HAWAI'I COMMUNITY COLLEGE
PROGRAM ANNUAL REVIEW REPORT

Fire Science Program

Date 2/16/17

Review Period
July 1, 2015 to June 30, 2016

Initiator: Trina Nahm-Mijo
Writer: 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 and Institutional 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.

PROGRAM DESCRIPTION

Describe the Program	
Provide the short 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.
Provide and discuss the program's mission (or goals and objectives if no program mission statement is available).	Provide the residents of the State of Hawai`i an education in Fire Science that will enhance their employment opportunity with federal, state, and local fire service agencies. Encourage students to continue their education after graduation by pursuing a Bachelor's Degree in Fire and Emergency Administration from Colorado State University through distance learning. Provide in-house professionals the education necessary to upgrade their knowledge and skills which help in promotional opportunities.

Comprehensive Review information:

Provide the year and URL for the location of this program's last Comprehensive Review on the HawCC Program/Unit Review website: http://hawaii.hawaii.edu/files/program-unit-review/	
Year	2015
URL	Fire Science - FS
Provide a short summary regarding the last Comprehensive Review for this program. Discuss any significant changes to the program since the last Comprehensive Review that are not discussed elsewhere in this review.	The Fire Science program continues to have high enrollment with students finding employment with a variety of federal, state and local fire service agencies. The Fire Science program curriculum was modified by adding Emergency Medical Technician for the fall 2016 semester. The course was approved by the Curriculum Committee, the Senate Academic Committee, and approved by the Chancellor. However, we have received political resistance from Kapiolani CC. This issue needs to be resolved. Took delivery of a Type I Structural Fire Engine donated by the Honolulu Fire Department. This will provide students with hands-on experience with our Fire 101L Lab and Fir 202 Fire Hydraulics courses. The Diesel Mechanics program will provide the necessary maintenance.

QUANTITATIVE INDICATORS

ARPD Data

Please attach a copy of the program's ARPD data tables and submit with the Program Review document.

   a) **If you will be submitting the Program Review document in hard copy, print and staple a copy of the data tables to the submission; the icon to print the data tables is on the upper right side, just above the data tables.**
   OR
   b) **If you will be submitting the Program Review document in digital form, attach a PDF copy of the data tables along with the digital submission; the icon to download the data tables as a PDF is in the upper right side, just above the data tables.**

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

ANALYSIS OF THE PROGRAM's DATA

Analyze the program's ARPD data for the review period. Describe, discuss, and provide context for the data, including the program's health scores in the following categories:	
Demand	Unhealthy – The primary reason for an Unhealthy Call is limiting employment opportunities to just the Hawai`i Fire Dept.  The FS program teaches courses at the National Level, and our students have found employment with a wide variety of federal, state, and local fire service agencies in Hawai`i and other States. The CIP code has several positions that are not entry level. For example, Fire Inspectors requires years of experience before being promoted from within the agency. Our students have found employment with Hawai`i Volcanoes National Park, Federal Fire (Department of Defense), U.S. Forest Service on the mainland, and one of my students was just employed as a wildland firefighter for the State of Utah.  The Hawai`i Fire Department is potentially the largest employer of our students, but not the only agency.
Efficiency	Cautionary – The fill rate of 78.6% to Majors to FTE BOR Appointed Faculty was 92.5. This is slightly lower than in previous years. Currently there is one FTE BOR approved faculty. The FS program has 5 Lecturers to help deliver the program. The Tenure and Promotion Committee (TPRC) meeting of February 12, 2016 stated "The committee recognizes the need to hire additional full-time faculty to meet the needs of the growing Program". There were no low-enrollment classes.
Effectiveness	Healthy - In May 2016, 24 AS Degrees in Fire Science were awarded. The Fire Science program accounted for 24% of all the AS degrees awarded by the college. 93% of students received a grade of C or higher.

	2 students transferred to UH 4-yr even though there is no higher Fire Science program offered. Some students enroll in the Fire Science program with a perception of a firefighter from TV and the movies. At the beginning of the fall semester I give my students a reality check of what it takes to become a firefighter. Once enrolled, they realize the FS program is an academically challenged major. I had one student tell me I had a good program, but he decided to change to Liberal Arts major.

