

# HAWAI'I COMMUNITY COLLEGE COMPREHENSIVE PROGRAM REVIEW (CPR)

## Fire Science

Date January 25, 2019

**3-Year Review Period:  
July 1, 2015 to June 30, 2018  
AY15-16, AY16-17 and AY17-18**

**Initiator: Lucy Jones  
Writer(s): Jack M. Minassian**

*Program/Unit Review at Hawai'i Community College is a shared governance responsibility related to strategic planning and quality assurance. Annual and 3-year Comprehensive Reviews are important planning tools for the College's budget process. This ongoing systematic assessment process supports achievement of Program/Unit Outcomes. Evaluated through a college-wide procedure, all completed Program/Unit Reviews are available to the College and community at large to enhance communication and public accountability.*

*Please see <http://hawaii.hawaii.edu/files/program-unit-review/>*

*Please remember that this review should be written in a professional manner. Mahalo.*

## PART I: PROGRAM DATA AND ACTIVITIES

### Program Description

Provide the short program description as listed in the current catalog.

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.

### Previous Comprehensive Program Review Information

Provide the year and URL for the location of this program's last Comprehensive Program Review on the HawCC Program/Unit Review website: <http://hawaii.hawaii.edu/files/program-unit-review/>

Year 2015

URL

[http://hawaii.hawaii.edu/files/program-unit-review/docs/2015\\_fs\\_comprehensive\\_program\\_review.pdf](http://hawaii.hawaii.edu/files/program-unit-review/docs/2015_fs_comprehensive_program_review.pdf)

Provide a short summary of the CERC's evaluation and recommendations from the program's last Comprehensive Review.

Discuss any significant changes to the program that were aligned with those recommendations but are not discussed elsewhere in this report.

- CERC Comment: Reviewers wondered what the student demand is for a bachelor's program in Hawai'i.**

**Feedback:** Two HFD personnel have received their BS from Colorado State University (CSU), and we have approx. six students currently enrolled in the CSU program. The requirement for higher education in the fire service has not diminished. When asked if a BS program were available at UH-Hilo, approx. 20 of my senior students indicated they would continue their education. Having a program that addresses the

limited resources available and the unique cultural impact on the residents of the State of Hawai`i during emergency operations cannot be replaced by a distance learning program from Colorado.

**There is still a need for a BS program in Fire and Emergency Administration. The State of Hawai`i within the past year has experienced a number of emergencies such as lava flows, hurricanes, and the largest fire in the State of Hawai`i occurred on this island (18,000 acres). The UH should provide leadership in preparing individuals to manage wide and diverse emergency incidents.**

2. **CERC Comment: Internship courses undoubtedly better prepares students for the workforce and the partnership with the Hawai`i Fire Department is invaluable. However, the narrative should have included a more detailed explanation of how the proposed new Fire 293 course would fit overall into the program.**

**Feedback:** Even though the Hawai`i Fire Department Fire Chief supported this initiative, the Hawai`i County Corporate Council would not approve the agreement over concerns of the students being injured and County liability. For this reason I am no longer pursuing adding this course to the curriculum.

**I have not made an effort to initiate an internship course with the HFD. I have spent the past 3 years trying to establish an EMT course at the college..**

3. **CERC Comment: How will dedicated classroom space benefit the learners and the program? What is the justification for a dedicated classroom?**

**Feedback:** The term dedicated is inappropriate. A better term would be "identified" classroom space. Currently the Nursing program and UH-Hilo are providing the required classroom space. However, this is available on a semester

	<p>by semester request. If for some reason these classrooms were unavailable, it would have a significant impact on the college's 2<sup>nd</sup> largest programs.</p> <p>I would rather use the term identified classroom vs. dedicated. The FS program is the 2<sup>nd</sup> largest program at the college and yet other smaller programs have classroom and dedicated space on campus. In the past there have been conflicting schedules with other classes. Due to class size (Fire 153 and Fire 157 currently have 35 students per class) classroom size is an issue. The FS program should not have to rely on other departments and UHH for space.</p>
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**ARPD DATA: Analysis of Quantitative Indicators**

Program data can be found on the ARPD website: <http://www.hawaii.edu/offices/cc/arpd/>

**Please attach a copy of the program's data tables for the three years under review and submit with this Comprehensive Program Review (CPR).**

**Analyze the program's ARPD data for the 3-year review period.**

Describe, discuss, and provide context for the program's AY16 through AY18 data, including the program's health scores in the Demand, Efficiency, Effectiveness and Overall Health categories.

