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 rule 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.