

# HAWAII COMMUNITY COLLEGE PROGRAM REVIEW REPORT

## CARPENTRY PROGRAM

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July 1, 2013 to June 30, 2014

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*Program/Unit Review at Hawaii Community College is a shared governance responsibility related to strategic planning and quality assurance. It is an important planning tool for the college budget process. Achievement of Program/Unit Outcomes is embedded in this ongoing systematic assessment. Reviewed by a college-wide process, the Program/Unit Reviews are available to the college and community at large to enhance communication and public accountability.*

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## Program Description

*(Official Description from Catalog - then provide more in depth explanation of what this program does, who it serves and generally describe its accomplishments)*

The Carpentry program allows students to participate in the "foundation-to-finish" experiences necessary to build a basic residential house while completing the required carpentry coursework. Students will graduate from the Carpentry program with the knowledge and experience necessary to begin employment at the entry level in the construction industry, or enter a four-year apprenticeship program. Credit may be given in the apprenticeship program for work completed at Hawai'i Community College.

The Carpentry Program's five courses are comprehensive in the residential building sector and touches upon the commercial sector in the second semester (Concrete Form Construction). The curriculum is based on preparing students to exit as entry level carpenters. A Model Home is constructed annually and is the program's capstone project (all courses lead up to the construction of the Model Home). The task of constructing an off-campus dwelling that conforms to all building codes, and meet industry quality standards is rigorous yet well received by students.

The college is currently on the second year of a 5 year contract with the Department of Hawaiian Home Lands which expires on June 30, 2017. Upon completion, the residence is turned over to DHHL and they in turn sell the residence to a qualifying native Hawaiian family for the amount it cost the college to construct it, plus \$100.00 for the lease of the land.

Students are taught safety, principles, procedures, trade specific knowledge and work ethics through a variety of instructional methods and hands-on projects; the most important being the annual Model Home, Carpentry's capstone project. Our mission's true worth cannot be replicated by classroom lectures or shop mock-ups. The Model Home provides a realistic, tangible working environment that a carpenter would experience on the job. In accomplishing our mission, we must also consider the current industry trends and try to incorporate pertinent instruction and procedures that expose students to the latest methods/materials. The 2013's Model Home kept on track in offering instruction with an emphasis on sustainability. The Model Home included Energy star rated roofing, thermal radiant barrier, low/no VOC paint, solar water heating, photo-voltaic energy system, Energy Star rated appliances/light bulbs, and carpet made from recycled products. The green initiative gives students an important perspective and direction that the construction field is headed toward.

The program's five courses include:

1. Carp20A, Basic Carpentry I: Safety, math and hand tools.
2. Carp21A, Basic Carpentry II: Principles/procedures, power tool/machinery certification, various carpentry/woodworking projects.
3. Carp 22, Concrete Form Construction: Residential and commercial applications.
4. Carp 41, Rough Framing and Exterior Finish: Foundation, concrete slab, framing, trusses, roofing, sheathing. (Model Home)
5. Carp 42, Finishing: Exterior trim, drywall, windows, doors, cabinets/countertops and shelving, interior trim. (Model Home)

**3yr Review Report Summary** – *If this Program is scheduled for Comprehensive Review, this section must be more robust and detailed explaining changes made to the program in the past 3 years; funding received since last 3 years and results from funding, etc.*

8.1 Utilize green building technology and sustainable landscaping when constructing the annual model home  
The 2013-2014 Model Home has incorporated pertinent instruction and procedures relating to sustainability in the designing and construction of the model home. Included are energy star rated roofing, thermal radiant barrier, low/no VOC paint, solar water heating, photo-voltaic energy system, energy star rated appliances/light bulbs and carpet made from recycled products. The agriculture program has incorporated native plants in its landscaping and a Hydroponic green house. This sustainable initiative was started four years ago and has steadily incorporated as many new *green* initiatives as possible. Associate Professor, Joel Tanabe is a *Certified Green Professional (CGP)* as recognized by the National Association of Home Builders (NAHB) and regularly attends the annual conference. To earn and maintain the CGP standing, one must attend and complete course work in sustainable practices. Mr. Tanabe has also completed a *Train the Trainer* certification enabling him to teach applicable sections of sustainable building practices.

8.2 Create a Certificate within the Carpentry program for students who plan to pursue going into the Carpenter's Union, targeting underserved populations whose education may be interrupted by outside responsibilities

The program has a certificate track where General Education electives are not required; this pathway earns a Certificate of Achievement (CA). This "fast track" to jobs has been suggested by the Advisory Council. Though it still takes two years to graduate with a CA, students are more likely to graduate on time since they are not required to take college math, English and other general education courses. Though the AAS Degree presents a well rounded educational experience, some students want/need to enter the job market as soon as possible. They are willing to spend two years gathering trade specific knowledge and skills which give them an advantage over high school graduates. This is validated by contractors and the Carpentry Advisory Council.

8.3 Complete curriculum modifications to formally incorporate "green and sustainability" concepts into curriculum

Green and sustainability concepts are concurrently interjected within the lessons of constructing the Model Home. There are many subtopics of sustainability initiatives that are not implemented in the annual Model Home however the latest trends and products/procedures are embedded in parts of the curriculum through lectures and product exposure. Sustainable initiatives used in the Model Home include:

- House placement to best use the cooling trade winds.
- Attic ventilation to cool and prevent condensation (moldy conditions).
- Radiant barrier. Highly effective attic insulation.
- Energy Star rated roofing. White in color to maximize heat reflection. Painting not required for 20 years.
- Low or no VOC (volatile organic compound) paints for the interior.
- Solar water heater.
- Photo voltaic energy system.

- Energy Star rated appliances, light fixtures and light bulbs/lamps.
- Sustainable landscaping.

8.4 Include students in the annual model home project from other applicable programs: Electrical Maintenance and Installation Technology, Machine Welding and Industrial Mechanics Technologies, Agriculture.

The Machine Welding and Industrial Mechanics Technology program no longer participates in the program. The Diesel Program participates through repair of model home related equipment and land clearing/prep if required. The Architectural Engineering and CAD program produces the actual design and working drawings for each home using specific parameters provided by the sponsor. The Agricultural Program provides landscaping focusing on local and cultural considerations.

## CERC Comments and Feedback --

*CERC Comments as listed in most recent Comprehensive Review.*

- *It is recommended that the Program Review be written to address the wide-range of audience that comprises the HawaiiCC ohana. Some of the readers had difficulty tying the ILOs with your program goals and cost item requests. You need to consider the Reviewers may not have an in-depth knowledge of ILOs nor of your program. Relating the ILO to your goals and requests would give a stronger commentary for your program.*

The Carpentry Program's curriculum covers fundamental principles and procedures enabling graduates to enter the job market as "entry level carpenters". The HawCC/DHHL Model Home is the program's capstone project which not only presents an authentic setting to practice hand skills and critical thinking, but also an experiential opportunity that cannot be replicated in the shop or classroom. Students' awareness that they are building a home for a native Hawaiian family to live in creates motivation and a sense of accomplishment.

*ILO 1. Our graduates will be able to communicate effectively in a variety of situations.*

The building industry relies on decisive, concise and timely communication. From the first to last semester, students are required to practice good communication skills. This ranges from group work to collaboration with other programs to complete tasks. Critical thinking and problem solving often requires "brainstorming" sessions especially during the construction of the Model Home. The ability to communicate effectively is a top priority when up to sixteen students are working at a jobsite, not only for learning and production, but more importantly to ensure a safe working environment.

*ILO 2. Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.*

Carpentry is based on three basic core skills: Knowledge, hand skills and critical thinking. From constructing a stool to building the Model Home, students are required to listen, think, make decisions, and execute. Problem solving and critical thinking happens constantly involving a variety of situations. These "soft" skills are as essential as hand skills, they cannot be separated.

*ILO 3. Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.*

Students spend at least 24 hours a week together in a setting that includes a diverse (gender, ethnicity, social economic, sexual orientation, academic standing, prior knowledge, etc.) make up of people. They study, work, eat and play together. The program's learning environment focuses on

unity and cohesiveness with respect and consideration to diversity.

Sustainable concepts and initiatives are presented and practiced on the Model Home, similar to how the Hawaiian people shaped their cultural structure hundreds of years ago.

The Model Home is built for a native Hawaiian family, in a Hawaiian community and is dedicated with a traditional Hawaiian blessing. Participating students are proud of their contribution to the Hawaiian community. This project leaves a legacy of 48 homes built so far.

- *There was a slight disconnect in your description in regards to Construction Academy. The Reviewers could not figure out how it related to students entering or not entering the Carpentry program.*

The Construction Academy Program was a legislative initiative to direct high school students towards the construction field; whether through persistence to the HawCC trade programs or upon high school graduation, into employment in the construction field. The persistence to the HawCC was through the articulation of two courses that awarded students dual credit. Many students entering the HawCC Carpentry Program and to a lesser extent Architectural, Engineering and CAD Technology Program were former Construction Academy students. The success of such a program is immeasurable however with the disappearance of many CTE type courses in the high schools, the program has become a popular choice to experience hands on, applied learning.

