FIRE INVESTIGATIONS

Associate of Applied Science Degree

Fire investigations is a complex career field that involves multiple disciplines, including the criminal justice system. Fire investigators must be analytical, as well as knowledgeable in criminal investigations, the rule of law, and arrest, search and seizure. They usually rely on scientific principles and research in an analysis of fire to determine the cause and origin of the fire. Investigators work to determine whether the fire was deliberately set and what contributed to its subsequent growth. These findings can become an integral part of a criminal investigation that may require legal action to be taken against the responsible party.

Fire investigation findings can also be used in the evaluation of existing fire codes and development of legislation to prevent and reduce the loss of life and property due to fire. The fire investigations program provides the fire student with a basic foundation in fire science and law enforcement to actively seek a career in the field of fire investigations.

NOTE: All courses in this program may be applied toward a Bachelor of Applied Studies or Bachelor of Individualized Studies degree at NMSU. This program does not certify the student as a fire investigator, but promotes professional development to help reduce the loss of life and property from fire. Students seeking fire investigator certification should consult the various professional associations granting certifications. Students may receive IFSAC certification through the New Mexico Firefighters Training Academy.

Required Skills and Abilities

Physical Abilities

This program requires that the student be able to—

• lift, carry and balance up to 125 pounds (250 pounds with assistance)
• assume a variety of postural positions and be capable of physical maneuvers ranging from crawling, kneeling, squatting, twisting, turning, and bending, to climbing stairs and ladders
• withstand varied environmental conditions such as extreme heat, cold, and moisture.

Technology Competencies

In an effort to assist students with adequate preparation for their coursework at DACC, technology competencies have been identified and established. These competencies are in effect for all courses taken in the Fire Investigations program. Students must possess the following minimum competencies. Additional competencies may be required for particular courses/programs:

• Access course and program material on the Web using Mozilla Firefox and/or MS Internet Explorer
• Correspond with DACC students and faculty using e-mail and the Web
• Read/print e-mail and attachments/files from students and faculty
• Complete, send, and receive assignments using e-mail and attachments/files
• Use the DACC Library e-books, e-journals, databases, or credible World Wide Web resources for research and completion of course assignments
• Prepare and conduct presentations in the classroom using presentation equipment as required.
• Use the appropriate software for a given course (DACC uses as standards Microsoft products, including MS Word, MS Project, MS Excel, and MS PowerPoint)
• Use CD-ROMs when required as part of course assignments
• Use an appropriate anti-virus application to insure the files transmitted and received are virus free
• Use recommended plagiarism review software to insure work is not plagiarized

Background Checks for Related Fire and Law Enforcement Majors

Every student focusing on the related career fields of fire, law enforcement, Homeland Security, private security, corrections, parole or probation will at some point be subject to a background and criminal history check.

A background check requires that a student complete a multi-part background questionnaire identifying most of the following:

• All names and aliases used; marriages and divorces
• Previous home and work addresses, names of employers, teachers, and schools, including dates of work and attendance and or transcripts
• Medical history including any mental health or drug use
• Credit history
• Criminal history to include arrests, traffic and infraction tickets (Juvenile arrest histories may not be shielded from background checks even if the juvenile record has been sealed.)
• Military service record
• Driving record, suspensions, tickets and possession of a current driver’s license
• Citizenship and/or immigration status to include birth certificate and valid social security number
• And any other background informational requirements unique to each agency
• Current and past Internet social networking information, profiles, postings, e-mail addresses, and cyber-vetting

NOTE: The following categories will eliminate a person from access to internships, training academies, off-site law enforcement related work-study opportunities, and most criminal justice related jobs:

• Arrest for domestic violence, DUI/DWI, drug use and possession, felony crimes, and misdemeanor crimes (agency dependent)
• Mental impairment based on mental illness and/or drug-alcohol abuse
• False statements on an application or background check
• Social networking or Internet postings deemed inappropriate or damaging to a candidate’s reputation or reputation of potential hiring entities; also, any postings, images, etc., demonstrating a lack of moral turpitude
• Violations of laws involving moral turpitude
• Bad credit
• Objectionable visible body art, body modifications or piercings (tattoos on the neck may also disqualify if visible while participating/working)
• Failure to pass any job-related testing process, including, but not limited to, the following: written examination, oral interview board,
Fire Investigations - Associate of Applied Science

FIRE 101. Firefighter I
8 Credits (6+6P)
This course will train the student to the Firefighter I level as outlined in NFPA 1001, Standard for Firefighter Professional Qualifications. Firefighter I certification issued through the New Mexico Firefighter’s Training Academy upon successful completion (IFSAC accredited). May be repeated up to 8 credits. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): OEEM 103 and FIRE 115. Restricted to Community Colleges campuses only.

