

# Program of Instruction

## Course Syllabus

**Course Title:** Introduction to Wildland Fire Behavior Calculations

**Course Duration:** 32 hours

**Program:** Wildland Firefighting

### **Course Prerequisites**

Intermediate Wildland Fire Behavior (S-290)  
Qualified as a single resource boss.

### **Course Description**

This course is designed to introduce fire behavior calculations by manual methods, using nomograms and the Fire Behavior Handbook Appendix B. Students gain an understanding of the determinants of fire behavior through studying inputs (weather, slope, fuels, and fuel moisture). Students also learn how to interpret fire behavior outputs, documentation processes, and fire behavior briefing components

### **Course Requirements and/or Recommendations**

#### Summary of Directions

Pre-Course Work:

Pre-qualifying Test, a passing score of 70% is required for the nominee to be considered for placement in the class

Course Work:

A final group exercise worth 10 points towards the students' final grade

Post-Course Work:

A final exam worth 90 points towards the students' final grade.

- A total of 70 points will be required for a passing grade.

### **Reference List:**

S-390 Student Workbook

- Fireline Handbook, PMS 410-1, NFES 0065 (including Appendix B)

## **Course Policies:**

**Attendance Policy:** IFSI requires students to attend (100%) or make up all course content that leads to certification. Students are expected to attend on time and to remain in class for the duration of the course. Students **MUST COMPLETE** all portions of a certification course, both classroom and practical, to be eligible to receive their certification.

If a student misses any portion of class with an accumulated absence of 20% or less of scheduled class time, it will be the student's responsibility to arrange the make-up of the missed course content with the instructor(s) or program manager. The student must make up the specific course content that s/he missed, not just the hours. Make-ups are limited to 20% of scheduled class time. Make-ups must be documented on the class roster. If a student's absence is greater than 20% refer to "True Emergences" section of the IFSI Examination Policy.

**Safety Policy:** Students shall understand and follow all instructions pertaining to operational safety, as stated by instructors or as written in course materials. Instructors and students shall be mindful of safety at all times. Conduct judged to be unsafe shall be grounds for dismissal from the course.

**Academic Integrity Policy:** IFSI has the responsibility for maintaining academic integrity so as to protect the quality of the education provided through its courses, and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any violation of the code of conduct is grounds for immediate dismissal from the course.

**Grading Policy:** Decisions regarding certificates of course completion shall be made solely by the lead instructor of the course. All grading of exams shall be conducted by the Curriculum/Testing Office. All grading of practical exercises shall be based upon the standards set by the regulatory agency referenced in the course material and IFSI.

**American Disabilities Act:** As guaranteed in the Vocational Rehabilitation Act and in the American Disabilities Act, if any student needs special accommodations they are to notify their instructor and provide documentation as soon as possible so arrangements can be made to provide for the student's needs. If arrangements cannot be made at the class site, the student will test at an alternative time and place where the special accommodations can be made.

**Evaluation Strategy:** *Example:* Students will be evaluated with an end of course exam, and performance evaluation checklist.

**Course Content:**

Unit 0: Introduction

Unit 1: Topography

Unit 2A: Atmospheric Stability

Unit 2B: Winds

Unit 2C: Weather Information and Forecasts

Unit 3: USFBPS Fuel Models

Unit 4: Fuel Moisture

Unit 5A: Non-Electronic Wildland Fire Behavior Processors

Unit 5B: Spotting Model

Unit 5C: Safety Zone Calculations

Unit 6A: Plotting Fire Size and Shape

Unit 6B: Point Source

Unit 7: Extreme Fire Behavior

Unit 8: Documentation, Briefings, and Monitoring for Fireline Safety

Unit 9: Final Group Exercise

Final Exam

# Course Schedule

## DAY ONE

<u>Event</u>	<u>Duration</u>
Unit 0 – Introduction	1 hour
Unit 1 – Topography	1 hour
Unit 2A– Atmospheric Stability	2 hours
<b>Lunch</b>	
Unit 2B – Winds	2 hours
Unit 2C - Weather Information and Forecasts	2 hours

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## DAY TWO

<u>Event</u>	<u>Duration</u>
Unit 3 – USFBPS Fuel Models	4 hours
Unit 4 - Fuel Moisture	2 hours
<b>Lunch</b>	
Unit 5A - Non-Electronic Wildland Fire Behavior Processors	3 hours

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### **DAY THREE**

<b><u>Event</u></b>	<b><u>Duration</u></b>
Unit 5B - continued	2 hours
Unit 5B - Spotting Model	2 hours
<b>Lunch</b>	
Unit 5C - Safety Zone Calculations	1 hour
Unit 6A - Plotting Fire Size and Shape	3 hours

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### **DAY FOUR**

<b><u>Event</u></b>	<b><u>Duration</u></b>
Unit 6B - Point Source	2 hours
Unit 7 - Extreme Fire Behavior	2 hours
<b>Lunch</b>	
Unit 8 - Documentation, Briefings, and Monitoring Fireline Safety	½ hour
Unit 9 - Final Group Exercise	1 ½ hours
Final Exam	2 hours

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