Kaua`i Community College
Five Year Comprehensive Program Review (CPR)

At a minimum, each program or unit CPR shall include measures described in UHCCP 5.202. Additional measures may also be used for program or unit assessment.

Program Name ___Facilities Engineering Technology_____

Assessment Period: (e.g., 2016-2021) __2013-2018_____

Program or Unit Mission Statement (UHCCP 5.202)

The Facilities Engineering Technology program prepares individuals for employment in jobs requiring multiple maintenance competencies. These competencies will allow graduates to obtain general maintenance positions in a variety of industries. Graduates will have gained knowledge in electrical applications and practices; refrigeration and air conditioning systems; and drywall, painting, and construction methods.

Program Student Learning Outcomes (PSLOs) approved 02/06/2013:

1. Read and understand blueprints sufficiently to use them to plan a project.
2. Select materials properly for a given project.
3. Maintain and care for the tools required in the construction and maintenance industry.
4. Know and utilize Occupational Safety and Health Administration (OSHA) and State safety regulations to minimize risk and protect self and others.
5. Communicate successfully in writing, orally, and with computer technology.
6. Understand proper mechanical, electrical, and carpentry codes and standards applicable to construction and repair.
7. Understand and demonstrate the craftsmanship standards of dependability, punctuality, and quality.

College Mission Statement (UHCCP 5.202)

Kauaʻi Community College is a kahua that inspires, engages, and empowers learners and educators to enrich our community and our world.

Ke kū nei ke Kulanui Kaiāulu ma Kauaʻi ma ke ʻano he kahua e hoʻoulu, hoʻā, a hoʻoikaika ʻia ai ka ʻike a me ka naʻauao o nā kānaka aʻo aku a aʻo mai no ka hoʻowaiwai ʻana i ke kaiāulu a me ka honua.

Kauaʻi Community College fulfills its mission by incorporating the following practices. The College:

- Provides open access, affordable education;
- Welcomes and values diversity;
- Delivers educational opportunities on campus in small classes, in the community, internationally, and through distance learning;
- Provides programs that address workforce and community needs;
- Prepares and supports students individually and collectively to succeed in academic endeavors and engage in lifelong learning;
- Encourages innovation and promotes sustainability while perpetuating the unique history and culture of Kaua‘i.

Part I. Executive Summary of Program Status

Summary of previous CPR and/or Annual Program Review (APRU) recommendations by Cabinet, College Council, the Division/Unit Chair, Advisory Board, or other reviewing entity.

The last CARP, FENG, WELD Advisory Board Meeting was held on January 26, 2016. The following recommendations were made:

- Add at least one CA in to the FENG Program.
- The advisory board currently doesn't see a high need for a Welding CO. If we were to offer American Welding Society certificates, that could help to promote the FENG and other programs at the college. (Unlimited Construction does have a need for welders.)
- Recruiting within the hotel industry is a challenge. There is a skills disparity in company internal promotions. Too many people being promoted based on years of service and not on ability within the hotels.
- Promote FENG program with more social media outlets such as:
  -LinkedIn
  -Facebook
  -Instragram
- Upgrade shop equipment that no one else has on the island to get students interested in programs.
- Put out an **Industry Needs Survey** to further explore the schools needs, employer needs, and student needs.

Describe program or unit changes made as a result of these recommendations.

After much back and forth discussion and leg work, it was recommended by the previous VCAA to have the Carpentry, FENG, and EIMT Programs merge into a new program call the Building Construction Technology Program. One of the major goals of the program merger was to bring up the enrollment and completion numbers to satisfy Board of Regents requirements. When we presented this proposal to the advisory board in Spring 2016, the general consensus was that it was not necessary for the programs to merge. The Facilities Maintenance Industry cares more

about being able to train students to have the needed skills to be productive as well as having soft skills. The greatest challenge for industry to having workers with skills that are able to do their job as well as the soft skills to keep their job and interact appropriately in the workplace.

Due to our pending transitional program status, no major curriculum changes have been made. As of now, November 2018, it is still up in the air as to whether or not a program merger will occur.

