



## Wildland Fire Ecology - FES 440 Syllabus Winter 2022, Corvallis Campus

### Course Details

**Course Name:** Wildland Fire Ecology

**Course Number:** FES 440

**Credits:** 3

**Instructor name:** Dr. Meg Krawchuk (she/her)

**Instructor email:** [meg.krawchuk@oregonstate.edu](mailto:meg.krawchuk@oregonstate.edu)

**Student Hrs:** after class or by appointment – email me and we'll set something up

**Marking TA/Teaching Assistant:** Graham Frank (he/him), [graham.frank@oregonstate.edu](mailto:graham.frank@oregonstate.edu)

**Student Hrs:** By appointment – email Graham to set something up

**Meeting time:** MWF 10-10:50am, LINC 314

*This class is scheduled to be offered face-to-face on campus. OSU has vaccination and mask mandates in place and we meet in a space that follows the best practice guidelines of the CDC and the state of Oregon. There may be unexpected changes. If health and safety concerns prevent us meeting in person, the class will be designed to optimize your interactions with me your instructor, with the material, and with your classmates.*

### Course Description

Overview of main principles in fire ecology, including fire regimes, fire histories, ecology, and socio-ecological systems across a broad range of ecosystems and landscape conditions. Develops toolbox of skills, theory, and information for contemporary land management in context of landscape restoration, conservation, and climate change.

### Learning Resources

**Required:** All required learning resources are provided within Canvas, through links to OSU library, and through your own online research.

Some reference readings come from the text: Sugihara *et al.* (2006) *"Fire in California's Ecosystems"* ISBN: 13 948-0-520-24605-8. This text is available for FREE through the OSU online library. This is not a required text but is an excellent resource. This is a 2<sup>nd</sup> edition available in print.

Further reference materials can be found here: [https://www.firescience.gov/JFSP\\_rainbow\\_series.cfm](https://www.firescience.gov/JFSP_rainbow_series.cfm)

### Course Content and Evaluation

#### Student Learning Outcomes

1. Describe and explain key concepts of fire ecology, fire effects, fire regimes, histories, and current fire dynamics associated with a range of terrestrial ecosystems
2. Explain potential short- and long-term outcomes of fire and fire exclusion on ecosystems
3. Research and synthesize information on fire effects for species and landscapes/regions globally
4. Evaluate the rigor and quality of fire history and fire ecology studies
5. Recognize key issues in fire ecology required to move society toward sustainable fire management
6. Demonstrate the language and confidence to contribute to productive, balanced discussion of theoretical and applied concepts in fire ecology

### Evaluation of Student Performance

Learning outcomes and grades will be measured with:

- Welcome and Fire Connections post – 5 points
- Friday Journal Club Discussions – 150 points
- Fire Ecology Global Expeditions posts – 45 points
- Fire Ecology Fact Sheet – 40 points
- Fire Ecology Review Paper – 95 points
- Midterm Exam (take home) – 30 points
- Final Exam – 50 points

Details for all assignments and evaluations are provided on Canvas.

**One FREE PASS when you need it.** Recognizing that everyone is juggling quite a lot this term, we will permit you to miss, or be up to 3 days late, on one assignment without penalty. This includes:

- missing one Friday Journal Club
- three days late for your Fire Ecology Review Paper, Fire Ecology Fact Sheet, or a Global Fire Ecology post

You do not need to request this in advance, but you do need to follow up with your TA by emailing to say you've decided to use your FREE PASS. If you decide to use this FREE PASS, your marks will be scaled accordingly ("Excused" in Canvas).

### Late work policy

Aside from the FREE PASS, all assignments are due at their posted deadline. Late assignments will be penalized 10% of the assignment's maximum possible points per day late up to a maximum of 40%. Please contact your instructor if you have an emergency/accidental situation, scheduling conflict, family, or work-related issues that precludes you from meeting a deadline – these exceptions will be handled on a case by case basis.

