

Fire Science

- FIRE 101 Principles of Emergency Services 3 credits**
This course is an introduction to fire science technology's role in the protection of life and property. Study includes the history and philosophy of fire protection, fire loss analysis, public and private fire protection services, introduction to the chemistry of fire, scientific methods and technology applied to fire protection, equipment usage, and discussion of future fire protection problems.
- FIRE 103 Fundamentals of Fire Prevention 3 credits**
This course discusses fire department inspections and the recognition of fire hazards. The development of a systematic and deliberate inspection program stressing public cooperation and image is promoted. Local, state, and national codes pertaining to fire prevention and related technology are surveyed.
- FIRE 105 Fire Department Organization and Administration 3 credits**
This course explores the organizational principles and structural components of a fire department. History, types, methods, and principles of fire department organization, both formal and informal, line and staff are studied. Emphasis is placed on supervisory responsibilities and functions.
- FIRE 107 Legal Aspects of Emergency Services 3 credits**
This course covers an in-depth study of Chapter 148 of the Massachusetts Laws concerning fire prevention and protection. In addition, the Life Safety Code NFPA 101 (National Fire Protection Association) and Chapter 266 of the Arson Code will be examined. Also covered is the Commonwealth of Massachusetts Regulations (CMRs) on fireworks, oil burner equipment, gasoline service station, LPG appliances, transportation of flammable liquids, use of explosives and flammable decorations in addition to other relevant materials.
Prerequisites: FIRE 101 Principles of Emergency Services and FIRE 103 Fundamentals of Fire Prevention; or departmental approval.
- FIRE 111 Fire Investigation I 3 credits**
This course is designed to assist firefighters and fire officers in learning to properly determine the cause and origin of fires. The instructor also discusses and reviews various areas of inquiry associated with the preliminary investigation of a fire incident.
- FIRE 205 Fire Service Safety and Survival 3 credits**
This course introduces the basic principles and history related to the national firefighter life safety initiatives. Safety on the fire ground and emergency scenes is stressed with emphasis on prevention of injuries and reducing fatalities. The course addresses cultural and behavior changes in emergency services.
- FIRE 206 Fire Protection Systems and Equipment 3 credits**
This course of study concentrates on fire protection systems. Covered in this course are an analysis of water supply and extinguishing agent requirements, various automatic signaling and detection systems, and special extinguishing systems. Demonstrations and field trips are used to supplement the classroom discussion.
Prerequisite: FIRE 101 Principles of Emergency Services; or departmental approval.
- FIRE 208 Fire Hydraulics and Water Distribution Systems 3 credits**
This course addresses the mechanics of the flow of fluids through fire hoses, nozzles, appliances, pumps, standpipes, water mains, and other devices. Design, testing, and use of nozzles and appliances, pumps, and water distribution systems are introduced. Measurements of fluid flow and methods of determining quantities of water available from a distribution system are also studied.
Prerequisite: MATH 158 Introduction to Statistics or higher; or waiver by placement testing.
- FIRE 211 Hazardous Material Incident Response 3 credits**
This course concerns itself with hazardous materials and hazardous waste incident response. Emphasis is placed on first responder awareness and operational level response as covered in National Fire Protection Association Standard 472, Competence of Responders to Hazardous Materials Incidents, and OSHA 1910.120, Hazardous Waste Operations and Emergency Response. Initial procedures to be taken during fires and spills of hazardous chemicals encountered during their transportation and in fixed facilities are discussed.
Prerequisites: any Chemistry course, FIRE 101 Principles of Emergency Services, and FIRE 103 Fundamentals of Fire Prevention; or departmental approval.
- FIRE 213 Building Construction, Blueprint, and Plan Review 3 credits**
This course is an overview of construction designs and methods and materials utilized in building construction and emphasizes fire protection concerns. Included in this course of study is an introduction to structural blueprint reading for the purpose of recognizing conditions that may affect the prevention of fire within the building and/or firefighting efforts should a fire occur.
Prerequisite: FIRE 101 Principles of Emergency Services; or departmental approval.

FIRE 215 Terrorism and Domestic Response 3 credits

This course concerns itself with terrorism and domestic response. Emphasis is placed on understanding terrorism, the associated risks, and potential outcomes of a terrorist incident. Discussion centers on recognizing and identifying the presence of terrorist criminal activity. Actions to initiate an emergency response sequence by notifying the proper authorities are covered.

FIRE 301 Fire Company Officership - Tactics and Strategy 3 credits

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.

FIRE 400 Special Study in Fire Science 1 credit

This course involves independent work on a selected topic under the direction of members of the Fire Science Department. Limited to two courses per student.

Prerequisite: approval of the Department Chair and Division Dean.