The advisory board brought up their concern about the hotels doing internal hiring their workers from other departments into their Facilities Maintenance Departments. This has become an issue for respective hotels because they bring on workers with low to no skills. To address this the FENG Program continues to offer courses in carpentry, facilities maintenance, plumbing, electrical, welding, and blueprint readying. We are working closely with the KCC Marketing team and webmaster to keep our social media up to

Part II. Program Description (UHCCP 5.202)

Brief History of Program	The Facilities Engineering Technology Program was created over two decades ago to prepares individuals for employment in jobs requiring multiple maintenance competencies. In the early days, hotels managers and facility engineers from around the island saw the need for courses and a certificate to train workers in carpentry, electrical, plumbing, air-conditioning, welding, and blueprint reading.
Number of Faculty and Staff	Faculty (FT): 0.5 Faculty (Lecturers): 5 Staff: 0
Date Website Last Reviewed/Updated	Fall 2018
For Instructional Programs ONLY	
Graduate Occupation or Transfer Options	Facility Engineering Technology Graduates attain entry level training in multiple maintenance competencies. Upon entering the workforce, graduates will either work as general maintenance workers or further their training in a specific area such as carpentry, electrical, plumbing, air-conditioning, or welding.
Special Admission Requirements	1. Qualified for ENG 106 and either qualified for MATH 82X or concurrent enrollment in MATH 75X or higher; 2. "C" or higher in CARP 20B
Credentials Offered	Students who successfully complete the FENG 30 and 40 air-conditioning courses should have also complete their EPA 608 Air-conditioning Certification.
Current Program Articulation Agreements	None

(Institution and Expiration Date)	
Distance Education Courses Offered	None
Early College Courses offered (total number of sections/high school)	Course Alpha and Number – # sections – High School Currently none. There are discussions of offering Introduction to Carpentry (CARP 20B) in the high schools.
Distance Education Programs offered	None
Current Advisory Board Members/Employer and last meeting date	Member Name — Employer Billy Williams — Williams Construction Brian Harper — Westin Princeville Kirk Pierpoint — Marriott Kauai Rochelle Paras — Unlimited Construction Dean Jahansooz — Rutan Refrigeration James Andrews — KCC Duke Lang — KCC Glen Taba — KCC Crystal Cruz — KCC Justin Carvalho — KCC Last Meeting Date: January 26, 2016
Employer Internships	None
For Non-Instructional Programs ONLY	
Community Partnerships, Advisory Committees, etc.	

Part III. Analysis of Quantitative Indicators

Include the five years of Annual Review of Program Data (ARPD; all Instructional programs and Academic Support programs - Library, Technology Resources, Testing Center, Tutoring, and Financial Aid), program-developed metrics (Institutional Effectiveness programs, Office of Continuing Education and Training, campus committees), or metrics required by UHCCP 5.202 that are not provided as ARPD (Administrative Service programs and some Student Support programs) under review in table format below (EP 5.202 and UHCCP 5.202).

Overall Program Health: Cautionary

Majors Included: FENG **Program CIP: 15.9999** ***SOC: 17-3024, 17-3029**

Demand Indicators				Program Year			Demand Health Call
		13-14	14-15	15-16	16-17	17-18	
1	New & Replacement Positions (State)	218	218	262	225	57*	
2	*New & Replacement Positions (County Prorated)	20	20	20	17	1*	
3	Number of Majors	30	25	13	12	14	
3a	Number of Majors Native Hawaiian	6	4	2	3	1	
3b	Fall Full-Time	19%	11%	7%	25%	8%	
3c	Fall Part-Time	81%	89%	93%	75%	92%	
3d	Fall Part-Time who are Full-Time in System	0%	0%	0%	0%	0%	
3e	Spring Full-Time	11%	0%	9%	0%	0%	Unhealthy
3f	Spring Part-Time	89%	100%	91%	100%	100%	
3g	Spring Part-Time who are Full-Time in System	0%	0%	0%	0%	0%	
4	SSH Program Majors in Program Classes	207	177	87	88	41	
5	SSH Non-Majors in Program Classes	169	152	150	66	87	
6	SSH in All Program Classes	376	329	237	154	128	
7	FTE Enrollment in Program Classes	13	11	8	5	4	
8	Total Number of Classes Taught	15	15	12	7	6	

Efficiency Indicators				Program Year			Efficiency Health Call
		13-14	14-15	15-16	16-17	17-18	
9	Average Class Size	11.3	9.3	8	9.3	9	
10	*Fill Rate	84%	66.1%	56.4%	67.7%	61.5%	
11	FTE BOR Appointed Faculty	0	0	0	0	0	
12	*Majors to FTE BOR Appointed Faculty	N/A	N/A	N/A	N/A	N/A	
13	Majors to Analytic FTE Faculty	23.8	19.3	11.6	12	Infinity	
13a	Analytic FTE Faculty	1.3	1.3	1.1	0.6	0	
14	Overall Program Budget Allocation	$83,944	$69,734	$152,065	$183,605	Not Available	Cautionary
14a	General Funded Budget Allocation	$81,377	$67,124	$145,847	$151,629	Not Available	
14b	Special/Federal Budget Allocation	$0	$0	$0	$0	Not Available	
14c	Tuition and Fees	$2,567	$2,610	$6,218	$31,976	Not Available	
15	Cost per SSH	$223	$212	$642	$1,192	Not Available	
16	Number of Low-Enrolled (<10) Classes	3	7	10	4	4	

