Course Outline

COURSE: JFT 209  DIVISION: 50  ALSO LISTED AS:

TERM EFFECTIVE: Fall 2016  CURRICULUM APPROVAL DATE: 03/14/2016

SHORT TITLE: WILDLAND FIRE FI-210

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

<table>
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<tr>
<th>Units</th>
<th>Number of Weeks</th>
<th>Type</th>
<th>Contact Hours/Week</th>
<th>Total Contact Hours</th>
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<td>Lecture: .57</td>
<td>10.26</td>
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<td>Lab: 1.25</td>
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<td>Other: 0</td>
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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

1. State Fire Marshall certified basic fire fighting academy diploma or equivalent as determined by the Dean of Academy Instruction.

Note: Approval of equivalent training is not a guarantee state regulatory or licensing agencies will also grant equivalency.

2. Prior to beginning this course students must already be familiar with, and be able to demonstrate all of the skills listed below. These will not be taught in the course; rather, they will be the starting point for advanced officer training that builds upon them. These minimum knowledge and skill levels are regarding:

   1. Firefighter safety
   2. Pertinent Vehicle, and Health & Safety codes
   3. Familiarity with procedures for safe operation at emergency scenes
   4. Knowledge of wildland firefighting personal protective equipment, including fire shelter
   5. Knowledge of uses, inspection procedures, and maintenance for wildland tools and equipment
   6. Knowledge of fuel types, precautions, and suppression method(s)
   7. Knowledge of radio procedures and codes
   8. Effective verbal communication used in fire fighting
   9. Knowledge of the methods of heat transfer
10. Familiarity with wildland fire behavior conditions
11. Familiarity with wildland fire suppression equipment requirements
12. Familiarity with standard agency policies and procedures regarding wildland fire hazards and unsafe situations
13. Familiarity with wildland fire suppression tools, water, and other suppression agents equipment.
14. Familiarity with fireline construction and reinforcement

PREREQUISITES:
Completion of JFT 8, as UG, with a grade of C or better.

COREQUISITES:

CREDIT STATUS: C - Credit - Degree Non 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:
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.

Measure: Written exam, discussion, class written assignments
PLO:
ILO: 1, 2, 3, 5
GE-LO:
Year assessed or anticipated year of assessment: 2015

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS
Curriculum Approval Date: 03/14/2016
I. Fire Behavior Review (4 Hours)
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
I. Weather
m. Wind
n. Relative Humidity
o. Topography
p. Aspect
q. Slope
r. Canyons
s. Wind behavior
t. Elevation
u. Barriers

SLO: Identify the three principal environmental elements that affect wildland fire behavior.

Assignment: Review the three methods of heat transfer for written exam.

II. Weather and Fire (4 hours)
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. Moiture
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
c. Topography Indicators
d. Weather Indicators

SLO: Identify the wildland fire environment indicators that can produce problem and extreme fire behavior.

Assignment: Review the indicators of an approaching cold front and what wind changes to expect for written exam.

III. Metric System (2 hours)
a. Metric Equivalents
b. Metric Conversion Factors
SLO: Demonstrate the ability to convert linear and liquid measure.
Assignment: Review metric system conversion charts.
IV. Fire Investigation (6 hours)
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
SLO: Identify and differentiate between fire investigation situations that require a search warrant and situations that do not.
Assignment: Review the elements of the federal statutes dealing with arson and wildfire.
V. Law Enforcement Safety (4 Hours)
a. Introduction
b. Crime Scene
c. Criminal Intent
d. Hidden Agendas
e. Observation-Size-up
f. Equipment
g. Communications
h. Hazards
SLO: Demonstrate the ability to perform an accurate and complete fire scene size-up.
Assignment: Review key observation elements of a fire scene size-up.
VI. First Responder Responsibilities (4 hours)
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

SLO: Identify the causes of wildfires and their indicators.
Assignment: Review the basic principles of fire behavior and their influence on wildfire burn patterns and indicators.

VII. Responding to the Fire (4 hours)
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

SLO: Identify the basic procedures and techniques to provide witness/observer information to fire investigators.
Assignment: Review the fundamentals of fire reporting and dispatch.

VIII. Incident Command System (ICS) (2 hours)
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

SLO: Identify the five major activities the ICS is organized around.
Assignment: Review ICS terminology developed to identify various positions.

IX. Fire Investigation Kit (2 hours)
a. Basic Equipment
SLO: Identify the basic equipment needed for a wildland fire investigation.
Assignment: Review and familiarize with the basic equipment for a wildland fire investigation kit

METHODS OF INSTRUCTION:
Lecture, discussion and field exercises will serve as the medium of instruction.

METHODS OF EVALUATION:
CATEGORY 1 - The types of writing assignments required:
Percent range of total grade: 20 % to 35 %
Written Homework
Reading Reports
CATEGORY 2 - The problem-solving assignments required:
Percent range of total grade: 25 % to 35 %
Quizzes

CATEGORY 3 - The types of skill demonstrations required:
Percent range of total grade: 30 % to 40 %
Class Performance/s

CATEGORY 4 - The types of objective examinations used in the course:
Percent range of total grade: 20 % to 35 %
Multiple Choice
True/False

REPRESENTATIVE TEXTBOOKS:
 n/a

ARTICULATION and CERTIFICATE INFORMATION

   Associate Degree:
   CSU GE:
   IGETC:
   CSU TRANSFER:
       Not Transferable
   UC TRANSFER:
       Not Transferable

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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