

# COURSE SYLLABUS

<b>LAST REVIEW</b>	Spring 2021
<b>COURSE TITLE</b>	Firefighter I
<b>COURSE NUMBER</b>	FRSC 0100
<b>DIVISION</b>	Health Professions
<b>DEPARTMENT</b>	Fire Science
<b>CIP CODE</b>	43.0203
<b>CREDIT HOURS</b>	4
<b>CONTACT HOURS/WEEK</b>	Class: 3                      Lab: 2
<b>COREQUISITES</b>	FRSC 0211 and HZMT 0120

## COURSE DESCRIPTION

This course meets all requirements for Firefighter I certification. Students will be provided the opportunity to take the third party certification test.

## Program Learning Outcomes

1. Demonstrate physical skills needed for employment as a firefighter.
2. Explain fire behavior.
3. Apply emergency management skills to provide basic emergency medicine in the field.
4. Evaluate strategy and tactics related to fire safety, survival techniques, and fire management.
5. Explain legal issues related to fire services administration.
6. Demonstrate employability skills necessary for completing the job search process.

## TEXTBOOKS

<http://kckccbookstore.com/>

## METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

## **COURSE OUTLINE**

The course outline is indicated below and is subject to change as course development dictates.

- I. Firefighter Orientation
  - A. Fire Service History and Culture
  - B. Fire Service Mission and Organization
  - C. Fire Department Regulations
  - D. National Incident Management Systems
  - E. Interaction with Other Organizations
  
- II. Firefighter Safety and Health
  - A. Firefighter Injuries and Fatalities
  - B. Safety Standards for the Fire Service
  - C. Risk Management
  - D. Fire Department Safety and Health Programs
  - E. Safety on the Apparatus
  - F. Safety in the Fire Station and Facilities
  - G. Safety in Training
  - H. Emergency Operations
  
- III. Fire Behavior
  - A. Science of Fire
  - B. Fire Development in a Compartment
  - C. Fire Control Theory
  
- IV. Building Construction
  - A. Construction Terminology
  - B. Common Building Materials
  - C. Construction Classifications
  - D. Firefighter Hazards Related to Building Construction
  
- V. Firefighter Personal Protective Equipment
  - A. Personal Protective Clothing
  - B. Respiratory Protection
  - C. Donning and Doffing Breathing Apparatus
  - D. Inspection and Maintenance of Protective Breathing Apparatus
  - E. Using Self-Contained Breathing Apparatus
  
- VI. Portable Fire Extinguishers
  - A. Types of Portable Fire Extinguishers
  - B. Extinguishers and Agents for Metal Fires
  - C. Portable Fire Extinguishers Rating System
  - D. Selecting and Using Portable Fire Extinguishers
  - E. Inspecting Portable Fire Extinguishers

- F. Damaged Portable Fire Extinguishers
- G. Obsolete Portable Fire Extinguishers

## VII. Ropes and Knots

- A. Types of Ropes and their Uses
- B. Rope Materials
- C. Rope Construction
- D. Rope Maintenance
- E. Storage of Life-Safety Rope
- F. Webbing
- G. Knots
- H. Rope Hardware
- I. Hoisting Tools and Equipment
- J. Rescue Rope and Harness

## VIII. Rescue and Extrication

- A. Fireground Search and Rescue
- B. Victim Removal
- C. Rescue and Extrication Tools and Equipment
- D. Vehicle Extrication
- E. Technical Rescue Incidents

## IX. Forcible Entry

- A. Forcible Entry Tools
- B. Door Size-Up and Construction Features
- C. Locks and Locking Devices
- D. Nondestructive Rapid Entry
- E. Conventional Forcible Entry through Doors
- F. Gates and Fences
- G. Forcing Windows
- H. Breaching Walls
- I. Breaching Floors

## X. Ground Ladders

- A. Basic Parts of a Ladder
- B. Ladder Inspection and Maintenance
- C. Handling Ladders
- D. Ladder Carries
- E. Positioning Ground Ladders
- F. General Procedures for Raising and Climbing Ladders
- G. Ladder Raises
- H. Procedures for Moving Ground Ladders
- I. Securing the Ladder
- J. Climbing Ladders

- K. Working from a Ladder
- L. Assisting a Victim Down a Ladder

#### XI. Ventilation

- A. Reasons for Fireground Ventilation
- B. Considerations Affecting the Decision to Ventilate
- C. Vertical Ventilation
- D. Horizontal Ventilation
- E. Forced Ventilation
- F. Effects of Building Systems on Fires

#### XII. Water Supply

- A. Principles of Water Supply Systems
- B. Pressure Measurements
- C. Fire Hydrants
- D. Alternative Water Supplies
- E. Rural Water Supply Operations