- *Perhaps the program's perspective on gender equity could be more clearly defined, allowing the Reviewers to get a better understanding of what the program is trying to change with regard to gender equity. Clearly speaking about and analyzing the Perkins Core Indicators 5P1 and 5P2 may have explained the inequity issue.*

The program has consistently attracted female students where they typically did well in keeping up with the rigor of the program. The underlying problem is that industry is reluctant to hire females, either because of physical considerations (carpentry is reliant on physically demanding tasks) or more commonly stereotypical perceptions. Until the construction industry changes its hiring practices, we will not see the balance of female students change drastically.

- *It is suggested you seek new job market areas in the carpentry industry embracing green building technology and either revise your existing courses or create new courses.*

As a National Association of Home Builders (NAHB) Certified Green Professional, I (Joel Tanabe) have attended numerous seminars and new product expos. Many green and sustainable initiatives deal with meeting challenges in areas that have traditional seasonal changes. Hawaii is very unique not only because of our consistent climate, but because we may encounter hurricane winds, earthquakes, termites, and torrential rains. Many green initiatives are not practical here, so much of the technological initiatives have less of an impact in here. However, the program embeds the concept of sustainable trends into its curriculum and utilizes several initiatives in the Model Home.

- *Set specific benchmarks and monitor the program's progress throughout the year. Next year's review should include concrete outcomes. To be effective, student learning outcomes assessment must contribute directly to student learning. Moreover, assessment for improvement is most effective when it is embedded within the curriculum and so has a direct connection to student learning. You have done a commendable job on assessing student learning outcomes as well as closing the loop by reflecting on assessment results and making adjustments to your teaching and/or curriculum. It is through the process of ongoing assessment of student learning outcomes that you can improve the quality of your program and demonstrate the level of quality to others.*

The Carpentry Program has consistently participated in course/program assessment and has held regular Advisory Council meetings to review the programs direction and student success. The industry and community are also vocal and considered about the mission and well being of the program. The program has done well in satisfying students, industry and the community as validated by student employment and acceptance by the Carpenters' Union.

- *By 2012, ACCJC is requiring that all programs reach the sustainable continuous quality improvement level for Program Review and Planning, and the proficiency level for Student Learning Outcomes, so work with your division chair, dean, and/or assessment coordinator to develop a timeline to ensure that your program will be at those levels by 2012.*

*CERC provided recommendations intended as suggestions for improvement. Provide a brief response to the suggestions made. i.e., Were the suggestion(s) valid? What change(s) were made as a result of the suggestion(s)?, etc.*

- *If no changes were made at all, write "None."*
- *If no changes were made during this review period but you plan to in future periods, write "None in 2013-2014 however changes will be made in (AYs) and will be reported in that review."*
- *If no changes were made during this review period but changes were made in previous review periods, write "None in 2013-2014; however changes were made in (AYs)."*

There were no major changes made in response to the CERC's recommendations. The explanations above specifically answer any concerns that were listed. Some concerns have been ongoing for years, and the Carpentry Program is respectful and vigilant of these areas. The program is constantly trying to strategize on how to cope with these issues, but much of it is outside of our control.

## Part I: Quantitative/Qualitative Indicators

### A. Annual Report of Program Data (ARPD) Data Grid

Look up ARPD data at:

<http://www.hawaii.edu/offices/cc/arpd/instructional.php?year=2014&action=quantitativeindicators&college=HAW>

Print for convenience since you will need to use information to discuss your Program's indicators.

Overall Program Health: Healthy

Majors Included: CARP Program CIP: 46.0201

Demand Indicators	Program Year			Demand Health Call
	11-12	12-13	13-14	
1 New & Replacement Positions (State)	326	375	250	Healthy
2 *New & Replacement Positions (County Prorated)	36	36	24	
3 *Number of Majors	42.5	45.5	37	
3a Number of Majors Native Hawaiian	21	15	17	
3b Fall Full-Time	70%	75%	85%	
3c Fall Part-Time	30%	25%	15%	
3d Fall Part-Time who are Full-Time in System	0%	0%	0%	
3e Spring Full-Time	92%	79%	85%	
3f Spring Part-Time	8%	21%	15%	
3g Spring Part-Time who are Full-Time in System	0%	2%	0%	
4 SSH Program Majors in Program Classes	612	672	747	
5 SSH Non-Majors in Program Classes	0	0	0	
6 SSH in All Program Classes	612	672	747	
7 FTE Enrollment in Program Classes	20	22	25	
8 Total Number of Classes Taught	5	5	7	

Efficiency Indicators	Program Year			Efficiency Health Call
	11-12	12-13	13-14	
9 Average Class Size	13.2	14.4	14.7	Healthy
10 *Fill Rate	82.5%	90%	85.8%	
11 FTE BOR Appointed Faculty	2	2	2	
12 *Majors to FTE BOR Appointed Faculty	21.2	22.7	18.5	
13 Majors to Analytic FTE Faculty	23.9	25.6	18.5	
13a Analytic FTE Faculty	1.8	1.8	2	
14 Overall Program Budget Allocation	\$213,969	\$204,864	\$234,003	
14a General Funded Budget Allocation	\$184,683	\$190,983	\$218,397	
14b Special/Federal Budget Allocation	\$0	\$0	\$0	
14c Tuition and Fees	\$29,286	\$5,672	\$15,539	
15 Cost per SSH	\$350	\$305	\$313	
16 Number of Low-Enrolled (<10) Classes	0	0	0	

\*Data element used in health call calculation

Last Updated: January 25, 2015

Effectiveness Indicators	Program Year			Effectiveness Health Call
	11-12	12-13	13-14	
17 Successful Completion (Equivalent C or	98%	94%	85%	Healthy



	Higher)			
18	Withdrawals (Grade = W)	0	1	0
19	*Persistence Fall to Spring	68.8%	82.9%	77.5%
19a	Persistence Fall to Fall		48.6%	37.5%
20	*Unduplicated Degrees/Certificates Awarded	11	14	14
20a	Degrees Awarded	11	11	11
20b	Certificates of Achievement Awarded	0	8	8
20c	Advanced Professional Certificates Awarded	0	0	0
20d	Other Certificates Awarded	0	0	0
21	External Licensing Exams Passed	Not Reported	Not Reported	N/A
22	Transfers to UH 4-yr	0	0	2
22a	Transfers with credential from program	0	0	1
22b	Transfers without credential from program	0	0	1

<b>Distance Education:</b>		<b>Program Year</b>		
<b>Completely On-line Classes</b>		<b>11-12</b>	<b>12-13</b>	<b>13-14</b>
23	Number of Distance Education Classes Taught	0	0	0
24	Enrollments Distance Education Classes	N/A	N/A	N/A
25	Fill Rate	N/A	N/A	N/A
26	Successful Completion (Equivalent C or Higher)	N/A	N/A	N/A
27	Withdrawals (Grade = W)	N/A	N/A	N/A
28	Persistence (Fall to Spring Not Limited to Distance Education)	N/A	N/A	N/A

<b>Perkins IV Core Indicators</b>		<b>Goal</b>	<b>Actual</b>	<b>Met</b>
<b>2012-2013</b>				
29	1P1 Technical Skills Attainment	91.00	81.25	Not Met
30	2P1 Completion	47.00	75.00	Met
31	3P1 Student Retention or Transfer	75.21	90.00	Met
32	4P1 Student Placement	68.92	54.55	Not Met
33	5P1 Nontraditional Participation	17.50	9.30	Not Met
34	5P2 Nontraditional Completion	16.00	6.67	Not Met

<b>Performance Funding</b>		<b>Program Year</b>		
		<b>11-12</b>	<b>12-13</b>	<b>13-14</b>
35	Number of Degrees and Certificates		19	19
36	Number of Degrees and Certificates Native Hawaiian		8	7
37	Number of Degrees and Certificates STEM		Not STEM	Not STEM
38	Number of Pell Recipients		28	23
39	Number of Transfers to UH 4-yr		0	2

\*Data element used in health call calculation

Last Updated: January 25, 2015

[Glossary](#) | [Health Call Scoring Rubric](#)

## B. ARPD Data Analysis

Based on the data from the ARPD, analyze the program's strengths and weaknesses in terms of demand, efficiency, and effectiveness.

If this Program is scheduled for Comprehensive Review, analyze program over 3 years.

