



El Camino College
COURSE OUTLINE OF RECORD – Official

Subject:	FTEC
Course Number:	501
Descriptive Title:	S-190 Introduction to Wildland Fire Behavior
Division:	Health Sciences and Athletics
Department:	Fire and Emergency Technology
Course Disciplines:	Fire and Emergency Technology, Fire Technology
Catalog Description:	This noncredit course provides instruction in the primary factors affecting the start and spread of wildfire and recognition of potentially hazardous situations. It is designed to meet the fire behavior training needs of a Fire Fighter Type 2 (FFT2) on an incident as outlined in the PMS 310-1, Wildland Fire Qualification System Guide and the position task book developed for the position. Note: There may be additional materials fees.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	.44
Hours Laboratory (per week):	0
Outside Study Hours:	1
Total Course Hours:	8
Course Units:	0
Grading Method:	Pass/No Pass only
Credit Status:	Noncredit
Transfer CSU:	No
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education ECC:	
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	

Other:	
CalGETC:	
Term:	
Other:	
Student Learning Outcomes:	Upon completion of this course, the student should be able to: 1. Explain the primary wildland fire environment components of fuels, weather, and topography. 2. Describe how characteristics and interactions of fuels, weather, and topography affect fire behavior. 3. Explain how fire behavior affects risk to firefighters.
Course Objectives:	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 the alignment of fuels, weather, and topography can increase the potential for extreme fire behavior.
Major Topics:	I. Basic Concepts of Wildland Fire (lecture) A. The ability to apply knowledge of fuels, terrain, weather, and fire behavior. B. Describe basic terminology used in wildland fire. C. Describe the elements of the fire triangle. D. Describe the methods of heat transfer. II. Fuels (lecture) A. Distinct characteristics of fuel will affect fire behavior, decision-making on the fireline, and actions in their removal. B. Definition of fuel. C. Fuel type. D. Fuel characteristic. III. Temperature and Moisture Relationships (lecture) A. Temperature and moisture are two weather components that are closely monitored by firefighters. 1. Describe dry bulb temperature, wet bulb temperature, dew point, and relative humidity. 2. Describe how temperature and relative humidity can influence wildland fire behavior. 3. Determine relative humidity and dew point by using a psychometric table and given inputs. IV. Topography (lecture) A. Identifying, analyzing, and using relevant situational information about topographic features can help predict wildland fire behavior is the responsibility of everyone on the fireline. 1. Identify topographic features found in the wildland fire environment. 2. Describe the basic characteristics of topography and how they can affect wildland fire behavior V. Atmospheric Stability, Winds, and Clouds (lecture) A. Surface winds, temperature, and relative humidity are the most commonly considered and easy to measure. 1. Identify topographic features found in the wildland fire environment. 2. Describe the basic characteristics of topography and how they can affect wildland fire behavior.

	VI. Critical Fire Weather (lecture) A. Thunderstorms, cold fronts, foehn winds, and the impact they have on fire behavior. 1. Describe the primary wildland fire environment components. 2. Describe how alignment of these components greatly increases the potential for extreme fire behavior. VII. Alignment (lecture) A. Defining the fire environment 1. Describe how the primary wildland fire environment components – fuels, weather, and topography are made more complex by interaction with each other. 2. Describe how alignment of these components greatly increases the potential for extreme fire behavior.
Total Lecture Hours:	8
Total Laboratory Hours:	0
Total Hours:	8
A.1. Primary Methods of Evaluation (Part 1 - CCN courses only):	
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	In a few sentences, summarize how each of the three methods of heat transfer (conduction, convection and radiation) supply heat to start a fire.
Critical Thinking Assignment 1:	In a few sentences, differentiate the characteristics of the fuels found on a north aspect from those found on a south aspect.
Critical Thinking Assignment 2:	In a few sentences, explain the difference between dry bulb and wet bulb temperatures.
Other Evaluation Methods:	Completion, Embedded Questions, Homework Problems, Matching Items, Multiple Choice, Objective Exam, Quizzes, True/False
If Other:	
Instructional Methods:	Demonstration, Discussion, Group Activities, Lecture, Multimedia presentations
If other:	
Work Outside of Class:	Answer questions, Study
If Other:	
Up-To-Date Representative Texts:	National Wildfire Coordinating Group (Readopted 2015) <i>Incident Response Pocket Guide NWCG 2018</i>
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite	
Category	
Requisite course:	

Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching skill(s): Bold the requisite skill(s). if applicable	
Requisite course:	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). if applicable	
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Matthew Kline
Date:	01/30/2025
Original Board Approval Date:	06/26/2025
Effective Term:	FA 2026