

Syllabus

Wildland Fire Guard School, Graduate Version

Spring Term, 2026

Course Number: FOR 508

Credits: 2

Instructor:

John Punches. Associate Professor. Dept of Forest Engineering, Resources, and Management. Extension Forester for Northeastern Oregon (Union, Umatilla, and Wallowa Counties).

john.punches@oregonstate.edu.

Students: This is the graduate student version of Guard School. Students from all colleges and disciplines are welcome.

Description: Utilizes National Wildfire Coordinating Group (NWCG) and Federal Emergency Management Agency (FEMA) online curricula, coupled with instructor-led online lectures, discussions, and in-person field-based exercises to build a solid foundation in wildland firefighting and basic fire behavior. Students work independently to complete NWCG and FEMA online modules prior to discussions. Field sessions develop firefighting skills, including fire shelter deployment and a Work Capacity Fitness Test (WCFT) opportunity. Successful completion results in nationally recognized certification for each NWCG unit completed and qualification as an entry-level wildland firefighter (FFT2) or prescribed fire crew member (RXCM). See Attachment A for descriptions of online curriculum components.

Class meeting time: Weekly 80-minute Zoom lecture and discussion sessions (Tuesday evenings, 6:00 to 7:20 p.m.) plus one Sunday field session (April 26, or make-up option on May 31) starting at 8:00 a.m. and running for approximately 8 hours. Field sessions to be held on the McDonald and Dunn Research Forests just north of Corvallis. Additional, optional, field sessions are anticipated – providing opportunities to embed on US Forest Service prescribed burns on the Deschutes National Forest near Bend.

Catalog Course Description: Builds solid foundation in wildland firefighting and basic fire behavior. Incorporates National Wildfire Coordinating Group (NWCG) and Federal Emergency Management Agency (FEMA) online curricula. Develops firefighting skills, including fire shelter deployment and a Work Capacity Fitness Test (WCT) opportunity, through a series of field-based exercises.

Time commitment: Approximately 60 hours of instruction, online curriculum, and field-based exercises.

Prerequisites: None. Medical clearance and risk acknowledgement required. Open to all students.

Student Learning Outcomes:

- Explain the principles and basic structure of the Incident Command System (ICS), its role in the National Incident Management System (NIMS), and its application to management of wildland fire.
- Identify and discuss key characteristics of the primary wildland fire environment components - fuels, weather, and topography - and recognize how their alignment can increase the potential for extreme fire behavior.
- Describe and demonstrate use of wildland fire safety concepts, including the Standard Firefighting Orders; Watch Out Situations; and Lookouts, Communications, Escape Routes, Safety Zones (LCES) system.
- Demonstrate the ability to construct fire-line to required standards using various methods, tools and techniques.
- Coordinate work as a member of a wildland fire crew, demonstrating teamwork, communication, and human performance concepts appropriate for the wildland fire environment.

Textbooks:

- Required: Incident Response Pocket Guide. NWCG. 2025 Edition.

Assignments:

Required assignments include:

- Ten instructor-led presentations/discussions (via Zoom; 200 points)
- Completion of online coursework and submission of certificates (200 points)
- 10, weekly quizzes (400 points)
- Active participation in field exercises (200 points)
- Written report on factors leading to variation in fire behavior and how fire behavior impacts safety and efficacy of wildland fire management practices (250 points). Minimum of 5 pages, single-spaced (excluding space for graphics, citations, etc.) following specified instructions. The report will require the critique, synthesis, and extrapolation of peer-reviewed journal data, incident reports, and other resources related to this course's subject matter.

Personal Equipment:

- Students must provide their own leather work or hiking boots and belt.
- All other PPE will be available for loan to students.

Office Hours: Contact the instructor via email with general questions or to request a phone, Zoom, or in-person meeting. The instructor strives to be promptly responsive to student questions and supportive of student needs.

