

Syllabus

Wildland Fire Guard School

Spring Term, 2024 (version 2)

Course Number: FOR 252 (Lecture section 001 CRN 58428, Lab section 020 CRN 58430)

Credits: 2

Fee: \$26

Instructor:

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Students: This course is targeted toward freshmen and sophomore students, but any student who wants to gain or refresh wildland firefighter knowledge and skills is encouraged to participate. Students from all colleges and disciplines are welcome. Non-credit options are available, and a graduate option is available as FOR508 section 2.

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 Test (WCT) opportunity. Successful completion results in nationally recognized certification for each NWCG unit completed and qualification as an entry-level wildland firefighter (FFT2).

Class meeting time: Weekly 80-minute Zoom lecture and discussion sessions (Tuesday evenings, 6:00 to 7:20 p.m.) plus two Sunday field sessions (May 19 and June 2) starting at 9:00 a.m. and running for 4 to 8 hours, depending on the topic (see Schedule for details). Field sessions to be held on or near campus or the McDonald and Dunn Research Forests just north of Corvallis.

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 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 liability waiver 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.

See Attachment A for NWCG module learning objectives.

Textbooks:

- Required: Incident Response Pocket Guide. NWCG. 2022 Edition.
- Recommended: Firefighter's Handbook on Wildland Firefighting: Strategy, Tactics and Safety. Fourth Ed. William C. Teie. Fire Protection Publications. Oklahoma State University.

Assignments:

- Required assignments include ten instructor-led presentations/discussions (via Zoom; 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).

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) April 2, 2024 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 tests. Canvas overview. How to submit assignments. Online course details. Assignments: <ul style="list-style-type: none"> • Complete liability waiver and medical clearance forms • Start physical preparations for Work Capacity Fitness Test • Obtain FEMA and NWCG login credentials (see Accessing Online Curricula) • Begin completing online course material (see Attachment B for FEMA and NWCG course descriptions) <ul style="list-style-type: none"> ○ Begin S-190 (NWCG; 2023 version)
Week 2 (Tues) April 9, 2024 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. Assignments: <ul style="list-style-type: none"> • Complete S-190
Week 3 (Tues) April 16, 2024 Zoom 6:00 to 7:20 p.m.	Wildland Fire Behavior – Part 2 Topographic and weather influences on wildland fire. Tying it all together. Assignments: <ul style="list-style-type: none"> • Complete IS-100 (FEMA) • Complete IS-700 (FEMA)
Week 4 (Tues) April 23, 2024 Zoom 6:00 to 7:20 p.m.	ICS for Wildland Fire How the Incident Command System is utilized to manage wildland fire resources and response. Assignment: <ul style="list-style-type: none"> • Begin S-130 (2008 v2 Online Component) <ul style="list-style-type: none"> ○ Preparedness, ICS and Resources ○ Watch Out and LCES ○ Fire Shelter ○ Hazards and Human Factors on the Fireline ○ Transportation Safety
Week 5 (Tues) April 30, 2024 Zoom 6:00 to 7:20 p.m.	Preparedness and Safety Introduction to personal protective equipment and foundational safety concepts for wildland firefighters. Assignment: <ul style="list-style-type: none"> • Continue S-130 <ul style="list-style-type: none"> ○ Hand Tools ○ Firing Devices ○ Water Use ○ Suppression, Communications, and Mop-up
Week 6 (Sun) May 5, 2024	Midterm Exam Due in Canvas by 11:59 p.m. (May be completed earlier in the week if desired.)
Week 6 (Tues)	Tools and Techniques

