

**FIRE SCIENCE
FIRE AND OCCUPATIONAL SAFETY (FIR)
(HEGIS 5507)**

A balance of general, liberal arts, and technical courses are offered to those students who intend to enter the field of Fire and Occupational Safety for the first time as well as those currently employed in the field. This program is designed primarily for those students who anticipate transferring to a four year institution to pursue the baccalaureate degree. This program leads to rewarding careers in municipal fire protection, investigation and inspection, governmental agencies, industry, insurance, transportation, and educational institutions.

Students are urged to consult their advisor, the faculty and the Counseling and Career Services staff about transfer opportunities early in their academic career at Dutchess.

An Associate in Science (A.S.) degree is awarded upon completion of the requirements for this program.

Students who successfully complete the Associate in Science (A.S.) degree in Fire and Occupational Safety will be able to:

- Explain the history of the fire service from its origin up to the present and the concept of chain of command.
- Describe the origin and role of fire prevention, fire codes and public education and the role they play in today's world.
- Define fire and combustion with its associated phenomenon and describe how to employ the proper extinguishing methods for all classes of fire.
- Cite and explain all applicable OSHA regulations and National Fire Protection Association (NFPA) standards.
- Define the different types of building construction and explain each one's characteristics as it relates to fire and gravity.
- Define and describe the fire suppression and detection systems currently employed in structures.
- Explain the properties of water as an extinguishing agent and be able to perform the calculations required for design and use of municipal water and fire protection systems.
- Cite and define applicable laws and legal issues, as they relate to emergency services.
- Employ chain of command, Standard Operating Procedures, Incident Command System and mission statements.
- Transfer as a junior into a Fire Science program at a four year college.

In addition, depending on which other technical course(s) is/are completed, the graduate will be competent to complete at least one of the following:

- Create and apply various strategies and tactics, as appropriate, based on a variety of scenarios.
- Define and describe the various causes of fire and describe the process of determining whether they are accidental or intentional in origin. Students will also be able to define the process of conducting an investigation, as well as discuss the importance of accurate documentation.
- Develop a perspective on worker exposure, identify the primary sources of potential chemical and physical agents in the workplace, identify the techniques for assessing the risk of worker exposures, outline the principal methods of testing and monitoring the worker and his environment and identify and discuss the major techniques for the control of chemical and physical agents in the workplace. Courses should be selected in consultation with an advisor.

Course No.	Descriptive Title	Cr. Hrs.
FIRST SEMESTER		
ENG 101	Composition I	3
BHS 103	Social Problems in Today's World	3
MAT 184	Algebra and Trig for Precalculus	3
FIR 100	Fire Science Intro. Seminar	1
FIR 102	Fundamentals of Fire Protection	3
FIR 104	Fundamentals of Fire Prevention	<u>3</u>
	TOTAL	16
SECOND SEMESTER		
ENG 102	Composition II	3
CHE 121	General Chemistry I	4
FIR 110	Fire Behavior & Combustion	3
FIR 112	Occupational Health and Safety	3
FIR 114	Building Construction for Fire Protection	<u>3</u>
	TOTAL	16
THIRD SEMESTER		
HIS 121, HIS 104 or HIS 108		3
PHY 121	General Physics	4
FIR 204	Fire Protection Systems	3
FIR 222	Fire and Safety Admin.	3
LAS Elective (a)		<u>3</u>
	TOTAL	16
FOURTH SEMESTER		
WFE 101	Lifetime Wellness and Fitness	3
ART 150	Black and White Photography	3
FIR 212	Fire Protection Hydraulics and Water Supply	3
FIR 214	Legal Aspects in Fire and Safety	3
FIR 224	Strategy and Tactics, or FIR 226 Fire Investigation or FIR 228 Industrial Hygiene	3
LAS Elective		<u>3-4</u>
	TOTAL	18-19
	TOTAL CREDIT HOURS	66

a. Liberal Arts and Science electives only. The following courses are highly recommended for this program: SPE 101, PSY 205, PSY 134, GOV 222, ENG 217, ECO 121, CIS 108.