Schedule

Week 1 (Tues) March 31 Zoom 6:00 to 7:20 p.m.	Orientation Orientation and introduction to guard school. Explanation of red cards, annual refresher (RT-130) requirements, and work capacity fitness tests. Canvas overview. How to submit assignments. Online course details. Assignments (complete by April 7): • Complete acknowledgement of risk form • Start physical preparations for Work Capacity Fitness Test • Obtain FEMA and NWCG login credentials (see Accessing Online Curricula) • Begin S-190
Week 2 (Tues) April 7 Zoom 6:00 to 7:20 p.m.	Wildland Fire Behavior – Part 1 Introduction to the fire behavior triangle. Understanding fire behavior terms. Intro to wildland fire fuels. <i>Quiz from Week 1 due at 6:00 p.m.</i> Assignments (complete by April 14): • Complete S-190 and upload certificate in Canvas
Week 3 (Tues) April 14 Zoom 6:00 to 7:20 p.m.	Wildland Fire Behavior – Part 2 Topographic and weather influences on wildland fire. Tying it all together. <i>Quiz from Week 2 due at 6:00 p.m.</i> Assignments (complete by April 21): • Begin S-130, online component ○ Preparedness, ICS and Resources ○ Watch Out and LCES ○ Fire Shelter ○ Hazards and Human Factors on the Fireline ○ Transportation Safety
Week 4 (Tues) April 21 Zoom 6:00 to 7:20 p.m.	Preparedness and Safety Introduction to personal protective equipment and foundational safety concepts for wildland firefighters. <i>Quiz from Week 3 due at 6:00 p.m.</i> Assignment (complete by April 28): • Continue S-130, online component ○ Hand Tools ○ Firing Devices ○ Water Use ○ Suppression, Communications, and Mop-up

Week 5 (Sun) April 26 Field Session 8:00 a.m. to 5:00 p.m.	Shelter Deployment, Work Capacity Fitness Test, Fire-lines and Hose-lays Hands-on practice deploying fire shelters, followed by the work capacity fitness test (WCFT). Each student may choose one of three WCFT levels: arduous, moderate, or light. Afternoon field exercises on fire-line construction, hose-lays, operational safety. • Meet at Hatfield Courtyard (west side of Richardson Hall) • Wear helmet and gloves during shelter deployment • Provide own pack with appropriate weight for the WCFT level you have chosen (45lbs, 25lbs, or no weight/pack) • Transportation provided to field site • Wear sturdy boots, gloves, helmet for field exercises • Be prepared for rain
Week 5 (Tues) April 28 Zoom 6:00 to 7:20 p.m.	Tools and Techniques Introduction to wildland fire hand tools and firefighting tactics. <i>Quiz from Week 4 due at 6:00 p.m.</i> Assignment (complete by May 5): • Complete S-130 and upload certificate in Canvas ○ Hazardous Materials ○ Wildland Urban Interface
Week 6 (Tues) May 5 Zoom 6:00 to 7:20 p.m.	Hazmat, WUI, Human Considerations How wildland firefighters must adjust to conditions modified by human activities. <i>Quiz from Week 5 due at 6:00 p.m.</i> Assignment (complete by May 12): • Complete IS-100 (FEMA) and upload certificate in Canvas • Complete IS-700 (FEMA) and upload certificate in Canvas
Week 7 (Tues) May 12 Zoom 6:00 to 7:20 p.m.	ICS for Wildland Fire (recorded – see Canvas) How the Incident Command System is utilized to manage wildland fire resources and response. <i>Quiz from Week 6 due at 6:00 p.m.</i> Assignment (complete by May 19): • Complete L-180 and upload certificate in Canvas
Week 8 (Tues) May 19 Zoom 6:00 to 7:20 p.m.	Prescribed Fire Considerations How fire is used as a management tool to achieve landowner/ecological objectives, and how prescribed fires differ from wildfires. <i>Quiz from Week 7 due at 6:00 p.m.</i>