ARPD AY	Overall	Demand	Efficiency	Effectiveness
16	Cautionary	Unhealthy	Cautionary	Healthy
17	Cautionary	Cautionary	Cautionary	Cautionary
18	Cautionary	Cautionary	Unhealthy	Cautionary

As the above chart shows there is inconsistency with the program health scores. I remember asking Mr. Shaw Flood about the analysis and his reply was someone decided to change some numbers. I do not agree with the analysis.

I believe the Fire Science program is a Healthy program. My students have found employment with a

wide variety of federal, state and local fire service agencies. I consistently have HFD personnel enrolled in our program who recognize the benefits of having a formal education. I have awarded credit to HFD personnel under the Prior Learning Experience program. The need for a well-educated fire service has not diminished. The number of majors has leveled off at approx. 100 majors per year. We have expanded the program to the Palamanui Campus.

Describe, discuss, and provide context for the program's data in the Distance Education, Perkins Core Indicators, and Performance Funding Indicators categories, as applicable.

**There is no distance learning.**

**Perkins Core Indicators:**

**1P1- Met. Goal 92.92, Actual 93.33**

**2P1- Not Met. Goal 51.51, Actual 42.22. The Fire Science program is a challenging one, which is not easy to obtain.**

**3P1 – Not Met. Goal 81.81, Actual 74.6. The Fire Science program is challenging, and after students enroll in the program they realize what it takes to be a firefighter.**

**4P1 – Met. Goal 64.51, Actual 65.79.**

**5P1 – Not Met. Goal 23.00 Actual 7.21. 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 5 women enrolled as FS majors this fall semester.**

**5P2 – Not met. Goal 22.22, Actual 11.54. 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 degree.**

A career in the fire service is a specialized one which attracts certain individuals. The field is predominately men. However, I currently have 5 women enrolled. Individuals may have a conception of what a firefighter job requires due to what they see in the movies and on TV. However, I do have a certain amount of students drop the program after the initial fall semester for a variety of reasons. The reasons for dropping the program are various.

What else is relevant to understanding the program's data? Describe any trends, internal/external factors, strengths and/or challenge that can help the reader understand the program's data for the three years under review that are not discussed above.

N.A.

### **Program Activities**

**Report and discuss all major actions and activities that occurred in the program during the 3-year review period, including the program's meaningful accomplishments and successes. Also discuss the challenges or obstacles the program faced in supporting student success and explain what the program has done to address those challenges.**

For example, discuss:

- Changes to the program's curriculum due to course additions, deletions, modifications (CRC, Fast Track, GE-designations), and re-sequencing;
- New certificates/degrees;
- Personnel and/or position additions and/or losses;
- Other changes to the program's operations or services to students

- **Established Emergency Medical Technician (EMT) training to the FS curriculum. However, we need to institutionalize EMT training and recognition from the Hawai'i State Department of Health to include HCC, KCC and HawCC.**
- **The FS program curriculum has been modified by deleting and adding courses in order to prepare students for success when enrolled in EMT.**
- **Deleted courses: Chemistry 100 and 100L, Biology 142 and 142L.**
- **Added courses: Biol 100 and 100L**
- **Expanded the FS program to the Palamanui Campus. We hired 3 additional Lecturers to teach.**
- **All of our Lecturers have an extensive background and experience in the Fire Service. This has greatly increases the quality of instruction.**
- **The Honolulu Fire Department donated a \$250,000.00 fully operational Type I engine. Young Bros. transported the engine free of charge as a community service. However, the engine currently is parked in the open. Exposed to the elements and is slowly deteriorating. The college needs to protect this resource that allows our students hands on training.**
- **Establishment of the Prior Learning Experience program which allows the college to**

recognize industry training.