Effectiveness Indicators				Program Year			Effectiveness Health Call
		13-14	14-15	15-16	16-17	17-18	
17	Successful Completion (Equivalent C or Higher)	92%	88%	88%	71%	91%	Cautionary
18	Withdrawals (Grade = W)	0	1	2	4	0	
19	*Persistence Fall to Spring	68.7%	62.9%	71.4%	58.3%	92%	
19a	Persistence Fall to Fall	40.6%	29.6%	21.4%	33.3%	33%	
20	*Unduplicated Degrees/Certificates Awarded	10	11	4	5	1	
20a	Degrees Awarded	0	0	0	0	0	
20b	Certificates of Achievement Awarded	0	0	0	0	0	
20c	Advanced Professional Certificates Awarded	0	0	0	0	0	
20d	Other Certificates Awarded	10	16	8	9	2	
21	External Licensing Exams Passed	Not Reported	Not Reported	Not Reported	Not Reported	Not Reported	
22	Transfers to UH 4-yr	0	0	0	0	0	
22a	Transfers with credential from program	0	0	0	0	0	
22b	Transfers without credential from program	0	0	0	0	0	

The Overall Program Health is _____Cautionary_____.

Describe and discuss demand, efficiency, effectiveness, and overall health categories. For example, what trends have emerged over the past five years? What factors (internal or external) may have contributed to the program or unit health categories? For Career and Technical Education (CTE) programs, provide a discussion on any unmet Perkins Core Indicator that includes contributing factors (UHCCP 5.202).

Based on this analysis, what are the program's strengths and areas to improve regarding demand, efficiency, and effectiveness (UHCCP 5.202)?

The demand indicators are difficult to follow and rely on since the metrics of measurement have been changing from year to year. The changes are meant to help improve the data but because we are not comparing apples to apples over the span of 5 years, the data is skewed.

The efficiency data also does not appear to be consistent. I believe the metrics for Full Time Faculty to program majors changed from 2014-15 to 2015-16, because that one full time faculty position was split between to make to part times positions in both the Carpentry and FENG majors. (ie. 0.5 full time faculty for Carpentry, 0.5 full time faculty for FENG). Once again, the changing

of the metric skew the data over the course of time. While enrollment could improve a bit more, we are keeping the average class size to 9 students which is just below the cut off point for class cancelations. With a little more effort in marketing the program the class fill rate will improve.

The FENG Program prides itself in providing students with as much hands-on projects as possible. We know that our students learn best when allowed to learn basic principles in class and apply them in real world projects that stimulate them through multimodal learning. Numerous standardized skills using a number of different projects. Each course and each semester the projects changes. Some of our special projects such as the Student Led Container Home and the Tiny House Micro-Grid are great examples of how the FENG Program has been able to provide interdisciplinary studies within the Trades and beyond. These special projects also allow us to connect with community partners and serve as demonstration projects for the community and State of Hawaii.

Part IV. Assessment Data (EP 5.202)

Assessment Results for Program Student Learning Outcomes (PSLOs; see ACCJC Standard I.B.2).

Develop a schedule for PSLO assessment over the next five years so that within the review period, all PSLOs will have been assessed (UHCCP 5.202).

1. List of the PSLOs, last date assessed, and next date to be assessed.
2. Assessment findings.
3. Changes that have been made as a result of the assessment findings.