Week 9 (Tues) May 26 Zoom 6:00 to 7:20 p.m.	Large Fire Considerations Weather and fuel conditions necessary for large fire incidents. Firefighter safety considerations. <i>Quiz from Week 8 due at 6:00 p.m.</i>
Week 9 (Sun) May 31 Field Session 8:00 a.m. to 5:00 p.m. (Times subject to change depending on field site location – expect a long day)	Make-up/late-finish field session Hands-on practice deploying fire shelters, followed by the work capacity fitness test. Each student may choose one of three WCFT levels: arduous, moderate, or light. Afternoon field trip to practice fire-line construction and hose-lays. • Meet at Hatfield Courtyard (west side of Richardson Hall) • Wear helmet and gloves during shelter deployment • Provide own pack with appropriate weight for the WCFT level you have chosen (45lbs, 25lbs, or no weight/pack) • Transportation provided to field site • Wear sturdy boots, helmet and gloves for field exercises • Be prepared for rain
Week 10 (Tues) June 2 Zoom 6:00 to 7:20 p.m.	Certification, Qualification, Record Keeping. How the fire profession recognizes and tracks your experience and skills. <i>Quiz from Week 9 due at 6:00 p.m.</i>
Week 11 (Tues) June 9	<i>Quiz from Week 10 due at 6:00 p.m.</i> Written Report due at 11:59 p.m.

Certification

Successful completion of this class results in the participant's certification as a Firefighter Type 2 (FFT2) or Prescribed Fire Crew Member (RXCM). FFT2 is the entry level certification for persons working as wildland firefighters. Qualification further requires successful completion of the arduous level work capacity fitness test and placement in the FFT2 role by a fire agency. RXCM has the same training requirements but allows the moderate work capacity fitness test.

About FFT2

The Firefighter Type 2 (FFT2) participates in wildland and/or prescribed fire crewmember operations, including ignition, control, mop-up, suppression, and monitoring. A Firefighter Type 2 is responsible for maintaining awarded training certificates, fitness test documentation, and a log or record of their wildland fire experience. A typical fire experience log will contain specific dates and locations of fire assignments; fire name, size, type and fuels; and assignment(s) held (e.g., holding crew, ignition crew, engine patrol, fire weather). Your record is your responsibility.

After obtaining FFT2 you must participate in an annual refresher (RT-130) course to maintain that qualification. (You don't lose FFT2 if you miss a refresher, but you aren't considered qualified until you complete the refresher.)

FFT2 requires the arduous work capacity fitness test.

About RXCM

The Prescribed Fire Crew Member qualification carries the same training and recertification requirements as FFT2 but has a moderate fitness requirement. This qualification is accepted by the Deschutes National Forest and the Oregon Military Department for persons working exclusively in support of prescribed fire. Note that persons qualified at RXCM will not be utilized in suppression fire roles, and that the qualification may not be accepted outside of the two entities noted above. I recommend you do the arduous fitness test and get FFT2 qualified if possible.

About the Work Capacity Fitness Test

Per the National Wildland Fire Coordinating Group (NWCG), the Work Capacity Fitness Test is intended to ensure a person is physically capable of meeting the minimum fitness requirement associated with assigned wildfire or prescribed fire duties as described in the [NWCG Standards for Wildland Fire Position Qualifications, PMS 310-1](#). Below are the three defined duty levels with examples of associated essential functions:

Arduous: Arduous duty field work requires above-average endurance and superior conditioning. Duties may include an occasional demand for extraordinarily strenuous activity in emergency situations under adverse environmental conditions over extended periods. The pace of work typically is set by the emergency condition. Essential functions include, but are not limited to, running, walking or hiking, climbing, jumping, twisting, bending, lifting more than 50 pounds, and carrying 45 pounds or more for extended periods over difficult terrain. ***This level of fitness is required to qualify for FFT2 roles on wildland fires.***

Moderate: Moderate duty field work requires the average endurance and conditioning of an individual who possesses complete control of all their physical faculties. Occasional demands may be required for moderately strenuous activities in emergencies over long periods. The pace of work is usually set by the current environmental conditions. Essential functions include, but are not limited to, considerable walking over irregular ground, standing for long periods, lifting 25 to 50 pounds, climbing, bending, stooping, squatting, twisting, and reaching. ***This level of fitness is required to qualify as RXCM, a qualification recognized by some agencies for participation in prescribed fire.***

Light: Light duty mainly involves office-type work with occasional field activity characterized by light physical exertion requiring basic good health. Individuals almost always can govern the extent and pace of their physical activity. Essential functions include, but are not limited to, climbing stairs, standing, operating a vehicle, and long hours of work, as well as some bending, stooping, or light lifting.

