MASTER COURSE OUTLINE

A. FIRE 1100 Firefighter I

B. COURSE DESCRIPTION:

This course is designed to cover the necessary skills to perform the basic duties of firefighting including thought processes used to decide appropriate operations. This includes the duties of rescue, exposure protection, confining the fire, extinguishing the fire, overhaul, salvage and ventilation. Upon successful completion, participants are eligible for the Minnesota State Fire Certification Board exam. Prerequisites: A grade of C or higher in ENGL 0960 or appropriate placement score.
(5 Cr – 3 lect, 2 lab)

C. *Core Theme: Critical Thinking

D. RIVERLAND INSTITUTIONAL LEARNING OUTCOMES:

This course addresses the following Riverland Institutional Learning Outcome(s):
☒ ILO 1: critical thinking *(Core Theme Goal 2)*
☐ ILO 2: awareness of the larger global community *(Core Theme Goal 7 or 8)*
☐ ILO 3: ethical, engaged citizenship *(Core Theme Goal 9 or Goal 10)*
☐ ILO 4: communication and collaboration *(Discipline Goal 1 and by any learning outcome(s) involving communication or collaboration)*

E. MAJOR CONTENT AREAS:

- Hazardous materials (Hazmat)
- Firefighter safety
- Fire service communications
- Fire behavior
- Building construction
- Portable fire extinguishers
- Firefighter tools and equipment
- Ropes and knots
- Response and size-up
- Forcible entry

- Ladders
- Search and rescue
- Ventilation
- Water supply
- Fire hose nozzles, streams, and foam
- Firefighter survival
- Salvage and overhaul
- Wild land and ground fires
- Fire suppression
- Pre-incident planning

F. GOAL TYPES, OBJECTIVES, AND OUTCOMES:

GOAL	**OBJECTIVES** **Students will be able to**	**OUTCOMES** **The student will successfully**
*Critical Thinking	gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.	1. describe controlling access to an emergency scene. 2. demonstrate measures used to protect firefighters and others at an emergency scene.
CS	understand implementation of a planned hazardous materials response, analyzing the incident, and predicting the likely behavior of a material and its container.	1. describe actions to protect themselves and others and to control access to a hazmat scene. 2. describe properties and effects of hazardous materials.
CS	understand the hazards of smoke and other toxic environments, the importance of standards for Personal Protective Equipment (PPE), and how to properly "on and off" to keep firefighters safe.	1. describe the protection provided by PPE. 2. describe the limitations of PPE and Self-Contained Breathing Apparatus (SCBA). 3. describe the hazards of smoke and other toxic environments. 4. demonstrate donning and doffing proper PPE and SCBA.
CS	understand department radio communications and how to obtain necessary information, required coding procedures, and the consequences of incomplete and inaccurate reports.	1. explain the roles of the telecommunicator and dispatch. 2. demonstrate receiving messages via the fire department radio. 3. complete a basic incident report accurately and completely.
CS	understand dangerous building conditions created by fire, potential long-term consequences of exposure to products of combustion, physical states of matter in which fuels are found, behavior of fire in a structure, and the products of combustion found within a structure fire and methods of heat transfer.	1. describe the chemistry of combustion and fire. 2. describe the ignition phase, growth phase, fully-developed phase, and decay phase of a fire. 3. describe the characteristics of a room-and-contents fire through each of the four phases of a fire. 4. describe the causes and characteristics of flame over,

		flashover, thermal layering, and back draft.
CS	understand the principles of thermal layering within a structure on fire and effects of construction type and elapsed time on structural integrity under fire conditions.	1. describe the function of building components. 2. describe how each of the five types of building construction reacts to fire.
CS	understand the classifications of fire, the types of rating systems for, and risks, associated with each class of fire, and the operating methods and limitations of portable fire extinguishers.	1. choose the correct portable fire extinguisher to completely extinguish a Class A, Class B, and Class C fire. 2. demonstrate correct extinguisher-handling techniques.
CS	understand types of tools and methods used to expose hidden fire, importance of cleaning and checking ventilation equipment, SCBA, ropes, salvage equipment and hand tools cleaning methods for various tools and equipment.	1. demonstrate the ability to select correct tools to expose hidden fire. 2. follow guidelines and complete recording and reporting procedures for cleaning and checking various tools and equipment.
CS	understand knot types and usage, the difference between life safety and utility rope, reasons for placing rope out of service, the types of knots to use for given tools, ropes, or situations, hoisting methods for tools and equipment, and using rope to support response activities.	1. inspect and demonstrate care for life safety ropes. 2. demonstrate knot types and describe their usage in the fire service. 3. demonstrate hoisting methods for tools and equipment.
CS	understand potential hazards involved in operating on emergency scenes including vehicle traffic, utilities, and environmental conditions; proper procedures for dismounting apparatus in traffic, procedures for safe operation at emergency scenes, and the protective equipment available for members' safety on emergency scenes and work zone designations.	1. describe the role of a firefighter in ensuring safe and efficient response to an emergency scene. 2. define and describe size-up. 3. describe how to shut off utilities. 4. demonstrate safe mount and dismount from an apparatus.
CS	understand basic construction and operation of doors, windows, and locks, and the dangers associated with forcing entry through doors, windows, and walls.	1. describe the association between specific tools and special forcible-entry needs. 2. demonstrate various methods of forcible entry.
CS	understand parts of a ladder, hazards associated with setting up ladders, what constitutes a stable foundation for ladder placement, different angles for various tasks, safety limits to the degree of angulations, and what constitutes a reliable structural component for top placement.	1. describe how to clean and inspect a ladder. 2. describe general safety rules for ladders. 3. demonstrate various methods of lifts and carries of ladders.
CS	understand use of forcible entry tools during rescue operations, ladder operations for rescue, psychological effects of operating in obscured conditions and ways to manage them, methods to determine if an area is	1. demonstrate performing a primary and secondary search. 2. demonstrate carries and drags used in rescue.

