**Student Learning Outcomes (SLOs) for Instruction Programs PHASE I** (section I)

**Program Outcomes Assessment Report**

**“Program/Degree/Certificate Description or Mission Statement & Identification of Outcome(s)”**

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| **Date:** | **December 31, 2011** |  |  |
| **Name of Degree, Certificate, Program:** | **Fire Technology Degree, Certificate, Program** |  |  |

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| **Contact Person & Others Involved in Process:** | **Lead: Alfredo Estrada Others: Robert Malek and Tina Aguirre** |

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| **This degree/certificate is designed to expand skills/knowledge in the area of building and life safety, fire prevention and fire protection services and for the transition from Firefighter to Fire Officer. Additional work experience requires are mandated by the State Fire Marshall Office.** |

**Mission Statement or Description of the Program, Degree or Certificate:**

**Institutional Learning Outcomes Supported: Please check the ISLOs that are supported by your program:**

\_\_X\_\_**ISLO1** = communication skills; \_\_X\_\_I**SLO2** = critical thinking skills; \_\_X\_\_**ISLO3** = personal responsibility;

\_\_X\_\_I**SLO4** = information literacy; \_\_X\_\_I**SLO5** = global awareness

**Program-level Outcomes and Ways to Assess:** (Please choose 1-3)

**Degree or Certificate Grid needs to also be submitted on final page –** see SLO Coordinator for assistance

**Has SLO Grid been completed? Yes X No Is it Attached? Yes X No**

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| **Completing the Fire Technology Degree/Certificate/Program Grid demonstrated that courses are designed to focus on communication skills, critical thinking skills and personal responsibility followed by information literacy, and global awareness. This is the first time the Grid has been completed for the Fire Technology degree, certificate so we are unable to compare the Grid to prior years.** |

**Please write a couple of sentences describing what information the completed Grid provides. You may want to comment on ISLOs which are being covered well or not covered at all, changes to be made to outcomes or assessments, or, if possible, you may want to compare Grid to previous years.**