The WCFT consists of three separate levels of tests which correspond with the three duty types. The tests are defined as follows:

Pack Test - This is a job-related test to determine an individual's ability to perform the minimum standards of ***arduous*** duty. It consists of completing a 3-mile walk over level terrain in 45 minutes or less while carrying a 45-pound pack.

Field Test – This is a job-related test to determine an individual's ability to perform the minimum standards of ***moderate*** duty. It consists of completing a 2-mile walk over level terrain in 30 minutes or less while carrying a 25-pound pack.

Walk Test – This is a job-related test to determine an individual's ability to perform the minimum standards of ***light*** duty. The test consists of completing a 1-mile walk over level terrain in 16 minutes or less with no load.

For more information about the Work Capacity Fitness Test consult the [Work Capacity Test Administrator's Guide, PMS 307](#).

Continued on next page

Accessing Online Curricula

(Note: These free resources are required for the course.)

1. You need to set up two accounts to complete the online courses and obtain your certificates of completion. Do this immediately to avoid delayed access to curriculum.

1. Create an account with the [Wildland Fire Learning Portal](#) to access NWCG curricula.
2. FEMA has recently converted to the [login.gov](#) system. Click the link and follow the instructions under the “create an account” link. NOTE: If you have an older FEMA SID, FEMA recommends you use the same email address and personal information in both accounts. **NOTE: The FEMA training website is currently offline – it’s part of the Department of Homeland Security which has yet to have its federal budget approved. If you cannot access the site, see the alternatives listed below.**

2. Links to Curriculum

1. [FEMA IS-100.C](#) ICS class: Look for the “Take This Course” box and select the “Interactive Web Base Course.” Once complete, take the Final Exam (this will require to log in using your login.gov account) and obtain the pdf version of your certificate of completion. A copy of the IS-100 student guide is available on the [Guard School website](#), resources tab – you’ll find it very helpful when taking the test. **The alternative to the FEMA IS-100 is this course from Safety Unlimited: [ICS-100 Introduction to the Incident Command System](#)**
2. [FEMA IS-700.B](#). Introduction to the National Incident Management System. Same process as described for IS-100. The student guide is on the Guard School website, resources tab. **The alternative to the FEMA IS-100 is this course from Safety Unlimited: [ICS-700 National Incident Management System](#)**
3. NWCG Fire Classes. Sign-in to the [Wildland Fire Learning Portal](#). In the upper right corner click the “On Demand Courses” button. You need to take the following:
 0. S-190 Introduction to Wildland Fire Behavior (Online) 2023 v4
 1. S-130 Firefighter Training (Blended Online Component) 2025 v2
 2. L-180 Human Factors in the Wildland Fire Service (Online) 2014 v3
 3. NOTE: NWSA is updating curriculum, so if newer versions appear, complete that newer version
 4. Complete and pass the quizzes embedded in each course and obtain pdf certificates.

3. Proof of Completion

- Upload a PDF (not a photo) of the completion certificate for each course. Do this in CANVAS.

Course Policies

Academic Calendar Considerations/Requirements

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: <https://registrar.oregonstate.edu/osu-academic-calendar>

Class Attendance and Participation

Students are expected to attend Zoom sessions and contribute to discussions. Participation in the field session is required.

Evaluation of Student Performance

Required assignments include ten instructor-led presentations/discussions (200 points); completion of online coursework and submission of certificates (200 points); a mid-term exam (200 points); a final exam (200 points); and active participation in field exercises (200 points). Students must complete online module quizzes with grades of 70% or higher (for each quiz) and submit certificates of completion in Canvas. Students will complete mid-term and final exams, reflective of course content, and receive letter grades consistent with their demonstrated performance on these tests. FFT2/RXCM qualification requires successful completion of the fire shelter deployment, work capacity fitness test, and field exercises.

