GAVILAN COLLEGE
5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: JFT 5A DIVISION: 50 ALSO LISTED AS:

TERM EFFECTIVE: Spring 2022 CURRICULUM APPROVAL DATE: 04/12/2022

SHORT TITLE: FIRE INVESTIGA 1A

LONG TITLE: Fire Investigation 1A

Units	Number of Weeks	Type	Contact Hours/Week	Total Contact Hours
1	18	Lecture:	.45	8.1
		Lab:	1.78	32.04
		Other:	0	0
		Total:	2.23	40.14

COURSE DESCRIPTION:

This 40-hour course This course provides information on securing the fire scene and determining the origin and cause of the fire. Topics include responsibilities of a fire investigator, securing the fire ground, conducting an exterior and interior survey, analyzing fire patterns, interpreting individual fire patterns, discriminating the effects of explosions, examining and removing fire debris, reconstructing the area of origin, inspecting the performance of building systems. PREREQUISITE: JFT 8.

PREREQUISITES:

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

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

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. Describe the effects of fire on different types of material.

2. Examine and remove fire debris to check for fire cause evidence, identify potential ignition source(s), and preserve evidence without investigator-inflicted damage or contamination.

COURSE OBJECTIVES:

By the end of this course, a student should:

1. given a fire scene, tools, and equipment, will be able to conduct an interior survey to identify and preserve areas of potential evidentiary value requiring further examination, determine the evidentiary value of contents, and identify hazards to avoid injuries.

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

Curriculum Approval Date: 04/12/2022

LECTURE CONTENT:

I. Responsibilities of a Fire Investigator (2 hours)

A. Scientific method in relation to origin and cause

B. The Interrelationship of the investigation within the organizational incident management system

II. Securing the Fire Ground (3 hours)

A. Evidence

B. Fireground hazards, including explosives and secondary devices

C. Marking devices and equipment used for securing the scene

D. The importance of fire scene security

III. Conducting Exterior Survey (3 hours)

A. Types of building construction

B. Ignition sources

C. Effects of fire suppression

D. Assess fire ground and structural condition

E. Interpret fire patterns

LAB CONTENT:

I. Conducting an Interior Survey (3 hours)

A. Types of interior finishes

B. Effects of fire suppression

C. The impact of fire suppression efforts on fire flow and heat propagation

Activities

1. Divide students into small groups. Have each group conduct an interior survey of a building that includes photographs of possible ignition sources. Have each group select a Spokesperson to present their group's findings.

2. Required Final Activity: Conducting an Origin and Cause Fire Investigation

II. Origin and Cause (4 hours)

A. Point of Origin Defined

B. Relationship between -Point of Origin- and -Fire Cause-

C. -Overhaul- Defined

D. Scene examination Procedure for Point of Origin Identification

III. Interpreting Individual Fire Patterns (3 hours)

A. Fire dynamics

B. Types of Fires Causes

C. Interpret the effects of burning characteristics on different types of materials.

Activities

1. Required Activity : Interpreting Fire Dynamics

IV. Discriminating the Effects of Explosions (6 hours)

A. The different types of explosions and their causes

B. The characteristics of an explosion

C. The difference between low- and high-order explosions

D. Explosive effects on glass, walls, foundations, and other building materials

E. Distinguish between low- and high-order explosion effects

F. Damage to document the blast zone and origin

V. Examining and Removing Fire Debris (8 hours)

A. Recognizing the ignition processes

B. The ignitability of various fuels

C. The use of tools and equipment during the debris search

? Common

? Specialized

D. Layering techniques for debris removal

E. The types of fire-cause evidence found in debris

F. Evidence-gathering methods and documentation

G. Employing search techniques that further the discovery of fire cause evidence and ignition sources

H. Search techniques that incorporate documentation

I. Collecting and preserve evidence

VI. Inspecting the Performance of Building Systems (8 hours)
A. Different types of detection, suppression, HVAC, utility, and building compartmentation
B. The types of expert resources for building systems
C. The impact of fire on various systems
D. Common methods used to defeat a system's functional capability
E. Explaining the types of building system failures
F. The system's operation and its effect on the fire
G. Identifying alterations to, and failure indicators of, building systems
H. Evaluating the impact of suppression efforts on building systems

METHODS OF INSTRUCTION:
Lecture, discussion and demonstrations/simulations will serve as the medium of instruction. Audio-visual aids will be utilized as they facilitate meaningful instruction.

OUT OF CLASS ASSIGNMENTS:
Required Outside Hours 17
Assignment Description
Reading from Fire Investigation 1A 4th edition

METHODS OF EVALUATION:
Skill demonstrations
Evaluation Percent 50
Evaluation Description
Class exercises to be graded by instructor for accuracy.
Student, given a fire scene, marking devices, tools, equipment, and sufficient personnel will be able to secure the fire ground to protect all evidence or potential evidence from damage or destruction and ensure unauthorized persons recognize the perimeters of the investigative scene and are kept from the restricted areas.

Objective examinations
Evaluation Percent 50
Evaluation Description
Written exam to be graded by instructor

REPRESENTATIVE TEXTBOOKS:
Fire Investigation 1A 4th edition , State Fire Marshall Office, Jones and Bartlett , 2021.
ISBN:
12 Grade Verified by: Doug Achterman

RECOMMENDED MATERIALS:
Fire Investigator Student Manual , State Fire Training , 2021.

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:
CSU GE:
IGETC:
CSU TRANSFER:
Transferable CSU, effective 200130
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: CCC000340173
Sports/Physical Education Course: N
Taxonomy of Program: 213300