Demand Health	Efficiency Health	Effectiveness Health
<p>Per 2013-2014 Review <b>Healthy</b></p> <p>The Demand Health Call is based on declared majors divided by the county of Hawaii's projected New and Replacement Positions. The Number of Majors has decreased by 18% since last year but the New and Replacement Positions (County prorated) have also decreased by 33%, this balances the majors to employment numbers which is why the Demand Health Indicator is <b>Healthy</b>.</p> <p>Per 2011-2014 Review <b>Cautionary, Cautionary, Healthy</b></p> <p>In the two years prior, the rating was <b>Cautionary</b> due to the majors to employment ratio of number of majors being low. Part of the higher interest in the program, even with lower employment figures may be due to the increase of Construction Academy graduates persisting to the program. The construction sector, though slowly improving, still has the greatest impact on enrollment. More construction means lower enrollment numbers and vice-versa. The carpentry field will not drastically change anytime soon; not in job description or demand. Materials and procedures will always change, but the carpenter's basic building skills will not.</p>	<p>Per 2013-2014 Review <b>Healthy</b></p> <p>The program has consistently filled all of the 16 slots that are available during the 2013-2014 academic year, averaging 14.7 with some students dropping due to the curriculum and the rigors of the program not being what they anticipated it to be. In the succeeding semesters, a few students don't return mainly due to personal or financial issues. The program's health follows the benchmarks set forth for Majors/FTE BOR Appointed Faculty, which for 2013-2014 is at 18.5. Though the number of majors dropped, incoming classes are still at capacity, therefore a <b>Healthy</b> rating.</p> <p>Per 2011-2014 Review <b>Healthy, Healthy, Healthy</b></p> <p>Historically, carpentry has always shown a consistent demand which is why in the past three years, it has been rated <b>Healthy</b>.</p>	<p>Per 2013-2014 Review <b>Healthy</b></p> <p>Carpentry majors that have enrolled and still in the major from Fall to Spring has decreased from 82.9% to 77.5% (one student) from 2012-2013 to 2013-2014. Students are encouraged to continue the course and earn their certificates or degrees with the opportunity to broaden their knowledge and sharpen their skills by participating in the construction of the annual Model Home. Those that are faced with financial problems, are encouraged to apply for scholarships, financial aid and grants to help subsidize the cost to come to school. Those with personal problems are directed to counselors. Two students transferred to a four year institution.</p> <p>The unduplicated degrees/certificates awarded has remained the same from the previous year due to former students returning to complete their degree requirements to obtain their AAS degrees. The 77.5% completion rates the program <b>Healthy</b>.</p> <p>Per 2011-2014 Review <b>Cautionary, Healthy, Healthy</b></p> <p>Typically the program has always had a healthy graduation rate partly due to the motivation of students that want to build the annual Model Home. Downward spikes in graduation rates are mainly due to non-completion of the general education requirements. Students that do not complete their GE requirements rarely come back to complete it,</p>

		hence no degree/certificate.
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<b>Overall Health</b>
Per 2013-2014 Annual Overall Health was stated as: <b>Healthy</b> .
Per 2011-2014 Three Year Average Health: (Cautionary, Healthy, Healthy) <b>Healthy</b> .

**Distance Education: Completely Online Classes --** List and provide an analysis of courses taught completely online. (i.e., compare success to face-to-face; action strategies implemented to increase success and completion rates, e.g., working with ITSO on strategies)

N/A
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**Perkins IV Core Indicators --** Identify core indicators (1P1, 2P1, 3P1, 4P1, 5P1, 5P2) that were **not** met and specify action strategies.

<p>Per 2012-2013 Review</p> <p>The program has achieved the goals set by the indicators in 2 out of 6 areas. Technical Skills Attainment, Student Placement, nontraditional participation and nontraditional completion are the four areas not met.</p> <p><b>Skills Attainment (last three Perkins reports: Met, Met, Not Met)</b>  The lower numbers in this category is due to students not persisting through the entire program for one reason or another. One student failed due to absenteeism, one student dropped after the first week and the seat was not filled. Others dropped due to employment or personal issues. Numbers will fluctuate according to student's varying life priorities, and not be program related (instructors create a close rapport with all students and can quickly differentiate between student personal and program issues. <b>Numbers for the last three Perkins report years: 2010-2011, 100% (goal: 90.10%) , 2011-2012, 90.91% (goal: 90%), 2012-2013, 85% (goal: 91%).</b></p> <p><b>Student Placement (last three Perkins reports: Not Met, Met, Not Met)</b>  Without knowing how numbers were obtained for this section, it is difficult to comment on. Job placement can happen anytime (typically starts as part time) between the semesters until graduation. Students may also work in a related field that is not covered by the designated CIP code. Self employment (handyman, maintenance, woodworker, etc.) may not qualify as placement under whatever tracking system is utilized, yet some graduates start off on their own under a standard General Excise Tax license. Therefore, until the cross section of students and types of qualified jobs are identified, authentic assessment of this section is impossible. This section's goals were met once out of the past three years (2011-2012). Though the local economy is not as robust compared to other parts of the country, the Carpentry Program consistently receives inquiries for workers, some from contractors that graduated from the program. The program and instructors provide a very comprehensive carpentry program and are constantly updating and improving methodology, currency, technology and application, and though there is always room for improvement, certain factors are beyond control; economy, employment trends, global location, and of course student objectives. <b>Numbers for the last three Perkin report years: 2010-2011, 40% (goal: 51%), 2011-2012,</b></p>
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**63.64% (goal: 60%), 2012-2013, 54.55% (goal: 68.92%).**

**Nontraditional Participation/Nontraditional Completion (last three Perkins reports: Not Met/Met, Not Met/Not Met, Not Met/Not Met)**

Attracting female students has always been a challenge, especially because of the industry's reluctance to recognize females as viable workers. Until this trend ends, we will not see any great improvement in this area. However, the class of 2014 had three females in the first semester but only one continued on to the second semester and didn't return for her third semester. All three females withdrew for personal reasons not related to the program. One of the three wishes to complete the program when the situation permits. The classes of 2015 and 2016 have none, which is unusual, and not indicative that the interest doesn't exist.

**Action Strategies**

**1P1** Classroom strategies will have the greatest impact on student interest and persistence. Technology is embraced by today's youth and should be recognized by the instructors as a means to deliver lessons. YouTube videos, GoPro technology, and other computer generated/presented lessons should be included in the instructors "instructional tool box". Another motivator is jobsite and shop visitations; actually see what it takes to be a productive worker in actual conditions.

**4P1** As stated earlier, these numbers do not reflect the feedback from our past graduates. Instructors keep abreast of the employment status of most of their students and the numbers in the Perkins report does not coincide with program numbers. Aside from the perceived skewed numbers, employment is driven by the local building trends which are out of the program's control. The program instructors continuously keep an open network with the local construction job market.

**5P1 and 5P2** Though these participants are relative to the industry's acceptance and ultimate hiring of nontraditional students, the program tries to recruit this sector by: Participating annually, in the Career Opportunities Expo, gain more exposure in the intermediate and high schools when opportunities arise (HawCC Day) and promote the Construction Academy Program in the high schools.

**Performance Funding (Graduation, Native Hawaiian, STEM, Transfer, Degree) -- Describe how your program contributed to performance funding in these areas? If not, why and how do you plan to contribute in the future?**

The program issued 19 degrees and certificates, seven which were to native Hawaiians. Pell grant Recipients was 23. These numbers are represent the program as well as can be expected and presumably contribute to the colleges tally for Performance Funding. There were two transfers to UH 4-yr which also shows that the program provides a rigorous instructional platform.

**C. Trends & Other Factors -- Describe trends including comparisons to any applicable standards, such as college, program, or national standards from accrediting associations, etc. Include, if relevant, a summary of Satisfaction Survey Results, special studies and/or instruments used, e.g., CCSSE, etc. Describe any external factors affecting this program or additional program changes not included elsewhere.**

The carpentry program's AAS degree follows the ACCJC's mandate that requires general education courses for the AAS Degree be at college level. The fact that other institutions follow the prescribed route does not necessarily mean that all AAS degrees benefit from this rigorous pathway. It would be an unnecessary burden on students to have to complete courses if the applicable industry does not recognize these GE courses as requirements. Therefore, the carpentry program has raised the rigor of the Certificate of Achievement to meet the industry's entry level worker status, which should result in higher numbers in retention and completers. The program is also pursuing/creating GE courses that have direct applications to carpentry. The English and Quantitative Methods requirements are being currently explored to meet this objective.

The industry's major shift has been towards sustainable practices and materials. Buildings are progressively moving towards high efficiency. Natural resources are closely monitored and regulated with much development of substitute materials. Hawaii, being in a temperate zone is not impacted by such extreme *tight envelope* type of construction. Yes, we are practicing sustainability, but only as applicable to our location. The Carpentry Program is well aware of this trend and includes and practices as many "green" initiatives as possible.

## Part II: Analysis of the Program

### A. Alignment with Institutional Mission & Learning Outcomes (ILOs)

#### 1) College Mission Alignment

*Hawai`i Community College (HawCC) promotes student learning by embracing our unique Hawai`i Island culture and inspiring growth in the spirit of “E`Imi Pono.” Aligned with the UH Community Colleges system’s mission, we are committed to serving all segments of our Hawai`i Island community.*

**Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports the College’s Mission. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports.**

*Example: The SUBS program’s faculty and staff fosters excellence in education, workforce development, academic advising and co-curricular activities that focus on engaging, challenging and transforming students to strive for academic excellence, personal growth, contributing members of the Hawai`i Island Community.*

The Carpentry Program annually prepares for and constructs an actual, off campus, residential dwelling for the native Hawaiian community. This is accomplished using strict code and quality guidelines. The instructors are responsible to meet the final deadline without compromising student learning. The homes are built for qualifying native Hawaiians in a Hawaiian community where students learn to respect and participate in this cultural setting. These parameters directly ties into the college’s mission of embracing the Hawaiian culture and inspiring growth in the spirit of E`Imi Pono as we contribute to our community.

