

Introduction to Wildland Fire
RNR 355, Fall 2012
Dr Don Falk, School of Natural Resources
MWF 1100 – 1150 AM, Biological Sciences
East 225
Syllabus and Class Schedule

Course Description

Introduction to Wildland Fire aims to provide students with a broad, balanced understanding of fire as a biophysical process. We explore fire from many perspectives, including physics, ecology, biogeography, management, policy, and economics. The course will strive to make our study of fire interesting and relevant in the contemporary world by examining how such factors as climate change, invasive species, and land use influence how fire interacts with the landscape.

We will examine a variety of fire management strategies including fire suppression, prescribed fire, wildland fire use, and landscape restoration ecology. The course will provide a global perspective on fire, with primary emphasis on ecosystems of western North America, using recent fires as case studies.

Course homepage: <http://cals.arizona.edu/classes/rnr355/>

Username = rnr355 Password = email TA for access

Locations and Times

MWF 11-Noon, Biological Sciences East 225

Instructor

Don Falk, Associate Professor

Office and lab: 207 Biological Sciences East

E-mail (preferred): dafalk@u.arizona.edu

Phone: (if necessary) 626-7201

Office Hours: TBA

Instructor homepage: <http://www.snr.arizona.edu/people/falk>

Teaching assistant (part time): Tyson Swetnam (tswetnam@gmail.com)

Course Objectives and Expected Learning Outcomes

The course is designed to be useful to students in many fields of study, including (but not limited to) natural resource management, ecology, water resources, watershed and range management, geography, arid lands studies, and dendrochronology. RNR 355 course will serve as a prerequisite for more advanced coursework in fire science, management, and related topics.

By the conclusion of the course, students will be able to demonstrate a sound understanding of:

1. Basic fire physics and chemistry
2. Dynamics of fire spread and interactions with landscapes
3. Fire effects on species, communities, and ecosystems
4. Fire regimes of the world
5. Fire management and policy
6. Relationship of fire to other important contemporary environmental issues
7. The complexity of large fire events
8. Ways of finding and synthesizing fire science literature, and creating clear written and oral presentations of information.

Required and Recommended Knowledge

To obtain the maximum benefit from the course, and to contribute to group discussions, students

enrolling in the course must have completed at least two (2) semesters of introductory biology. A course in ecology and/or natural resource management is recommended but not required. Students with questions about their level of preparation are encouraged to contact the instructor prior to registration.

Course Methodology and Teaching Format

Fire is a very visual phenomenon. Classroom time will include examination of maps, photographs and aerial images, and videos of fire in action. Teaching methods will include illustrated lectures, group discussion led by the instructor and students, and a case study project. Experts in various aspects of fire science and management will lecture and lead discussions on a variety of subjects. During the term we will use a wide variety of information sources including web-based searches conducted by students.

Student case study project. During the course, each student will conduct a detailed case study of one real fire event, selected from a list provided by the instructor and using a standard template of information to be sought for the event. Students will use the template to collect and synthesize information about date and cause of ignition, control sequence, vegetation type, suppression strategies and costs, progression, post-fire effects. Information can be obtained from published works, Internet sources, or interviews with fire managers. Students will be encouraged to include photographs, maps, and other graphical images in their reports. Fires can include major wildland events as well as prescribed and natural ignitions. The case study will be conducted during the second half of the semester, when students will have acquired basic understanding of fire as a biophysical process. Studying a single large event will allow students to vertically integrate their knowledge of fire physics, behavior, weather and landscape influences, management strategies and tactical decisions, effects, and economics. The case study will be the main creative student product during the term. Reports will be submitted electronically if possible.

Readings

Readings will be drawn from the published literature and provided either on paper or on-line. There is no required textbook for the course. Material from the readings will be included in quizzes, exams, and exercises.

Grading Policy

Every student who works diligently should be able to achieve a positive learning experience in this course. Grades in the course will be based on student performance in four major course elements:

1. Unit quizzes (6)
2. Take-home exercises (4)
3. "Big fire" case study project (1)
4. Final comprehensive examination (1)

Grades will be calculated as follows on a total of 500 possible points for the term:

Course element	Number during term	Points each	Total points	Pct of grade
Unit quizzes	6	30	180	36%
Exercises	4	30	120	24%
Case study project	1	100	100	20%
Final examination	1	100	100	20%
TOTAL			500	100%

Section quizzes and examinations may include multiple choice, short-answer, and essay responses, including interpretation of maps and images provided during a quiz or exam. Students are responsible for all material covered in lectures, discussions, readings, and presentations by students – any of these may appear on a quiz or exam. Quizzes are 30-45 minutes and will be completed during class time; exercises will be due in class on the due date. To be fair to other students, late work and incompletes are discouraged strongly, and must be discussed and agreed upon with the instructor in advance; late penalties will be assessed at a rate of 20% per day. Missing quizzes and exams is particularly strongly discouraged and will be allowed only under very limited circumstances consistent with University policy.

Attendance Policy and Classroom Behavior

We are all here to learn, to enjoy stretching our minds and expanding the domain of understanding. In a classroom setting, we do much of our learning as a group. In order for these to happen successfully, certain behaviors are basic and expected of all students:

1. Attend every lecture and discussion, and please be on time.
2. Be respectful of others by being attentive, engaged, and quiet during lectures.
3. Text messaging, use of cell phones and music players, reading, and other non-class activities are distracting and disrespectful to others and will not be permitted at any time when class is in session. Please leave the classroom if you must engage in these activities.
4. Do the readings, study well for quizzes and exams.
5. Participate in a positive manner during discussions; express your opinions and respect those of others.
6. Encourage your fellow students in their own learning process. For the duration of this course we are a community.

Holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean designee) will be honored.

The Arizona Board of Regents' Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one's self.

See: <http://policy.web.arizona.edu/~policy/threaten.shtml>.

Special Needs and Accommodations

Students who need special accommodation or services should contact the Disability Resources Center, 1224 East Lowell Street, Tucson, AZ 85721, (520) 621-3268, FAX (520) 621-9423, email: uadrc@email.arizona.edu, <http://drc.arizona.edu/>. You must register and request that the Center or DRC send me official notification of your accommodations needs as soon as possible. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate. The need for accommodations must be documented by the appropriate office.

Student Code of Academic Integrity

I count on every student to respect and follow the University's Code of Academic Integrity, and I will take violations of this trust seriously. Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. I reserve the right to investigate possible evidence of plagiarism using the tools available to University faculty. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://dos.web.arizona.edu/uapolicies/>.

Confidentiality of Student Records

<http://www.registrar.arizona.edu/ferpa/default.htm>

Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.