May 7, 2024 Zoom 6:00 to 7:20 p.m.	<p>Introduction to wildland fire hand tools and water application devices.</p> <p>Assignment:</p> <ul style="list-style-type: none"> • Complete S-130 <ul style="list-style-type: none"> ○ Hazardous Materials ○ Wildland Urban Interface
Week 7 (Tues) May 14, 2024 Zoom 6:00 to 7:20 p.m.	<p>Hazmat, WUI, Human Considerations</p> <p>How wildland firefighters must adjust to conditions modified by human activities.</p> <p>Assignment:</p> <ul style="list-style-type: none"> • Complete L-180 (2014 version)
Week 8 (Sun) May 19, 2024 Field Session 9:00 a.m. to 5:00 p.m.	<p>Shelter Deployment, Work Capacity Test, Fire-lines and Hose-lays</p> <p>Hands-on practice deploying fire shelters, followed by the Work Capacity physical fitness test. Each student may choose one of three Work Capacity Test levels: arduous, moderate, or light. Afternoon field trip to practice fire-line construction and hose-lays.</p> <ul style="list-style-type: none"> • Meet at Hatfield Courtyard (west side of Richardson Hall) • Wear PPE helmet and gloves during shelter deployment • Provide own pack with appropriate weight for the WCT level you have chosen (45lbs, 25lbs, or no weight/pack) • Transportation provided to field site • Wear PPE for field exercises, including sturdy boots and gloves • Be prepared for rain
Week 8 (Tues) May 21, 2024 Zoom 6:00 to 7:20 p.m.	<p>Live Fire Review</p> <p>Review concepts relevant to wildland firefighting, and ensure all students are ready to participate in the upcoming live fire exercise.</p>
Week 9 (Tues) May 28, 2024 Zoom 6:00 to 7:20 p.m.	<p>Prescribed Fire Considerations</p> <p>How fire is used as a management tool to achieve landowner/ecological objectives, and how prescribed fires differ from wildfires.</p>
Week 9 (Sun) June 2, 2024 Field Session 9:00 a.m. to 3:00 p.m.	<p>Live Fire Exercise</p> <p>Engage in realistic scenarios that involve wildfire response, including line construction and application of water, managing spot fires, responding to complicating factors, ensuring firefighting objectives have been met.</p> <ul style="list-style-type: none"> • Meet at (west side of Richardson Hall) • Transportation provided • Wear PPE and fire-line-appropriate boots • Bring lunch and fluids. Be prepared for rain. • Turn in PPE at conclusion of event
Week 10 (Tues) June 4, 2024 Zoom 6:00 to 7:20 p.m.	<p>After Action Review</p> <p>Wrap up conversation about the course. Key concepts to take away. Recommendations for future offerings of this course. Discussion of opportunities for students to continue gaining and documenting wildland fire experience and expertise.</p>
Week 11 (Tues) June 11, 2024	<p>Final Exam – due in Canvas by 11:59 p.m.</p>

Certification

Successful completion of this class results in the participant's certification as a Firefighter Type 2 (FFT2). This 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.

About FFT2

The Firefighter Type 2 (FFT2) participates in prescribed fire and wildland fire crewmember operations, including ignition, control, mop-up, suppression, monitoring, etc.

FFT2 Ongoing Documentation Requirements

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, etc). Your record is your responsibility, whether in the IQCS database or other – you will be required to keep your own records. It will come in handy later.

About the Work Capacity Fitness Test

Per the National Wildland Fire Coordinating Group (NWCG), the Work Capacity Fitness Test (WCT) 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.

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 WCT 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 Test consult the [Work Capacity Test Administrator's Guide, PMS 307](#).

Accessing Online Curricula

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

1. **Register** for FEMA SID and Wildland Fire Learn Portal. Do this immediately to avoid delayed access to curriculum.
 - a. FEMA Student Identification (SID) number. Go to <https://cdp.dhs.gov/FEMASID> and click on "Register for a FEMA SID." This number will be required for enrolling in the two FEMA incident management online courses required for this class, and for obtaining your NFA ID (may be needed for accessing the fire modules). It can take a couple days for the FEMA SID number to be issued, so do this immediately so you'll get access to these modules. (Note that if you already have a FEMA SID you do not need to obtain a new one.)
 - b. Create an account with the Wildland Fire Learning Portal
<https://wildlandfirelearningportal.net/login/index.php>.
2. **Links to Curriculum**
 - a. FEMA I-100.C ICS class: <https://training.fema.gov/is/courseoverview.aspx?code=IS-100.c>. Look for the "Take This Course" box and select the "Interactive Web Base Course." Once complete, take the Final Exam (this will require your FEMA SID).
 - b. FEMA IS-700.B. Introduction to the National Incident Management System.
<https://training.fema.gov/is/courseoverview.aspx?code=IS-700.b> Same process as described for I-100.
 - c. NWCG Fire Classes. Sign in to the Wildland Fire Learning Portal. Click "Find Learning" then "Courses." Search for the course you want (e.g., S-130). Click the link to that course's online component then "enroll." Some courses will include multiple modules. Complete all required modules, in order. Complete their quizzes and obtain certificates.

