

**NR 44 - Section 56328**  
**FIRE ECOLOGY**  
**Thursdays - 2:30 to 5:20 p.m.**  
Dates: 1/14/15 to 5/19/15  
**Room FEM-04**  
**Syllabus**

**INSTRUCTOR:** Julia Bristow  
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**Office:** FEM 10, Phone: (559)638-0300, Ext. 3275.  
**Office Hours:** Class hours and days and Email. Instructor is not available on campus except during class hours. The best way to contact is through email.

**Drop Deadline:** 1/31/16– to avoid a “W” on transcript  
3/11/16– Final drop date

**TEXTBOOK:** *Fire in California's Ecosystems, 1st Edition*  
by Neil G. Sugihara ISBN-10: 0520246055 (required)

Additional assigned readings will be given as handouts or provided for download from Blackboard.

**Holiday (no class):** Thursday, March 24 (Spring Break)

**Course Description:** Preparation for employment and advancement within a State or Federal wildland fire agency. This course will convey what is currently understood about the role of wildfire in major ecosystem types. Analysis of plant and animal characteristics that appear to have coevolved with fire regimes and how human cultures have used and modified fire regimes, historically and currently.

**Course Objectives:** This course is designed provide students with the principles to evaluate the impacts of fire on vegetation, soils, and wildlife across different California bioregions and under a broad range of conditions. Students will be become familiar with fire regimes, histories and ecology of major forest, rangeland and wetland ecosystems as they relate to natural and anthropogenic fire and fire suppression. This includes an understanding of:

- 1) How fire interacts with abiotic and biotic components of ecosystems (i.e., plant communities, fuels, climate, topography, and soils) to affect forest and landscape structure and composition, both historically and currently.
- 2) The role of fire as an ecosystem process.
- 3) The use of fire in natural resource management, ecological restoration, and wildlife habitat enhancement.

This course focuses on the ecological aspects of fire science and how it relates to information that land managers, biologists, and policy makers are likely to require when making decisions associated with wildland fires.

**Course Outcomes:** In the process of completing this course students will:

1. Evaluate the impacts of fire, including pre- and post-fire conditions of sites, to predict potential short- and long-term outcomes of fire on ecosystems.
2. Describe fire regime relationships to various ecosystems and discuss the attributes for fire regime classification.
3. Gather data for fire history analysis.
4. Describe fire climate variables and how they affect fire return intervals and fire intensities.
5. Describe and explain fire regimes, histories and current fire dynamics associated with major forest, range and wetland ecosystems and predict first order fire effects.

**Attendance and Participation:** To be considered present, students should be in class, attentive, properly attired, and ready for classroom or field activities regardless of weather or other factors. Two tardies will count as one absence. Roll will be taken at each session and students may be dropped if four absences are accrued unless specific arrangements are made. Field trips/exercises missed cannot be made up. Personal Protective Equipment (PPE) is mandatory for all field exercises. Students who fail to have in possession all PPE for field trip/exercises will not be allowed to participate, will be dismissed from the day's exercise, and will be charged an absence for the day.

**Required PPE for Field Trips:**

Each student must have the following items during each class in order to be allowed to participate and earn credit for field trip.

- Hardhat
- Leather Gloves
- Water container (1 quart canteens or water bottles)
- Leather Boots (minimum 8" high uppers, nonskid soles preferably Vibram, no steel) (estimate \$200)
- Long Pants w/ Belt (no cuffs, NO HOLES)
- Long Sleeve Cotton Work Shirt (NO HOLES)
- Backpack sufficient to carry hardhat, gloves, safety glasses, water, and food (needs to be in addition to your regular school backpack). Chest and waist straps are advisable.

Details will be given during the first class meeting.

**Final Exam**

The final exam will be during finals week, Thursday, May 21, at 2:35 p.m.