An assignment uploaded incorrectly (e.g. wrong file, etc) will be counted as late, as we have no way of knowing whether this was accidental or intentional. Therefore, make sure you check the upload after it completes and check with the TA if you have questions about using Canvas.

### Letter Grade

A (94-100), A- (90-93), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (63-66), D- (60-62), F (<60)

### General Course Content

Week	Topic
1	Basic framework of fire and fire ecology
2	Fire effects on ecosystems
3	Fire regime adaptive traits
4	Quantifying and characterizing fire regimes
5	Fire regimes and their ecologies I
6	Fire regimes and their ecologies II
7	Fire regimes and their ecologies III
8	Fire regimes and their ecologies IV
9	Fire regimes and their ecologies V
10	Global change: fire ecology, changing climate, changing regimes
11	Final exam

<b>Course Schedule: Course Map and General Outline (tentative)</b>
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Week	Day	Lecture & Discussion Topics	Readings*
1	M	Introduction to fire ecology	Supplementary readings
1	W	Fire as a biophysical process	Supplementary readings
1	F	<i>Journal Club Discussion</i> <u>Welcome and Fire Connections post due Sunday EOD</u>	<i>Required reading</i>
2	M	Fire effects I	Supplementary readings
2	W	Fire effects II	Supplementary readings
2	F	<i>Journal Club Discussion</i> <u>Global Fire Ecology post #1 due Sunday EOD</u>	<i>Required reading</i> <sup>G1</sup>
3	M	no class – MLK day	--
3	W	Fire regime adaptive traits	Supplementary readings
3	F	<i>Journal Club Discussion</i>	<i>Required reading</i> <sup>G2</sup>
4	M	Characterizing fire regimes	Supplementary readings
4	W	Quantifying fire regimes	Supplementary readings
4	F	<i>Journal Club Discussion</i> <u>Fire Ecology Fact Sheet due Sunday EOD</u>	<i>Required reading</i> <sup>G3</sup>
5	M	Frequent fire regimes, grassland ecology	Supplementary readings
5	W	Frequent fire regimes, dry forest ecology	Supplementary readings
5	F	<i>Discussion/Activity</i> <u>Take-home Midterm due Sunday EOD</u>	<i>Required reading</i>
6	M	Infrequent high severity fire regimes	Supplementary readings
6	W	Mixed severity fire regimes, the messy middle	Supplementary readings
6	F	<i>Journal Club Discussion</i> <u>Global Fire Ecology post #2 due Sunday EOD</u>	<i>Required reading</i> <sup>G4</sup>
7	M	Sagebrush ecosystems and conservation	Supplementary readings
7	W	Restoration and collaboration in fire ecology	Supplementary readings
7	F	<i>Journal Club Discussion</i> <u>Submit Review Paper Idea due Sunday EOD</u>	<i>Required reading</i> <sup>G5</sup>
8	M	Mixed severity fire, eastern forests	Supplementary readings
8	W	Disturbance overlaps and synergies	Supplementary readings
8	F	<i>Journal Club Discussion</i> <u>Global Fire Ecology post #3 due Sunday EOD</u>	<i>Required reading</i> <sup>G6</sup>
9	M	Fire refugia	Supplementary readings
9	W	Invasion ecology and fire ecology	Supplementary readings
9	F	<i>Journal Club Discussion</i> <u>Fire Ecology Review Paper<sup>&amp;</sup> due Sunday EOD</u>	<i>Required reading</i> <sup>G7</sup>
10	M	Fire ecology and changing climate, adaption	Supplementary readings
10	W	Principles of fire ecology	Supplementary readings
10	F	<i>Journal Club Discussion</i>	<i>Required reading</i> <sup>G8</sup>

\*All supplementary and required readings are detailed in the weekly Learning Materials section on Canvas.

G<sup>x</sup> next to the reading indicates graduate student(s) in the class will provide a brief summary presentation of the paper to start off our Friday Journal Club discussion, and guide discussion time. See Canvas for details.

