

RANGELAND, WILDLIFE AND FISHERIES MANAGEMENT

- BS, RANGELAND MANAGEMENT TRACK

Texas rangeland, woodland, wetland, and aquatic ecosystems provide the citizens of Texas with a multitude of benefits. These benefits include income, water, recreation, wildlife habitat, and scenic beauty. The population of Texas grew over 15% from 2010 to 2020 to approximately 29 million. This population increase has impacted several key regions in the state, e.g., suburban areas and the Hill Country. However, this rapid population growth and environmental change threaten resilience and sustainability of these vital ecosystems. Educating ecosystem managers skilled in making decisions that promote sustainability and resilience is a primary goal of the faculty and staff of the Department of Rangeland, Wildlife, and Fisheries Management (RWFM). The RWFM curriculum provides graduates with the necessary skills and integrates knowledge from several science disciplines. The synergy that arises from the integration of biological, physical, and social sciences in RWFM gives rise to novel real-world solutions suitable for uncertainty and unprecedented change. The RWFM curriculum is not entrenched in any one discipline or any single ecosystem. It equips students with the breadth and depth of knowledge that is reflective of the diversity in the ecosystems in which we live and the issues we face.

Rangeland Management Track

The Rangeland Management track combines the disciplines of ecology and range management to enhance the production, conservation, function and stewardship of rangelands. The breadth and diversity of rangelands requires that knowledge and technology be drawn from numerous disciplines in a systems approach; therefore, students majoring in the Rangeland Management track are prepared to integrate knowledge and technology to manage rangelands for sustainable utilization. Emphasis is placed on the effective management for the goods and services provided by these rangeland ecosystems. The enrichment of the undergraduate program develops a student educational experience and provides relevant science and management knowledge combined with experiential learning under real world situations that lead to skills and the fostering of life-long innovation and creativity in the management of rangelands. The Rangeland Management track prepares students for a broad array of employment opportunities upon completion of the program including, but not limited to, land management agencies, non-governmental organizations, environmental and natural resources consulting, industry, and ranch/range management within the private sector.

Program Requirements

First Year

Fall		Semester Credit Hours
ENGL 104	Composition and Rhetoric	3
ESSM 201	Exploring Ecosystem Science and Management	1
MATH 140	Mathematics for Business and Social Sciences	3

RENr 205	Fundamentals of Ecology	3
RENr 215	Fundamentals of Ecology--Laboratory	1
Directed elective ¹		4
Semester Credit Hours		15

Spring

ENGL 210 or COMM 203	Technical and Professional Writing or Public Speaking	3
HORT 201 & HORT 202	Horticultural Science and Practices and Horticultural Science and Practices Laboratory	4
MATH 142	Business Calculus	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ²		3
Semester Credit Hours		13

Second Year

Fall

ESSM 314	Principles of Rangeland Management Around the World	3
POLS 206	American National Government ²	3
RWFM 202	Concepts in Applied Plant Biology	3
Select one of the following:		4
BIOL 107	Zoology	
BIOL 111	Introductory Biology I	
BIOL 112	Introductory Biology II	
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ²		3
Semester Credit Hours		16

Spring

AGEC 105	Introduction to Agricultural Economics	3
CHEM 119	Fundamentals of Chemistry I	4
ESSM 301	Wildland Watershed Management	3
POLS 207	State and Local Government ²	3
Semester Credit Hours		13

Third Year

Fall

ESSM 302	Wildland Plants of North America	3
RENr 375	Conservation of Natural Resources	3
RWFM 321	Communicating Natural Resources	3
SCSC 301	Soil Science	4
STAT 302	Statistical Methods	3
Semester Credit Hours		16

Spring

AGEC 325	Principles of Farm and Ranch Management	3
ESSM 317 or ESSM 320	Vegetation Management or Ecosystem Restoration and Management	3
RWFM 305	Principles and Practices of Wildlife and Fisheries Management	3
WFSC 303	Fish and Wildlife Laws and Administration	3

Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) ²	3
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Semester Credit Hours	15
Summer	
RENr 345 Park Ecology and Management	3
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Semester Credit Hours	3
Fourth Year	
Fall	
ESSM 313 Vegetation Sampling Methods and Designs in Ecosystems	3
ESSM 316 Range Ecology	3
ESSM 303 Agrostology	3
or ESSM 304 or Rangeland Plant Taxonomy	
Directed elective ¹	6
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Semester Credit Hours	15
Spring	
ESSM 351/ RENr 405 Geographic Information Systems for Resource Management	3
ESSM 481 Senior Seminar	1
RENr 410 Ecosystem Management	4
or ESSM 415 or Range Analysis and Management Planning	
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ²	3
Directed elective ¹	3
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Semester Credit Hours	14
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Total Semester Credit Hours	120

¹ Direct electives to be chosen in consultation with Academic Advisor.

² Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and 3 hours of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses. A course satisfying a Core category, a college/department requirement, or a free elective can be used to satisfy this requirement. Select in consultation with an academic advisor.