Grading scale: 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)

Late Work/Exam Policy

Students who require additional time to complete assignments may request an extension of deadline(s) by contacting the course instructor. Extensions will be granted only for situations such as health or family-related emergency, job-related scheduling conflicts unavoidable to the student, or other situations beyond the student's control. Requests for extension must be made in advance of the assignment/exam due date (24 hours advance notice where feasible). Work turned in late without prior approval shall be subject to a penalty of 10% per day (or any part thereof), up to a maximum of 40%, of the assignment or test's total points.

Incompletes

Incomplete (I) grades will be granted only in emergency cases (e.g., a death in the family, major illness or injury, or birth of your child) and if the student has turned in 80% of the assigned work. If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away.

Students with Disabilities

Oregon State University is committed to making learning experiences accessible to all, which includes consideration of the course design, course learning outcomes, and barriers experienced by the disabled student. Disability Access Services (DAS) staff and students work together to determine reasonable accommodations. Students connected with DAS who have questions about their accommodations should reach out to their DAS Adviser. Students who have not yet completed the process for setting up

accommodations, please contact DAS at 541-737-4098, visit the [DAS website](#) or email disability.services@oregonstate.edu to explore accommodations for a disability (e.g., mental health diagnoses, chronic health conditions, learning disabilities, physical conditions/injuries, etc.). Students and faculty members are encouraged to collaborate around the implementation of accommodations.

Student Conduct

Students in this course will be expected to conduct themselves in a professional manner. Treat other students, instructors, and guest lecturers with dignity and respect. Follow university guidelines regarding academic honesty, student conduct, and civility. Disruptive behaviors will not be tolerated and will be referred for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office. The student code of conduct can be reviewed here: <https://beav.es/codeofconduct>. The Office of Student Life, <https://studentlife.oregonstate.edu/>, provides extensive resources and support for navigating your time as a student at OSU.

Student Bill of Rights

OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: <https://asosu.oregonstate.edu/advocacy/rights>

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 at oregonstate.edu/ReachOut. If you are in immediate crisis, please call or text the Suicide & Crisis Lifeline at 988.

Student Learning Experience Survey

During Fall, Winter, and Spring term the online Student Learning Experience surveys open to students the Wednesday of week 9 and close the Sunday before Finals Week. Students will receive notification, instructions, and the link through their ONID email. They may also log into the survey via MyOregonState or directly at <https://beav.es/Student-Learning-Survey>. Survey results are extremely important and are used to help improve courses and the learning experience of future students. Responses are anonymous (unless a student chooses to “sign” their comments, agreeing to relinquish anonymity of written comments) and are not available 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.

Attachment A. Additional Information about Curriculum and FFT2 Standards

Required Training follows NIIMS Wildland Fire Qualifications System Guide standards:

I-100.C = Introduction to ICS (Incident Command System (3 hours with FEMA)

Introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).

IS-700.B = NIMS an Introduction (3 hours FEMA)

This course introduces and overviews the National Incident Management System (NIMS). NIMS provides a consistent nationwide template to enable all government, private-sector, and nongovernmental organizations to work together during domestic incidents.

S-190 = Introduction to Wildland Fire Behavior (7 hours with NWCG)

This course provides instruction in the primary factors affecting the start and spread of wildfire and recognition of potentially hazardous situations. This course is typically taught in conjunction with or prior to "NWCG S-130, Firefighter Training." The material is broken into three online modules (one to three hours each).

S-130 = Firefighter Training (22 hours with NWCG)

This course addresses the foundational skills universal to all wildland firefighters. The material is broken into 12 online modules (one to three hours each) and a mandatory, instructor-led field day exercise. Each online module explains the concepts and skills that will be performed and evaluated on the field day exercise. Module 12 contains optional knowledge areas (pump operations, map and compass, fire investigation, and cultural resources) that are very useful concepts but not required due to time constraints.

L-180 = Human Factors in the Wildland Fire Service (4 hours with NWCG)

This online course exposes students to human performance concepts as part of basic wildland firefighter training. The course is designed for entry-level operational personnel; however, this course also applies to all wildland fire service personnel, including non-operational personnel.

* Additional information on NWCG curriculum is available at
<https://www.nwcg.gov/publications/training-courses>.