**Behavioral Standards:** Students and teachers greatly appreciate attention to appropriate classroom courtesy. Please take care of personal needs (e.g., using the rest room, getting a drink, sharpening a pencil) before class begins. Foul language or disruption to the instruction will not be tolerated. There will be no tobacco use in any building or school farm. Safety rules must be strictly followed including the use of personal protective equipment (PPE) and cautious behavior. Please turn off or silence cell phones when entering the class. Students may not use cell phones during class (\*see below\*). It is not acceptable to bring guests to class. I start class on time and take roll. Please do not be late. If you are late, it is your responsibility to ensure that you are counted for attendance **after** class.

**Academic Dishonesty:** Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly obtained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences. Refer to the college catalog for further details surrounding actions that will be implemented regarding academic dishonesty.

Plagiarism is the adoption or reproduction of the ideas or words or statements of another person without due acknowledgment. Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers in an attempt to gain an unearned academic advantage. Cheating can take the form of the storing of information in graphing calculators, pagers, cell phones, and other electronic devices. Therefore, no items of any kind may be on the desktop, including water bottles, during testing. Students may not wear hats/caps during testing. Incidents of cheating and plagiarism may result in a variety of sanctions and penalties, which may range from a failing grade on a particular examination, paper, project, or assignment in question to a failing grade in the course at the discretion of the instructor and depending upon the severity and frequency of the incidents.

**Accommodations for students with disabilities:** If you have a verified need for an academic accommodation or materials in alternate media (e.g., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act please contact me as soon as possible. **A formal counseling assessment to determine the appropriate accommodation is required before any accommodation(s) can be made. The counseling center facilitates the process.**

**Field Trip:** One field trip to Redwood Mountain Ecological Area in the Sequoia/Kings National Park will be required. Students will be able to view, first hand, the effects of fire exclusion in a Redwood ecosystem and compare their findings to a Redwood ecosystem where the historic fire regime has been reintroduced by successive prescribed fire entries. Presentations will be made by fire ecologists from the National Park Service and/or other wildfire research institutions. A written summary of lessons learned will be required (details given later).

**Grading Policy:** Grading will be based on the results of ten assignments/quizzes, field trip summary paper, midterm and final exams. Assignments must be submitted on the due date or earlier.

Assignment Type	Points Possible
Assignments/Quizzes	10 @ 10 pts per = 100
Mid-term exam	50
Final exam	100
Field Trip Summary	50
<b>TOTAL</b>	<b>300 Points possible</b>

Grade Distribution	
A= 270-300 pts.	90-100%
B= 240-269 pts.	80-89%
C= 210-239 pts.	70-79%
D= 180-209 pts.	60-69%
F= Below 180 pts.	Below 60%

**\*Tentative\* Schedule:**

1/14/16:	Course introduction and survey (1). What is fire ecology?
1/21/16:	Fire as a physical process Fire behavior triangle - Fuels, Topography, Weather Fire behavior assignment (2) Chapter 3
1/28/16:	Fire as an Ecological Process, Introduction to fire regimes Fire regime assignment (3) Chapter 4
2/4/16	Fire and Physical Environment - Soil, Water, Air Chapter 5
2/11/16	Introduction to plant terminology and communities, structure and composition Labeling Quiz (4) Assigned readings on BB
2/18/16	California vegetation and climate, Introduction to California bioregions Bioregions assignment (5) Chapter 1
2/25/16	Fire and plant interactions, FEIS plant species assignment (6) Chapter 6
3/3/16	Fire and animal interactions, FEIS animal species assignment (7) Chapter 7
3/10/16	Fire History Methods and Fire Behavior Models Tree burn scar assignment (8) Assigned readings on BB
<b>3/17/16</b>	<b>Midterm</b>
<b>3/24/16</b>	<b>Spring Break</b>
3/31/16	Fire, watershed resources and aquatic ecosystems Ch. 5&20
4/7/16 4/14/16 4/21/16	Fire regimes of specific California bioregions (several class sessions) Assigned readings
4/28/16	Fire and invasive plant species, Fire and endangered/at-risk species Species assignment (9) Chapters 22-23
5/5/16	Field trip Sequoia/Kings National Park (*date to be announced*) Field trip summary paper
5/12/16	Future of fire in California, History and Policy Chapter 19&24 Opinions and final messages assignment (10)
<b>5/19/16</b>	<b>Final Exam (*time to be announced*)</b>