SYLLABUS

DATE OF LAST REVIEW: 02/2013
CIP CODE: 43.0205, 43.0202, 43.0203
SEMESTER: Departmental Syllabus
COURSE TITLE: Firefighter I
COURSE NUMBER: FRSC-0100
CREDIT HOURS: 5
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE(S): HZMT 0120 Hazardous Materials Awareness and Operations is a prerequisite or co-requisite for this course.

REQUIRED TEXT AND MATERIALS:
Please check with the KCKCC bookstore, http://www.kckccbookstore.com/, for the required texts for your particular class.

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

METHOD 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, and 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

EXPECTED LEARNER OUTCOMES:
A. The learner will be able to understand the organization, structure, and history of the fire service.
B. The learner will be able to identify firefighter safety and health matters.
C. The learner will be able to understand fire behavior.
D. The learner will be able to identify building construction.
E. The learner will be able to demonstrate proper use of firefighter’s personal protective equipment.
F. The learner will be able to demonstrate proper use of portable fire extinguishers.
G. The learner will be able to demonstrate proper knowledge and use of ropes and knots.
H. The learner will be able to explain rescue and extrication techniques.
I. The learner will be able to understand forcible entry procedures.
J. The learner will be able to demonstrate proper use of ground ladders.
K. The learner will be able to explain ventilation.
L. The learner will be able to explain water supply.
M. The learner will be able to demonstrate proper use of fire hose.
N. The learner will be able to explain proper use of fire streams.
O. The learner will be able to explain fire control.
P. The learner will be able to explain fire detection, alarm, and suppression systems.
Q. The learner will be able to explain the philosophy of loss control, salvage and overhaul.
R. The learner will be able to discuss protecting fire scene evidence.
S. The learner will be able to demonstrate proper fire department communications.
T. The learner will be able to explain the importance of fire prevention and public education.
U. The learner will be able to demonstrate basic prehospical emergency medical care.
V. The learner will be able to properly identify hazardous materials incidents.
W. The learner will be able to demonstrate proper operations of a Haz Mat Incident.

COURSE COMPETENCIES:

The learner will be able to understand the organization, structure, and history of the fire service.
1. The student should be able to describe the history and culture of the fire service.
2. The student should be able to describe the mission of the fire service.
3. The student should be able to define fire department organizational principles.
4. The student should be able to distinguish among functions of fire companies.
5. The student should be able to summarize primary knowledge and skills the firefighter must have to function effectively.
6. The student should be able to distinguish among the primary roles of fire service personnel.
7. The student should be able to distinguish among policies, procedures, and standard operating procedures.
8. The student should be able to summarize components of the Incident Command System (ICS).
9. The student should be able to distinguish among the functions of the major subdivision within the ICS structure.

The learner will be able to identify firefighter safety and health matters.
10. The student should be able to Discuss Occupational Safety and Health Administration regulations.
11. The student should be able to summarize the IFSTA principles of risk management.
12. The student should be able to discuss firefighter health considerations and employee assistance and wellness programs.
13. The student should be able to discuss safety in the fire station.
14. The student should be able to explain how to maintain and service equipment used in training.
15. The student should be able to describe emergency escape and rapid intervention.

*The learner will be able to understand fire behavior.*
16. The student should be able to describe physical and chemical changes of matter related to fire.
17. The student should be able to discuss modes of combustion, the fire triangle, and the fire tetrahedron.
18. The student should be able to explain the difference between heat and temperature.
19. The student should be able to describe sources of heat energy.
20. The student should be able to discuss the transmission of heat.
21. The student should be able explain how the physical states of fuel affect the combustion process.
22. The student should be able to explain how oxygen concentration affects the combustion process.
23. The student should be able to distinguish among classifications of fires.
24. The student should be able to describe the stages of fire development within a compartment.

