

Fire Ecology  
NRM 3301  
Spring 2021

Instructor:

Dr. Rob Kinucan

RAS 109

Phone: 432.837.8488

Email: [kinucan@sulross.edu](mailto:kinucan@sulross.edu)

Lecture: TR 9:30 -11:00 a.m., RAS 128

Office hours: MW 10:00-12:00 and by appointment

Course description:

Study of fire in range and forest ecosystems, including history of fire, climate factors associated with fire, vegetation response, evolution of ecosystems with fire, prescribed burning as a management tool, including planning, implementation, and safety.

Textbook:

No text is required.

Learning objectives:

1. Students will be able to define the process of combustion and identify and explain the factors that affect the process in a wildland situation.
2. Students will be able to describe the effect of fire on ecosystems and understand situations where fire is an appropriate management tool.
3. Students will be able to apply fire safely to an area with a defined burn plan.

Student Learning Outcomes for the B.S. in Natural Resource Management:

1. Students will be able to identify species of wildland plants and wildlife common to the western United States and describe their natural history.
2. Students will be able to demonstrate knowledge of the elements of an ecosystem.
3. Students will be able to communicate about natural resources and conservation both verbally and in writing.

Marketable Skills for B.S. in Natural Resource Management:

1. Students will demonstrate public speaking skills.
2. Students will demonstrate writing skills.
3. Students will be able to apply course knowledge through a research project.

Academic Integrity:

Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment,

examination, or quiz when collaboration is forbidden.

ADA Statement:

Sul Ross State University (SRSU) is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email [mschwartz@sulross.edu](mailto:mschwartz@sulross.edu). Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, SUI Ross State University, Alpine. Texas, 79832.

Class Organization:

1. Participation is an important criterion in determining how much you learn and how well you do in class and will be considered when assigning a final grade. Attendance will be monitored by participation.
2. Fire professionals will be conducting a fire training that meets the requirements for the course component of the Texas Prescribed Burning Board's Prescribed Burn Course. This workshop will take place January 25, 26 and 27, at Kokernot Lodge and is an integral and required component of the Fire Ecology course. Workshops will take place from 8:00 a.m. until 5:00 p.m. each day. The course costs \$150 per student and will serve in lieu of a course textbook. You will receive a registration and payment form at the beginning of the semester. The burn course will include access to all workshop materials.
3. We will take advantage of prescribed burning opportunities as they arise, and I expect you to avail yourselves of these opportunities. Prescriptions for burning are predicated on weather and the availability of human resources. Timing can often be at the last minute, and we will need to be flexible to take advantage of these openings.
4. I expect you to do your own work.
5. If you miss a class, you may obtain notes from a willing classmate. Handouts, and assignments may be obtained from me.
6. As appropriate, be prepared for outside work and wear appropriate clothing as field opportunities arise.
7. We will stick as closely as we can to the class schedule and outline. Conditions sometime require modifications to these timelines, and I will notify you in advance of any changes.

Grades:

Prescribed Burn Workshop	100 points
Fire in Other Lands Group Presentation	100 points
Fire Ecology Paper	100 points
Comprehensive Examination	100 points
Course Participation	100 points
Total	500 points

Grade assignments: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; <60 = F

Fire Ecology Paper:

This assignment is to help you gain a deeper understanding of fire ecology for a specific ecosystem. More details can be found under course documents in Blackboard.

Fire in Other Lands Presentation:

You will work in small groups as assigned. Each group will choose a country other than the United States (no countries can be duplicated) and prepare a presentation to share with the class. More details can be found under course documents in Blackboard.

Texas Prescribed Burning Board's Prescribed Burn Course:

This workshop will take place January 25, 26 and 27, at Kokernot Lodge. This fire training meets the requirements for the course component of the program.

Class meetings and tentative topical outline:

<b>Week of:</b>	<b>Lecture (Tues)</b>	<b>Lecture (Thurs)</b>
Jan 11/13	Introduction – overview of fire and use.	Fire history and effects, general.
Jan 18/20	Fire environment – wildland fire fundamentals	Fire behavior
Jan 25/27	Ray Hinnant Prescribed burning workshop – Note, the workshop will take place all day for three days, beginning Tuesday, Jan 25 through Thursday, Jan 27. See syllabus for details.	Ray Hinnant Prescribed burning workshop – Note, the workshop will take place all day for three days, beginning Tuesday, Jan 25 through Thursday, Jan 27. See syllabus for details.
Feb 1/3	Wildland fuels	Bobby Shat, TPWD Fire Division Lecture/demonstration
Feb 8/10	SRM Meeting	SRM Meeting
Feb 15/17	Wildland fuels	Fire weather
Feb 22/24	Fire weather	Fire as a natural disturbance
March 1/3	Adaptations of plants in fire-prone ecosystems	The response of animals to fire (Fire Ecology paper due, submitted in Bb)
March 8/10	Spring Break	Spring Break
March 15/17	Will Juett, NRCS Fire and soils	Fire regime (fire ecology)
March 22/24	Fire regime (fire ecology)	Fire regime (fire ecology)
March 29/31	Fire regime (fire ecology)	Fire, habitat complexity and biodiversity

April 5/7	Fire and culture	Fire in other lands Group presentations
April 12/14	Fire in other lands Group presentations	Fire in other lands Group presentations
April 19/21	Fire in other lands Group presentations	Climate change and fire ecology
April 26	Last class day Comprehensive exam	