#### XIII. Fire Hose

- A. Fire Hose Sizes
- B. Causes and Prevention of Fire Hose Damage
- C. General Care and Maintenance of Fire Hose
- D. Fire Hose Couplings
- E. Hose Appliances and Tools
- F. Hose Rolls
- G. Basic Hose Loads and Finishes
- H. Preconnected Hose Loads for Attack Lines
- I. Supply Hose Lays
- J. Handling Hoselines
- K. Advancing Hoselines
- L. Operating Hoselines

#### XIV. Fire Streams

- A. Extinguishing Properties of Water
- B. Pressure Loss or Gain
- C. Water Hammer
- D. Fire Stream Patterns and Nozzles
- E. Fire Fighting Foam
- F. Proportioners, Delivery Devices, and Generating Systems
- G. Assembling a Foam Fire Stream System
- H. Foam Application Techniques
- I. Foam Hazards

XV. Fire Control

- A. Suppressing Structure Fires
- B. Deploying Master Stream Devices
- C. Suppressing Class B Fires
- D. Suppressing Class C Fires
- E. Suppressing Class D Fires
- F. Company-Level Fire Tactics

XVI. Fire Detection, Alarm, and Suppression Systems

- A. Types of Alarm Systems
- B. Automatic Sprinkler Systems
- C. Operations at Fires in Protected Properties

XVII. Loss Control

- A. Philosophy of Loss Control
- B. Salvage
- C. Overhaul

XVIII. Protecting Fire Scene Evidence

- A. Roles and Responsibilities
- B. On the Scene Observations and Conduct
- C. Responsibilities After the Fire

XIX. Fire Department Communications

- A. Communications Center Personnel
- B. Communications Center
- C. Receiving Nonemergency Calls from the Public
- D. Receiving Emergency Calls from the Public
- E. Alerting Fire Department Personnel
- F. Radio Communications
- G. Incident Reports

XX. Fire Prevention and Public Education

- A. Fire and Life Safety Contacts
- B. Fire Prevention
- C. Fire Hazards
- D. Fire Inspections
- E. Fire Safety Surveys
- F. Public Fire and Life Safety Education
- G. Fire Station Tours

XXI. Basic Prehospital Emergency Medical Care for Firefighters

- A. Infection Control
- B. Emotional Stress
- C. Scene Safety
- D. Introduction to Basic Cardiac Life Support
- E. Rescue Breathing
- F. CPR
- G. Clearing Airway Obstructions
- H. Bleeding Control
- I. Shock

XXII. Introduction to Hazardous Materials

- A. Personal Protective Equipment
- B. Health and Physical Hazards
- C. Properties and Behavior
- D. Hazardous Materials Identification

XXIII. Operations at Haz Mat Incidents

- A. Priorities
- B. Management Structure
- C. Haz Mat Incident Mitigation
- D. Strategic Goals and Tactical Objectives
- E. Isolation and Scene Control
- F. Notification
- G. Protection
- H. Decontamination
- I. Rescue
- J. Spill, control and Confinement
- K. Crime Scene Management and Evidence Preservation
- L. Recovery and Termination

**COURSE LEARNING OUTCOMES**

Upon successful completion of this course, the student will:

- A. Understand the organization, structure, and history of the fire service.
- B. Identify firefighter safety and health matters.
- C. Understand fire behavior.
- D. Identify building construction.
- E. Demonstrate proper use of firefighter's personal protective equipment.
- F. Demonstrate proper use of portable fire extinguishers.
- G. Demonstrate proper knowledge and use of ropes and knots.
- H. Explain rescue and extrication techniques.
- I. Understand forcible entry procedures.
- J. Demonstrate proper use of ground ladders.
- K. Explain ventilation.

- L. Explain water supply.
- M. Demonstrate proper use of fire hose.
- N. Explain proper use of fire streams.
- O. Explain fire control.
- P. Explain fire detection, alarm, and suppression systems.
- Q. Explain the philosophy of loss control, salvage and overhaul.
- R. Discuss protecting fire scene evidence.
- S. Demonstrate proper fire department communications.
- T. Explain the importance of fire prevention and public education.
- U. Demonstrate basic prehospital emergency medical care.
- V. Properly identify hazardous materials incidents.
- W. Demonstrate proper operations of a Haz Mat Incident.

### **ASSESSMENT OF COURSE LEARNING OUTCOMES**

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

### **COLLEGE POLICIES AND PROCEDURES**

*Student Handbook*

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

*College Catalog*

<https://www.kckcc.edu/academics/catalog/index.html>

*College Policies and Statements*

<https://www.kckcc.edu/about/policies-statements/index.html>

*Accessibility and Accommodations*

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.