

HAWAI`I COMMUNITY COLLEGE
ANNUAL
PROGRAM REVIEW REPORT

Carpentry

December 3, 2009

(Assessment Period: 2008-2009)

Initiator: Clyde Kojiro
Writer(s): Joel Tanabe
Gene Harada

**UHCC December 2009 Coversheet –
Annual Report Program Data**

College: Hawaii Community College

Program: Carpentry

Check All Credentials Offered	AA	AS	ATS	AAS	CA	CC	COM	ASC	APC
				X	X				

Introduction: Brief description of the program and program mission.

The Carpentry Program’s mission (AAS) is to graduate students that are work ready in the entry level (apprentice level in the Carpenters’ Union) in the carpentry field.

The program’s five courses include:

1. Carp20A, Basic Carpentry I: Safety and hand tools.
2. Carp21A, Basic Carpentry II: Principles/procedures, power tool/machinery certification, various carpentry/woodworking projects.
3. Carp 22, Concrete Form Construction:
4. Carp 41, Rough Framing and Exterior Finish:
5. Carp 42, Finishing: Cover all aspects of finishing a residential house. Trim work to cabinets.

Part I.

Quantitative Indicators (Reported on 2009 Summary Report Program Data excel sheet --includes health calls based on system scoring rubric).

**Annual Report of Program Data for Carpentry
Hawaii Community College Program Major(s): CARP**

Overall Program Health				Cautionary	
Demand Indicators		Academic Year			Demand Health Cautionary
		Fall 06	Fall 07	08-09	
1	New & Replacement Positions (State)	115	239	312	
2	New & Replacement Positions (County Prorated)	46	41	55	
3	Number of Majors	47	51	61	
4	SSH Program Majors in Program Classes	336	360	708	
5	SSH Non-Majors in Program Classes	12	0	0	
6	SSH in All Program Classes	348	360	708	
7	FTE Enrollment in Program Classes	23	24	24	
8	Total Number of Classes Taught	2	3	5	
Efficiency Indicators		Academic Year			Efficiency Health Healthy
		Fall 06	Fall 07	08-09	
9	Average Class Size	14.5	15.3	14.8	
10	Fill Rate	91%	96%	93%	
11	FTE BOR Appointed Faculty	2.0	3.0	2.0	
12	Majors to FTE BOR Appointed Faculty	23.5	17.0	30.5	
13	Majors to Analytic FTE Faculty	29.4	31.9	34.3	
13a	Analytic FTE Faculty	n/a	n/a	1.8	
13b	Majors to Analytic FTE Faculty @12cr.	23.5	25.5	27.5	
13c	Analytic FTE Faculty @12cr.	2.0	2.0	2.2	
14	Overall Program Budget Allocation @12cr. F07, 0809	\$81,536	\$102,980	\$118,065	
14a	General Funded Budget Allocation	n/a	n/a	\$118,065	
14b	Special/Federal Budget Allocation	n/a	n/a	\$0	
15	Cost per SSH @12cr. F07, 0809	\$234.30	\$286.06	\$166.76	
16	Number of Low-Enrolled (<10) Classes	0	0	0	
Effectiveness Indicators		Academic Year			
		2006	2007	08-09	
17	Successful Completion (Equivalent C or Higher)	n/a	n/a	97%	
18	Withdrawals (Grade = W)	n/a	n/a	1	
19	Persistence (Fall to Spring)	83%	82%	77%	

20	Unduplicated Degrees/Certificates Awarded	n/a	n/a	13	Effectiveness Health Cautionary
20a	Number of Degrees Awarded	11	9	13	
20b	Certificates of Achievement Awarded	2	8	1	
20c	Academic Subject Certificates Awarded	n/a	n/a	0	
20d	Other Certificates Awarded	n/a	n/a	0	
21	Transfers to UH 4-yr	0	2	0	
21a	Transfers with degree from program	n/a	n/a	0	
21b	Transfers without degree from program	n/a	n/a	0	

C/P denotes that the measure is provided by the college, if necessary.