- Signed a number of agreements between Hawai'i CC and: Hawai'i Fire Dept. (allows for the Prior Learning Agreement and students to ride along on ambulances as part of their EMT practicum); Dept. of Transportation, Airports Division (will allow use of new \$30 million FAA Regional Fire Training facility at Kona Airport); Student Internship Program with the Hawai'i Wildland Fire Management Organization; and Dept. of Army, Student Career Experience Program (SCEP).

## LEARNING-OUTCOMES ASSESSMENTS

For assessment resources, please see the [HawCC ASSESSMENT](#) website. Submitted course assessment reports can be accessed on the Campus Labs OUTCOMES system via the [Campus Labs Resources page](#) and the [HawCC Course Reports ARCHIVE](#) .

- The program faculty/staff have reviewed the program record on Kualii KSCM and hereby affirm that all information, including all program learning outcomes (PLOs), are correct.
- The program faculty/staff have reviewed the program record on Kualii KSCM and have found that all or some information is incorrect and hereby affirm that the program will submit proposal(s) for revision(s), as appropriate.
- Kualii KSCM: <https://hawaii.kualii.co/cm/#/courses>

*If the program's information on Kualii KSCM needs revision (for example, program description, entry or completion requirements, PLOs), program faculty may propose revision through the Curriculum Review Committee or Fast Track processes, as appropriate. Both types of revision proposals may be submitted via Kualii.*

### Program Learning Outcomes (PLOs)

List the Program Learning Outcomes (PLOs) as recorded on Kualii KSCM and indicate each PLO's alignment to one or more of the Institutional Learning Outcomes (ILOs). The College's ILOs may be found on the [HawCC ASSESSMENT](#) website.

PLO#	Program Learning Outcomes (text)	Aligned to ILO #
FS	Meet the minimum academic training requirements of the National Fire Protection Association's (NFPA) Standard 1001, Standard for	1, 2, 3,4, 5,6

PLO1	Fire Fighter Professional Qualifications (Fire Fighter I).	
FS PLO2	Perform as fully qualified wildland firefighters (FFT2) in accordance with National Wildfire Coordinating Group PMS 310-1 standards.	1, 2, 3, 4, 5, 6
FS PLO3	Utilize the Incident Command System to manage a wide variety of planned and un-planned incidents.	1, 2,3,
FS PLO4	Demonstrate knowledge of modern fire service strategies, tactics, and management for both structural and wildland fire incidents.	1, 2, 3, 4, 5, 6
FS PLO5	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.	1, 2,3, 5,6
FS PLO6:	Apply the principles of interpersonal communication, cooperative teamwork, supervision, and management for leadership in the fire service.	1, 3, 5
FS PLO7	Apply theoretical principles of the chemistry of fire and hydraulics to solve water supply problems.	1, 2
FS PLO8	Take the National Registry Examination for certification as an Emergency Medical Technician.	1, 2,3, 4, 5 6

**Discuss the program's successes and challenges in helping program majors achieve its overall Program Learning Outcomes (PLOs).**

**Include a summary discussion of the results of any PLO assessments voluntarily undertaken by the program's faculty.**

**Due to the quality of instruction, students are getting the material taught. I consistently review material covered by other faculty and students display the understanding necessary.**

### **Course Learning Outcomes (CLOs) Assessed**

**List all program courses (alpha/#/title) that were assessed during the 3-year review period.**

- Fire 153, Advanced Wildland Firefighting
- Fire 207, Hazardous Materials Awareness/Operation

- Fire 210, Fire Administration

**Discuss and summarize the overall results of course assessments conducted during the 3-year review period, focusing on students' achievement of Course Learning Outcomes (CLOs). Describe how the program's faculty/staff used course assessment results to plan for and implement improvements in student learning, and analyze the effects on students' learning of implementing those improvements.**

Student scores were 90% or higher for Fire 153 and Fire 207.

Fire 210 Fire Administration scores were lower and CLO #3 was 59%. Fire Administration is a difficult course for students because I cover subject matter students are not use to. We cover balancing a budget, personnel hiring and firing, changing the culture, employment laws, etc. I will use teaching techniques used to raise the score of Fire 153 to raise the Fire 210 scores. I need to review the subject matter consistently over a period of time.

