



### Academic Certificate in Fire Science (CER.3143)

At Bucks County Community College, we use course-level assessment to determine student achievement of program of study goals, which represent the skills, knowledge, abilities, and behaviors that employers expect of program graduates. A series of courses prepares students for employment by providing preparation, practice, and opportunities to show mastery of these program of study goals. Each course is developed around a number of learning goals, known as course goals, that support a student’s growing mastery of program of study goals. Faculty members assess each student’s mastery of each program of study goal through specific assessments that students are required to complete in the courses. Each assessment is scored using criteria specific to the program of study goal being assessed.

#### Program Measure for Standard of Success:

- 75% or more of students will be successful in meeting the assessment criteria for each course-level assessment.

**Program Goal #1** - Manage a fire protection organization through effective use of public and private emergency planning and resources;

Course #	Aligned course goal (must match current Master Course Outline)	Percentage Successful	Meets Standard
FRSC-202	#3 – Student will prepare the appropriate response objectives to a hazardous material incident.	Fall 2019: <ul style="list-style-type: none"><li>• Average quiz score: 88%</li><li>• Average discussion score: 100%</li><li>• Average project score: 81%</li></ul>	YES
FRSC-202	#4 – Student will define and describe decontamination process, termination procedures, and debriefing of the hazardous material incident.	Fall 2019: <ul style="list-style-type: none"><li>• Average quiz scores: 98%, 87%</li><li>• Average final score: 93%</li><li>• Average discussion score: 97%</li><li>• Average project score: 81%</li></ul>	YES
FRSC-208	#3 – Student will identify and explain the concepts of span and control, effective delegation, and division of labor.	Spring 2020: 100% successful	YES
FRSC-208	#6 – Student will discuss the various levels of leadership, roles, and responsibilities within the organization;	Spring 2020: 100% successful	YES

**Program Goal #2** - Demonstrate and apply the fundamental skills associated with firefighter safety and wellness, such as prevention, incident safety / risk management, organizational health and safety, and wellness programs;



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Course #	Aligned course goal (must match current Master Course Outline)	Percentage Successful	Meets Standard
FRSC-114	#1 – Student will define and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility.	Spring 2021: 100% Successful (n=5)	YES
FRSC-114	#7 – Student will defend the need for annual medical evaluations and the establishment of physical fitness criteria for emergency services personnel throughout their careers.	Spring 2021: 100% Successful (n=5)	YES
FRSC-209	#2 – Student will identify occupational health and safety programs for industry and emergency services today.	Spring 2021: 91% successful	YES
FRSC-209	#11 – Student will describe the components of a wellness/fitness plan.	Spring 2021: 91% successful	YES

### Program Goal #3 - Evaluate fire behavior and building construction as it related to firefighter safety, building codes, and fire prevention;

Course #	Aligned course goal (must match current Master Course Outline)	Percentage Successful	Meets Standard
FRSC-103	#1 – Student will describe building construction as it relates to firefighter safety, building codes, fire prevention, code inspection, firefighting strategy, and tactics.	Data collection scheduled for Spring 2024	
FRSC-104	#4 – Student will describe and explain fire/life safety inspection practices and procedures, including the functions, responsibilities, role, and importance of fire prevention and code enforcement system.	Data collection scheduled for Spring 2024	
FRSC-104	#7 – Student will prepare fire and life safety inspection reports thoroughly documenting building, fire, and life safety concerns, including the occupancy classification, building size, description of use, and calculate the occupancy loads, exit capacities, and travel distances, referencing appropriate codes.	Data collection scheduled for Spring 2024	

### Program Goal #4 - Apply safety codes and proper procedures for the transportation and storage of hazardous materials.

Course #	Aligned course goal (must match current Master Course Outline)	Percentage Successful	Meets Standard
FRSC-104	#7 – Student will prepare fire and life safety inspection reports thoroughly documenting building, fire, and life safety concerns, including the occupancy classification, building size, description of use, and calculate the occupancy loads, exit capacities, and travel distances, referencing appropriate codes.	Data collection scheduled for Spring 2024	



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FRSC-104	#8 – Student will identify appropriate codes and their relationship to other requirements for the built environment.	Data collection scheduled for Spring 2024	
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NOTE: Only students who participate in the course-level assessment are included in the calculation of the percentage successful. These results are incomplete due to a program re-alignment and new assessment plan starting in the Academic Year of Fall 2019.