PSLO	**Date Last Assessed**	**Findings**	**Improvements Implemented**	**Next Assessment Date**
1. Read and understand blueprints sufficiently to use them to plan a project.	January 26, 2016	Advisory Board felt there is no need to update PSLO's.	NA	Spring 2019
2. Select materials properly for a given project.	January 26, 2016	Advisory Board felt there is no need to update PSLO's.	NA	Spring 2019
3. Maintain and care for the tools required in the construction and maintenance industry.	January 26, 2016	Advisory Board felt there is no need to	NA	Spring 2019

		update PSLO's.		
4. Know and utilize Occupational Safety and Health Administration (OSHA) and State safety regulations to minimize risk and protect self and others.	January 26, 2016	Advisory Board felt there is no need to update PSLO's.	NA	Spring 2019
5. Communicate successfully in writing, orally, and with computer technology.	January 26, 2016	Advisory Board felt there is no need to update PSLO's.	NA	Spring 2019
6. Understand proper mechanical, electrical, and carpentry codes and standards applicable to construction and repair.	January 26, 2016	Advisory Board felt there is no need to update PSLO's.	NA	Spring 2019
7. Understand and demonstrate the craftsmanship standards of dependability, punctuality, and quality.	January 26, 2016	Advisory Board felt there is no need to update PSLO's.	NA	Spring 2019

Part V. Curriculum Revision and Review

Minimum of 20% of existing courses are to be reviewed each year so that within the timeframe of the CPR, all courses will be reviewed and revised as appropriate. Indicate when all courses within the program will be reviewed during the next five years.

Course Prefix and Number	**Date Last Reviewed**	**Next Review Date**
FENG 20	6/28/16	Fall 2018, pending approval of FENG 5 Year Assessment Proposal.
FENG 21	6/28/16	" "
FENG 22	6/28/16	" "

FENG 23	6/28/16	" "
FENG 30	6/28/16	" "
FENG 40	6/28/16	" "
WELD 17	6/28/16	" "
WELD 18	6/28/16	" "
WELD 20	6/28/16	" "
WELD 66	6/28/16	" "
WELD 41	6/28/16	" "

Part VI. Survey Results

List results of surveys administered during the review timeframe [e.g., student satisfaction, occupational placement in jobs (for CTE programs), employer satisfaction (for CTE programs), CESSE, licensure pass rates, and graduate/leaver].

Survey Type	**Date Administered**	**Date of Next Survey**	**Results**
none			

A consistent and applicable survey has not been developed as of this date.

Part VII. Financials

Provide your program or unit's budget for each year of this review.

Fiscal Year	**Budget**
2013-14	**$2000**
2014-15	**$2000**
2015-16	**$2000**
2016-17	**$2000**
2017-18	**$2000**

Describe any changes that have occurred regarding services, functions, personnel, facilities, or stakeholders served.

A number of equipment replacement and upgrades occurred with the use of Perkin's Grant money as well as UH Equipment Replacement Funds. Here is a summary of the new items:

Through the use of Perkin's Grants and UH Equipment Replacement Funds, the following equipment has been replaced/upgraded in each shop:

Carpentry Shop:

(1) Shop Compressor
(1) Table Saw

Welding Shop:

(1) Metal Band saw
(1) Shop Compressor
(1) Hydraulic Shear
(1) Iron Metal Worker
(7) Welders
Misc. tool boxes and hand tools

Provide the program or unit's current resources.

Category	**What is needed?**	**Justification**
PERSONNEL	0.5 faculty	Teach 9 credits of FENG courses
Positions (Faculty)	0.5 position for program coordinator	Work with 4 program lecturers, budgeting, materials, safety compliance, marketing
Positions (Staff)		
OPERATING		
Supplies	Increase WELD budget by $2,100 **See table below.**	Increase in budget would just cover, gas, rods, and basic material needs to run WELD courses. Additional funds will be sought after for equipment upkeep, repairs, and metal materials for class.
Equipment		
Space/Facilities		

TECHNOLOGY		
Hardware	Computer Lab for CARP 108, 20 students computers/tablets.	The CARP 108 computer lab is at the end of it lifespan. There are currently 16 of 20 computers working.
Software		

Current Welding Materials Budget Vs. Need		
Total Need Per Course: WELD 17, 18 Oxyacetylene $250 Acetylene 2 bottles: $850 Rods: $800 Brazing Rods: $100 Gas Tank Rental: $200 Total: $2,200	Total Need Per Course: WELD 20,66 75/25 gas, CO2 gas, +rental: $1000+300 = $1,300 Mig wire: $400 Total $1,700	Total Need Per Course: WELD 41 75/25 gas, CO2 gas, +rental: $1000+300 = $1,300 Mig wire: $400 Total $1,700
Annual Budget Needs for Welding: $5600		
Current Annual Budget: $3,500		
Deficit of $2,100.		