## **PART II: 3-YEAR ACTION PLAN & RESOURCE ALLOCATIONS**

### **Resource Gap Analysis**

**Describe the program's current resources and resource needs in each category below.**

<b>Resource Category</b>	<b>Resources the program needs to operate effectively:</b>	<b>Resources the program already has:</b>	<b>What is the program's resource gap?</b>
<b>A. Personnel</b>	<b>1 Program Mgr. Reliable EMT Lecturers for both campuses.</b>	<b>Currently there 1 FTE and 11 Lecturers</b>	<b>2 EMT Lecturers. 1 Lecturer for each campus.</b>
<b>1) Positions (Functions)</b>	<b>1 program manager. 1 Lead Lecturer for the Palamanui</b>	<b>1 FTE program manager.</b>	<b>Need to identify a Lead Lecturer for the Palamanui</b>

	<b>campus.</b>		<b>campus with appropriate compensation.</b>
<b>2) Professional Development</b>	<b>Need to keep abreast of Fire Service issues, and current technology.</b>	<b>Continue to attend the Annual Hawai`i State Fire Chiefs Ass. meeting</b>	<b>None</b>
<b>B. Operating Resources</b>			
<b>1) Supplies</b>			
<b>2) Contracts</b>			
<b>3) Equipment</b>	Need appropriate equipment to provide students with hands-on experience for fire science courses and EMT.	We have adequate equipment for the Manono Campus fire science courses. We have the majority of equipment needed for EMT at the Manono Campus.	We need equipment for both fire science courses and EMT for the Palamanui Campus. The cost for the EMT equipment is \$15,000.00
<b>4) Space and Facilities</b>	<ol style="list-style-type: none"> <li>1. The FS program needs identified classroom space at the Manono campus.</li> <li>2. Need storage facilities at Palamanui Campus to store FS supplies to include EMT equipment</li> </ol>	<ol style="list-style-type: none"> <li>1. There is currently no identified classroom space for the 2<sup>nd</sup> largest program.</li> <li>2. There is no storage space available at Palamanui.</li> </ol>	<ol style="list-style-type: none"> <li>1. There needs to be identified classroom space that can accommodate large numbers of students. (35+)</li> <li>2. Need to find storage area at Palamanui. Possible solution is a Matson container.</li> </ol>

	<p>3. The Honolulu Fire Dept. donated a \$250,00.00 Type I structural engine that provides our students with hand-on training.</p>	<p>3. The engine is currently parked outdoors exposing it to the corrosive atmosphere. The resource is slowly deteriorating.</p>	<p>3. Partnering with Mr. Richard Cowan, Apprentice Program Coordinator to build a shelter. Estimated budget for material list is \$16,222.65. This request has been submitted to UH Systems for a response. It has been over a year with no response.</p> <p>An alternative to this project is to park the engine in Bldg. 386A but we will need administrative support.</p>
<b>C. Technology</b>			
<b>1) Hardware</b>			
<b>2) Apps or Software</b>			
<b>3) Tech Support</b>			
<b>4) Tech-related Professional Development</b>			

5) Tech labs / facilities			
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**Action Plan**

*Where are you going? How are you going to get there?*

**Provide a brief narrative of your overall Action Plan for the next 3 years. Focus on how this Action Plan will help improve student success. Describe how this Action Plan can help the College achieve our Initiatives in the *Strategic Directions 2015-2021* plan.**

<http://hawaii.hawaii.edu/sites/default/files/docs/strategic-plan/hawcc-strategic-directions-2015-2021.pdf>

1. Need to institutionalize EMT at HawCC and have the Hawai'i State Dept. of Health recognize HCC, KCC and HawCC will provide EMT training for the UH system. This achieves SD HGI Action Strategy 3.
  
2. Need to find a place to park the fire engine out of the elements. This achieves SD 21CF Action Strategy 1.

Need to identify classroom space at the Manono campus, and storage space for FS equipment at the Palamanui campus. This achieves SD 21CF Action Strategy 1.

