

Course Outline

COURSE: JFT 209 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Spring 2020 **CURRICULUM APPROVAL DATE:** 04/14/2020

SHORT TITLE: WILDLAND FIRE FI-210

LONG TITLE: Wildland Fire Origin and Cause Determination FI-210

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
.5	18	Lecture:	.57	10.26
		Lab:	1.25	22.5
		Other:	0	0
		Total:	1.82	32.76

COURSE DESCRIPTION:

This course is designed to meet the requirements of the National Wildfire Coordinating Group (NWCG) for Wildland Fire Investigator certification, as outlined in the Wildland and Prescribed Fire Qualifications System Guide (PMS 310-1), and the Position Task Book. The concepts taught in this course meet the minimum national performance standards for a Wildland Fire Investigator. This is a pass/no pass course.
PREREQUISITE: JFT 8 or JFT 225.

PREREQUISITES:

- Completion of JFT 8, as UG, with a grade of C or better.
- OR
- Completion of JFT 225, as UG, with a grade of C or better.

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

- P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 03 - Lecture/Laboratory
- 04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

By the end of this course, a student should:

1. Identify the environmental factors of wildland fire behavior that affect the start and spread of fire and recognize situations that indicate problem or extreme fire behavior.
2. Demonstrate use of metric equivalence for fire investigation reports

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 04/14/2020

Content: (10 hours)

I. Fire Behavior Review

- a. Ignition
- b. Elements
- c. Demonstration
- d. Heat Transfer
- e. Conduction, Convection and Radiation
- f. Fire Behavior Factors
- g. Fuel Types
- h. Moisture Content
- i. Fuel Types
- j. Horizontal Fuel Arrangement
- k. Vertical Fuel Arrangement

l. Weather

- m. Wind
- n. Relative Humidity
- o. Topography
- p. Aspect
- q. Slope
- r. Canyons
- s. Wind behavior
- t. Elevation
- u. Barriers

II. Weather and Fire

- a. Introduction
- b. Winds
- c. Atmosphere
- d. Circulation 1
- e. Circulation 2
- f. Pressure system
- g. Fronts
- h. General Winds
- i. Foehn Winds
- j. Thunderstorms
- k. Thunderstorm Conditions

l.

Thunderstorm Stages

- m. Alto Cumulus Castelladas
- n. Local Winds
- o. Aspect Winds
- p. Moisture
- q. Relative Humidity Demonstration
- r. Moisture Content
- s. Atmospheric Stability
- t. Atmospheric Stability 2
- u. Fire Whirls
- v. High Pressure Systems
- w. Inversions
- x. Thermal Belt
- y. Safety
- z. Indicators of Problem and Extreme Fire Behavior
 - aa. General Indicators
 - bb. Fuel Indicators
 - cc. Topography Indicators
 - dd. Weather Indicators
- III. Metric System
 - a. Metric Equivalentents
 - b. Metric Conversion Factors
- IV. Fire Investigation
 - a. Definition
 - b. Purpose
 - c. Causes
 - d. Fourth Amendment
 - e. Right to Privacy
 - f. Reasonable Expectation
 - g. Seizure of Evidence
 - h. Private Property
 - i. Search Warrants
 - j. Witness Interviews
 - k. Popular Misconceptions
 - l. Jurisdiction
 - m. Civil vs. Criminal Courts
 - n. Evidence
 - o. Chain of Custody
 - p. Expert Witness
 - q. Federal Statutes
 - r. 18 U.S. Code 81
 - s. 18 U.S. Code 1855
 - t. 18 U.S. Code 1856
 - u. USFS 36 CFR 261.5
 - v. Federal Claims Standards

V. Law Enforcement Safety

- a. Introduction
- b. Crime Scene
- c. Criminal Intent
- d. Hidden Agendas
- e. Observation-Size-up
- f. Equipment
- g. Communications
- h. Hazards

VI. First Responder Responsibilities

- a.
Introduction
- b. Responder Objectives
- c. Origin and Cause
- d. Professional Standards
- e. Basic Equipment
- f. Thunderstorms
- g. Campfires
- h. Cigarettes
- i. Debris
- j. Arson
- k. Equipment Operation
- l. Railroads
- m. Children
- n. Miscellaneous
- o. Powerlines
- p. Fireworks
- q. Cutting, Welding and Grinding
- r. Firearms
- s. Spontaneous Heating
- t. Electric Fences
- u. Origin Identification
- v. Rate of Spread
- w. Areas of Spread
- x. Origin Area
- y. Slope
- z. Wind
- aa. Transition Zones

VII. Responding to the Fire

- a. Discovery and Report
- b. Basic Information
- c. Other information
- d. Smoke Column
- e. Vehicles
- f. Evidence
- g. Protect Origin area
- h. Identify

Witnesses

i. Record Data

j. Remain Available

k. Class Exercises

VIII. Incident Command System (ICS)

a. Chain of Command

b. Unit Objectives

c. Introduction

d. Incidents

e. ICS Activities

f. Command

g. Operations

h. Planning

i. Logistics

j. Finance/ Administration

k. Communications

l. History

m. Incident Action

Plan

n. Basic Responsibilities

o. Additional Resources

IX. Fire Investigation Kit

a. Basic Equipment

Lab Content

I. Fire Investigation (3 hours)

a. Guidelines

b. Reasonable expectation

c. Seizure of evidence

d. Search warrant

e. Witness interviews

f. Jurisdiction

g. Chain of custody

h. Expert witness

i. Criminal intent

II. Fire Cause Categories (2 hours)

a. Ignition source

b. Origin

III. Fire Behavior (2 hours)

a. Topography

b. Fuels

c. Transition zones

d. Wind

IV. Responding to Fire (2 hours)

a. Discovery and reporting

b. Smoke column

c. Evidence

V. Arrival at the Scene (3 hours)

a. Weather readings

- b. Physical evidence
 - c. Fire behavior
 - d. Conditions
 - e. First responder safety
- VI. First Responder Exercises (10 hours)

METHODS OF INSTRUCTION:

Lecture, discussion and field exercises will serve as the medium of instruction.

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours: 20

Assignment Description:

Familiarize with the basic equipment for the wildland fire investigation kit.

First Responder Safety Rules review

Reading assignment Wildland Fire Investigation Handbook

METHODS OF EVALUATION:

Writing assignments

Percent of total grade: 20.00 %

Written Homework; Reading Reports

Skill demonstrations

Percent of total grade: 30.00 %

Class Performance/s and State Fire skills exam

Objective examinations

Percent of total grade: 50.00 %

State Fire Training Required Exams

Recommended Representative Textbooks

California State Fire . Wildland Fire Investigation FI-210 Student Workbook. California : California State Fire ,2019.

Issued as electronic handout

Reading Level of Text, Grade: 12th

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 202030

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department:

CSU Crosswalk Course Number:

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: C

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000127657

Sports/Physical Education Course: N

Taxonomy of Program: 213300