*The learner will be able to identify building construction.*
25. The student should be able to describe common building materials.
26. The student should be able to describe construction types and the effect fire has on the structural integrity of the construction type.
27. The student should be able to identify the primary strengths and weaknesses of construction types.
28. The student should be able to describe dangerous building conditions created by a fire or by actions taken with trying to extinguish a fire.
29. The student should be able to identify indicators of building collapse.
30. The student should be able to list actions to take when imminent building collapse is suspected.
31. The student should be able to describe hazards associated with lightweight and truss construction.

*The learner will be able to demonstrate proper use of firefighter's personal protective equipment.*
32. The student should be able to describe the purpose of personal protective gear.
33. The student should be able to summarize guidelines for the care of personal protective clothing.
34. The student should be able to discuss effective air management.
35. The student should be able to describe basic SCBA component assemblies.
36. The student should be able to discuss general donning and doffing considerations for SCBA.
37. The student should be able to describe actions to take in emergency situations using SCBA.
38. The student should be able to change an SCBA cylinder using both the one and two person methods.

*The learner will be able to demonstrate proper use of portable fire extinguishers.*
39. The student should be able to describe methods by which agents extinguish fire.
40. The student should be able to distinguish among classifications of fire and the most common agents used to extinguish them.
41. The student should be able to describe types of extinguishers and their common uses.
42. The student should be able to discuss damaged portable fire extinguishers and obsolete portable fire extinguishers.

The learner will be able to demonstrate proper knowledge and use of ropes and knots.
43. The student should be able to describe types of rope construction.
44. The student should be able to describe parts of a rope and considerations in tying a knot.
45. The student should be able to describe characteristics of knots commonly used in the fire service.
46. The student should be able to select commonly used rope hardware for specific applications.
47. The student should be able to summarize hoisting safety considerations.
48. The student should be able to demonstrate knowledge of tying a variety of knots specific to the fire service.

The learner will be able to explain rescue and extrication techniques.
49. The student should be able to distinguish between rescue and extrication operations.
50. The student should be able to summarize safety guideline for search and rescue personnel operating within a burning building.
51. The student should be able to describe actions that should be taken by a rapid intervention crew when a firefighter is in distress.
52. The student should be able to conduct a primary and secondary search.
53. The student should be able to demonstrate various emergency rescue carries.

The learner will be able to understand forcible entry procedures.
54. The student should be able to select appropriate cutting tools for specific applications.
55. The student should be able to summarize forcible entry tool safety rules.
56. The student should be able to summarize general care and maintenance practices for forcible entry tools.
57. The student should be able to explain how fire doors operate.
58. The student should be able to describe the characteristic of basic types of locks.
59. The student should be able to describe rapid-entry lockbox systems.
60. The student should be able to explain actions that can be taken to force entry involving padlocks.
61. The student should be able to list hazards in forcing windows.

The learner will be able to demonstrate proper use of ground ladders.
62. The student should be able to describe types of ground ladders used in the fire service.
63. The student should be able to summarize factors that contribute to safe ladder operations.
64. The student should be able to describe proper procedures for positioning ground ladders.
65. The student should be able to explain precautions to take before raising a ladder.
66. The student should be able to describe methods for lowering conscious or unconscious victims down ground ladders.
67. The student should be able to select, carry and raise a ladder properly for various types of activities.

The learner will be able to explain ventilation.
68. The student should be able to discuss factors that are taken into account when deciding the need to ventilation.
69. The student should be able to list safety precautions to observe when undertaking vertical ventilation.
70. The student should be able to list warning signs of an unsafe roof condition.
71. The student should be able to explain procedure for ventilation of a conventional basement.
72. The student should be able to distinguish between advantages and disadvantages of forced ventilation.

The learner will be able to explain water supply.
73. The student should be able to describe dry-barrel and wet-barrel hydrants.
74. The student should be able to discuss fire hydrant marking and location.
75. The student should be able to summarize potential problems to look for when inspecting fire hydrants.
76. The student should be able to alternative water supplies.
77. The student should be able to operate a hydrant.
78. The student should be able to discuss alternative water supplies.