3. Continue to promote the need for a Bachelor of Science in Fire and Emergency Management Administration degree. This achieves SD HGI Action Strategy 3.

**Action Items**

**Provide details below for each Action Item needed to accomplish this 3-Year Action Plan.**

**Action Item 1:**

What specific strategies, tactics, initiatives, innovations and/or activities will the program implement to accomplish one or more of the goals described in the 3-year Action Plan above?

**Continue to work with HCC, KCC and HawCC administrators to institutionalize EMT training at HawCC. Also to have the Hawai'i State Dept. of Health recognize all three campuses offer an approved EMT training course. This may require all 3 Chancellors to**

agree. Have this completed by December 2019.

How will implementing this Action Item help lead to improvements in student learning and their attainment of the program's learning outcomes (PLOs) over the next 3 years?

This will provide consistency and continuity for students to depend on EMT training at HawCC.

**Budget & Resource Asks:** Describe in detail any additional or reallocated resources that will be needed to accomplish this Action Item. *If no additional or reallocated resources are required to accomplish this Action Item, enter "N/A" below.*

Provide justification why this resource is necessary to accomplish this Action Item and the program's Action Plan.

Include the total cost and timeline for purchase or re-allocation.

Recognition of the EMT course will not require any additional funds.

**Action Item 2:**

What specific strategies, tactics, initiatives, innovations and/or activities will the program implement to accomplish one or more of the goals described in the 3-year Action Plan above?

I will continue to work with Mr. Richard Cowan and Mr. Ken Kaleiwahea on getting approval from UH Systems to construct a shelter for the engine.

Continue to advocate that the 2<sup>nd</sup> largest program at HawCC should have classroom space identify. The majority of courses begin at 530 pm. However, due to class size we need classrooms that can accommodate 35 students or more.

Find storage space to contain FS and EMT equipment at Palamanui. A solution is having a Matson container on campus.

How will implementing this Action Item help lead to improvements in student learning and their attainment of the program's learning outcomes (PLOs) over the next 3 years?

The engine is a valuable tool that will give students hands-on experience. Especially for the hydraulics class. This allows students the opportunity of what they learned in class to actually apply those principles.

Having adequate space for our students will provide an atmosphere for learning. Students are entitled to have the same quality of training at Palamaui as the students at the Manono campus. The FS and EMT equipment will provide Lecturers the tools to assist with student learning. At Manono the FS program has a Matson container for fire equipment, and in Hale Aloha we have a storage room for EMT equipment.

**Budget & Resource Asks:** Describe in detail any additional or reallocated resources that will be needed to accomplish this Action Item. *If no additional or reallocated resources are required to accomplish this Action Item, enter "N/A" below.*

Provide justification why this resource is necessary to accomplish this Action Item and the program's Action Plan.

Include the total cost and timeline for purchase or re-allocation.

The cost for the shelter \$16,222.65. Or we could park the engine in Bldg 386A.

The cost of a Matson container is under \$1,000.00.

**Action Item 3:**

What specific strategies, tactics, initiatives, innovations and/or activities will the program implement to accomplish one or more of the goals described in the 3-year Action Plan above?

Continue to advocate the need to establish a BS program in Fire and emergency Administration. I will try and find a UH faculty who will sponsor and promote this curriculum.

**How will implementing this Action Item help lead to improvements in student learning and their attainment of the program’s learning outcomes (PLOs) over the next 3 years?**

**There is currently no program covering this subject matter in the State of Hawai`i. The UH should provide an education that will prepare students to leadership in this area. Hawai`i has had numerous varieties of natural and human caused emergency incidents.**

**Budget & Resource Asks: Describe in detail any additional or reallocated resources that will be needed to accomplish this Action Item. *If no additional or reallocated resources are required to accomplish this Action Item, enter “N/A” below.***

**Provide justification why this resource is necessary to accomplish this Action Item and the program’s Action Plan.**

**Include the total cost and timeline for purchase or re-allocation.**

**There is no increase in funding to implement this program. Classroom space is all that is needed with no need for equipment. A class size of 16 students will pay for Lecturer salary.**