	tenable, primary and secondary search techniques, team members' roles and goals, methods to use and indicators for finding victims, victim removal methods and considerations related to respiratory protection.	3. demonstrate setting up and using different types of ladders for various types of rescue operations. 4. simulate rescuing a person who has no respiratory protection and assess areas to determine tenability.
CS	understand the principles, advantages, limitations, and effects of horizontal, mechanical, and hydraulic ventilation; safety considerations when venting a structure, fire behavior in a structure, the products of combustion found in a structural fire, the signs, causes, and effects, and prevention of back drafts, and the relationship of oxygen concentration to life safety and fire growth.	1. describe the methods of heat transfer and the principles of thermal layering within a structure on fire. 2. describe the role of ventilation in the prevention of back draft and flashover. 3. demonstrate using various firefighter tools for ventilation. 4. demonstrate ventilation on a structure as part of a team.
CS	understand loading and off-loading procedures for mobile water supply apparatus, fire hydrant operation, and suitable static water supply sources.	1. describe how portable tanks are used to supply water for firefighting. 2. demonstrate set up of a portable water tank. 3. operate, shut down, and test a fire hydrant.
CS	understand maintenance of fire hoses, principles of fire streams, types, design, operation, nozzle pressure effects, and flow capabilities of nozzles, and procedures and protocol for connecting to various water sources.	1. demonstrate deployment and operation of an attack line. 2. demonstrate connecting a fire department pumper to a water supply as a member of a team so that connections are tight and water flow is unobstructed. 3. demonstrate the ability to clean different types of hose, operate hose washing and drying equipment, mark defective hose, and replace coupling gaskets, role hose, and reload hose.
CS	understand personal accountability systems, communications procedures, emergency evacuation methods, what constitutes a safe haven, elements that create or indicate a hazard, and emergency procedures for loss of air supply.	1. describe the procedure for conducting an appropriate risk-benefit analysis. 2. describe how to initiate emergency communications procedures. 3. describe firefighter survival procedures. 4. demonstrate the ability to use SCBA to exit through restricted passages.
CS	understand types of fire attack lines and water application devices most effective for overhaul, water application methods for extinguishment that limit water damage, types of tools and methods used to expose	1. describe overhaul. 2. describe how firefighters can limit losses from smoke and heat and preserve structural integrity during overhaul.

	hidden fire, and dangers associated with overhaul.	
CS	understand types of ground cover fires, parts of ground cover fires, methods to contain or suppress, and safety principles and practices.	1. describe the types of wild land fires and fuels. 2. define the parts of wild land and ground fires. 3. describe hazards associated with wild land and ground firefighting. 4. describe how wild land and ground fires can be suppressed.
CS	understand principles of fire streams as they relate to fighting automobile and interior structure fires.	1. describe how to attack an interior structure fire. 2. describe how to attack a vehicle fire. 3. demonstrate live vehicle fire attack. 4. demonstrate live structure fire attack.
CS	understand the importance of performing activities related to reducing the loss of life and property due to fire.	1. demonstrate preparation of a pre-incident survey. 2. describe common symbols used in diagramming construction features, utilities, hazards, and fire protection systems. 3. demonstrate identifying components of fire suppression and detection systems.

G. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact Accessibility Services at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

H. COURSE CODING INFORMATION:

Course Code U/Customer Driven; Letter Grade

Revision date: 02/17/11; 03/05/24
AASC Approval date: 03/22/11; 04/16/24

*These five MnTC Goals have been identified as Riverland Community College Core Themes. Every course in the Riverland Community College curriculum shall meet outcomes from one of these themes.
**These five MnTC Goals have been identified as Riverland Community College Disciplines. Riverland's MnTC courses also shall meet outcomes from a Discipline Area.

NOTE: The Minnesota Transfer Curriculum "10 Goal Areas of Emphasis" are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.

***Riverland Community College Core Themes**	**MnTC Goal Number**
Critical Thinking (CT)	**2**
Human Diversity (HD)	**7**
Global Perspective (GP)	**8**
Ethical and Civic Responsibility (EC)	**9**
People and the Environment (PE)	**10**

****Riverland Community College Discipline Areas**	**MnTC Goal Number**
Communication (CM)	**1**
Natural Sciences (NS)	**3**
Mathematics/Logical Reasoning (MA)	**4**
History and the Social & Behavioral Sciences (SS)	**5**
Humanities and Fine Arts (HU)	**6**