# Fire Science

# 2019
# ANNUAL REPORT OF PROGRAM DATA

UNIVERSITY of HAWAI'I®
HAWAI'I
COMMUNITY COLLEGE

## 1. Program Description

The Fire Science Program prepares individuals with the academic knowledge for entry employment in the Fire Service field as well as meeting the needs of in-service professionals.

Upon completion of this program, students will have the knowledge to prepare for a career with federal, state, and local fire and emergency service agencies, with an emphasis on Structural Fire Fighting, Wildland Fire Suppression, Hazardous Materials Incidents, Fire Prevention and Investigation, Emergency Medical Technician, Fire Management and Administration, and Incident Command System.

After earning the Associate in Science (A.S.) Degree, students have the opportunity to pursue a Bachelor's Degree in Fire Administration from Colorado State University through distance learning.

Health and physical requirements vary with different employers in the Fire Service field, so prospective students should seek advice before enrolling.

### Program Learning Outcomes (PLOs)

Upon successful completion, students are prepared to:

1. Meet the minimum academic training requirements of the National Fire Protection Association's (NFPA) Standard 1001, Standard for Fire Fighter Professional Qualifications (Fire Fighter I).
2. Perform as a fully qualified wildland firefighter in accordance with National Wildfire Coordinating Group PMS 310-1 standards.
3. Utilize the Incident Command System to manage a wide variety of planned and un-planned incidents.
4. Demonstrate knowledge of modern fire service strategies, tactics, and management for both structural and wildland fire incidents.
5. Meet the requirements for National Fire Protection Association's (NFPA) 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents for the *Awareness* and *Operational Levels*.
6. Apply the principles of interpersonal communication, cooperative teamwork, supervision and management for leadership in the fire service.
7. Apply the theoretical principles of the chemistry of fire, and hydraulics to solve water supply problems.
8. Take the National Registry Examination for certification as an Emergency Medical Technician (EMT).

## 2. Analysis of the Program

*Strengths and weaknesses in terms of demand, efficiency, and effectiveness based on an analysis of the Quantitative Indicators. CTE programs must include an analysis of Perkins Core indicators for which the program did not meet the performance level. Include Significant Program Actions (new certificates, stop outs, gain/loss of positions, results of prior year's action plan).*

**Overall Program Health: Healthy**

### I. Demand Indicators: Demand Health – Healthy

### II. Efficiency Indicators: Efficiency Health – Cautionary

The following may contribute to a Cautionary status:

13a. Analytic FTE Faculty – 3. I believe this indicates an increase in BOR Appointed Faculty

14. There are no dollar amounts for Budget Allocation for 2018-19.

16. Number of Low-Enrolled Classes – 8. This can be attributed to the Palamanui Campus, and the Fire Science program is just getting started.

### III. Effectiveness Indicators: Effectiveness Health – Healthy.

Strengths:

- The FS program has the 2nd largest enrollment with 94 majors.
- 2018-19, 40 Degrees and Certificates awarded.
- An Emergency Medical Technician (EMT) course that allows our students to take the National Registry Emergency Medical Technician (NREMT) exam for certification has been added to the curriculum.
- Enrollment in the FS program at Palamanui has doubled to 13 students.
- Successful Completion – 2018-19, 92%.

Weaknesses:

- Lack of identified classroom space where resources can be easily reached.
- The Fire Engine donated by the Honolulu Fire Department is parked in the open, exposed to the elements and is rusting.
- Lack of identified Faculty for teaching EMT for both campuses.

Perkins Indicators

- 1P1 Technical Skills Attainment - Not Met. Goal 93, Actual 91.18. The actual numbers are very close to the goal and can be achieved.
- 2P1 Completion - Not Met. Goal 55, Actual 35.29. The Fire Science program is a challenging one, completion is not easy to obtain for some students.