#### 2) ILO Alignment

**a) ILO1:** *Our graduates will be able to communicate effectively in a variety of situations.*

**Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn’t support this ILO, write “No alignment to ILO1”**

*Example: The SUBS program’s curriculum prepares our graduates to communicate effectively by requiring the students to participate in: 1) small and large group discussions, both online and face-to-face; 2) individual and group presentations; 3) role play of interviewing and counseling skills; 3) fieldwork at practicum sites; 4) service learning activities on campus and in the greater community.*

Students will participate, as a group, to construct a Model Home off site. In doing so they will practice leadership skills and use initiative to keep the project on task. They must effectively communicate with fellow students, the instructor, and possibly subcontractors to avoid costly and time consuming mistakes. They may encounter interaction with neighboring families and community on-lookers as well. Successful construction projects demand good communication and collaboration.

**b) ILO2:** *Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.*

**Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn’t support this ILO, write “No alignment to ILO2”**

Students are taught to understand and utilize math computations, formulas, and measurements required in the carpentry field. They must think critically, problem solve, as well as recognize potential concerns and how to effectively manage them before they become potentially serious issues.

c) **ILO3:** *Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.*

**Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO3"**

Students must demonstrate an awareness of environmental and cultural impacts at the community and global level during planning and construction phases of the Model Home. The project is for a qualifying Hawaiian family and located in a Hawaiian community.

**B. Program Mission – Write Official Program Mission**

Using a capstone project, students will graduate from the Carpentry Program with the knowledge, work ethics, and experience necessary to begin employment at the entry level in the construction industry, or enter a four-year Carpenters' Union apprenticeship program. The two year experience will not only include teaching the principles and skills of the trade, but also life skills including critical thinking, leadership, accountability, personal interaction, and cultural/community considerations.

**C. Strengths and Weaknesses**

**1) Strengths (Top 3 defined)**

State Strength	Using supporting evidence, describe why this is a strength
<p><i>Example:</i> Program Curriculum</p>	<p><i>Example:</i> 1) Approved by the State Department of Health as meeting the addictions requirements for Certified Substance Abuse Counseling, and Certified Prevention Specialist educational requirements. 2) STEM Courses - SUBS 132, 268, 270 3) Contains sufficient SUBS core requirement courses to develop an AA Degree in SUBS 4) Indigenous course - SUBS 141 Ho`oponopono</p>
<p>S1. Safety on the job site/shop</p>	<p>Based on the Assessment report, assessors observed that students prioritized safety high on the skills list of the trade. Safety skills are as important as discipline skills as emphasized by employers. Also, safe practices are not solely used at the jobsite, but away from the jobsite as well. <b>In the past three years the program has bought tools/equipment and recognized procedures that prioritized safety without compromising performance. The spin screeed for concrete, vertical panel saw, and new dust collection system are high performance machines that contributes to a safer method of completing a specific procedure.</b></p>

S2. ARPD - Efficiency Indicator - Fill Rate	<b>The report shows that the program has been a viable program for the last three years, reflected by the registered students and persistence to graduation.</b> The carpentry program continues to attract students from a varied demographic. The primary reason being that carpentry skills and mind set are recognized as a solid core to either be employed as a carpenter or in other related fields.
S3. Successful Completion Rate	<b>The completion rate average for the past three years is 92.33%. Once students are comfortable with the decision to pursue the trade, most successfully complete the program.</b>

## 2) Weaknesses (Top 3 defined)

State Weakness	Using supporting evidence, describe why this is a Weakness	Proposed solution
<i>Example: Lacks 2-year Degree Program</i>	<i>Example: Does not meet HawCC AMP Priorities (pp 5-10): Increasing Graduates in Science, Technology, Engineering and Math (STEM).</i>	<i>Example: Proposal being made for New AMP Action Strategies that would allow and support the addition of a 2-yr Degree Program for SUBS.</i>
W1. Student persistence from Fall (first semester) to Spring (fourth semester) is about 69%-75%; lower than expectations for a trade program.	<p>The Carpentry program teaches a trade that has always been highly regarded and popular. Many Construction Academy (high school) students persist to the program. The program has an outstanding capstone project; the DHHL/HawCC Model Home. Though employment varies with the economy, employment is typically steady. The expectation of the program instructors is high persistence rates (80% to 90%) from entry to graduation.</p> <p>Persistence or the failure to persist, are typically due to personal, health and/or financial issues of students. The reasons are varied, but compelling; domestic instability, student disabilities, financial situations that require students to work, health issues, etc. Instructors agree that students today face many situations that redirects their priorities away from school.</p>	The curriculum and instruction is comprehensive and well received (according to eCafe Student Evaluation results). It is perceived that the program itself is not the problem for students not persisting, it is the student that makes the decision not to persist. There are no easy solutions, and though every case may be different the common objective is to assist students to persist to graduation.



## Part III: Course/Program Assessment

### A. Course(s) Assessed -- *List the course(s) (Alpha/#) assessed during this reporting period.*

*Example:*

*Courses: SUBS 140, 245, 268*

*PLO#1: Satisfy the addiction studies educational requirements for Hawaii State Department of Health Alcohol and Drug Division 's (ADAD) Certification:*

*Embedded in PLO#1 are PLO 's 2, 3, 4, & 5*

#### CARP 20A Basic Carpentry I – Fall 2013

Assessment was on the Pier Box Drawing lesson and covers CLO 1 only

CLO 1: "Utilize math to accomplish applicable carpentry activities" (Aligns with PLO 1; ILO 2)

#### CARP 21A Basic Carpentry II – Fall 2013

Assessment was on Tool Box Drawing and Tool Box and covers CLOs 4, 7, and 8.

CLO 4: "Use critical thinking skills in practice tasks" (Aligns with PLO 7; ILO 2)

CLO 7: "Apply hand skills in practice tasks" (Aligns with PLO 4; ILO 2)

CLO 8: "Create drawings to complete an assigned project" (Aligns with PLO 6; ILO 2)

#### CARP 22 Concrete Form Construction – Spring 2014

Assessment was on commercial single waler system

CLO 2: "Use appropriate tools, materials/fasteners and current building code requirements where applicable" (Aligns with PLO 4, 7; ILO 3)

CLO 3: "Practice good work ethics and quality workmanship with regards to industry standards" (Aligns with PLO 5; ILO 2, 3)

#### CARP 41 Rough Framing/Ext Finish – Fall 2013, Spring 2014

Assessment was on Model Home Wall Framing

CLO 1: "Utilizing math that is required in Carpentry" (Aligns with PLO 1, 6; ILO 2)

CLO 2: "Identify and distinguish different building materials and fasteners, including sustainable initiative" (Aligns with PLO 2, 4, 7, 8; ILO 2, 3)

CLO 5: "Construct the Model Home by interpreting construction plans, applying building code requirements where applicable" (Aligns with PLO 1, 2, 6, 7; ILO 1, 2)

#### CARP 42 Finishing – Spring 2014 (Aligns with ILO 1, 2, & 3; Aligns with PLO 1-7)

Assessment was on door/door frame

CLO 1: "Using math, figure out material lengths, cut lists, and layouts involved in the finishing process, utilizing sustainable methods when possible." (Aligns with PLO 1, 2; ILO 2)

CLO 2: "Practice good work ethics and quality workmanship with regard to industry standards." (Aligns with PLO 5; ILO 1)

CLO 3: "Construct the Model Home by interpreting drawings, utilizing critical thinking and applying building code requirements where applicable." (Aligns with PLO 6, 7; ILO 2)

CLO 4: "Use, in a safe manner, appropriate materials, procedures and tools/equipment to complete the finishing stage of the Model Home." (Aligns with PLO 1-7; ILO -)

### B. Expected Level of Achievement -- *Describe the different levels of achievement for each*

*characteristic of the learning outcome(s) that were assessed. That represented "excellent," "good," "fair," or "poor" performance using a defined rubric and what percentages were set as goals for student success; i.e. 85% of students will achieve good or excellent in the assessed activity."*

#### CARP 20A:

75% of the artifacts should reach the Developing Proficiency or Proficient level.

The 75% level is due to the task being a secondary skill and not a primary skill that is expected. Students are taking Blueprint concurrently when this task is assigned, however, shop drawings may have not been covered in the blueprint class. The ability to draw is important, due to the relationship between fundamental

construction techniques and shop drawings.

**CARP 21A:**

80% of the artifacts should reach the Developing Proficiency or Proficient level.

