FST - FIRE SCIENCE TECHNOLOGY

FST 100 Introduction to Fire Protection
This course is designed for students preparing for a career in emergency services with a focus on firefighting. This is a course in the history and development of fire protection. Topics covered are the role of the fire service in the development of civilization; personnel in fire protection; general introduction to fire hazards; and a discussion of the problems and possible solutions for current and future fire protection.
Upon successful completion of this course, students should be able to:
Describe the history of the fire service and the evolution of fire protection in the United States.
Analyze the basic components of fire as a chemical chain reaction, as well as the major phases of fire.
List and describe the major organizations that provide emergency response service, and illustrate how they interrelate.
Explain the scope, purpose and organizational structure of fire and emergency services.
Define the role of national, state and local support organizations in fire and emergency services.
Explain the primary responsibilities of fire prevention personnel, including code enforcement, public information, and public and private protection systems.
Prerequisites: ENG 100
3 Credits3 Weekly Lecture Hours

FST 101 Principles of Fire Science Administration
Fire-Science Administration details the skills and techniques necessary for proper management of all aspects of fire service.
Upon successful completion of this course, students should be able to:
Delineate the scope of management principles.
Apply managerial functions to various positions in fire service.
Explicate behavioral science aspects in management application.
Direct managerial skills to achieve organizational needs.
Assess a management-by-objective program in a fire service.
Detail the objectives of fire prevention and the fire-inspection process.
Outline and use pre-fire planning.
Describe personnel management.
Depict sound training techniques for fire personnel.
Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.
3 Credits3 Weekly Lecture Hours

FST 102 Fire Prevention Theory and Application
This course is designed to cover the basics of the development of fire-prevention laws and ordinances for elimination of fire hazards, inspection, organization, practices and procedures. Theory and application of laws and ordinances in modern concepts of fire prevention are also covered.
Upon successful completion of this course, students should be able to:
Organize a viable fire-prevention program.
Trace the development of the science of fire prevention.
Explicate the Fire Prevention Code.
Conduct a thorough fire safety program.
Maintain accurate records and reports via the Systems Analysis method.
Use the Life Safety Code properly, including its means of egress and physical features.
Apply the Life Safety Code regulations to the institutional, residential, mercantile and industrial areas.
Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.
3 Credits3 Weekly Lecture Hours

FST 103 Fire and Arson Investigation
This course enables students to become familiar with the problems inherent in determining the causes of fires, recognition of arson, preservation of evidence and successful prosecution of those responsible.
Upon successful completion of this course, students should be able to:
Organize a viable fire-prevention program.
Trace the development of the science of fire prevention.
Explicate the Fire Prevention Code.
Conduct a thorough fire safety program.
Maintain accurate records and reports via the Systems Analysis method.
Use the Life Safety Code properly, including its means of egress and physical features.
Apply the Life Safety Code regulations to the institutional, residential, mercantile and industrial areas.
Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.
3 Credits3 Weekly Lecture Hours

FST 200 Fire Operation Strategies
This course covers the various tactical objectives, strategic goals and identifying potential incident hazards when responding to a fire emergency. Emphasis on safety and the development of skills in analyzing and reacting to crises are reinforced throughout the course.
Upon successful completion of this course, students should be able to:
Identify and describe the 16 Firefighter Life Safety Initiatives and cite the most common deficiencies.
Describe the proper operating functions of engine and ladder companies at the fire scene.
Evaluate fire conditions and select effective hoseline placement, proper methods of ventilation, use of fog and appropriate safety measures.
Explicate procedures used in fighting major fires, fires in buildings under construction and fires in various types of buildings.
Delineate the procedures for post-incident analysis (PIA) in order to improve performance.
Describe the various formulas to determine fire ground flow requirements and perform the basic hydraulic calculations required to do so.
Prerequisite: ENG 100
3 Credits3 Weekly Lecture Hours

FST 201 Fire Protection in Building Construction
This course is designed to expose students to the various types of building construction and the fire problems (including building collapse) of each.
Upon successful completion of this course, students should be able to:
List the six common types of construction used in this area.
Explicate the shifting of the various types of loads in a building during fire situations.
Detail the appropriate methods of fire fighting for the various types of wood, siding, sheathing, masonry, concrete and steel buildings.
Recognize and cite approved fire-fighting techniques for the various types of voids inherent in buildings.
Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.
3 Credits3 Weekly Lecture Hours

FST 202 Fire Systems in Industry
This course is designed to acquaint students with the various aspects of private fire protection, from designing the physical facilities to instituting safety factors to extinguishing conflagrations.
Upon successful completion of this course, students should be able to:
Assess occupational opportunities in industrial fire protection.
Delineate the management responsibilities concerning property conservation.
Detail the traits needed in and responsibilities of a director of property conservation.
Depict the procedures required to begin a property conservation program.
Provide the minimal functions required of the plant emergency organization.
Establish a viable watch service.
Classify the various types and components of sprinkler systems.
Describe the advantages of each of the four basic types of alarm systems.
Preplan for the normal property conservation emergency situations.
Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.
3 Credits3 Weekly Lecture Hours

FST 220 Seminar Fire Science
This course is designed for advanced students and presents a series of topics only occasionally encountered. Much of the material is supplemental to previous course work. Students are expected to present a research project to the class. NOTE: Pre-Requisite 6 cr. in Fire Science.
Upon successful completion of this course, students should be able to:
Depict the specific extinguishing properties of water, foam, concentrates and inert gases.
Explicate procedures involved in electrical fires.
Detail the types and legal aspects of fire alarm systems.
Provide guidelines for fire operations at high-rise emergencies.
Plan effective and motivating ongoing training for fire personnel.
Delineate appropriate administrative techniques of budgeting, record keeping and preplanning for diverse emergency situations.
Prerequisite: NONE New students should complete Placement Testing prior to registration. Visiting students may submit college transcript.
3 Credits3 Weekly Lecture Hours