Overall Health	Cautionary – I believe the Fire Science program is a Healthy program due to the number of Majors and student success. The Quantitative Indicators need to be adjusted to reflect reality.
	   - For Program Year 13-14 the Demand Indicator was Healthy. - For Program Year 14-15 the Demand Indicator was Unhealthy. The Demand Indicators were virtually the same, and when asked how does a Demand Indicator go from the Healthy to Unhealthy, I was told by Shawn Flood someone just changed the formula. - The Program CIP for Fire Science is 43.0203, under that CIP is:
	     33-1021.01 Municipal Fire Fighting and Prevention Supervisor
	     33-2011.01 Municipal Firefighters
	     33-2021.01 Fire Inspectors
	     33-2021.02 Fire Investigators
	     33-2022.00 Forest Fire Inspectors and Prevention Specialists
	     Only the Municipal Firefighters are an entry level position. All other positions are promoted from within the departments after years of experience. Our students have found employment as Wildland Firefighters. However, the CIP code for Forest Firefighters is 43.0206, but the college does not use that code.

Distance Education	Not Applicable
Perkins Core Indicators (if applicable)	1P1- Met. Goal 91.00, Actual 92.31 2P1- Not Met. Goal 50.30, Actual 35.90. The Fire Science program is a challenging one, which is not easy to obtain. 3P1 – Met. Goal 76.62, Actual 78.21

	4P1 – Not Met. Goal 69.00, Actual 66.67. Did not meet the goal by 2 points. 5P1 – Not Met. Goal 19.69, Actual 4.90. 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. 5P2 – Not met. Goal 19.36, Actual 0.00. Women who are in the FS program and who apply to the Hawai`i Fire Dept. are hired immediately. I encourage students to complete their degree.
Performance Funding Indicators (if applicable)	For AY 15-16, 32 students were awarded Unduplicated Degrees/Certificates awarded. Almost 50% of all the FS program graduates are Native Hawaiians. 2 students transferred to UH 4-yr, even though there is no upper division Fire Science program offered by UH.
Describe any trends, and any internal and/or external factors that are relevant to understanding the program's data.	The Fire Science program is supported by the Federal, state, and local fire service agencies on the Island of Hawai`i.  All Lecturers are currently or former members of the Hawai`i Fire Department or highly regarded in their areas of expertise.
Discuss other strengths and challenges of the program that are relevant to understanding the program's data.	1. There are certain realities concerning the future of the fire service. The public continues to demand a well-educated and professional fire service. When I first joined the NPS there were no educational requirements for Fire Management Officer. Now a Bachelor of Science degree in fire or natural science is mandatory. HFD recruits were in training for 3 months before assigned to a duty station. They are now in training for 12 months. The Kauai FD Chief has a Master's Degree. It is just a matter of time before BS degree is required for top administrative positions. Another reality for employment Demand in the fire service is: - The population of the Big Island continues to grow. - That population is also aging and will place a greater demand for more Emergency Medical Services. - A recent article in the Tribune-Herald stated the HFD is going to the State Legislature for 1.5 million dollars to support the purchase of an additional ambulance for the Puna District. This would reduce the emergency response time and provide better customer service. - The U.S. Department of Labor states employment of Emergency Medical Technicians (EMTs) and Paramedics is projected to grow 24 percent from 2014 to 2024, much faster than the average for all occupations.

	• Although technology will continue to assist the fire service. There will always be a need for an **individual** to perform the many duties firefighters provide as first responders. Firefighters are not likely to be replaced with robotics, drones, etc. • The Big Island is the only island with Volunteer Fire Stations. These stations are slowly being replaced with full time 24/7 firefighters. The Demand for firefighters will continue to increase.

Analyze the program's IRO data for the year under review.	
Discuss how data/analysis provided by the Institutional Research Office has been used for program improvement. (For example, how results from CCSSE or IRO research requests have impacted program development.)	
Describe, discuss, and provide context for the data.	NA- No Requested Data.
Discuss changes made as a result of the IRO data.	

Report and discuss all major/meaningful actions and activities that occurred in the program during the review period. For example:	
Changes to the program's curriculum due to course additions, deletions, modifications (CRC, Fast Track, GE-designations), and re-sequencing	Emergency Medical Technician was added to the curriculum. This has created political fallout from Kapiolani CC, and needs to be addressed.