The tool box drawing and tool box construction is a very useful tool to evaluate student progress. It provides the instructor with valuable feedback as to the lesson content, reaching timeline and quality objectives, understanding fundamental carpentry principles, using critical thinking, and the level of quality that may be expected of each student. Due to the fact that Carp 21A is a first semester course, and the tool box task happens during the first half of the course, expectations for the majority of students to reach the Proficiency level is not high, and Developing Proficiency may describe the toolboxes more realistically.

CARP 22: The goal of students reaching a Proficient level was 95%

CARP 41: 100% of the artifacts assessed by the Assessment Team utilizing the assessment rubric will be "proficient" in 85% of the competencies. Also, the Model Home's wall framing will pass all county inspections.

CARP 42: The goal of students reaching a Proficient level was 85%

**C. Assessment Strateg(y/ies) & Instrument(s) -- Describe what, why, where, when, and from whom assessment artifacts were collected.**

*Example:*

*SAMPLING: College records for seven (all) 2009 program graduates*

There were three levels of proficiency for each of the learning outcomes that were used to assessed the students.

1. Not proficient, the student doesn't understand, must be constantly monitored or lacks motivation.
2. Developing proficiency, exhibits some understanding or aspects of what was taught. Must be reminded or requires some assistance to complete tasks.
3. Proficient, Understands and exhibits what's required to complete the task at hand, demonstrates critical thinking and synthesis to successfully achieve objectives.

85% was set as goals for student success in the assessed activities

CARP 20A – The lesson assessed was on the Model Home pier box drawing.

Notations: 1. Drawings should include all pertinent information, scaled accurately, views should be well organized, and overall appearance should be neat and clean.

CARP 21A - The tool box drawing and tool box were assessed for this course.

Two assessors evaluated ten, randomly selected students' tool box drawings and completed tool boxes using a rubric. The tool box assignment happens each year and allows for overall class assessment as well as assessing individual artifacts.

Projects assigned later during the semester may range from simple to very complex and make evaluations difficult using the same rubric.

Notations: 1. Drawings should include all pertinent information, scaled accurately, views should be well organized, and overall appearance should be neat and clean.

2. Project should follow the plan according to dimension and grain orientation, have tolerances within a sixteenth of an inch, have grain oriented properly, be structurally sound, and have a satisfactory finish.

CARP 22 - The Class of 2015 consisted of 14 total students, 11 of the students are pursuing an AAS degree, and three are working for their CA certificate. The assessment tool was used on all twelve students who were in attendance on the assessment day.

Though the rubric can be scored as Not Proficient, Developing Proficiency, and Proficient. There was also a section soliciting comments from the assessors, which the instructor should also take into consideration. These comments were encouraged and appreciated.

Artifact: Actual Single Waler Form, built as a practical, utilizing hardware and materials used in construction.

Process:

Assessors were requested to observe and to interact with the students to ascertain if the classroom instructions are being utilized in an actual on site and hands on exercise. The practical exercise for this assessment was the construction of a single waler concrete wall form and the use of safe practices. Assessors also asked questions about the task to gain a better understanding of the students' subject knowledge and level of "soft skills".

CARP 41 –

CLO 1, 2, 5: Rubric and artifact (Model Home Wall Framing)

Assessors from selected backgrounds within the construction industry will be asked to evaluate the artifacts of all 12 of the students during the construction of the Model Home #47, located at 126 Pakele Lane in Keaukaha, Hawaii. Utilizing an assessment rubric (see attached below) assessors will be able to observe and ask students specific questions pertaining to the artifact, then score them as Not Proficient, Developing Proficiency, or Proficient. Because of the magnitude of the Model Home Project, ultimately the artifacts need to pass the County Building Inspectors inspection which will also vindicate the students comprehension of what was taught.

Notations: 1. Calculation of windows and doors openings, length of walls as per construction plans.

2. Were materials utilized for wall construction must hand selected with no defects? And secured with the correct fasteners?

3. Is the building been built according to the construction plans?

Process: During the construction of Model Home #47, assessors were invited to observe and interact with the individual students while they were constructing the house to see if the students were competent in three CLO's. CLO #1, understand and utilize math computations, formulas, and measurements required in the field of carpentry, CLO#2, identify and utilize the different materials and fasteners needed to construct the project, and CLO#5, construct the Model Home by interpreting construction plans, applying building code requirements where applicable. During their interaction with the individual students, assessors also asked questions concerning their knowledge of the subject matter.

CARP 42 –

CLO 1-4: Rubric and artifact (door/door frame)

The Class of 2014 consisted of 12 total students, ten of which were pursuing an AAS degree. The assessment tool was used on eight AAS students (CA does not require the completion of CARP42). Though the rubric can be scored as Not Proficient, Developing Proficiency, and Proficient. There was also a section soliciting comments from the assessors, which the instructor should also take into consideration. These comments were encouraged and appreciated.

Assessors were able to review the scope of the task, and assess the artifacts as they were being constructed. They also assessed the completed installation of the frames at the Model Home. Assessors were able to ascertain proficiency by using the rubric to rate quality, accuracy, and the use of safe practices. Assessors also asked questions about the task to gain a better understanding of the students' subject knowledge and level of "soft skills"

#### **D. Results of Course Assessment -** *Provide a summary of assessment results.*

*Example:*

*RESULTS: 86% (6/7) program graduates met or exceeded expectations: completed SUBS 140,245, 268 with a "C" grade or better. 1/7 students received an incomplete grade.*

##### **CARP 21A:**

Results:

CLO #2

Two (2) were rated Proficient in all Competency Categories.

CLO#1, CLO#2

Eight (8) were rated Proficient in all Competency Categories except for #4, *Construct a class, "live" project*. For which all eight (8) received Developing Proficient ratings.

Summary: The tool box project seems simple, especially to students that have taken high school shop or had other, previous carpentry training. However CARP 21A's expectations are much higher with respect to quality, critical thinking and dimensional tolerances. This project happens in the first third of the first year, so it is expected that such tasks will be at the *Developing Proficiency* level.

##### **CARP 22:**

CLO#2

This CLO was met with a 69% rank, which indicates the need to constantly emphasize to the students the importance of correctly utilizing and usage of the correct hand tool in different situations. Also stressing to them that safety should always be kept in mind when working in a construction site.

CLO#3 was assessed with a 75% proficiency rating due to safety concerns that weren't addressed by the students in the work areas. Students will be reminded during lectures and during the practical application phases the importance of safety has to always be addressed. Precautions have to be taken seriously during any construction phase.

##### **CARP 41:**

Summaries not provided

CARP 42: The door frame/door installation artifact was reassessed by one of the same assessors that participated last year (2013). The significance of using the same assessor was to keep consistency in the evaluations. Mr. Vierra changed his instructional methods slightly to answer last year's recommendations, resulting in a 100%

Proficient rating. The assessor comments included that all students assessed met industry standards concerning door frame construction and installation.

**Other Comments:**

The assessment process included comments and notes that help clarify certain concerns and expectations. These notations were included in the assessment report.

**CARP 22:**

National Validation: The national agency of the United Brotherhood of Carpenters, through their local Hawaii unit, has endorsed all aspects of the HawCC's Carpentry Programs instruction. They will credit graduates with classroom hours as well as a higher starting pay level.

The HawCC Carpentry Program is also guided by the Carpentry Advisory Council, which meets at least once a year to discuss industry direction, curriculum changes and employment trends. The members consist of a County Building Inspector, Hawaii Regional Council of Carpenters Union business agent, and three general contractors representing various trades.

**CARP 41:**

National Validation: The national agency of the United Brotherhood of Carpenters, through their local Hawaii unit, Hawaii Regional Council of Carpenters, has endorsed all aspect of the Hawaii Community College's Carpentry Program instructions. Currently, students who graduate with either a two year Certificate of Achievement (CA) or Associate of Applied Science Degree (AAS), upon been indentured into the union, they will be awarded 1,000 work hours, 8,000 hours is required to be classified as a Journeyman and 400 classroom hours, 620 is required to complete the requirement, that's approximately 2-1/2 years less than the 4 years it takes to complete the apprenticeship program.

**CARP 42:**

National Validation: The national agency of the United Brotherhood of Carpenters, through their local Hawaii unit, has endorsed all aspects of the HawCC's Carpentry Programs instruction. They will credit graduates with classroom hours as well as a higher starting pay level. The HawCC Carpentry Program is also guided by a Carpentry Advisory Council, which meets at least once a year to discuss industry direction, curriculum changes and employment trends. The members consist of a County Building Inspector, United Brotherhood of Carpenters Union business agent, and three general contractors.

<b>Changes Implemented as a result of Assessment</b>	<b>Evaluation of the changes that were implemented</b>
<i>Change 1:</i>  See Next Steps	<i>Evaluation of Change 1:</i>

Change 2:	Evaluation of Change 2:

**E. Next Steps --** *Based on your experience with Assessment so far, what do you plan to do in the future? Include any changes that are planned for the Program as a result of course assessments. For example, changes to rubrics, changes to level of expectation, any Program and/or curriculum modifications, etc.*

The program will continue to seeks ways to emphasize to the students the importance of what is being taught to them and how it will impact their journey into the work force. With knowledge comes responsibility, with responsibility comes security.