<sup>&</sup>Specific, additional requirements for FES 540 graduate students. See Canvas for details.

Final Exam: Written in scheduled exam slot, on Canvas in Week 11.

## OSU COVID POLICIES

### FACE COVERINGS

OSU requires the use of face coverings in indoor spaces, as well as outdoor spaces where physical distancing is not feasible. OSU continues to be responsive to current public health conditions and guidance from the Centers for Disease Control and Prevention (CDC), the Oregon Health Authority (OHA) and local county requirements. For additional guidance, see the OSU Face Coverings guidance [webpage](#).

### QUARANTINE, ISOLATION, OR MISSED CLASS TIME

If you experience symptoms of COVID-19 please consult OSU [Quarantine and Isolation guidelines](#) to determine your next steps. If you are unable to attend a class session please let me know. I will record our lectures as needed and/or you can join remotely. I will provide more details on Canvas and in class for those situations.

### IF YOU ARE ILL (OR CARING FOR SOMEONE WHO IS)

I am here to support your success during these challenging times, too. Please reach out to me directly if you are concerned about your ability to engage in course activities while you are ill. You can do so by sending me an email or Canvas message. You need not disclose private medical information or provide documentation of your illness. The [Office of the Dean of Students](#) can also assist you if you are navigating a range of extenuating life circumstances including but not limited to prolonged illness, hospitalization, financial concerns, etc. They can be reached via Zoom chat or audio Monday through Friday from 9 a.m. to 5 p.m. at [beav.es/4qQ](https://beav.es/4qQ) or by email at [support.odos@oregonstate.edu](mailto:support.odos@oregonstate.edu).

**COVID-19:** During this public health emergency we all have a shared responsibility to each other to take steps to reduce spread and transmission of COVID-19. This includes getting fully vaccinated and boosters as soon as you are eligible, following all OSU and public health authority guidance and regulations, including maintaining physical distancing at all times, wearing face coverings in shared spaces, and staying home if you are sick or have been in close contact with a known or suspected COVID-19 case. If you need to stay home due to illness or potential exposure, please contact your instructor who will work with you to facilitate your continued engagement with the course material and make up assignments with no penalty for lateness. For the updates from OSU on COVID-19 safety and mitigation measures, visit: <https://covid.oregonstate.edu/>

**Policy Violations:** Each member of the OSU community is responsible for holding themselves accountable to OSU policies and standards. Faculty are responsible for classroom management and may refer students to the Office of Student Conduct and Community Standards for further discipline if warranted.

## Course Policies

### Incompletes

Incomplete (I) grades will be granted only in rare or emergency cases (e.g., death in the family, major illness or injury, or birth of your child). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let us know right away.

### Statement Regarding Religious Accommodation

Oregon State University is required to provide reasonable accommodations for employee and student sincerely held religious beliefs. It is incumbent on the student making the request to make the faculty member aware of the request as soon as possible prior to the need for the accommodation. See the [Religious Accommodation Process for Students](#).

### Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the Student Conduct Code (<https://beav.es/codeofconduct>). Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

**Academic Integrity**

Integrity is a character-driven commitment to honesty, doing what is right, and guiding others to do what is right. Oregon State University students and faculty have a responsibility to act with integrity in all of our educational work, and that integrity enables this community of learners to interact in the spirit of trust, honesty, and fairness across the globe.

Academic misconduct, or violations of academic integrity, can fall into seven broad areas, including but not limited to: cheating; plagiarism; falsification; assisting; tampering; multiple submissions of work; and unauthorized recording and use.

It is important that you understand what student actions are defined as academic misconduct at Oregon State University. The OSU Libraries offer a [tutorial on academic misconduct](#), and you can also refer to the [OSU Student Code of Conduct](#) and [the Office of Student Conduct and Community Standard's website](#) for more information. More importantly, if you are unsure if something will violate our academic integrity policy, ask your professors, GTAs, academic advisors, or academic integrity officers.