Part VIII. Results of Prior Year Action Plans (UHCCP 5.202)

Action Plan	**Anticipated Outcome**	**Actual Outcome**
Increase the number of graduates to 10 unduplicated certificates or more per year.	Have 10 students graduate.	According to the data 1 student graduate. *The data is likely skewed.*

Promote job placement and position advancement for those already employed prior to completion of certificate or degree.	Students are presented with job opportunities as they are called into the Program Coordinator.	Unclear about how many students were employed as a result of attend or graduating from the FENG Program. An effective exit survey with follow up system needs to be implemented.
Offer course scheduling that allows students to complete their certificates and degrees in the least amount of time necessary.	Students are able to take the classes they need to finish as quickly as possible.	Planning between the CARP, FENG, and EIMT coordinators has built the best possible schedule that meets student needs despite limited time slot conflicts.
Promote job placement and position advancement for those already employed prior to completion of certificate or degree.	Get students into internships and jobs before completion of their certificate.	More planning and coordination need to put into the goal.
Demonstrate and implement industry best practices across the curriculum.	Continues to maintain and upgrade shop tools and equipment.	Student have access to new technologies that meet industry standards.

Part IX. Analysis of Program

Based on findings in Parts I – VIII, develop a five-year action plan for your program or unit. This should include goals that align with the College Mission, measurable outcomes, benchmarks, and alignment to the College's Strategic Priorities, and/or Strategic Goals. Be sure to focus on weaknesses identified in ARPD data, PSLO outcomes, results of survey data, financial needs (with timelines), and other data used to assess your unit or program. This plan should guide your program and subsequent APRUs, but may be amended based on new initiatives, updated data, or unforeseen external factors.

Goal	**Strategic Goal/Priority (List number)***	**Benchmark**	**Desired Outcome**	**Unit of Measure**	**Year(s) Implemented**
Increase Enrollment	Implement Island wide Hotel and Building Maintenance Industry Needs Survey	Collect data from the Kauai market demonstrating the demand for skills	Collect feedback from 10-20 island facilities on how the college can	Industry Evidence of Local Demand	1

		Facility Engineers.	provide them with skilled labor.		
Increase Enrollment	Use Industry Survey Data to develop a marketing strategy to bring in more students.	Increase all FENG classes by 3-5 students.	Full enrollment in all FENG classes.	Student Enrollment.	2
Increase Enrollment	Follow up with Industry Needs Survey participants to confirm their input is still current.	Continue to develop marketing strategy and establish industry internships (paid or unpaid).	Memorandum of agreements with various facilities managers on Kauai.	Memorandum of agreement.	3
Increase Enrollment	Implement industry internships (paid or unpaid).	Have 25% of FENG students participate in industry internships.	Have 25% of FENG students participate in industry internships.	Have 25% of FENG students participate in industry internships.	4
Increase Enrollment	Develop internship model.	Have50% of FENG students participate in industry internships.	Have50% of FENG students participate in industry internships.	Have50% of FENG students participate in industry internships.	5

*All Strategic Goals and Priorities are Aligned to the College Mission.

Part X. Resource Request(s) for next year (Year 1 of the 5-year Plan for your unit or program).

Program Goal	SEE TABLE BELOW:
Resource Requested*	Increase WELD Budget Annually by $2,100
Cost and Vendor	
Annual Recurring Cost	$2,100
Useful Life of Resource	1 year
Person(s) Responsible and Collaborators	WELD Instructor, Division Chair, Program Coordinator
Timeline	Annually

***An approved ITAC Request Form must be attached for all technology requests**

Goal Alignment UH System Goals, Kauai Community College Goals, and Strategic Goals	**Program Goals**
UHCC/KCC Initiative: Hawaii Graduation Initiative	
Strategic Goal 1: Increase the Number of Graduates	Increase the number of graduates to 10 unduplicated certificates or more per year.
Strategic Goal 5: Eliminate Access and Success Gaps	Promote job placement and position advancement for those already employed prior to completion of certificate or degree.
Strategic Goal 6: Reduce the Time to Degree: Accelerate College Readiness	Offer course scheduling that allows students to complete their certificates and degrees in the least amount of time necessary.

UHCC/KCC Initiative: Hawaii Innovation Initiative	
Strategic Goal 8: Increase Job Placement for KauaiCC Students	Promote job placement and position advancement for those already employed prior to completion of certificate or degree.
Strategic Goal 9: Increase the STEM Workforce	Promote job placement and position advancement for those already employed prior to completion of certificate or degree.
UHCC/KCC Initiative: Modern Teaching and Learning Environment	
Strategic Goal 11: Increase Campus and Community Sustainability	Demonstrate and implement industry best practices across the curriculum.