New certificates/degrees	NA
Personnel and position additions and/or losses.	NA
Other major/meaningful activities, including responses to previous CERC feedback.	NA

Describe, analyze, and celebrate the program's successes and accomplishments. (For example, *more students were retained/graduated* **OR** *the program successfully integrated new strategies/technologies***.)**	
Discuss what the program has been doing well. Are there areas that needs to be maintained and strengthened? Please provide evidence if applicable (ex: program data reports, relevant URL links, etc.).	The Fire Science program continues to have industry support. The Hawai`i Fire Dept., The Big Island Wildfire Coordinating Group (members are my Advisory Council), and the Hawai`i State Fire Chiefs Association all support our program. EMT needs to be established as part of the FS curriculum. The number of majors and the continued rate of degrees awarded indicate a Healthy program.

Describe, analyze, and discuss any challenges and/or obstacles the program has faced.	
Identify and discuss the program's challenges/obstacles.	Emergency Medical Technician needs to be established as part of the Fire Science program. This course will greatly enhance student employment opportunities. We need to identify classroom space for the Fire Science program. Identifying adequate classroom space is a continual problem. We currently have to ask other departments for space to include UHH. The Apprentice program needs to construct a permanent shelter to protect the newly acquired Fire Engine from the deteriorating effects of the elements. We need to expand the Fire Science program to offer classes at the Palamanui Campus.
Discuss changes and actions taken to address those challenges, and any results of those actions.	
Discuss what still needs to be done in order to successfully meet and overcome these challenges.	

PROGRAM ACTION PLAN

Discuss the program's prior year's (AY14-15) action plan and results.	
Describe the program's action plan from the prior review	Take delivery of the Fire Engine donated by the Honolulu FD.

period and discuss how it was implemented in AY15-16.	We implemented the Prior Learning Assessment and several professional have taken advantage of this program.
Discuss the results of the action plan and the program's success in achieving its goals.	
Discuss any challenges the program had in implementing that action plan or achieving its goals.	

- Did the program review its website during AY15-16? Please check the box below that applies.

☐ Reviewed website, no changes needed.

☐ Reviewed website and submitted change request to webmaster on _____(date)_____.

☐ Reviewed website and will submit change request to webmaster.

> *Please note that requests for revisions to program websites must be submitted directly to the College's webmaster at*
> http://hawaii.hawaii.edu/web-developer

Discuss the program's overall action plan for AY16-17, based on analysis of the Program's data and the overall results of course assessments of student learning outcomes conducted during the AY15-16 review period.	Benchmarks and Timelines for implementation and achievement of goals.
Action Goal 1: Establish EMT as part of the FS program curriculum.	**Benchmarks/Timelines:** **Fall 2017**

How can this action Goal lead to improvements in student learning and attainment of the program's learning outcomes (PLOs)?

PLO – Take the National Registry Examination for Certification as an Emergency Medical Technician.

The Fire Service industry in Hawai`i has stated their support for establishing the EMT course as part of the FS program. Students with a National Registry EMT certificate will greatly enhance their employment opportunities with a variety of organizations.

Taking this course is the only way students can be certified by the National Registry, and develops the student's interpersonal communications, and cooperative teamwork involving Emergency Medical Services incidents.

Action Goal 2: Expand the FS program to the Palamanui Campus.	**Benchmarks/Timelines:** **Fall of 2017**

How can this action Goal lead to improvements in student learning and attainment of the program's learning outcomes (PLOs)?

Provide students on the west side of Hawai`i the opportunity to obtain a Fire Science degree. The Fire Science program does lend itself to be offered online, and due to the distance and time needed to travel from the west side of the island to the east side, it has not been practical for the students.
There was no assessment done to determine the need for the FS program. I would like to learn how do one.

Action Goal 3: Have the Apprentice program build a shelter for our fire engine.	**Benchmarks/Timelines:** **Fall 2017**

How can this action Goal lead to improvements in student learning and attainment of the program's learning outcomes (PLOs)?

The engine provides our students with hands-on experience with hydraulics and safety of engine operations. Working with the engine will help students meet the PLO's for #1,4 and 6

RESOURCE IMPLICATIONS

> *NOTE: General budget asks are included in the 3-year Comprehensive Review. Budget asks for the following categories only may be included in the Annual review: health and safety needs, emergency needs, and/or necessary needs to become compliant with Federal/State laws/regulations.*

Please provide a brief statement about any implications of or challenges with the program's current operating resources.
The Fire Science program is operating within its current fiscal budget.

For budget asks in the allowed categories (see above):	
Describe the needed item(s) in detail.	
Include estimated cost(s) and timeline(s) for procurement.	
Explain how the item(s) aligns with one or more of the strategic initiatives of 2015-2021 Strategic Directions.	