**Please include the outcomes that have been designed for your courses.**

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| **Course #** | **Outcomes** |
| FIRE 100 | 1. Apply basic emergency incident management strategies in relationship to incident command systems in public and private fire protection careers. (ILO1, ILO2) 2. List the educational requirements, duties , and information sources for various occupations in fire protection.(ILO4) 3. Define the basic concepts of fire as a chemical reaction, the major phases of fire, and the main factors that influence fire spread and fire behavior.(ILO2) 4. Analyze the effects of fire on the environment and the historic al effort s made to protect society against unwanted fire.(ILO2) 5. Identify the types of common fire department apparatus, equipment, and personal safety equipment used for fire fighting.(ILO4) 6. Identify the various codes , standards, ordinances, and regulations that affect fire protection and the functions of a fire prevention bureau.(IL02) 7. Define fire fighting strategy and tactics. 8. Describe the elements of fire fighter safety and survival(ILO5) |
| FIRE 101 | 1. Demonstrate knowledge in the spectrum of fire prevention functions and philosophies and their relationships to fire suppression efforts. (IL02) 2. Identify the laws, rules, codes, and other regulations relevant to fire prevention and the agencies or authority having jurisdiction. (ILO2) 3. Execute a plan review, apply fire codes and related regulations, and describe the need and process of fire investigation. (ILO3) 4. Define the national fire problem including causes, damages, and public and firefighter fatalities. (ILO2, ILO3) 5. Identify the responsibilities and functions of the fire prevention bureau in relationship to the fire department organizational structure. (ILO2) 6. Identify the minimum professional qualifications at the state and national level for Fire Inspector, Fire Investigator, and Public Educator. (ILO2) 7. Design a fire prevention media campaign including brochures, advertising, public service announcements and fire prevention collateral materials for adults and children. (ILO2, ILO3, ILO4) |
| FIRE 102 | 1. Analyze the relationship between fire prevention efforts and the reduction of life and property loss. (IL02, IL05) 2. Draw and describe the basic elements of a public water supply system including sources, distribution networks, piping and hydrants. (ILO2, ILO3) 3. Identify the components of sprinkler, standpipe and foam systems. (ILO2, ILO4) 4. Identify five different types of non-water based fire suppression systems and describe how these systems extinguish fire (ILO2, ILO4) 5. Describe fire protection systems in various structures and the history of sprinkler ordinances and legislation. (ILO2) 6. Describe the components of a fire alarm system and different types of detectors and how they detect fire. (ILO2, ILO4) 7. Explain the operation and application of portable fire extinguishing systems. (ILO2, ILO3) 8. Identify and analyze the causes of line of duty firefighter deaths and training and research into the reduction of risk and accidents. (ILO2, ILO3, ILO4) |
| FIRE 103 | 1. Identify major types of building construction. (ILO2) 2. Analyze the hazards and tactical considerations associated with the various types of building construction. (ILO1, ILO2) 3. Demonstrate proficiency in building occupancy and code enforcement. (ILO2) 4. Define basic terms and concepts related to fire behavior and chemistry. (ILO2) 5. Identify states of matter and describe chemical processes associated with combustion. (ILO2, ILO4) 6. Analyze physical conditions which determine states of matter and influence fire behavior. (ILO2, ILO4) 7. Describe fire suppression agents and their properties. (ILO2) 8. Compare and contrast methods and techniques of fire extinguishment. (ILO2, ILO4) |
| FIRE 104 | 1. Define basic terms and concepts related to fire behavior and chemistry.(ILO2), 2. Analyze physical conditions which determine states of matter and influence fire behavior. (ILO2) 3. Demonstrate how to recall physical and chemical properties of fire.(ILO4) |
| FIRE 108 | 1. Demonstrate and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility. (ILO2) 2. Explain the general safety precautions, considerations, strategies, and tactics to implement for all fire survival emergencies. (ILO2, ILO4) 3. Demonstrate the ability to apply federal and local laws within the context of emergency planning. (ILO2) |
| AJ/CSI 120 | 1. Identify the importance of honesty and truthfulness in gathering information and documenting that information for possible future prosecution. (ILO1, ILO2, ILO3) 2. Recognize the importance of gathering information through Interviewing and Note-taking for inclusion in criminal reports and use in a court of law. (ILO1, ILO2, ILO3, ILO4) 3. Identify and distinguish facts, information and statements into a logical and understandable format that fulfills the legal requirements of a lawful arrest and applicable procedures for both misdemeanor and felony arrests. (ILO1, ILO2, ILO3, ILO4, ILO5) |
| CIS 101 | 1. Analyze web information sources for relevance and accuracy; and synthesize, evaluate and communicate the results, demonstrating writing competencies at the college level. (ILO1, ILO2, ILO4) 2. Describe the general characteristics of a computer system and identify types of computer hardware and software and explain their functions.(ILO1, ILO2, ILO4) 3. Demonstrate the use of a word processor, spreadsheet, and database application program by completing projects that require students to extend course content to real-world situations and manage and organize files and use data storage devices. (ILO1, ILO2, ILO4) |
| FIRE 105 | 1. Demonstrates the application of a traction splint in proper sequence and using standard precautions. (ILO 2, ILO 3) 2. Demonstrate the ability to use critical thinking skills to assess and treat patients in emergency settings. (ILO1, ILO2, ILO5) 3. Demonstrate the use of federal and state laws in relation to on scene emergencies. (ILO1) 4. Write a narrative report from data supplied in various forms including written input, verbal input, and visual observations. The report will be legible, will have correct spelling and punctuation, and will demonstrate the proper use of grammar.(ILO1) 5. Complete an assessment of a medical patient, in an oral station, in proper sequence and with proper care, using a National standard check off sheet.(ILO 1, ILO 2) 6. Complete a patient assessment on a trauma Pt in proper sequence and using standard precautions. This is a Verbal and Hands on skill.(ILO 2, ILO 3, ILO 4) 7. Demonstrate an ability to recommend appropriate diagnostic and therapeutic procedures. (ILO2) |
| FIRE 109 | 1. Demonstrate knowledge and appropriate responses for given incidents involving hazardous materials at the First Responder Operational level. (ILO2) 2. Articulate the importance of haz mat pre-planning and procedures (ILO1, ILO2) 3. Recognize physical state of substances and their potential hazards of reactivity as they relate to health and safety of the firefighter and the incident scene.(ILO2, ILO3) |
| FIRE 220 | 1. Select and use appropriate methods and materials to complete laboratory assignments to standards based on building type, location of fire, and other apparatus responding to scene. (ILO2) 2. The student shall demonstrate proficiency in apparatus pre-trips. (ILO2) 3. The student shall demonstrate apparatus manipulation of fire apparatus. (ILO3) |
| FIRE 221 | 1. Select proper engine pressure when pumping multiple liners and knowledge of the principles related to operation of pumps from a hydrant and drafting water. (ILO2) 2. The student will demonstrate knowledge in hydraulic calculations. (ILO2) 3. The student will demonstrate proficiency in pump operations. (ILO1) 4. The student will demonstrate proficiency in drafting and multiple hose line pump operations. (ILO4) |
