



# S-190: Introduction to Wildland Fire Behavior (2020)

## Course Plan

### Course Details

|                                  |   |
|----------------------------------|---|
| <b>Description:</b>              | This is the first and foundational wildland fire behavior course in a five-course sequence in the NWCG curriculum. It introduces students to the basic concepts of wildland fire behavior, including: <ul style="list-style-type: none"><li>• The primary wildland fire environment components: fuels, weather, and topography</li><li>• How characteristics and interactions of fuels, weather, and topography affect fire behavior</li><li>• How fire behavior affects risk to firefighters..</li></ul> |
| <b>Designed For:</b>             | Personnel desiring to be qualified as entry-level firefighters and support personnel.   |
| <b>Authority:</b>                | National Wildfire Coordinating Group (NWCG)   |
| <b>Prerequisites:</b>            | None  |
| <b>Standard:</b>                 | N/A   |
| <b>Hours:</b>                    | 7 hours   |
| <b>Maximum Class Size:</b>       | 40 (24 Recommended by NWCG)   |
| <b>Instructor Level:</b>         | Primary instructor  |
| <b>Instructor/Student Ratio:</b> | 1 primary instructor per 40 students (NWCG Recommends 1:6)  |
| <b>Restrictions:</b>             | Limited to Instructor-Led Delivery only.  |
| <b>SFT Designation:</b>          | FSTEP   |

## Required Resources

### Online Instructor Resources

The following instructor resources are available online at <https://www.nwcg.gov/publications/training-courses/s-190>

- Instructor-lead delivery course materials

### Student Resources

To participate in this course, students need:

- Incident Response Pocket Guide, PMS 461
- Fire Weather Cloud Chart, PMS 438
- Psychrometric Tables from Fire Behavior Field Reference Guide, PMS 437
- S-190 Student Evaluation Task Sheet

### Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

#### Facilities

- Standard classroom equipped for 24 students
- Whiteboards or easel pads with appropriate writing implements
- Projector/TV with appropriate laptop connections
- Wifi/Internet access

**Time Table**

| Segment                                  |  |  | Unit Total |
|--|--|--|------------|
| Course Introduction                      |  |  | 0.5        |
| Basic Concepts of Wildland Fire          |  |  | 1.0        |
| Fuels                                    |  |  | 1.0        |
| Temperature and Moisture Relationships   |  |  | 1.0        |
| Topography                               |  |  | 0.75       |
| Atmospheric Stability, Winds, and Clouds |  |  | 1.0        |
| Critical Fire Weather                    |  |  | 1.0        |
| Alignment                                |  |  | 0.75       |
|  |  |  |            |
| <b>Course Totals</b>                     |  |  | <b>7.0</b> |

**Time Table Key**

1. The Time Table documents the amount of time required to deliver the content included in the course plan.
2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.
3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.
4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled and the acquired structure selected for training. The Application time documented is based on the maximum class size identified in the Course Details section.
5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

## Objectives

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