

# FIRE 294 : S-390 FIRE BEHAVIOR CALCULATION

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## Transcript title

S-390 Fire Behavior Calculat.

## Credits

3

## Grading mode

Standard letter grades

## Total contact hours

30

## Lecture hours

30

## Prerequisites

FIRE 230 and FIRE 290.

## Course Description

Introduces fire behavior calculations by manual methods, using nomograms and the Fire Behavior Handbook Appendix B: Fire Behavior. Gain an understanding of the determinants of fire behavior by studying inputs such as weather, slope, fuels, and fuel moisture. Learn how to interpret fire behavior outputs, documentation processes, and fire behavior briefing components. This is an NWCG (National Wildfire Coordinating Group) Certified course; requires qualification as a single resource boss.

## Course learning outcomes

1. The following learning outcomes are those of the National Wildfire Coordinating Group (NWCG).
2. List the assumptions, limitations, and appropriate uses of fire behavior prediction models.
3. Describe how environmental factors and processes affect fire behavior predictions and safety.
4. Define and interpret fire behavior prediction model inputs.
5. Calculate fire behavior outputs using available fire behavior processors.
6. Interpret, communicate, apply, and document wildland fire behavior and weather information.

## Content outline

1. Introduction
2. Topography
3. Weather
4. Atmospheric Stability
5. Winds
6. Weather information and forecasts
7. US Fire Behavior Prediction System (USFBPS) Models
8. Fuel Moisture
9. Fire Behavior Models
10. Non-electric Wildland Fire Behavior processors

11. Spotting model
12. Safety zone calculations
13. Fire Growth
14. Plotting fire size and shape
15. Point source
16. Extreme fire behavior
17. Documentation, Briefings, and Monitoring for Fireline Safety

## Required materials

All material is provided to the student.