

FIRE SCIENCE (FIRE)

FIRE 101 Introduction to Fire Science 3 Credit Hours (3,0)

Survey of the history and philosophy of fire protection. Examines present fire protection problems and future challenges, public fire protection agencies, firefighting equipment and extinguishing agents. Special emphasis is placed on emergency responders' safety and hazardous material recongnition.

FIRE 102 Wildland/Rural Fire Control 3 Credit Hours (3,0)

Class will provide the theory and practical instruction necessary to manage and control wildland fires. Prevention, back burns, grid references, fuels, firefighting methods and tactics are covered in the course.

FIRE 111 Hazardous Materials 3 Credit Hours (3,0)

Principles of combustion; examination of theoretical and practical aspects of combustion. Investigation of physical and chemical properties of substances which may harm responders, the general public and the environment.

FIRE 197 Physical Fitness Public Safety 1 Credit Hour (0,3)

This course provides physical fitness and skills necessary for the law enforcement and fire science certification students. Fire science students take the course one semester before FIRE220.

FIRE 198 Seminar I 1 Credit Hour (0,2)

This course serves as an introduction to university life and careers in criminal justice and firefighting. Designed to be taken in the fall of the first year in the programs.

Prerequisite(s): None

FIRE 199 Seminar II 1 Credit Hour (1,0)

Seminar II is a continuation of the work done in Seminar I to set up students for university success and learn about reading and doing research work in criminal justice or fire science. Designed to be taken in spring of the first year of the programs.

FIRE 201 Fire Protection Const Concepts 3 Credit Hours (3,0)

Impact of building construction concepts and methods on firefighting tactics and strategy, decision making and safety. Presentation of the ramifications of hostile fire on construction and building materials.

Prerequisite(s): FIRE101

FIRE 204 Fire Protectn Hydraulics/Pumps 3 Credit Hours (3,0)

The application of mathematics and physics laws to properties of water, force, pressure and flow velocities. Emphasis: Applying principles of hydraulics to fire protection problems, use of water supply sources and needs; examines fire department apparatus testing, inspection and maintenance; deals with apparatus specifications and requirements.

Prerequisite(s): MATH088 or equivalent/satisfactory score on ACT or Placement Exam and FIRE101 or FIRE102

FIRE 206 Fire Protect Sys/Equip/Ind Pro 3 Credit Hours (3,0)

Use and water supply needs of sprinkler and stand pipe systems and devices, fixed detection and control systems and devices, fire department testing, inspection and maintenance. Alarm centers, warning devices and safety considerations are covered along with fire flow calculations and risk assessment. Examination of fire and lifestyle hazards in business and industry. Emphasis on managing fire prevention and training private fire brigades.

Prerequisite(s): FIRE101, FIRE111, FIRE204 and MATH088 or equivalent/satisfactory score on ACT or Placement Exam

FIRE 211 Tactics & Strategy 3 Credit Hours (3,0)

Utilization of manpower, equipment and apparatus on the fireground. Emphasis: Pre-fire planning, fire ground decision making. Implementing tactics and disaster planning. Students will use fire simulation programs and interactive technology to apply and implement the principles covered in didactic instruction.

Prerequisite(s): Either FIRE101 or FIRE102

Pre or Corequisite(s): FIRE204

FIRE 219 Firefighter Essentials 3 Credit Hours (3,0)

This course is the first part of a two class sequence; the second part of the sequence is FIRE220. This course will cover the principles of firefighting attack skills through the practical instruction and exercises as outlined by the Michigan Firefighters Training Council (MFFTC). This course introduces the student to the application of the principles of fire attack and strategy for Firefighter I certification and portions of Firefighter II through the use of exercises and computer-generated simulations. Hazmat incident analysis and other major disaster case studies are used in this class. Completion of specialized medical examination.

Prerequisite(s): FIRE101 and FIRE111

Corequisite(s): FIRE197, FIRE206 and FIRE204

FIRE 220 Fire Science Certification 4 Credit Hours (3,3)

An application of the principles of fire attack and strategy through the use of exercises and computer-generated simulations. Hazmat incident analysis and other major disaster case studies are used in this class. Completion of specialized medical examination.

