Reedley College – Natural Resources/Forestry

Spring 2017: 1/10/2017 to 5/16/2017

**FIRE ECOLOGY**

**NR 44 – Section 55072**

Tuesdays 6:00 PM – 8:50 PM

Instructor: Michelle Latsch

Email: michelle.latsch@reedleycollege.edu

Office Hours: By appointment **only**. Instructor is not available on campus except during class hours, so make an appointment. The best method of contact is through email.

Drop Deadline: 3/10/2017

Textbook:  *None Required.*  Additional assigned readings will be given as handouts or provided for download from course site on Canvas.

**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 co-evolved with fire regimes and how human cultures have used and modified fire regimes, historically and currently.

**Course Objectives**

This course is designed to 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 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 (e.g. 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-term and long-term outcomes of fire on ecosystems.

2. Describe fire regime relationships to various ecosystems and discuss the attributes for fire regime classifications.

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. Missed field trips or exercises cannot be made up. Personal Protective Equipment (PPE) is mandatory for all field exercises. Students who fail to be prepared with all PPE for field trip/exercises will not be allowed to participate, will be dismissed from the day’s exercise, and will be counted as absent for the day. This requirement is for student safety.

**Behavioral Standards**

Students and teachers greatly appreciate attention to appropriate classroom courtesy. Please take care of personal needs before class begins. Foul language or disruption to the class 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 PPE and cautious behavior. Please turn off or silence cell phones when entering the class. Students may not use cell phones during class—this may be considered academically dishonest and is grounds for a failing grade on an assignment or exam. It is not acceptable to bring guests to class. Make every effort to come to class on time. 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 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 dishonestly 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 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 can be made. The counseling center facilitates the process.**

**Grading Policy**

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

Grade Distribution:

A: 270 - 300 points (90-100%)

B: 240 - 269 points (80-89%)

C: 210 - 239 points (70-79%)

D: 180 - 209 points (60-69%)

F: Below 180 points (below 60%)

**Field Trip**

One field trip to TBA will be required. Students will be able to view wildfire effects on the environment first-hand. A written summary of lessons learned will be required as one of the requirements of class grading and participation.

**Required PPE**

Each student must have the following field and protective gear for field exercises.

1. Hard hat

2. Leather gloves

3. Water containers with water adequate for field conditions (1 quart for class period)

4. Boots with leather uppers and rubber non-skid soles

5. Long pants with belt, no cuffs, no holes

6. Long-sleeve cotton work shirt, no holes

7. Food, if necessary

**(Class Schedule can be found on following page)**

**Class Schedule**

Subject to change based on instructor’s schedule and discretion. Changes will be communicated in advance of class periods.

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| --- | --- | --- | --- |
| **Class Date** | **Class Topic** | **Assignments** | **Point Value** |
| 1/10/2017 | Introductions/SurveyReview of Course Objectives and SyllabusFire Ecology Term Familiarization | Vocabulary | 15 |
| 1/17/2017 | Fire and California Vegetation and ClimateFire Weather |   |   |
| 1/24/2017 | Fire as Physical ProcessFire as Ecological Process |   |   |
| 1/31/2017 | Fire and Interaction with Physical Environment (soil, water, air) | Quiz | 10 |
| 2/7/2017 | Fire and Plant Interactions |   |   |
| 2/14/2017 | Fire and Animal Interactions |   |   |
| 2/21/2017 | Instructor outFire career day? | Quiz | 10 |
| 2/28/2017 | California Bioregions -North Coast -Klamath Mountains -Southern Cascades -Northeastern Plateau | Class Presentation | 25 |
| 3/7/2017 | California Bioregions -Sierra Nevada -Central Valley -Central Coast -South Coast -Southeastern Desert |
| 3/14/2017 | **MIDTERM** | Midterm | 100 |
| 3/21/2017 | Fire HistoryFire Management and Policy |   |   |
| 3/28/2017 | Fire and Fuel Management |   |   |
| 4/4/2017 | Fire and Watershed ResourcesAquatic EcosystemsAir Resources |   |   |
| 4/11/2017 | Fire and Invasive SpeciesFire and Sensitive Species | Quiz | 10 |
| 4/18/2017 | **Spring Break: No Class** |   |   |
| 4/25/2017 | Future of fire in California EcosystemsExam Review |   |   |
| 5/2/2017 | Instructor Out**FINAL EXAM** | Final Exam | 115 |
| 5/9/2017 | Field Trip? |   |   |
| 5/16/2017 | Final assignment due on field trip | Field Trip Essay | 15 |
|  | Total Available Points: | 300 |