high production emphasized.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL

ACE: ACE 10 Integrated Product
GRAS 490 Internship Experience in Grazing Livestock Systems

**Prerequisites:** Junior standing, Grazing Livestock Systems major and permission

**Description:** A structured practical experience under the supervision of a professional in grazing livestock systems.

**Credit Hours:** 1-3

**Min credits per semester:** 1

**Max credits per semester:** 3

**Max credits per degree:** 4

**Grading Option:** Graded with Option

**Prerequisite for:** ASCI 482, AECN 482

GRAS 495 Grasslands Seminar

**Crosslisted with:** AGRO 495, ENTO 495, HORT 495, NRES 495, RNGE 495, SOIL 495

**Prerequisites:** Junior standing.

**Description:** Topic varies and deals with different aspects of forage and/or range and/or livestock, turf and/or landscape grasses, natural habitats, and wetlands.

**Credit Hours:** 1-2

**Min credits per semester:** 1

**Max credits per semester:** 2

**Max credits per degree:** 4

**Grading Option:** Graded with Option

GRAS 496 Independent Study

**Prerequisites:** Permission and advance approval of contract.

**Credit Hours:** 1-5

**Min credits per semester:** 1

**Max credits per semester:** 5

**Max credits per degree:** 5

**Grading Option:** Graded with Option