**Continuous Improvement Plan**

**Date:** February 9, 2023 **Name of Program/Unit: Fire Science**

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**Table 1: CIP Outcomes, Measures & Targets Table (focus on at least one for the next two years)**

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| **A. Expected Outcome(s)**  Results expected in this unit  (e.g. Authorization requests will be completed more quickly; Increase client satisfaction with our services) | **B. Measure(s)**  Instrument(s)/process(es) used to measure results  (e.g. survey results, exam questions, etc.)  Include Course Information and Semester in which assessment will occur | **C. Target(s)**  Level of success expected  (e.g. 80% approval rating, 10 day faster request turn-around time, etc.) |
| 1. Identify apparatus pump functions, theory, and principles of operation. | Course exams | Minimum score of 70% on specific questions related to the expected outcome |
| 1. Demonstrate methods and procedures for safe and effective pump operations of fire department apparatus | Course exams, skill instructor observations | Minimum score of 70% on specific questions related to the expected outcome |
| 1. Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained. | Course exams | Minimum score of 70% on specific questions related to the expected outcome |

**Description of Fields in the Following CIP Tables:**

**A. Outcome(s)** -Results expected in this program (e.g. Students will learn how to compare/contrast conflict and structural functional theories; increase student retention in Nursing Program).

**B. Measure(s)** -Instrument(s)/process(es) used to measure results

(e.g. results of surveys, test item questions 6 & 7 from final exam, end of term retention rates, etc.)

**C. Target(s)** -Degree of success expected (e.g. 80% approval rating, 25 graduates per year, increase retention by 2% etc.).

**D. Action Plan** -Based on analysis, identify actions to be taken to accomplish outcome. What will you do?

**E. Results Summary** - Summarize the information and data collected in year 1.

**F. Findings** - Explain how the information and data has impacted the expected outcome and program success.

**G. Implementation of Findings** – Describe how you have used or will use your findings and analysis of the data to make improvements.

**Table 2. CIP Outcomes (FOCUS ON AT LEAST 1)**

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| 1. **Outcome #1 – Basic Firefighter**   Identify apparatus pump functions, theory, and principles of operation. | |
| 1. **Measure (Outcome #1)**   Course exams | 1. **Target (Outcome #1)**   Minimum score of 70% on specific questions related to the expected outcome |
| 1. **Action Plan (Outcome #1)**   Utilize questions from publisher test banks to increase the number of exam questions related to this learning outcome by 50%. | |
| 1. **Results Summary (Outcome #1)**   Pass rate: 65% | |
| 1. **Findings (Outcome #1)**   Results of this effort showed some improvement but students still have problems relating the questions to the what they see in practice. | |
| 1. **Implementation of Findings**   Since performance measure was not met, it is believed that part of the problem is the age of the fire apparatus used in training. Two of the three fire engines used in the program are 20 years old. Modern day pumpers utilize more technology that is not found on the older vehicles. | |

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| 1. **Outcome #2 – Basic Firefighter**   Demonstrate methods and procedures for safe and effective pump operations of fire department apparatus Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained. | |
| 1. **Measure (Outcome #2)**   Course exams, skill instructor observations | 1. **Target (Outcome #2)**   Minimum score of 70% on specific questions related to the expected outcome |
| 1. **Action Plan (Outcome #2)**   Utilize questions from publisher test banks to increase the number of exam questions related to this learning outcome by 50%. | |
| 1. **Results Summary (Outcome #2)**   Pass rate 65%. | |
| 1. **Findings (Outcome #1)**   Knowledge: Improvement, but not met  Performance: Not met | |
| 1. **Implementation of Findings**   While some improvement is noted on exam score results, students are confused when working the pump controls on the various fire engines used in the program. The operator’s pump panel on the newer fire engines are different than older models. Another issue is lack of documentation for student skill performance during pumping operations. During the next fact-finding period, skill instructors will have a check sheet to record actual skill performance. | |

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| 1. **Outcome #3 – Fire Officer**   Assemble course materials, given a specific topic, so that the lesson plan and all materials, resources, and equipment needed to deliver the lesson are obtained. | |
| 1. **Measure (Outcome #1)**   Course exams | 1. **Target (Outcome #1)**   Minimum score of 70% on specific questions related to the expected outcome |
| 1. **Action Plan (Outcome #1)**   Increase the number of exam questions related to this learning outcome by 50%. | |
| 1. **Results Summary (Outcome #1)**   Pass rates: 29.17%, 43.75% | |
| 1. **Findings (Outcome #1)**   Knowledge: Not met | |
| 1. **Implementation of Findings**   Since performance measure was not met, it is believed that part of the problem is the lack of information under “assemble materials...” in the textbook. The book devotes only 12 pages to cover all of the topics associated with this learning outcome. The corresponding national standard for this learning outcome references materials, equipment and resources available to the authority having jurisdiction (fire department). Students are likely basing responses to test questions on the resources within their particular fire department. | |