- 3P1 Student Retention or Transfer – Not Met. Goal 81.9, Actual 75.38. The Fire Science program is challenging, and after students enroll in the program there is a decline in enrollment when they realize what it takes to be a firefighter.
- 4P1 Student Placement – Met. Goal 66.25, Actual 73.33. This shows the strength of the program in helping to place students who do complete into firefighter jobs.
- 5P1 Nontraditional Participation – Not Met. Goal 23.5 Actual 16.04. It is difficult to attract women in the fire service. I attend a number of job fairs at local high schools and try to encourage women to enroll in the FS program. There are currently 4 women enrolled as FS majors this fall semester.
- 5P2 Nontraditional Completion – Not met. Goal 23, Actual 8.7. Women who are in the FS program and who apply to the Hawai`i Fire Dept. are hired almost immediately. I encourage students to complete their degrees.

**Response to previous year's action plan:**

The Fire Science program's action plan for AY 17-18:

1. Establish Emergency Medical Technician training.

   *We were able to get an MOA signed by KCC, HCC, and the Dept. of Health recognizing HawCC as a State-of-Hawai`i-approved EMT training facility. Fall 2019 semester is the first HawCC EMT course.*

2. Obtain EMT equipment for the Palamanui Campus.
   *Perkins funding was approved to purchase EMT equipment for the Palamanui Campus EMT course. Currently in the process of purchasing the equipment.*

3. Provide the fire engine with a sheltered area to park.
   *This has not been accomplished, but will be addressed on this year's action plan.*

4. Identify classroom space.
   *This has not been accomplished, but there is still a need.*

5. Establish a Bachelor of Science degree in Fire and Emergency Service Administration with the UHH
   *Working on an Articulation Agreement with Eastern Oregon University. This will be sufficient for the present.*

## 3. Program Learning Outcomes

a) List of the Program Learning Outcomes (PLOs)

b) Program Student Learning Outcomes that have been assessed in the year of the Annual Review of Program Data.
c) Assessment Results
d) Changes that have been made as a result of the assessments.

## Program Learning Outcomes (PLOs)

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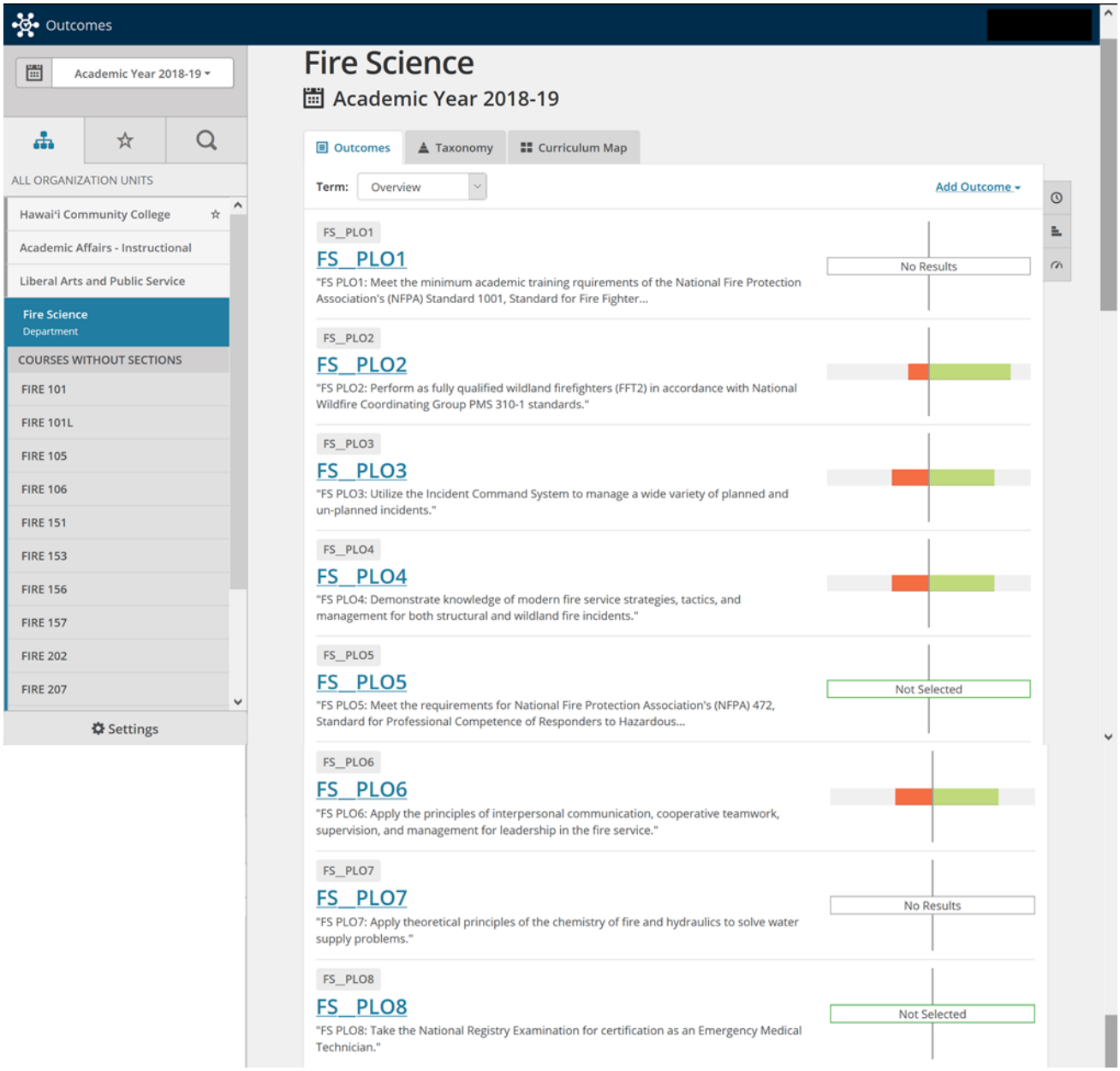
**FIRE SCIENCE PLOs assessed**:
PLO 2, 3. 4 & 6

