

SCHOOL OF SAFETY, SECURITY & EMERGENCY MANAGEMENT

FIRE, ARSON & EXPLOSION INVESTIGATION

BACHELOR'S DEGREE / MINOR



PROGRAM OVERVIEW

The Fire, Arson and Explosion Investigation Bachelor's Degree is one of the only programs in the country dedicated to teaching students valuable investigative techniques and best practices related to explosion scenes, terrorist incidents and arson.

The program includes a broad-based study of fire science with an emphasis on the knowledge and skills needed to explore, determine and document the origin and cause of fire. This will prepare students for a variety of careers in the fire and safety field while also giving them the opportunity for a distinct area of specialization.

Fire, arson & explosion investigators utilize skills and knowledge regarding chemistry, physics and human behavior to determine the sequence of events and causation of fires and explosions.

This program provides students with the critical thinking skills to work competently - as an individual or team member - to determine and communicate the origin, cause, circumstances and responsibility of fires and explosions.

CAREER OPPORTUNITIES

Fire & Explosion Investigation and analysis

ATF Agent

Fire Marshal

Insurance Company Consultant

Incident & Product Investigator for Manufacturers

Accredited by:



EKU

FIRE, ARSON & EXPLOSION INVESTIGATION

Bachelor's Degree

Total Curriculum Requirements: 120 Hours
37 hrs - General Education / University Requirement
56 hrs - Fire & Safety Requirements
14 hrs - Supporting Requirements
13 hrs - Free Electives

Minor

21 Hours
*Grade of "C" or better required
FSE 120, 250, 350, 370, 380, 450 & 495

FSE 101 Fire Prevention

An introduction to fire and safety related codes, fire prevention methods, mechanical systems and engineering solutions for hazards. An in-depth look at the Life Safety Code, the function and testing of fire related building components.

FSE 120 Fire Behavior and Combustion

Introduction to the chemistry and dynamics of fire, including basic terminology and concepts that are applied to the physical and chemical properties of the development and spread of fire in a structure, hazardous materials and the Computer Fire Analysis.

FSE 201 Building Construction

A review of the analysis of building construction methods and terminology. A systems approach to designing building fire safety; the Life Safety Code; the function of and testing of rated building components, evaluating plans for code compliance.

FSE 221 Fire Protection Systems

Introduction to fire detection, protection, control systems and extinguishment. Fixed and portable systems of the following types will be studied: automatic sprinklers, standpipes, dry chemical, foam, halogenated agents, fire alarm systems and diction.

FSE 223 Fire & Emergency Scene Operations

Principles of Incident Management including emergency scene decisions, strategies and tactics. Utilizing emergency control resources such as personnel, apparatus and equipment.

FSE 250 Introduction to Fire Arson & Explosion Investigations

Topics include a historical overview of arson and terrorism statutes, sources of information, the federal role in fire and explosion investigation, explosives and improvised explosive devices.

FSE 260 Proving Criminal Acts

A study of crimes and the methodical steps in the investigation and proving of criminal acts. Explore defenses/ legal remedies to enable the student to understand the obligations of managing an investigation.

FSE 280 Constitutional Criminal Procedure

Examines the legal implications of obtaining evidence directly from the suspect. Fourth, Fifth, and Sixth Amendments and rules of evidence are discussed as they relate to the investigation of criminal acts.

FSE 305 Hazardous Materials

Study of hazardous material problems in transportation, storage and use. Chemical properties relating to specific reactions, engineering controls and control in and emergency situation. Emphasis on the role of pre-emergency planning, combating, coordinating and controlling a hazardous materials incident.

FSE 330 Principles of Criminal Investigation

A detailed study of the investigative procedure as it applies to fire, arson, explosion and other personal property crimes.

FSE 349 A-N Cooperative Study: Fire & Safety Engineering

Work in placements related to academic studies. One to eight hours credit per semester or summer. Total hours: eight, associate; sixteen, baccalaureate. A minimum of 80 hours employment required for each semester hour credit.

FSE 350 Fire, Arson & Explosion Investigation

An in-depth study in the analysis of fire, arson and explosion scenes. Emphasis will be placed on the principles and techniques of scene preservation and analysis, management of investigative function, documentation of the scene and determination of the cause and origin of fire.

FSE 355 Fire Dynamics

An introduction to fire-related measurement techniques, advanced fire and combustion concepts and associated terminology. This course includes basic numerical methods for understanding fire dynamics.

FSE 370 Electrical & Mechanical Systems Failure Analysis

Overview of design criteria for electrical and mechanical systems and components relative to fire safety via laboratory experiments, exemplar components and photographs that depict system and component failures that result in fire. Learning opportunities include engaging in destructive and non-destructive analysis of components and systems.

FSE 380 Failure Analysis

An in-depth study of fire and arson investigations. Emphasis will be placed on the principles and techniques of scene preservation, failure analysis, report writing, and determination of cause and origin.

FSE 450 Advanced Explosion & Bomb Investigation

An in-depth study of explosion scene investigation. Emphasis will be placed on the principles and techniques of scene preservation analysis, management of investigative functions, documentation of scene, and determination of the cause of explosions

FSE 495 Fire, Arson and Explosion Case Preparation

Preparation of the fire and arson case for trial, including preparation of demonstrative evidence, scene documentation for presentation, and testimony.

FSE 496 Fire Investigation Case Preparation

Preparation of the fire and arson case for trial, including preparation of demonstrative evidence, scene documentation for presentation, and testimony.

FSE 499 Practicum

Supervised field observation, research and/or experience.

Information based on EKU's 2021/2022 course catalog and is subject to change.



Eastern Kentucky University
College of Justice, Safety & Military Science
521 Lancaster Avenue / Ashland Building
Richmond, KY 40475

cjsrecruiting@eku.edu
859.622.6520

fireandsafety.eku.edu

EKUjusticeandsafety
 @EKUCJS
 eku.justice.safety