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

LEARNING OUTCOMES ASSESSMENT

For all parts of this section, please provide information based on CLO (course learning outcomes) assessments conducted in AY 2015-16, and information on the aligned (PLOs) program learning outcomes assessed through those course assessments.

If applicable, please also include information about any PLO assessment projects voluntarily conducted by the program's faculty/staff.

Evidence of Industry Validation and Participation in Assessment (<mark>for CTE programs only</mark>)
Provide documentation that the Program has submitted evidence and achieved certification or accreditation from an organization granting certification in an industry or profession. If the program/degree/certificate does not have a certifying body, you may submit evidence of the program's advisory committee's/board's recommendations for, approval of, and/or participation in assessment(s). **<mark>Please attach copy of industry validation for the year under review and submit with the document.</mark>**

Courses Assessed

- List all program courses assessed during AY 2015-16, including those courses for which a follow-up "Closing the Loop" assessment was implemented during the review year.

Assessed Course Alpha, No., & Title	Semester assessed	CLOs assessed (CLO# & text)	CLO-to-PLO alignment (aligned PLO# & text)
The Fire Science program did not conduct any CLO-based assessments in 2015-16.			

"Closing the Loop" Assessments Alpha, No., & Title	**Semester assessed**	**CLOs assessed (CLO# & text)**	**CLO-to-PLO alignment (aligned PLO# & text)**

Assessment Strategies

For each course assessed in AY 2015-16 listed above, provide a brief description of the assessment strategy, including:	
a description of the type of <u>student work or activity assessed</u> (e.g., research paper, lab report, hula performance, etc.);	Fire Science program did not conduct any CLO-based assessments in 2015-16 because I forgot to do one.
a description of <u>who conducted the assessment</u> (e.g., the faculty member	

who taught the course, or a group of program faculty, or the program's advisory council members, etc.);	
a description of <u>how student artefacts were selected for assessment</u> (did the assessment include summative student work from all students in the course or section, <u>OR</u> were student works selected based on a representative sample of students in each section of the course?);	
a brief discussion of the <u>assessment rubric/scoring guide</u> that identifies criteria/categories and standards.	

Expected Levels of Achievement
- For each course assessed in AY 2015-16, indicate the benchmark goal for student success for each CLO assessed.
  - example 1: "85% of students will Meet Standard or Exceed Standard for CLO#1";
  - example 2: "80% of students will attain Competency or Mastery of CLO#4."

Assessed Course Alpha, No., & Title	Benchmark Goal for Student Success for Each CLO Assessed
	Fire Science program did not conduct any CLO-based assessments in 2015-16.

Results of Course Assessments

For each course assessed in AY 2015-16:	
provide a <u>description of the summative assessment</u> results in terms of students' attainment of the CLOs and aligned PLOs.	Fire Science program did not conduct any CLO-based assessments in 201-16.

Other Comments

Include any additional information that will help clarify the program's course assessment results.

Include comparisons to any applicable College or related UH-System program standards, or to any national standards from industry, professional organizations, or accrediting associations.	
Include, if relevant, a summary of student survey results, CCSSE, e-CAFE, graduate-leaver surveys, special studies, or other assessment instruments used that are not discussed elsewhere in this report.	

Next Steps – Assessment Action Plan

Describe the program's intended next steps to improve student learning, based on the program's overall AY 2015-16 assessment results. Include any specific strategies, tactics, activities, or plans for instructional change, revisions to assessment practices, and/or increased student support.	
Instructional changes may include, for example, revisions to curriculum, teaching methods, course syllabi, course outlines of record (CORs), and other curricular elements.	
Proposals for program modifications may include, for example, re-sequencing courses across semesters, or re-distribution of teaching resources, etc.	

Revisions to assessment strategies or practices may include, for example, revisions to learning outcome statements (CLOs and/or PLOs), department or course assessment rubrics (criteria and/or standards), development of multi-section/course summative assignments or exams, etc.	
Student support and outreach initiatives may include, for example, wrap-around student services, targeted tutoring and/or mentoring, etc.	

Part VI. Cost Per SSH
Please provide the following values used to determine the total fund amount and the cost per SSH for your program:

General Funds   = $_____
Federal Funds   = $_____
Other Funds   = $_____
Tuition and Fees   = $_____

Part VII. External Data

If your program utilizes external licensures, enter:

Number sitting for an exam   _____
Number passed   _____