**CARP 21A:**

This course (Basic Carpentry II) is an introductory course that provides classroom as well as lab instruction. Procedures are new to many including those that took Construction Academy courses in high school. The lab work which involves using power tools can be daunting, especially if one has not used it before. The expectations are more demanding when considering tolerances, quality and timeliness, for that reason Developing Proficiency is a realistic outcome for “constructing a live project”. To improve in this area would require more practice tasks/opportunities.

**CARP 22:**

Because the assessment report is 72% positive for this assessment period, the importance of safety and the use of the hand tools will be emphasized during the lecture periods and during the construction of the practical. Integrating realistic situations to promote awareness of the consequences of the student’s actions will be highly encouraged so the students can see what the possibilities are if they’re neglected.

**Goal (Spring 2015, Spring 2017)**

Enhance the importance of safety on the job site

**CLOs addressed by Goal**

3. Practice good work ethics and quality workmanship with regards to industry standards

**PLO Addressed by Goal:**

3. Learn and utilize safe practices concerning, personal safety, hand and power tool usage, and all aspects of fabrication/construction.

**ILO Alignment:**

2. Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.

Innovations to be implemented to improve student learning:  
Acquiring up to date videos and certifications to enhance student learning.

Budget Request: Collaborating with the HawCC Nursing program in providing a First Aid class in the First Semester.

(Closing the Loop)

Recommendations: More emphasis will be directed towards the importance of safety on the job site which will also be enhanced with actual videos/photos of industrial accidents. Promote the fear factor to show what the consequences of what can happen if you don't listen and concentrate.

#### CARP 41:

The program continues to have positive assessments from the assessors based on the Course Learning Outcomes that the students are evaluated. The ultimate goal of the program is to be able to teach our students how to believe in themselves and have the confidence to be able to build a house from ground up every year, which in itself is a major accomplishment for many of our students. We will continue to promote the building of the one bedroom, 880 square foot house as a practical so the students can get the hands on experience prior to building the actual house on site. I will continue to emphasize to the students during the lectures the importance of understanding and remembering critical aspects of calculating and/or using formulas to construct various parts of a house by continuously challenging them with practice problems. During the course of the class, safety will always be priority.

Goal: (Spring 2014, Spring 2016)

Continue to emphasize safety and what the possible outcome that it could lead to.

CLOs Addressed by Goal

3.

PLOs Addressed by Goal:

1. Understand and utilize math computations, formulas, and measurements required in the carpentry field.
3. Learn and utilize safe practices concerning, personal safety, hand and power tool usage, and all aspects of fabrication/construction.

ILO Alignment:

2. Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.

Innovations to be implemented to improve student learning:

Coordination has been conducted with representatives of various manufacturers of power actuated nailer to give a certification class to the students so they can be certified in operating the equipment which is a HIOSHA requirement.

Budget Request: \$1000 to purchase current safety DVD 's

(Closing the Loop)

Recommendations: Emphasis towards the importance of safety in the shop and job site by obtaining actual videos/photos of industrial accidents. Anything can happen when you least expect it.

#### CARP 42:

The course received a 100% Proficient rating for eight artifacts. The course/artifact was assessed in 2013.

Instruction reviewed/changed to answer recommendations submitted. Course reassessed using the same assessor and artifact in 2014. The positive results validate changes made in the methodology and sequence of instruction. Due to the 100% Proficient rating, the next CARP 42 assessment will utilize a different artifact.

Goal: (Jan 2015-May 2015)

1. Practice good work ethics.
2. Maintain quality workmanship
3. Utilize safe practices.

CLOs Addressed by Goal

2. Practice good work ethics and quality workmanship with regard to industry standards.
4. Use, in a safe manner, appropriate materials, procedures and tools/equipment to complete the finishing stage of the Model Home.

PLOs Addressed by Goal

1. Understand and utilize math computations, formulas, and measurements required in the carpentry field.
2. Understand the properties of wood, its sustainability and how it dictates the fundamental principles and procedures involved in carpentry.
3. Learn and utilize safe practices concerning, personal safety, hand and power tool usage, and all aspects of fabrication/construction.
4. Use appropriate tools, materials/fasteners and current building technology to complete projects.
5. Practice good work ethics and quality workmanship with regard to industry standards.
6. Construct projects by interpreting drawings, applying building code requirements where applicable.
7. Synthesize principles, procedures and objectives using critical thinking, appropriate materials, tools/equipment and procedures to construct a residential dwelling.

ILOs Addressed by Goal

1. Our graduates will be able to communicate effectively in a variety of situations.
2. Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.

Innovations to be implemented to improve student learning:

Variety of presentation methods.

Update lab tasks and practice assignments.

(Closing the Loop)

Recommendations: Due to the course being assessed twice with recommendations answered from the first assessment satisfactorily, there are no recommendations to be made. CARP 42 will move to the next planned task to be assessed.

**F. Evidence of Industry Validation for CTE Programs** -- *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, the recommendations for, approval of, and/or participation in, assessment by the program's advisory council can be submitted. Describe the documentation; i.e. 9/27/2013 Minutes of ACC Advisory Council; Completed Rubrics by Advisory Council Members.*

The national agency of the United Brotherhood of Carpenter's, through their local Hawaii unit, has endorsed all aspects of the HawCC's Carpentry Programs instruction. They will credit graduates with classroom hours as well as a higher starting pay level.



HAWAII COMMUNITY COLLEGE  
Carpentry Program Advisory Council Meeting  
April 10, 2013  
Meeting started at 4:10pm

Members present:

Gene Harada Carpentry Instructor  
Darryl Vierra, Lecturer  
Joy Matsumoto County Building Dept Inspector, Supervisor (No Show)  
Conrad Hokama, Alumside Products  
Dean Au, HI Carpenter's Union  
Craig Takamine, Takamine Contracting (late)  
Glenn Ogawa, Stan's Construction (out sick)  
Robert Shirai, Island Survey

I. Industry direction, growth and concerns, industry needs and employment.

A. Industry reports: short term, long term trends for soft skills, other skills, etc.

- i. Dean-prefab things, like trusses, prehung doors, wall, cabinets. Good for students to learn skills at the ground level. Suggests to add prefab into the curriculum; focus on prefab techniques, theory. Or maybe include a lesson with prefab in drafting course.
- ii. Darryl-solution: remodeling provides basics of carpentry by ex. Removing a door and putting a new one in.
- iii. Ex. Zen cabinets: has prefab machines for cabinets
- iv. Important to know how to cut a jig, butt hinges

b. Craig-Composite materials: students should know how to use it and read MSDS reports.

c. Gene-students need to learn basics, plum, level square and following the plan.

- i. Dean-Do you talk about tilt ups on concrete
- ii. Gene-Yes. Need to come back to the overall picture/goal to make sure the students know what construction is about.

d. Dean-what kind of certificates do students get?

- i. Gene-program does not provide it
- ii. Dean-suggests that program/students have certificates (OSHA 10/30, first aid, fall protection, etc.) so that they are prepared to work on site. Potentially save contractors/hirers money by getting certificates
- iii. Hilti certification only provides a card.
- iv. Perhaps HawCC instructors get OSHA teaching certification
- v. Problem may be with getting students to have 8 hours of safety certification; approx. \$35-40/student; possible teachers: Tommy Hughes, Darryl
- vi. Students should be encouraged to get certificates.
- vii. Students should know how to use/get cert for backhoe operation
  1. (cannot because of liability issues) however, safety issues are addressed in lectures

B. Job Markets

- a. Dean-job markets: public works projects (government doing their jobs appropriating funds), feds/states/county do their best to push projects. Waiting for private industry to pick up.
- b. Lots of hotels on the west side are renovating and projects are available.
- c. Craig-private side is coming back, housing, small and large commercial development; difficulty for contractors: downsizing when times were slow but now trying to figure out how to deal with many projects coming in.
- d. Surveying side: were busy a few years ago which is why contractors are busy now...but surveyors are slow now. Work goes in cycles.
- e. Connections school project will not be going through due to controversy surrounding the

location of the project (Kaumana Drive; Pacific Plantation)

f. Conrad Hokama-preparing for an upturn depending what sector you are in, in the next few years. So certain contractors will probably need additional help.

g. Fundamentals are important; students get experience on the job (diverse exposure to get the most necessary experience) and possibly work on their own

h. When times are tough it is important for students to be aware of the changing market places, and be able to use different materials

C. Possible retraining of older people in the construction field who were in initially different industries before

D. Program health and direction

a. need to implement individual assessment of students; conducting a practicum to assess their knowledge/skills

i. ex. Putting together a door from provided materials

ii. ?will individual assessment be accessible to potential employers (contractors); Darryl-possibly but individual assessment is still in the works. We need to focus on the SLOs and PLOs. ? Individual assessments can be served as an instructor's reference.

iii. Gene: individual assessments are subjective based on the one doing the assessment; sometimes students have difficulties with productivity, work ethics; work ethics are different for different people

iv. Suggested that an individual assessment to be conducted after the first semester and at the end of their program

v. Gene: when contractors called to inquire about former students and their work and work ethics he suggested for them to try them out.

vi. Gene/Darryl: various aspects (measuring, cutting, etc. ) have to be included in individual assessment however, they suggest providing a group of students that could possibly work well in a given project, etc.

vii. Students that hustle for the job, are aggressive show initiative are the ones that employers will see in the industry; 25% have the potential.

viii. Max load is 16 students, first come first serve.