FIRE 102. Fire Fighter IB
4 Credits (3+3P)
Continuation of basic concepts and methodologies of fire suppression. Meets or exceeds NFPA standards.
Prerequisite: OEFS 101.

FIRE 104. Firefighter II
8 Credits (6+6P)
This course will train the student to the Firefighter II level as outlined in NFPA 1001, Standard for Firefighter Professional Qualifications. Firefighter II certification issued through the New Mexico Firefighter’s Training Academy upon successful completion (IFSAC accredited). May be repeated up to 8 credits. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): FIRE 252. Prerequisite(s): FIRE 101. Restricted to Community Colleges campuses only.

FIRE 112. Principles of Emergency Services
3 Credits
This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives. Restricted to: Community colleges only.

FIRE 114. Fire Behavior and Combustion
3 Credits
This course explores the theories and fundamentals of how and why fires start, spread, and are controlled. Restricted to: Community colleges only.

FIRE 115. Hazardous Materials Awareness and Operations
3 Credits
This course will train the student to the Hazardous Materials Awareness and Operations level as outlined in NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents and OSHA 29 CFR 1910.120. Hazardous Materials Awareness and Operations certification issued through the New Mexico Firefighter’s Training Academy upon successful completion (IFSAC accredited). May be repeated up to 3 credits. Restricted to Community Colleges campuses only.

FIRE 120. Fire Protection Hydraulics and Water Supply
3 Credits
This course will train students on skill requirements for becoming a safe and effective fire apparatus driver/operator. The focus will be on pump operation, construction, testing, and mathematical calculation required for effective pump operation and fire control. Responsibilities of the driver/operator will be taught and assessed consistent with applicable NFPA standards and NMFTA guidelines. Students who meet all course requirements will be eligible for International IFSAC certification through the NMFTA. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): FIRE 128. Restricted to Community Colleges campuses only.

FIRE 126. Fire Prevention
3 Credits
This course provides fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review, fire inspection; fire and life safety education; and fire investigation. Restricted to: Community colleges only.

FIRE 127. Rescue Operations
3 Credits
A course designed to acquaint the student with the equipment and procedures employed in search and rescue operations to safely remove persons from burning structures, automobile accidents, and natural disasters. Restricted to majors.
Prerequisite: consent of instructor.

FIRE 128. Apparatus and Equipment
2 Credits
This course is a pre/co-requisite to FIRE 120. The course will train students on attitude and skill requirements for becoming a safe and effective fire apparatus driver/operator. The focus will be on apparatus inspection, operation, maintenance, and specification. Responsibilities of the driver/operator will be taught and assessed consistent with applicable NFPA standards and NMFTA guidelines. Students who meet all course requirements will be eligible for IFSAC certification through the NMFTA. Consent of Instructor required. Restricted to Community Colleges campuses only.

FIRE 130. Principles of Fire and Emergency Services Safety and Survival
3 Credits
This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Consent of instructor required. Restricted to: Community colleges only.

FIRE 142. Fire Fighter Training S-130
3 Credits
Wildland Fire Training FFT2: A field course providing entry-level fire fighting skills through 13 instructional units of study. May also serve as refresher training for returning fire fighters and a means of testing personnel with undocumented prior experience. Instructed in accordance to NWCG standards.

FIRE 200. Special Topics
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. Course may be repeated for credit as topics change.
FIRE 201. Independent Study
1-3 Credits
Research on an approved topic to meet graduation requirements. Meets or exceeds NFPA standards. May be repeated for total of 9 credits.
Prerequisite: consent of instructor.

FIRE 202. Wildland Fire Control
1-3 Credits
Focuses on factors affecting wildland fire control and prevention, fire behavior, control techniques, command structure and other operations including Standards for Survival I-100, S-130 and S-190. Meets or exceeds NWCG Training Curriculum and NFPA 1051 standards. Restricted to: Community Colleges Only.