| FIRE 222 | 1. Indicate causes of fires, fire behaviors, and explosions for given fire scene scenario.(ILO2) 2. Demonstrate proficiency in fire behavior patterns. (ILO2) 3. Apply arson investigation applications to structure fires. (ILO2) 4. Show proficiency in probable cause and scientific methodology. (ILO3) |
| FIRE 223 | 1. Analyze, evaluate, and critique past fire investigations in written and oral format. (ILO2) 2. The student shall demonstrate proficiency in case law applications of arsons. (ILO3) 3. The student will show proper research methods in fire arson investigation. (ILO4) 4. The student will apply appropriate code violation for cause and origin. (ILO1) |
| FIRE 224 | 1. Demonstrate management concepts and practices including decision making, leader styles, personnel evaluations & counseling techniques.(ILO2) 2. Diagram the management cycle and define each element.(ILO3) 3. Describe the command principles.(ILO2) 4. Differentiate between leaders and managers.(ILO2) 5. Identify internal and external influences on the organization.(ILO2) 6. Identify leadership styles.(ILO2) 7. Demonstrate methods and techniques for managing human resources.(ILO2) 8. Prepare and perform employee evaluations.(ILO1) 9. Demonstrate techniques utilized for conflict resolution.(IL02) |
| FIRE 225 | 1. Apply general fire inspection practices and procedures for correcting fire hazards to given scenarios and handling of fire prevention complaints. (ILO2) 2. Define the functions of a fire prevention bureau.(ILO1) 3. Analyze the relationship between fire prevention efforts and the reduction of life and property loss.(ILO3) 4. Identify, in writing and verbally, the major types of fire hazards that could be found during a commercial building fire inspection. (ILO4) 5. Describe, in writing, the basic hazard correction process used by the modem fire prevention bureau.(ILO3) 6. Apply codes to a simulated exercise. (ILO2) |
| FIRE 226 | 1. Apply fire prevention principles to features of sprinkler systems, determine operational readiness of a sprinkler system, and critique for sprinkler system capabilities and limitations. (IL02) 2. Demonstrate knowledge and application of California Fire Code.(ILO3) 3. Apply codes to simulated fire prevention inspection violations. (ILO2) 4. Diagram the judicial process for code violations and litigation. (ILO2) 5. Describe, in writing, the major types of fire hazards that could be found during a commercial building inspection.(ILO3) 6. Define the hazard correction process used by the modem fire prevention bureau.(ILO2) 7. Analyze the impact of fire prevention as it relates to a government's risk management plan.(ILO3) |
| FIRE 229 | 1. Demonstrate pre-fire planning, command and control techniques of the first responding commander when presented with a variety of simulations. (ILO2) 2. Describe command and control techniques used in emergency management. (ILO3) 3. Demonstrate communication skills needed for reporting incident conditions and commanding resources at an emergency incident. (ILO2) 4. Develop and implement a pre-fire plan and training program and how these affect fire command practices. (ILO2) 5. Describe scene size-up and identify the strategies and tactics used by company officers. (ILO2) 6. Analyze and assess causes of firefighter fatalities and injuries and safety measures to protect personnel. (ILO2) 7. Demonstrate critical thinking skills and decision making abilities for managing an emergency.(ILO2) |
| FIRE 230 | 1. Demonstrate evacuation, containment, and staging for a variety of simulated hazardous materials incidents.(ILO2) 2. Demonstrate the ability to make decisions and communicate an action plan for a hazardous materials incident. (ILO2) 3. Define operational priorities for a hazardous materials incident. (ILO3) 4. Identify incident command strategies and priorities for hazardous materials incidents. (ILO3) 5. Identify operations and logistics functions for hazardous materials emergencies. (ILO3) 6. Identify emergency planning tools as they relate to hazardous materials incidents. (ILO2) |
| FIRE 231 | 1. Organize and provide a briefing to incident personnel and develop an Incident Action Plan for a simulated incident. (ILO2) 2. List ICS positions and duties and describe the positions to the level of deputies.(ILO4) 3. Diagram the reporting relationships within the ICS organization.(ILO1) 4. Develop a sample organization around a major event. (ILO2) 5. Describe how Unified Command functions on a multi-jurisdiction or multi-agency incident.(ILO2) 6. Identify and tactics utilized to meet incident objectives for a simulated exercise.(ILO3) 7. Perform tasks associated with incident planning and resource demobilization. (ILO4) |
| FIRE 232 | 1. Analyze and implement the five step systematic planning process, determine a strategy to correct a problem, and apply appropriate and available media. (ILO3) 2. Demonstrate the selection, development, organization, and use of appropriate materials for fire prevention education. (ILO2) 3. Demonstrate proficiency in curriculum development for fire technology courses. (ILO2) |
| FIRE 233 | 1. Describe three elements of wildland fire behavior including fuel, weather and topography.(ILO2) 2. Apply elements of the Incident Command System to a major wildland fire scenario.(ILO3) 3. Describe the duties and responsibilities of the Strike Team Leader, Division/Group Supervisors and Branch Directors.(ILO3) 4. Analyze the fundamental elements of size-up as they relate to I-Zone firefighting.(ILO2) 5. Recognize and recall the safe practices of wildland firefighting (10's, 18'sand LCES). (ILO2) 6. Compare and contrast structural firefighting strategies and tactics with those of wildland fires.(IL03) 7. Demonstrate communication as it relates to I-Zone and wildland firefighting.(ILO1) 8. Describe three elements of wildland fire behavior including fuel, weather and topography and their direct influence on the fire’s behavior.(ILO4) |
| FIRE 234 | 1. Demonstrate an understanding on the storage, handling, and transportation of, as well as the special hazards associated with, flammable and combustible liquids and gases. (ILO2) 2. Demonstrate proficiency in code enforcement for industrial plants. (ILO2) 3. Apply knowledge on evaluating and completing plans review. (ILO2) |
| FIRE 240 | 1. Select methods and techniques for educating and training students in accordance with the latest concepts in career education (ILO1, ILO2, ILO3) 2. Perform and evaluate peers and teaching performances. (ILO1, ILO3) 3. Demonstrate proficiency in defining measurable objectives for teaching methodology. (ILO2) |
| FIRE 241 | 1. Prepare a syllabus incorporating a number of well-organized lesson plans for instruction of fire technology topics for a longer length course addressing multiple learning styles including multiple appropriate methods for evaluation and satisfactorily execute several of these lesson plans. (ILO2) 2. Apply teaching applications through video based presentations. (ILO2) 3. Develop test and validate testing techniques. (ILO3) |
| FIRE 242 | 1. Prepare a course outline incorporating audiovisual media and cognitive, psychomotor, and behavioral objectives for instruction of fire technology (ILO2, ILO3, ILO4) 2. Identify and apply appropriate evaluation instruments or tools to a given instructional setting. (ILO2, ILO3) 3. Develop oral, written, and performance test for an identified fire technology course that meets the requirements of the state. (ILO3, ILO4, ILO5) |
| FIRE 245 | 1. Demonstrate cotemporary applications, methods, and techniques for educating and training students in accordance with the latest concepts in vocational education, through the use of audio visual technology. (ILO2) 2. The student will demonstrate applicable teaching methods through video technology. (ILO2) 3. The Student will demonstrate use of evaluation techniques through criteria based validation. (ILO2) 4. The student will present a set of worksheets, quizzes, for applicable developed curriculum. (ILO4) 5. The student will demonstrate proficiency management of grading systems. (ILO3) |