**Turnitin**

Your instructor may ask you to submit one or more of your writings to Turnitin, a plagiarism prevention service. Your assignment content will be checked for potential plagiarism against Internet sources, academic journal articles, and the papers of other OSU students, for common or borrowed content. Turnitin generates a report that highlights any potentially unoriginal text in your paper. The report may be submitted directly to your instructor or your instructor may elect to have you submit initial drafts through Turnitin, and you will receive the report allowing you the opportunity to make adjustments and ensure that all source material has been properly cited. Papers you submit through Turnitin for this or any class will be added to the OSU Turnitin database and may be checked against other OSU paper submissions. You will retain all rights to your written work. For further information, visit [Academic Integrity for Students: Turnitin – What is it?](#)

**A Note on Pronouns**

We all have preferred pronouns, words that we use to refer to ourselves and other people. We all use pronouns every day: common gender pronouns are she/her/hers and he/him/his. Some people choose pronouns other than these ones that align better with their gender identify. Examples of these gender-neutral pronouns include: they/them/their and ze/hir/hirs (pronounced zee-here-heres). Some people prefer not to use pronouns at all, and just be referred to by their name. It's important not to assume someone's pronouns based on the way they look or by their name.

If you're comfortable doing so, please share your pronouns, and make this part of the way you introduce yourself. It might require a bit of practice, but that's just fine. Your use of pronouns demonstrates your recognition of a diverse spectrum of self-identification. We share pronouns to treat everyone the way they wish to be treated.

For more information on pronouns and why we share them, you can check out this article:

<http://www.deanspade.net/2018/12/01/we-still-need-pronoun-go-rounds/>

**Diversity, Equity, Inclusion, and Social Justice**

OSU is a community that includes and values the voices of all people. As such, we recognize the social barriers that have systematically marginalized and excluded people and communities based on race, ethnicity, gender, sexual identity, socioeconomic background, age, disability, national origin and religion. At OSU and in this class, we are committed to the equity of opportunities, and strive to promote and advance diverse communities. We value and proactively seek genuine participation from everyone, and recognize we all are an essential component of a welcoming and rich academic, intellectual, and cultural environment for everyone. For more information on the DEI initiative, please see: <https://diversity.oregonstate.edu/>

*Please reflect and think about what diversity, equity, inclusion, and social justice means to you.*

### **Statement Regarding Students with Disabilities**

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval, please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

### **Reach Out for Success**

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about [resources that assist with wellness and academic success \(oregonstate.edu/ReachOut\)](http://oregonstate.edu/ReachOut). These resources include support with physical, financial, and mental health issues. We all need a little help sometimes.

If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)

**\*\*If you feel comfortable sharing how a hardship may impact your performance in this course, please reach out to us, as your instructor and Teaching Assistant.\*\***

### **Student Evaluation of Courses**

During Fall, Winter, and Spring term the online Student Learning Experience Survey (SLE) system opens to students the Wednesday of week 8 and closes the Sunday before Finals Week. Students receive notification, instructions and the link through their ONID. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses for future students. Responses are anonymous (unless a student chooses to “sign” their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.

### **Statement on Reporting**

Please be aware that I need to report incidents you disclose to me inside or outside the classroom that involve gender or sex-based harassment, violence, or discrimination, including your name, to the Office of Equal Opportunity and Access (EOA). For more information on how EOA responds to reports, please visit their website at [eoa.oregonstate.edu](http://eoa.oregonstate.edu). However, if you wish to make a confidential disclosure and receive information on resources and services, please contact the Survivor Advocacy and Resource Center (SARC) by phone (541-737-2030), by e-mail ([survivoradvocacy@oregonstate.edu](mailto:survivoradvocacy@oregonstate.edu)), or visit them in the Plageman Building. EOA and SARC can assist with academic accommodations.

Wow, that was a lot. Thanks for reading this through. Looking forward to working with you this term.

--- Meg