

Student Learning Outcome and Assessment Plan

Course title: Fire Technology Associate's Degree

Department/program: Fire Technology

Date: August 31, 2008

Participating Faculty: CFTDA

Identified Student Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Upon completion of the Fire Technology Program, the student will identify minimum qualifications and entry-level skills for fire fighter hiring. The student will be able to describe the following elements: application process; written exam process; physical agility exam, oral interview, chief's interview; background investigation; and fire fighter probationary process. Students will identify fire service history, culture and diversity.
2. Upon completion of the Fire Technology Program, the student will demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents and identify components of emergency management and fire fighter safety including: Size-up, report on conditions, Incident Command System; RECEO; 10 Standard Firefighting Orders; 18 Situations that Shout "Watch Out"; and common factors associated with injuries and line of duty deaths.
3. Upon completion of the Fire Technology Program, the student will be able to identify and comprehend laws, regulations, codes and standards that influence fire department operations, and identify regulatory and advisory organizations that create and mandate them, especially in the areas of fire prevention, building codes and ordinances, and firefighter health and safety.
4. Upon completion of the Fire Technology Program the student will be able to analyze the causes of fire, determine extinguishing agents and methods, differentiate the stages of the fire and fire development, and compare methods of heat transfer.
5. Upon completion of the Fire Technology Program, the student will be able to calculate flow requirements for fire apparatus, diagram a pump and plumbing schematic for fire apparatus, and apply mathematic formulae to hydraulics problems.
6. Upon completion of the Fire Technology Program, the student will identify and describe the apparatus used in the fire service, and the equipment and maintenance of fire apparatus and equipment.
7. Upon completion of the fire technology program, the student will identify and describe common types of building construction and conditions associated with structural collapse and firefighter safety.
8. Upon completion of the Fire Technology Program the student will differentiate between fire detection and fire suppression systems. Student will design and diagram a wet and dry fire protection system, and identify alarm system components and their operations.

Types of Assessment to be used:

SLO #1 Corresponding Core Course: Fire Protection Organization	Assessment Instrument(s)	Assessment Example	Assessment Criteria
<p>Upon completion of the Fire Technology Program, the student will identify minimum qualifications and entry-level skills for fire fighter hiring. The student will be able to describe the following elements: application process; written exam process; physical agility exam, oral interview, chief's interview; background investigation; and fire fighter probationary process. Students will identify fire service history, culture and diversity.</p>	<p>Performance-based assessment such as mock-oral interviews, written personal statements, resumes, cover letters to demonstrate knowledge of the hiring process. Written exams and quizzes for the purposes of assessing the students comprehension of physical skills and criteria required of the firefighting profession.</p>	<p>Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.</p>	<p>Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.</p>

SLO #2 Corresponding Core Course: Principles of Fire and Emergency Services Safety and Survival.	Assessment Instrument	Assessment Example	Assessment Criteria
<p>Upon completion of the Fire Technology Program, the student will demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents and identify components of emergency management and fire fighter safety including: Size-up, report on conditions, Incident Command System; RECEO; 10 Standard Firefighting Orders; 18 Situations that Shout "Watch Out"; and common factors associated with injuries and line of duty deaths.</p>	<p>Scenario-based evaluation of incident management and decision-making. Written exams and quizzes to assess the student's understanding of emergency management and operations. Written communication such as diagrams, charts and memos to effectively communicate emergency incident information and details.</p>	<p>Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.</p>	<p>Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.</p>

SLO#3 Corresponding Core Course: Fire Prevention Technology	Assessment Instrument	Assessment Example	Assessment Criteria
Upon completion of the Fire Technology Program, the student will be able to identify and comprehend laws, regulations, codes and standards that influence fire department operations, and identify regulatory and advisory organizations that create and mandate them, especially in the areas of fire prevention, building codes and ordinances, and firefighter health and safety.	Written work such as essays, lists, forms, and comprehensive research papers to assess the student's ability to access information and data from books, periodicals, web sources, library materials, and government publications related to fire prevention, building codes and ordinances. Exams and quizzes for the purposes of evaluating student progression toward, and attainment of, student learning outcome.	Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.	Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.
SLO #4 Corresponding Core Course: Fire Behavior and Combustion	Assessment Instrument	Assessment Example	Assessment Criteria
Upon completion of the Fire Technology Program the student will be able to analyze the causes of fire; determine extinguishing agents; methods of extinguishment; differentiate the stages of fire and fire development; and compare methods of heat transfer.	Written task books, quizzes and exams to assess student progress toward the student learning outcome, and their comprehension and retention of fire cause, origin, extinguishment and chemical processes.	Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.	Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.
SLO # 5 Corresponding Core Course: Hydraulics	Assessment Instrument	Assessment Example	Assessment Criteria
Upon completion of the Fire Technology Program, the student will be able to calculate flow requirements for fire apparatus, diagram a pump and plumbing schematic for fire apparatus, and apply mathematic formulae to hydraulics problems.	Written task books, quizzes and exams to assess student progress toward achieving the student learning outcome, and to measure the students' ability to calculate and apply mathematical formulae.	Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data.	Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.

SLO # 6 Corresponding Core Course: Fire Apparatus and Equipment (Elective)	Assessment Instrument	Assessment Example	Assessment Criteria
Upon completion of the Fire Technology Program, the student will identify and describe the apparatus used in the fire service. Equipment and maintenance of fire apparatus and equipment.	Written work such as diagrams, essays, quizzes and exams for the purpose of measuring students' comprehension and knowledge of fire apparatus, apparatus capabilities, and care and maintenance of equipment.	Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.	Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.

SLO # 7 Corresponding Core Course: Building Construction for Fire Protection	Assessment Instrument	Assessment Example	Assessment Criteria
Upon completion of the Fire Technology Program, the student will identify and describe common types of building construction and conditions associated with structural collapse and firefighter safety.	Student illustrations of building construction types. Written essays and descriptions of structural weakness and collapse conditions that affect firefighter safety.	Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.	Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.

SLO # 8 Corresponding Core Course: Fire Protection Equipment and Systems.	Assessment Instrument	Assessment Example	Assessment Criteria
<p>Upon completion of the Fire Technology Program the student will differentiate between fire detection and fire suppression systems. Student will design and diagram a wet and dry fire protection system, and identify alarm system components and their operations.</p>	<p>Diagrams of fire detection and suppression systems. Written work such as descriptions, capabilities, and application of suppression systems. Quizzes and exams for the purpose of assessing the students' knowledge of alarm systems and their components.</p>	<p>Select one instrument to measure student performance. Compare performance to assessment criteria. Capstone test at the conclusion of the core classes may be required for the Associate's Degree. Match specific exam questions to the SLO and analyze the individual data. Compare results to assessment criteria.</p>	<p>Success is achieved if 90% of students achieve the student learning outcome with a score of 80% or higher during the assigned assessment activity. Learning outcome is not achieved if these criteria are not met.</p>