

COURSE SYLLABUS

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| LAST REVIEW | Spring 2021 |
| COURSE TITLE | Fire Fighting Tactics and Strategies |
| COURSE NUMBER | FRSC 0111 |
| DIVISION | Health Professions |
| DEPARTMENT | Fire Science |
| CIP CODE | 43.0203 |
| CREDIT HOURS | 3 |
| CONTACT HOURS/WEEK | Class: 3 |
| PREREQUISITES | None |
| COURSE PLACEMENT | Students must meet the correct placement measure for this course. Information may be found at: https://www.kckcc.edu/admissions/information/mandatory-evaluation-placement.html |

COURSE DESCRIPTION

Efficient and effective utilization of manpower, equipment and apparatus are studied in this course. Emphasis is placed on preplanning, fire ground organization problem solving related to fire ground decision making, and attack tactics and strategy.

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

- I. Fire Behavior
 - A. Combustion
 - B. Heat
 - C. Determining flashover Time
 - D. Flashover
 - E. Backdraft

- II. The Mechanisms of Fire Extinguishment
 - A. Water Flow and Form
 - B. Fog: Theory and Practice
 - C. Critical Rate for Each Fire
 - D. Steam Extinguishment
 - E. Solid and Straight Streams
 - F. Disadvantages of Fog
 - G. When Not to Use Water
 - H. Firefighting Foams
 - I. Other Water Additives
 - J. Fire-Extinguishing chemicals

- III. The Development of firefighting
 - A. Expansion of Ladder Company functions
 - B. Staffing a company
 - C. Staffing Trials
 - D. Personnel on First Alarm
 - E. Establishment of Rescue Companies
 - F. Salvage
 - G. Influence on the fire Service by the Insurance Industry
 - H. Progress in firefighting
 - I. European Methods

- IV. Firefighting Strategies
 - A. Personnel Requirements
 - B. Apparatus Response time
 - C. Need for communications
 - D. Chain of command at Fires
 - E. Establishment of a command Post
 - F. Span of Control
 - G. Incident command System

- V. Firefighting Tactics
 - A. Tactical considerations

- B. Life Hazard
- C. Location of the Fire
- D. Extension Probability
- E. Type of Fire
- F. Size of the fire
- G. Analysis of the Fire Situation

VI. The Action Plan—working at a Fire

- A. Finding the Fire
- B. Rescue
- C. Search
- D. Entry
- E. Ventilation
- F. Protection of Exposures
- G. Safety
- H. Communication
- I. Call for Additional Help
- J. Extinguishment
- K. Salvage
- L. Cooperation of Other Agencies
- M. Overhauling

VII. Fire Ground Control and Coordination

- A. Stress Situations
- B. Coordination
- C. Application of the Tactics

VIII. Ladder Operations

- A. Stress Situations
- B. Coordination
- C. Smoke Inhalation
- D. Electrocuting
- E. Safety and Building Collapse
- F. Safety Aids
- G. Work on Peaked Roofs
- H. Use of Safety Belts
- I. Laddering Damaged Stairs
- J. Rescue Carry
- K. Smoke—A High Hazard
- L. Heat Hazard and Clothing
- M. Clothing Limitations and Problems
- N. Importance of Visibility
- O. Protection of the Head and the Extremities
- P. Electrical Hazards

- Q. Handling Live Wires
 - R. Secondary Injuries
 - S. Getting Lost
 - T. Critical Incident Stress
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- IX. Engine Operations
 - A. Vertical Spread of Heat and Smoke
 - B. Clues Given by a Building's Age
 - C. Structural Failure
 - D. Building Collapse
 - E. Mill Construction
 - F. Collapse from Water
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- X. Sprinkler Operations
 - A. Checking the Supply
 - B. Sprinkler Flow
 - C. Automatic Wet-Pipe System
 - D. Automatic Dry-Pipe System
 - E. Deluge Systems
 - F. Non-Automatic Systems
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- XI. Ladder Company Operations
 - A. Some common Mistakes
 - B. Ladder Company Positioning
 - C. Necessity of Assigning Tools
 - D. Use of Ground Ladders
 - E. Need for Scaling Ladders
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- XII. Engine Company Operations
 - A. Hydrants
 - B. Tandem Pumping
 - C. Hydrant-to-Pumper Layouts
 - D. Hose Operations
 - E. Large-Diameter Hose
 - F. Hydrant Selection
 - G. Lines Taken from a Pumper
 - H. Restricted Inlet Flow
 - I. Delivering the Water
 - J. Interior Firefighting
 - K. Exterior Attack
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- XIII. Pre-Fire Planning
 - A. Post-fire Analysis

- B. A Questionnaire Guide
- C. Evaluation Standards

XIV. Major Fires

- A. Command Structure
- B. Staging Area
- C. Lack of Experience
- D. Need for Brand Patrols
- E. Learning from the Past
- F. Holding Actions
- G. Fire Officials of Disaster Area
- H. Mutual-Aid Providers

XV. The Everyday Fire

- A. Plastics
- B. Oil burners
- C. Chimney fires
- D. Basement Fires in Dwellings
- E. Attic Fires
- F. Mercantile Fires
- G. Taxpayer Fires
- H. Multiple-Dwelling Fires
- I. Garden Apartments
- J. Factory Fires

XVI. Special-Problem Fires

- A. High-rise Buildings
- B. Electrical Fires
- C. Flammable-Liquid Fires
- D. Pyrophoric Metals
- E. Hazardous Materials
- F. Chemical Fires
- G. Radioactive Materials
- H. Aircraft Fires
- I. Fires in Places of Assembly
- J. Fires in Places of Worship
- K. School Fires
- L. Motor Vehicle Fires
- M. Rapid Transit Fires
- N. Freight Train Fires
- O. Ship Fires
- P. Pier Fires
- Q. Rural Fires
- R. Fires in Hospitals and Nursing Homes

- S. Fires in Shopping Centers
- T. Fires in Enclosed Malls
- U. Lumber and Other Outdoor Storage Fires

COURSE LEARNING OUTCOMES

Upon successful completion of this course, the student will:

- A. Explain fire behavior.
- B. Explain the mechanisms of fire extinguishment.
- C. Identify the history of the development of firefighting tactics.
- D. Explain firefighting strategies.
- E. Explain firefighting tactics.
- F. Develop an action plan for a working fire.
- G. Explain fire ground control and coordination efforts.
- H. Explain ladder operations.
- I. Explain engine company operations.
- J. Develop a pre-fire plan.
- K. Distinguish between major fires and every day fires.
- L. Identify special-problem fires.

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>.