**Please identify at least one outcome and assessment method, and estimated date for the completion of Section II. Please keep in mind the Comprehensive Program Review Schedule.**

**Instructional Programs (degrees, certificates):** You are asked to complete Course-level Outcomes & Assessments for the two and half years leading up to your Program Review due date, and then Program-level Outcomes can be assessed during your Program Review Fall Semester.Still, even if your Program Review isn’t due this fall, you will want to make a plan to evaluate it with colleagues by your Program Review due date.

**1.Outcome #1**: Students will be able to apply emergency incident management strategies in relationship to incident command systems in public and private fire protection careers.

Est. Completion Date: Prior to degree/certificate completion Way(s) to assess: OSFM mandated testing.

**2.Outcome #2:** Students will demonstrate management concepts and practices including decision making, leader styles, personnel evaluations & counseling techniques.

Est. Completion Date: Prior to degree/certificate completion Way(s) to assess: OSFM mandated testing.

**Once Section I is completed, please send e-copy & mail hard copy to SLO Coordinator. Then at the end of the data collection/assessment period, please analyze data with co-workers and other members of the IVC community, and complete Section II.**

**Student Learning Outcomes for Instruction – PHASE II** (section II)

**Program Outcomes Assessment Report**

**“Assessment of Program-level Learning Outcomes”**

In this section, please re-state each outcome and indicate the method(s) of assessment, provide a summary of the results, and tell how your program will use this information to improve student learning. Each Goal should have at least one Method of Assessment. To encourage collaboration and the sharing of ideas, you are encouraged to share your outcomes, assessment data, and findings with all available members of your department or program. Please list the names of all faculty, staff, and students who were involved in summarizing or evaluating the data. The names may differ from those on Section I.