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 field sessions is required, with the exception of the optional prescribed burn.

Evaluation of Student Performance

Required assignments include ten instructor-led presentations/discussions (100 points); completion of online coursework and submission of scores from online quizzes (200 points); a mid-term exam (200 points); a final exam (200 points); and active participation in field exercises (300 points). Students must complete online module quizzes with grades of 70% or higher (for each quiz) and submit results to the instructor. Quiz grades will apply to the course grade and are required for attainment of the NWCG FFT2 qualification. 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 qualification requires successful completion of the fire shelter deployment, work capacity test, and live fire exercise. Grading scale: A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%, F = below 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 penalty of 10% per week (or any part thereof).

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.

Religious Accommodation

Oregon State University will provide reasonable accommodations for employee and student sincerely held religious beliefs. It is incumbent upon 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.

Religious Holidays

Oregon State University strives to respect all religious practices. If you have religious holidays that conflict with any of the requirements of this class, please contact the instructors immediately so that we can make alternative arrangements.

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.

Student Conduct

Students in this course will be expected to conduct themselves in a professional manner. You will be expected to treat other students, instructors, and guest lecturers with dignity and respect, and follow university guidelines regarding academic honesty, student conduct, and civility. Behaviors that are disruptive to teaching and learning 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 Oregon State University.

Diversity, Equity, and Inclusion

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. We are committed to the equity of opportunities and strive to promote and advance diverse communities. We value and proactively seek genuine participation from these historically under-represented and underserved groups and recognize them as essential components of creating a welcoming and rich academic, intellectual, and cultural environment for everyone. For more information on the DEI initiative, please see: <https://diversity.oregonstate.edu>.

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.

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 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 me as your instructor.

For mental health

Learn about counseling and psychological resources for Ecampus students. 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).

For financial hardship

Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support (studentassistance@oregonstate.edu or 541-737-8748).

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: Learning Outcomes

IS-100

- Explain the principles and basic structure of the Incident Command System (ICS).
- Describe the NIMS management characteristics that are the foundation of the ICS.
- Describe the ICS functional areas and the roles of the Incident Commander and Command Staff.
- Describe the General Staff roles within ICS.
- Identify how NIMS management characteristics apply to ICS for a variety of roles and discipline areas.

IS-700

- Describe and identify the key concepts, principles, scope, and applicability underlying NIMS.
- Describe activities and methods for managing resources.
- Describe the NIMS Management Characteristics.
- Identify and describe Incident Command System (ICS) organizational structures.
- Explain Emergency Operations Center (EOC) functions, common models for staff organization, and activation levels.
- Explain the interconnectivity within the NIMS Management and Coordination structures: ICS, EOC, Joint Information System (JIS), and Multiagency Coordination Groups (MAC Groups).
- Identify and describe the characteristics of communications and information systems, effective communication, incident information, and communication standards and formats.

S-190

- Describe the basic terminology used in wildland fire.
- Identify and discuss the fire triangle.
- Identify and discuss key characteristics of the primary wildland fire environment components - fuels, weather, and topography.
- Identify critical fire weather factors that, combined with receptive fuels, may result in extreme fire behavior.
- Recognize how alignment of fuels, weather, and topography can increase the potential for extreme fire behavior.

S-130

- Describe the purpose of the Standard Firefighting Orders and Watch Out Situations.
- Describe what the Lookouts, Communications, Escape Routes, and Safety Zones (LCES) system is and how it relates to the Standard Firefighting Orders.
- Describe the various communication methods and tools used for collecting, producing, and distributing information.
- Describe the standards, tools and equipment, and various methods used in fireline construction.
- Describe the methods for extinguishing a fire with or without the use of water.
- Demonstrate the ability to construct fireline to required standards using various methods, tools and equipment, and techniques.

L-180

- Introduce human performance factors in high-risk work environments and add this knowledge to student's skill set. [Measurable objective: describe human performance factors that play critical roles in high-risk work environments.]
- Provide opportunities to explore human performance concepts and the related vocabulary. [Measurable objective: appropriately apply human performance concepts to firefighting scenarios.]
- Reinforce professional responsibility to address human performance issues while on the job. [Measurable objective: identify and describe professional responsibilities to address on-the-job human performance issues.]

Attachment B. 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, 2023 version)

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, 2008 version 2)

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, 2014 version)

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>.