E. Course offerings and SLO's

a. PLOs for carpentry

i. cover from Concrete forms to rough framing

b. Explanation of SLOs and PLOs matrix and its association

c. Ex. CARP 42:

d. CARP 21

e. Linking carp PLOs to GLOs to ILOs

f. 5 year program plan (determine which classes to evaluate)

i. Learning process that is effective and worthwhile for the students. To ensure that students have skills and knowledge that employers want

g. Capstone project: Model home

i. gives students hands on experience

ii. Darryl Vierra : Carp 20, 21A, 42

h. Outline of courses to advisory council

i. courses go over how to use tools safely, do small projects, and finishing.

ii. Carp 20 is 4 weeks

iii. Construction Academy funded by HawCC allows students to forego taking Carp 20 because they have completed Construction Academy (for 3 credits) with a B or higher.

iv. Construction academy was funded to help high school students are interested in the carp trade.

v. concern some students go to that class to kill time

vi. 4 academy instructors are HawCC graduates

F. Assessment results

- a. Adv council members will periodically be asked to conduct assessments for program/projects/students
  - b. Review of assessment worksheet and student asst rubric
    - i. Per Darryl, assessors packet consisted of what was taught in class (ppt, handouts)
    - ii. list of artifacts to be reviewed (ex 8 swinging doors in the house)
  - c. This assessment was conducted for each individual artifact
    - i. Assessment conducted by Art Senbei
      - 1. student were asked about the doors they hung
    - ii. doors conducted in different phases by students (early/late in project)
    - iii. different types of doors were put up
    - iv. assembly and installation of doors could be assessed by assessors as the project was going on.
    - v. questions were posed to students directly to determine how/why things were done
- G. Curriculum review
- a. CIP codes
  - b. Carpenters, rough carpenters
  - c. National guide insert: HawCC uses to make sure curriculum is on track; Gene asks for any suggestions/input...none
  - d. Gene: Feedback on curriculum from advisory boards welcomed
    - i. ? Suggestion about safety cert: contact HICA; problem with how to select students to participate
    - ii. Conrad-Whatever is offered to the student to increase their knowledge base is beneficial. Providing them the basic info on OSHA, fall protection, etc. is acceptable because they at least are aware of safety, etc. More exposure is better and if it can be done in the classroom the better. Making for a more well rounded student/worker.
    - iii. Suggests visiting a working job site, perhaps have students shadow industry workers to help the student determine what they want to go into. By having student more diverse in their knowledge base
- H. Possible donations/partnership opportunities.  
Will keep that in mind when completing projects.

Meeting adjourned at 5:30 pm

## Part IV Action Plan

### A. 20% Course Review

a) **Courses Reviewed** -- *List the Course Alpha/Number and Course Title of courses that were reviewed in AY 2013-2014.*

Course Alpha Number	Course Title
None, due to the confusion of proper forms and assumption that any course that is modified through the CRC process automatically qualified as <i>reviewed</i> , none were reviewed. The	

process will commence Spring 2015 using the proper procedure.	
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## b) 20% Course Review Schedule

Input the Program's 20% Course Review Schedule for the next 5 years. If a schedule cannot be located, refer to HAW 5.250 Course Review Policy (<http://hawaii.hawaii.edu/ovcadmin/admin-manual/haw5-250.pdf>) to create a new schedule.

Course Alpha Number	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
CARP 20A - BASIC CARPENTRY I	X				X
CARP 21A - BASIC CARPENTRY II		X			
CARP 22 - CONCRETE FORM CONSTRUCTION				X	
CARP 41 - ROUGH FRAMING & EXTERIOR FINISH	X				
CARP 42 - FINISHING					X

## B. Previous Goals (Program Actions) & Planning

All previous goals from last year's report are used to update the program actions in the Academic Master Plan (AMP) Appendix.

- List and discuss all program actions listed for your program in the AMP Appendix, not including crossed out items. (<http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf>)
- Review and specify which program actions were addressed or completed during Review Period AY 2013-2014.
- Give a progress report for each program action that is not yet address/completed and describe the degree to which the goal was achieved over the review period.
- Specify program actions that are no longer being pursued by the program and should be deleted from the AMP.

AMP Program Actions	Progress Evaluation & Evidence of Achievement
<i>Example:</i> 26.1 2009-2010: Recruit and Hire New SUBS -- FTE BOR Appointed Faculty	<i>Example:</i> The CERC and HawCC administration approved new faculty position for program, which was submitted to UH system. However, this writer was informed that the position request got "lost" in the UH system, and therefore never forwarded to the State legislature for approval.
Have students certified in utilizing and care of the Power actuated nailer	A certification process was arranged and completed, with a local authorized dealer to certify students on the use of the Power Actuated Nailer. Spring 2014

## C. New Goals (Action Strategies) and Alignment – Describe New Goals, if any

### Define Goal (Action Strategy) 1

<i>Example: Establish AA Degree in SUBS</i>
Review and update machine and tool safety needs and capabilities.

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### Alignment of Goal 1 to ILO(s)

<b>Explain how Goal 1 aligns with ILO(s) and provide supporting rationale</b>
Example: Goal 1 aligns with ILO2 (Critical Thinking) by ... Goal 1 aligns with ILO3 (Community contribution) by ...
Aligns with ILO1.
Students will be able to safely use machines and tools in other capacities that are now available. Many procedures that may have not been possible with outdated equipment can now broaden their options and creativity by offering a safe means to accomplish such tasks. There are many machines that may psychologically impede usage/progression by the inherent dangers it can pose. Newer machines with electronic brakes and sensors (Saw Stop table saw stops cutting in milliseconds if it touches flesh) will relieve some of the anxiety associated with the older machines.

### Alignment of Goal 1 to Strategic Plan (SP)

[http://hawaii.hawaii.edu/docs/HawCCStrategicPlan\\_2008-2015\\_10-29-09.pdf](http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf)

<b>Explain how Goal 1 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 1 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.</b>
Examples: <i>Goal 1 aligns with SP Action Strategy A1.1.c Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by ...</i> <i>Goal 1 does not align to a listed strategy, but aligns with SP Performance Measure A1.1 (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by ...</i>
Does not align.

<b>Proposed New SP Action Strategy/Strategies (if applicable) – If Goal 1 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.</b>

### Alignment of Goal 1 to Academic Master Plan (AMP)

Academic Master Plan: [http://hawaii.hawaii.edu/docs/HawCCStrategicPlan\\_2008-2015\\_10-29-09.pdf](http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf)

AMP Appendix: <http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf>

<b>Indicate which Academic Master Plan (AMP) Action Priorities Goal 1 aligns with and provide supporting reasoning.</b>						
	<b>STEM</b>	<b>Graduation Remediation Workforce</b>	<b>Student Transfer</b>	<b>Underserved Populations</b>	<b>Green Curricula</b>	<b>Program Development</b>

<i>Example: Establishing an AA Degree in SUBS will increase the number of STEM Degree programs at HawCC and meet the Workforce push for more STEM graduates.</i>						
Implement use of technology which prevents bodily injury on the commonly used table saw.		X	X	X		X

<b>UH System Collaboration (if applicable)</b>
<ul style="list-style-type: none"> <li>• Include collaboration efforts w/other campuses.</li> <li>• Include alignment with the UHCC Initiatives <a href="http://uhcc.hawaii.edu/OVPCC/">http://uhcc.hawaii.edu/OVPCC/</a> (listed on the left of John Morton's picture).</li> </ul>
<i>Example: There is dialogue among MauiCC, KauaiCC, and HawaiiCC to establish a common AA Degree in SUBS.</i>
The specific table saw (Saw Stop) has been used by HonCC for several years with great success. Not only will the saw <i>not allow</i> a cut deeper than an eighth of an inch in human tissue, it also ranks with the top rated saws in the carpentry/woodworking industry for accuracy and build quality.