FIRE 203. Fire and Emergency Services Administration
3 Credits
This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer. Restricted to: Community colleges only.

FIRE 205. Fire Chemistry
3 Credits
Theories of combustion and extinguishment, including the analysis of flammable materials, the nature of extinguishing agents, and the properties of matter affecting fire behavior.
Prerequisite: CHEM 110G.

3 Credits
This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. Restricted to: Community colleges only.

FIRE 214. Hazardous Materials Technician
3 Credits
Knowledge and skills about hazardous materials mitigation needed to certify as a Hazardous Materials Technician Level III. Meets or exceeds NFPA 471, 472, 473 standards, and OSHA 1910.102 part Q, and New Mexico HMER plan. Restricted to: Community Colleges only.
Prerequisite(s): FIRE 115.

FIRE 216. Hazardous Materials Chemistry
3 Credits
This course provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services. Restricted to: Community colleges only.

FIRE 217. Operations in the Wildland-Urban Interface S-215
3 Credits
Provides training for initial attack incident commanders and company officers confronting wildfire presenting a threat to life and property. Instructional units include: size-up, initial strategy and action plan, structure triage, tactics, action plan, assessment, public relations and follow up, and safety. Presented in a classroom environment. Instructed in accordance to NWCG standards.
Prerequisite: qualified as any Single Resource Boss or FIRE 231.

FIRE 220. Cooperative Experience I
1-3 Credits
Supervised cooperative work program. Student is employed in an approved occupation and rated by the employer and instructor. May be repeated for a maximum of 6 credits. Graded S/U.
Prerequisite: consent of instructor.

FIRE 221. Cooperative Experience II
3 Credits
Apply advanced firefighting knowledge and skills while working with fire protection agencies. Meets or exceeds NFPA standards. Consent of instructor required. Graded: S/U. Restricted to: Community Colleges only.
Prerequisite(s): FIRE 220.

FIRE 222. Aircraft Fire Control
3 Credits
Provides a broad understanding of airport operations required to effectively perform aircraft firefighting and other emergencies. Meets or exceeds NFPA 402, 403, 405 standards. Restricted to: Community Colleges only.

FIRE 223. Fire Investigations I
3 Credits
This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretation, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes. Restricted to: Community colleges only.

FIRE 224. Strategy and Tactics
3 Credits
This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents. Restricted to: Community colleges only.

FIRE 225. Fire Protection Systems
3 Credits
This course provides information relating to the features and design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. Restricted to: Community colleges only.

FIRE 226. Fire Investigations II
3 Credits
This course is intended to provide the student with advanced technical knowledge on the rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation and court-room testimony. Restricted to: Community colleges only.

FIRE 230. Fire Service Instructor
3 Credits
Provides the instructor candidate with methods and techniques of instruction including oral communications, preparing lesson plans, writing performance objectives, use of audio and other training aids, and the selection, evaluation and preparation of performance tests. Meets and exceeds NFPA 1041 Level I standards. Restricted to: Community Colleges only.

FIRE 232. Firefighter Internship
3 Credits
Application of knowledge, skills and abilities in a fire service department, as a firefighter intern and integrated member of a fire affiliated agency. Restricted to majors. 
Prerequisites: FIRE 101, FIRE 102, FIRE 115, FIRE 202 and EMT-B and consent of instructor.
FIRE 233. Practical Approach to Terrorism
3 Credits
Gives responder an overall safety approach in recognizing and responding to incidents involving terrorism. Presents an overview in types of harm, explosive weapons, chemical weapons, biological weapons and radiological weapons. Restricted to: Community Colleges only. Crosslisted with: LAWE 233

FIRE 251. Incident Command System-NIMS 700
3 Credits
NIMS provides a consistent nationwide Homeland Security template to enable all government, private-sector, and nongovernmental organizations to work together during domestic incidents, Community Colleges only.

FIRE 252. Vehicle Extrication
2 Credits (1+2P)
This course will train the student to the Vehicle & Machinery Extrication level I as outlined in NFPA 1006, Standard for Technical Rescuer Professional Qualifications. Vehicle & Machinery Extrication certification issued through the New Mexico Firefighter’s Training Academy upon successful completion (IFSAC accredited). May be repeated up to 2 credits. Restricted to Community Colleges campuses only.

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