## FIS Fire Science

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### FIS 100 Fundamentals of Fire and Emergency Services (3-0) 3 crs.
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 government; 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.

### FIS 102 Fire Service Management/Leadership (3-0) 3 crs.
This course is only offered in the fall term.
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.

### FIS 103 Firefighting Strategies and Tactics (3-0) 3 crs.
Introduces basic principles and methods associated with firefighting 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.

### FIS 104 Building Construction for Fire Protection (3-0) 3 crs.
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.

### FIS 109 Basic Firefighter Certification (9-6) 12 crs.
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 Marshal Basic Operations Firefighter (Firefighter II) certification course, meeting or exceeding the level identified in NFPA 1001. Student must be a member of an ILLINOIS fire department that has entered into a training agreement with Harper College. NOTE: This course has an additional fee of $2300 to cover the cost of training at a contracted site. 
**Prerequisite:** FIS 103, FIS 104, FIS 122, and FIS 260 with grades of C or better and consent of program coordinator.

### FIS 121 Fire Behavior and Combustion (3-1) 3 crs.
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.
FIS 240 Fire Apparatus Engineer (2-2) 3 crs.
This course is only offered in the summer term.
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 Association compliant fire apparatus in simulated fireground settings.
Prerequisite: MTH 080 with a grade of C or better.

FIS 250 Industrial Fire Protection (3-0) 3 crs.
This course is only offered in the spring term.
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.

FIS 260 Emergency Services Safety (3-0) 3 crs.
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.

FIS 270 Fire Service Technical Rescue (3-0) 3 crs.
This course is only offered in the spring term.
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.

FIS 280 Firefighting Around the World (3-0) 3 crs.
Introduces students to the rich history of firefighting throughout the world, explaining how traditions in this profession vary widely from country to country. Provides students with an understanding of those differences in fire equipment, mobile apparatus, strategy and tactics, as well as fire prevention, suppression, and investigation procedures involved in firefighting around the world. Focuses on the world's major fire organizations and how they directly relate or differ from the American Fire Service.