The learner will be able to demonstrate proper use of fire hose.
79. The student should be able to discuss general care and maintenance of fire hose.
80. The student should be able to distinguish between characteristics of threaded couplings and nonthreaded couplings.
81. The student should be able to describe the characteristics of hose appliances and tools.
82. The student should be able to list general hose loading guidelines.
83. The student should be able to describe the basic hose lays for supply hose.
84. The student should be able to describe techniques for operating hoselines.

The learner will be able to explain proper use of fire streams.
85. The student should be able to discuss the extinguishing properties of water.
86. The student should be able to distinguish among characteristics of fire stream sizes.
87. The student should be able to discuss types of streams and nozzles.
88. The student should be able to list checks that should be included in nozzle inspections.

The learner will be able to explain fire control.
89. The student should be able to summarize considerations prior to entering a burning building.
90. The student should be able to describe direct attack, indirect attack, and combination attack.
91. The student should be able to discuss deploying master stream devices.
92. The student should be able to describe aerial devices used to deliver elevated master streams.
93. The student should be able to discuss responsibilities of companies in structural fires.
94. The student should be able to explain action taken when performing fire fighting and rescue operations in confined spaces.
The learner will be able to explain fire detection, alarm, and suppression systems.
95. The student should be able to list function of fire detection, alarm, and suppression systems.
96. The student should be able to discuss general automatic sprinkler protection and types of coverage.
97. The student should be able to describe major applications of sprinkler systems.

The learner will be able to explain the philosophy of loss control, salvage and overhaul.
98. The student should be able to explain the philosophy of loss control.
99. The student should be able to discuss planning and procedures for salvage operations.
100. The student should be able to summarize basic principles of salvage cover deployment.
101. The student should be able to summarize the overhaul process.

The learner will be able to discuss protecting fire scene evidence.
102. The student should be able to describe sign and indications of an incendiary fire.
103. The student should be able to summarize important observations to be made en route, after arriving at the scene, and during firefighting operations.
104. The student should be able to explain firefighter responsibilities after the fire.
105. The student should be able to discuss protecting and preserving evidence.

The learner will be able to demonstrate proper fire department communications.
106. The student should be able to describe communication responsibilities of the firefighter.
107. The student should be able to summarize necessary skills for fire department communications.
108. The student should be able to discuss ways of alerting fire department personnel to emergencies.
109. The student should be able to explain the purpose of tactical channels.
110. The student should be able to discuss evacuation signals and personnel accountability reports.

The learner will be able to explain the importance of fire prevention and public education.
111. The student should be able to discuss the fire prevention activities of reviewing community data and code enforcement.
112. The student should be able to summarize special fire hazards in commercial, manufacturing and public assembly occupancies.
113. The student should be able to discuss personal requirements and equipment requirements for conducting inspections.
114. The student should be able to summarize common causes of residential fires.

The learner will be able to demonstrate basic prehospical emergency medical care.
115. The student should be able to discuss the importance of body substance isolation.
116. The student should be able to discuss diseases of concern.
117. The student should be able to describe scene safety considerations at hazardous materials incidents and rescue operations.
118. The student should be able to describe the steps of cardiopulmonary resuscitation.
119. The student should be able to discuss indications of effective CPR and when CPR may be interrupted.

The learner will be able to properly identify hazardous materials incidents.

120. The student should be able to summarize Awareness-level and Operations-level responsibilities at hazardous materials incidents.

121. The student should be able to summarize respiratory equipment limitations.

122. The student should be able to describe NFPA 1994 PPE ensemble classifications.

123. The student should be able to discuss health and safety issues when wearing PPE.

124. The student should be able to describe health and physical hazards that may be present at Haz Mat incidents.

The learner will be able to demonstrate proper operations of a Haz Mat Incident.

125. The student should be able to summarize incident priorities for all hazmat and terrorist incidents.

126. The student should be able to discuss the management structure at hazmat or terrorist incidents.

127. The student should be able to summarize general guidelines for decontamination operations.

128. The student should be able to describe the three types of decontamination.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

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