**Assessment RESULTS:**
See graph p. 6.

PLO 2 was assessed through CLO assessment of FIRE 151, Results are that 88% of students met or exceeded the standard.
PLO3 was assessed through CLO assessment of FIRE 151. Results are that 83% of students met or exceeded the standard.
PLO 4 was assessed through CLO assessment of FIRE 151. Results are that 75% of students met or exceeded the standard.
PLO 6 was assessed through CLO assessment of FIRE 151. Results are that 91% of students met or exceeded the standard.

**Changes made and planned**:
For those CLOs that had lower results, the instructor will revise instructional strategy to verbally review and emphasize key points concerning wildland fire suppression.

**FIRE Program**
**AY18-19 Assessment Results**
**Dark Green = Exceeds // Light Green = Meets // Orange = Partly Meets //Red = Does not Meet**




## 4. Action Plan

Include how the actions within the plan support the college's mission. In addition to the overall action plan for the program, include specific action plans for any Perkins Core Indicator for which the program did not meet the performance level.

- Increase the number of EMT training hours that will allow our students to apply for EMT Licensure from the Department of Commerce and Consumer Affairs (DCCA).
    - *This action will enhance student employment in high paying jobs with a good career path. This will promote Perkins Indicators 5P1 and 5P2.*
- Provide shelter for the $250,000.00 fire engine.
    - *The engine could be stored in Bldg. 386A, or have the apprentice program spend approx. $17,000.00 for a new shelter. This is a safety issue. The brake linings have been known to corrode when left to the elements in Hawai'i.*
- Develop an Agreement with Kapiolani CC to share resources and provide necessary EMT training.
    - *This action will provide our students with the highest quality of EMT training. This will save money for both campuses, and enhance our student's employment opportunities in high paying jobs.*

These action items support the College's mission to promote lifelong learning and emphasize the knowledge and experience necessary for Kauhale members to pursue academic achievement and workforce readiness.

## 5. Resource Implications

(physical, human, financial)

- Identify adequate classroom space.
- Provide funding to attract qualified EMT Lecturers for both campuses.
- Provide the necessary funding for supplies used for EMT training.
- $17,000.00 for the Apprentice program to construct a shelter for the fire engine, or park the engine in BLDG. 386A. This is a health and safety issue. Protecting the engine from the elements will ensure the engine is kept in good operating condition.