Prerequisite(s): FIRE219

Corequisite(s): FIRE206 and FIRE211

FIRE 299 Seminar III 1 Credit Hour (1,0)

Students will develop a professional resume and learn about best practices research in criminal justice or fire science. Designed to be taken in the fall of the second year of the program.

FIRE 301 Code Enforce Inspect/Fire Prev 3 Credit Hours (3,0)

An introduction to fire inspection procedures and inspection techniques as related to building construction, fire load, fire protection systems, plans and the storage of hazardous materials. A study of safety code enactment, formulations and its relation to fire prevention and public education efforts and responsibilities of the fire service.

Prerequisite(s): FIRE111, FIRE206 and Junior Standing

FIRE 309 Fire-Related Human Behavior 3 Credit Hours (3,0)

This course will provide students the knowledge to understand how humans behave in fire and emergency situations, and how that behavior is integrated into life safety systems development and design. Students will study past and present research on human behavior, life safety models, building design, and life safety education. Students will develop an understanding how to analyze possible outcomes as it relates to human survivability in fire and emergency situations.

Pre or Corequisite(s): FIRE101, FIRE206, and FIRE301, or permission of instructor

FIRE 312 Hazardous Materials Management 4 Credit Hours (3,3)

Covers requirements of federal law dealing with hazardous incidents, waste management with reference to OSHA, NIOSH, NFPA, and ACGIH standards. This class can certify select students at the level of general hazard awareness, emergency response operations, and hazardous waste worker.

Prerequisite(s): FIRE111 or CHEM116 and junior standing

FIRE 315 Company Level Supervision/Mgmt 3 Credit Hours (3,0)

This course is intended to provide a comprehensive overview of supervision and administration skills necessary to function as a company officer, which would include but not be limited to planning, budgeting, time management, training, emergency incident command, and facility maintenance and care.

Pre or Corequisite(s): FIRE101, FIRE111, FIRE204, FIRE206 and FIRE211

FIRE 325 Homeland Security/Emer Service 3 Credit Hours (3,0)

This course will prepare all graduates from a variety of majors to understand how homeland security impacts the US political system as a whole, but especially from the standpoint of emergency response and preparedness. Investigates the impact of the federal homeland security apparatus on emergency response organizations at the state and local level. Includes a historical review of 'homeland security' measures beginning in WWI and through WWII and the Korean War. Especially reviews the security situation during the Cold War. The course deals with the federal agencies usually not associated with homeland security, such as DEA, ATF, the military departments, FAA, CDC, the National Guard Bureau, and the DOD. Students from other majors are encouraged to enroll with permission of instructor.

Prerequisite(s): Junior standing

FIRE 399 Seminar IV 1 Credit Hour (1,0)

Students will develop interviewing skills and participate in mock interviews as well as choose a topic for their senior research project and begin work on it.

FIRE 401 Senior Seminar 3 Credit Hours (3,0)

A senior seminar. The course builds on the research topic developed in CJUS/FIRE399 and research methodologies learned in CJUS345. Students will receive additional research instruction while completing their project. Students will make oral presentations of their project results of the course to the other students, faculty and invited guests.

Prerequisite(s): CJUS345, CJUS/FIRE399 and Senior Standing

FIRE 402 Fire Service and the Law 3 Credit Hours (3,0)

Capstone Course. Introduces the judicial system in which the fire service operates. Covers civil action, liability, labor, prevention, safety (OSHA), and environmental law.

Prerequisite(s): Senior Level standing

FIRE 403 Fire Science Internship 3-9 Credit Hours

Fire science internship with an agency. Credit is based on the equivalent of 45 hours of field work per credit hour. Students must make application by the ninth week of the previous semester. Course may be repeated for a maximum of 9 credits. 3-9

Prerequisite(s): Senior standing and permission of instructor

FIRE 490 Ind Study: Public Safety 1-4 Credit Hours

This may take the form of either a research project or a program of directed reading on a specific subject. One to four credits over a period of one or two semesters may be granted according to the nature of the student's project. May be repeated up to six credits. (1-4) 4

Prerequisite(s): Permission of instructor