

FIRE SCIENCE (FIS)

FIS 100 - Fundamentals of Fire and Emergency Services (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Provides an overview of fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local governmental; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; fire protection systems; introduction to fire strategy and tactics.

Start Smart

Typically offered: Fall, Spring

FIS 102 - Fire Service Management and Leadership (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Introduces the student to the role of the company officer. Provides an introduction to basic management theories, practices and functions with an emphasis on fire service leadership from the perspective of the company officer. Provides an introduction to the organization and management of a fire department and the relationship of government agencies to the fire service. Prerequisite: FIS 100 and FIS 121 with grades of C or better.

Typically offered: Fall, Spring

FIS 103 - Firefighting Strategies and Tactics (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Introduces basic principles and methods associated with fireground strategies and tactics as required of the company officer. Emphasizes the incident management system, fire behavior, basic firefighting size-up, pre-fire planning, engine company and truck company operations. Prerequisite: FIS 100 and FIS 121 with grades of C or better.

Typically offered: Fall, Spring

FIS 104 - Building Construction for Fire Protection (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Studies the components of building construction that relate to fire and life safety. Focuses on firefighter safety and the elements of construction and structure design as key factors when inspecting buildings, preplanning fire operations and operating at emergencies. Prerequisite: FIS 100 with a grade of C or better.

Typically offered: Fall, Spring

FIS 106 - Fire Service Career Exploration Practicum (1 Credit)

.5 lecture, 2 clinical/other, 2.5 total contact hours

Studies fire science career and employment possibilities in the fire service. Includes observation practices at various fire departments and attendance at a seminar to discuss related experiences. Students will gain an accurate perception of how their personal and professional goals match with the fire service, as well as learn about ways to reach their goals. Specifically, the course challenges student to look at their values, interests, and skills as they relate to a career in the fire service.

Typically offered: Fall, Spring, Summer

FIS 109 - Basic Firefighter Certification (12 Credits)

9 lecture, 6 lab, 15 total contact hours

Provides a member of a regularly constituted fire department within the State of Illinois with instruction and certification as a state-recognized Basic Operations Firefighter (Firefighter II). Satisfies the didactic and manipulative requirements for the Illinois Office of State Fire Marshall Basic Operations Firefighter (Firefighter II) certification course, meeting or exceeding the level identified in NFPA 1001. NOTE: Student must be a member of an Illinois fire department that has entered into a training agreement with Harper College. Prerequisite: FIS 103, FIS 104, FIS 122 and FIS 260 with grades of C or better AND consent of coordinator.

Typically offered: Fall, Spring, Summer

FIS 121 - Fire Behavior and Combustion (3 Credits)

3 lecture, 1 lab, 4 total contact hours

Explores the theories and principles of how and why fires start, spread, and are brought under control. Students will be able to relate the principles by which fires spread with the appropriate methods of control.

Typically offered: Fall, Spring

FIS 122 - Fire Prevention Principles (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with the built-in fire protection systems, fire investigation, and fire and life-safety education.

Typically offered: Fall, Spring

FIS 132 - Hazardous Materials (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Reviews basic chemistry, storage, handling, laws, standards and fire fighting practices pertaining to hazardous materials. Emphasis on identification, labeling, handling, firefighting, and mitigation of hazardous materials emergencies. Students who wish to satisfy the Illinois Office of the State Fire Marshall Certificate Requirements must successfully complete this course as well as the required practical skills evaluation prior to taking the state examination by the Authority Having Jurisdiction (A.H.J.).

Typically offered: Fall, Spring

FIS 145 - Fire and Emergency Services Instructor (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Services Instructor I (3-0) 3 hrs. Provides instruction to individuals in the fire and emergency services. Provides basic fundamentals in human relations in the teacher-student learning environment, methods of instruction and proper methods of writing lesson plans.

Typically offered: Fall, Spring

FIS 200 - Fire Service Internship (3 Credits)

1 lecture, 10 clinical/other, 11 total contact hours

Applies and expands fire science skills and knowledge in the workplace environment. Conducted under joint partnership agreements between Harper College and a host fire department. Regularly conducted review sessions will be conducted to assess the student's progress, problem areas, and to review appropriateness of work involvement. Actual permissible duties and activities will be determined based upon the student's qualifications and host department restrictions. Student must complete a minimum of 100 contact hours to earn 3 hours of credit. Appropriate skills to the fire science technology field. Prerequisite: FIS 100, FIS 103, FIS 121 and FIS 122 with grades of C or better.

Typically offered: Fall, Spring, Summer

FIS 210 - Fire-Arson Investigation (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Provides the identification of the nature and behavior of fire, combustion properties, sources of ignition, the techniques and procedures for the identification of the cause and origin of fires, the detection of arson, the role of the fire investigator, the role of the crime laboratory, arson law, and fire report writing. Prerequisite: FIS 100 and FIS 121 with grades of C or better.

Typically offered: Fall, Spring, Summer

FIS 212 - Fire Protection Systems (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers. Prerequisite: FIS 100 with a grade of C or better.

Typically offered: Fall, Spring

FIS 230 - Fire and Emergency Services Law (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Enables the student to acquire a basic knowledge of the law in specified subject areas that directly or indirectly affect fire and emergency services by providing basic knowledge of the methodology through which to locate, read and comprehend various statutes, regulations, and cases that are the framework of the law.

Typically offered: Fall

FIS 240 - Fire Apparatus Engineer (3 Credits)

2 lecture, 2 lab, 4 total contact hours

Provides students with a foundation of theoretical knowledge and psychomotor skills in order to understand principles of the use of water in fire protection and to apply hydraulic principles to analyze and solve water supply problems. Also provides students with the psychomotor requirements to satisfy the Illinois Office of State Fire Marshal Fire Apparatus Engineer Course. Evaluates students' ability to perform the manipulative functions required to properly operate a National Fire Protection Associate compliant fire apparatus in simulated fireground settings. Prerequisite: Placement into college-level mathematics without support. <https://www.harpercollege.edu/testing/mathplacement.php>

Typically offered: Summer

FIS 250 - Industrial Fire Protection (3 Credits)

3 lecture, 0 lab, 3 total contact hours

Studies the recommended practices for protection of industrial properties and processes from fire, explosion and damage specific to certain types of public and private industry; including fire and accident prevention programs, identification of special hazards, fire protection equipment and systems, handling of emergencies, the development of policy, rules, and regulations, the inspection and investigation of accidents, and standardized record keeping.

Typically offered: Spring

FIS 260 - Emergency Services Safety (3 Credits)

3 lecture, 3 total contact hours

Provides a foundation of knowledge and understanding of safety as applied to emergency services. Examines the need for safety in the everyday performance of all aspects of their jobs and gain an understanding of the essential elements needed to reduce accidents and injuries.

Typically offered: Fall, Spring

FIS 270 - Fire Service Technical Rescue (3 Credits)

3 lecture, 3 total contact hours

Provides students with a primary focus on the operations-level situations to which fire service rescue squads are called. Focuses on various complex rescue scenarios that firefighters are exposed to on a regular and on-going basis. Conforms and meets NFPA Standard 1670 on Operations and Training for Technical Search and Rescue Incidents. Prerequisite: FIS 100 with a grade of C or better.

Typically offered: Spring