**Calendar of planned activities for Goal 1 --** *In chronological order, briefly describe the procedures/activities planned to achieve Goal 1*

<b>Activity</b>	<b>When will the activity take place</b>
<i>Example: Collaborating with other CCs complete SUBS AA Degree Authorization to Plan (AtP)</i>	<i>Example: Fall 2015</i>
Purchase two Saw Stop table saws utilizing college funding, Perkins funding or Gladys Sonomura UH Foundation funds (one saw).	Summer 2016

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**Define Goal (Action Strategy) 2**

None
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**Alignment of Goal 2 to ILO(s)**

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**Alignment of Goal 2 to Strategic Plan (SP)**

[http://hawaii.hawaii.edu/docs/HawCCStrategicPlan\\_2008-2015\\_10-29-09.pdf](http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf)

<b>Explain how Goal 2 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 2 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.</b>

<b>Proposed New SP Action Strategy/Strategies (if applicable)</b> – <i>If Goal 2 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.</i>

**Alignment of Goal 2 to Academic Master Plan (AMP)**

Academic Master Plan: [http://hawaii.hawaii.edu/docs/HawCCStrategicPlan\\_2008-2015\\_10-29-09.pdf](http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf)

AMP Appendix: <http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf>

<b>Indicate which Academic Master Plan (AMP) Action Priorities Goal 2 aligns with and provide supporting reasoning.</b>						
	<b>STEM</b>	<b>Graduation Remediation Workforce</b>	<b>Student Transfer</b>	<b>Underserved Populations</b>	<b>Green Curricula</b>	<b>Program Development</b>

<b>UH System Collaboration (if applicable)</b> –
<ul style="list-style-type: none"> <li>• Include collaboration efforts w/other campuses.</li> <li>• Include alignment with the UHCC Initiatives <a href="http://uhcc.hawaii.edu/OVPCC/">http://uhcc.hawaii.edu/OVPCC/</a> (listed on the left of John Morton's picture).</li> </ul>

**Calendar of planned activities for Goal 2 --** *In chronological order, briefly describe the procedures/activities planned to achieve Goal 2*

<b>Activity</b>	<b>When will the activity take place</b>

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**Define Goal (Action Strategy) 3**

None
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**Alignment of Goal 3 to ILO(s)**


**Alignment of Goal 3 to Strategic Plan (SP)**

[http://hawaii.hawaii.edu/docs/HawCCStrategicPlan\\_2008-2015\\_10-29-09.pdf](http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf)

<b>Explain how Goal 3 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 3 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.</b>

<b>Proposed New SP Action Strategy/Strategies (if applicable)</b> – <i>If Goal 3 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.</i>

**Alignment of Goal 3 to Academic Master Plan (AMP)**

Academic Master Plan: [http://hawaii.hawaii.edu/docs/HawCCStrategicPlan\\_2008-2015\\_10-29-09.pdf](http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf)

AMP Appendix: <http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf>

<b>Indicate which Academic Master Plan (AMP) Action Priorities Goal 3 aligns with and provide supporting reasoning.</b>						
	<b>STEM</b>	<b>Graduation Remediation Workforce</b>	<b>Student Transfer</b>	<b>Underserved Populations</b>	<b>Green Curricula</b>	<b>Program Development</b>



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**UH System Collaboration (if applicable) –**

- *Include collaboration efforts w/other campuses.*
- *Include alignment with the UHCC Initiatives <http://uhcc.hawaii.edu/OVPCC/> (listed on the left of John Morton's picture).*

**Calendar of planned activities for Goal 3 - In chronological order, briefly describe the procedures/activities planned to achieve Goal 3**

Activity	When will the activity take place

## Part V: Resource Implications

### A. Cost Item 1

Description	<b>Type</b> <ul style="list-style-type: none"> <li>● Personnel</li> <li>● Facilities</li> <li>● Equipment</li> <li>● Health/Safety</li> <li>● Others (Define)</li> </ul>	Estimated Cost
Two (2) Saw Stop brand table saws.	Equipment	\$14,000.00

### Alignment of Cost Item 1 to Strategic Plan (SP)

<p><b>Explain how Cost Item 1 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale</b></p>
<p>Example: Cost Item 1 aligns with SP A1.1 (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved.) by ...</p>
<p>Cost Item 1 aligns with SP B.1 (Increase the number of degrees awarded and/or transfers to UH Baccalaureate programs that lead to occupations where there is a demonstrated state of Hawaii shortage of workers, or where the average annual wage is at or above the U.S. average (2006=\$38,651) by allowing students, especially nontrade students to continue through the program by being accomplished at using the table saw safely and without the anxiety and trepidation associated with using this machine (more shop accidents occur on this machine than any other, not only because of the design but because of the frequent usage). In the past several females were intimidated by this machine. The Saw Stop machine should quell that anxiety. <b>These machines should also qualify as a Health and Safety concern due to its immediate impact on safety.</b></p>

### Alignment of Cost Item 1 to Academic Master Plan (AMP)

<p><b>Explain how Cost Item 1 aligns with the Academic Master Plan (AMP) Action Priorities.</b></p>
<p>Example: Cost Item 1 aligns with Action Priority STEM because an instructor is necessary to develop the program.</p>
<p>Cost Item 1 would fall under Program Development because with the implementation of the industry’s high regard of the safety feature found on the Saw Stop.</p>

### Alignment of Cost Item 1 to Strength(s)

<p><b>Explain how Cost Item 1 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there’s no alignment, write “No Alignment.”</b></p>
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Example: No Alignment
S1: Safety on the job site/shop

**Alignment of Cost Item 1 to Weaknesses(s)**

<b>Explain how Cost Item 1 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there’s no alignment, write “No Alignment.”</b>
W1: Providing a safe learning environment for students by eliminating some of the trepidation associated with one of the most frequently used machines in the carpentry shop would align with Student Persistence. Many students entering the program do not know if they are able to safely handle all of the power tools and machines, some may actually drop out due to inability to pass the mandatory safety and operational procedures of portable and stationary tools. The table saw causes more injury than any other stationary machine in a carpentry shop.

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**B. Cost Item 2**

Description	<b>Type</b> <ul style="list-style-type: none"> <li>● Personnel</li> <li>● Facilities</li> <li>● Equipment</li> <li>● Health/Safety</li> <li>● Others (Define)</li> </ul>	Estimated Cost
2Ton Forklift	Equipment	\$40K

**Alignment of Cost Item 2 to Strategic Plan (SP)**

<b>Explain how Cost Item 2 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale</b>
E.3c: Utilize R/M schedules for Manono campus as upper campus usage is phased out and relocated to Manono (Funding I & IV)
A1.1: Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved.

**Alignment of Cost Item 2 to Academic Master Plan (AMP)**

<b>Explain how Cost Item 2 aligns with the Academic Master Plan (AMP) Action Priorities.</b>

**Alignment of Cost Item 2 to Strength(s)**

<b>Explain how Cost Item 2 aligns with program Strength (From Part II. Section C). Address and provide</b>
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**supporting rationale. If there's no alignment, write "No Alignment."**

S1: Safety on the job site/shop  
Lifting and transport equipment is required in this program due to the large and heavy material handling that occurs frequently, especially for the Model Home. There are many occasions where a forklift is the only safe method to off-load, load, and move materials.

### **Alignment of Cost Item 2 to Weaknesses(s)**

**Explain how Cost Item 2 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."**

W1: Providing a safe learning environment for students by eliminating some of the trepidation associated with one of the most frequently used machines in the carpentry shop would align with Student Persistence. Many students entering the program do not know if they are able to safely handle all of the power tools and machines, some may actually drop out due to such requirements.

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### **C. Cost Item 3**

<b>Description</b>	<b>Type</b> <ul style="list-style-type: none"><li>● Personnel</li><li>● Facilities</li><li>● Equipment</li><li>● Health/Safety</li><li>● Others (Define)</li></ul>	<b>Estimated Cost</b>

### **Alignment of Cost Item 3 to Strategic Plan (SP)**

**Explain how Cost Item 3 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale**

### **Alignment of Cost Item 3 to Academic Master Plan (AMP)**

**Explain how Cost Item 3 aligns with the Academic Master Plan (AMP) Action Priorities.**

### **Alignment of Cost Item 3 to Strength(s)**

**Explain how Cost Item 3 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."**

S1: Safety on the job site/shop

### **Alignment of Cost Item 3 to Weaknesses(s)**

**Explain how Cost Item 3 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."**

### **Part VI: Justification for Program Existence**

**Write a brief statement describing the value of this Program to the College. Is your Program sustainable? If so, briefly state why. If not, briefly state why the College should continue to keep your Program open.**

(Sources include Industry Validation, ARPD Data Validation, Trends and Other Factors.)

The carpentry trade is a globally recognized industry that shows no decline in need. Wood and wood products are still the number one choice of residential construction. Though new technologies have substituted certain wood materials with composites, carpenters are still relied upon to carry out the construction phase. Current carpentry principles and procedures date back thousands of years, and form the core of a trade that utilizes a natural resource in such creative and structurally sound ways. The HawCC Carpentry Program curriculum teaches the basic knowledge and skills that are required to work not only in the carpentry industry, but other related construction fields. Though there are highs and lows in the construction trends, carpenters will always be in demand which requires a comprehensive curriculum to present the knowledge and skills that meet industry expectation. HawCC's

Note: HawCC's Carpentry graduates are granted classroom and work hours if they join the Carpenters' Union, thus validating the program's quality of instruction and industry/community need.