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| **Date:** |  |  |  |

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| **Contact Person/Others Involved in Process:** | **Lead: Rick Goldsberry Others: Steve Holt and Justina Aguirre** |

**Outcome #1 (please repeat here:** Students will be able to apply emergency incident management strategies in relationship to incident command systems in public and private fire protection careers.

Est. Completion Date: Prior to degree/certificate completion Way(s) to assess: OSFM mandated testing for Fire Officer courses.

1. **First Method of Assessment:**
   1. How did you assess Outcome #1?
   2. Provide a summary of results:
   3. How will your program use this information to improve student learning? If curriculum changes will be made (i.e. course outline, course description, course activities), please explain.
   4. What is your Timeline for Program Modifications or Response to Data?

**Outcome # 2 (please repeat here):** Students will demonstrate management concepts and practices including decision making, leader styles, personnel evaluations & counseling techniques.

Est. Completion Date: Prior to degree/certificate completion Way(s) to assess: OSFM mandated testing for Fire Officer courses.

1. **First Method of Assessment**:
   1. How did you assess Outcome # 2?
   2. Provide a summary of results:
   3. How will your program use this information to improve student learning? If curriculum changes will be made (i.e. course outline, course description, course activities), please explain.
   4. What is your Timeline for Program Modifications or Response to Data?

**Program Outcomes and Course Alignment Grid for Imperial Valley College**

Program: **Emergency Medical Services Certificate, Degree, & Program**  Completed on: Dec 31, 2011

Prepared by : Justina Aguirre and Rick Goldsberry

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| --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Communication** | **Critical Thinking** | **Personal Responsibility** | **Information Literacy** | **Global Awareness** | **# Outcomes identified** |
| Fire 100 (required) | 3 | 3 | 2 | 3 | 3 | 8 |
| Fire 101 (required) | 1 | 3 | 3 | 3 | 0 | 7 |
| Fire 102 (required) | 0 | 3 | 3 | 3 | 3 | 8 |
| Fire 103 (required) | 3 | 3 | 1 | 3 | 0 | 8 |
| Fire 104 (required) | 0 | 3 | 1 | 3 | 1 | 3 |
| Fire 108 (required) | 1 | 3 | 2 | 3 | 0 | 3 |
| **15 units from below** |  |  |  |  |  |  |
| AJ 120 (recommend) | 3 | 3 | 3 | 3 | 3 | 3 |
| CIS 101 | 3 | 3 | 0 | 3 | 3 | 3 |
| Fire 105 (recommend) | 3 | 3 | 3 | 3 | 3 | 7 |
| Fire 109 (recommend) | 3 | 3 | 3 | 1 | 1 | 3 |
| Fire 220 | 1 | 3 | 3 | 0 | 0 | 3 |
| Fire 221 | 3 | 3 | 2 | 3 | 0 | 4 |
| Fire 222 | 1 | 3 | 3 | 1 | 1 | 4 |
| Fire 223 | 3 | 3 | 3 | 3 | 1 | 4 |
| Fire 224 | 3 | 3 | 3 | 1 | 1 | 9 |
| Fire 225 | 3 | 3 | 3 | 3 | 1 | 6 |
| Fire 226 | 1 | 3 | 3 | 1 | 1 | 7 |
| Fire 229 | 2 | 3 | 3 | 1 | 1 | 7 |
| Fire 230 | 2 | 3 | 3 | 1 | 1 | 6 |
| Fire 231 | 3 | 3 | 3 | 3 | 1 | 7 |
| Fire 232 | 2 | 3 | 3 | 1 | 1 | 3 |
| Fire 233 | 3 | 3 | 3 | 3 | 1 | 8 |
| Fire 234 | 1 | 3 | 1 | 1 | 1 | 3 |
| Fire 240 | 3 | 3 | 3 | 1 | 1 | 3 |
| Fire 241 | 3 | 3 | 3 | 1 | 1 | 3 |
| Fire 242 | 2 | 3 | 3 | 3 | 3 | 3 |
| Fire 245 | 2 | 3 | 3 | 3 | 1 | 5 |

**\*\*FIVE POINT KEY: Using this key, to receive a 3 or 4 the ISLO needs to be measured through the outcome and assessment.**

**4=** This is a STRONG focus of the course. Students are tested on it or must otherwise demonstrate their competence in this area.

**3=** This is a focus of the course that will be assessed.

**2=** This is a focus of the course, but is NOT assessed.

**1=** Thisis briefly introduced in the course, but not assessed.

**0=** This is not an area touched on in the course.