Data current as of: 8/19/2009 - 3:30:PM

Distance Education Completely On-line Classes		Academic Year		
		Fall 06	Fall 07	08-09
22	Number of Distance Education Classes Taught	n/a	n/a	0
23	Enrollment Distance Education Classes	n/a	n/a	0
24	Fill Rate	n/a	n/a	0%
25	Successful Completion (Equivalent C or Higher)	n/a	n/a	0
26	Withdrawals (Grade = W)	n/a	n/a	0
27	Persistence (Fall to Spring Not Limited to Distance Education)	n/a	n/a	0%
Perkins IV Core Indicators				
Perkins IV Measures 2007-2008		Goal	Actual	Met
28	1P1 Technical Skills Attainment	90.00	91.67	Met
29	2P1 Completion	44.00	66.67	Met
30	3P1 Student Retention or Transfer	55.00	84	Met
31	4P1 Student Placement	50.00	60	Met
32	5P1 Nontraditional Participation	25.00	10.42	Did Not
33	5P2 Nontraditional Completion	25.00	9.09	Did Not

Part II.

Analysis of the Program (strengths and weaknesses in terms of demand, efficiency, and effectiveness based on an analysis of the data).

OVERALL PROGRAM HEALTH: Rated as *Cautionary*

Demand Indicators: Rated as *Cautionary*

The rating system that determines the program's Demand Health is based on declared majors divided by the County of Hawaii's projected 6 year job New and

Replacement Positions. The 61 declared Carpentry majors is high compared to the maximum students accepted each year, which is 16. Students may declare Carpentry as their major with the intent in pursuing a degree in it, while many may just be declaring it to show a commitment to a major for whatever reasons.

With the economy at a standstill and new home/commercial construction at its lowest point in decades, the County's demand number is realistically low and factors in to our *Cautionary* rating.

It would be very difficult to change this rating if the economy stays the course that is forecasted for the next 6 years, and if there is not a more realistic count of those students who are committed to become carpentry students.

Efficiency Indicators: Rated as *Healthy*

The Carpentry Program allows 16 maximum students per semester. The average class size for 0809 was 14.8 which is close to maximum. Filling the 16 slots has not been the problem. The problem occurs when the objectives and rigor of the program do not meet the student's expectations. However, the majority of those that drop from the program, are due to personal or financial issues rather than the program's curriculum or instruction.

Effectiveness Indicators: Rated as *Cautionary*

- **Successful Completion:** 1 withdrawal out of 31 students yielded a 97% rate which is very high.
- **Persistence,** however was low (77%) because of the loss of 4 students: 1-moved to Oahu, 1-change of major, 1-financial need (needed to work for family support), and 1-became a new parent with change of priorities.
- **Unduplicated Degrees/Certificates Awarded and Number of degrees Awarded:** All students that entered the fourth semester achieved degrees. 12 AAS, and 1 Certificate (due to an incomplete related course).
- **Distance Education:** The carpentry program's curriculum requires lectures and practical application be taught in tandem and can never be separated due to the requirements of the use of building materials, hand tools and power tools/machines. Thus distance learning is, at this point, impossible. Safety is the highest concern in this course, and many aspects of learning the operation of tools/machinery require one to one instruction.

The third and fourth semester of the program involves the construction of an actual house, on an off campus site. The student's involvement in this capstone project requires their physical presence and participation at this project. Distance learning cannot include the involvement/experience of this part of our curriculum.

- **Perkins IV Core Indicators:** The program has met 4 of 6 Perkins IV's goals. The 2 areas that were not met; *Nontraditional Participation* and *Nontraditional Completion*, are due to the low female count. Though the

program is promoted as a non-gender biased course, the industry's reality of carpenters being predominantly, a male occupation, may deter females from entering this course of study/career.

Strengths:

- Enrollment has consistently filled all open slots.
- Students declaring carpentry as their major has been at least double of the programs capacity.
- Retention has been high with attrition due to issues other than discontent with the curriculum or instruction.
- Completion rate is high and all students entering the fourth semester have earned either a CA or ASS degree.
- Employment has been consistent with the industry's need. About a quarter of the graduates enter the Carpenter's Union, others are employed in the private industry either as carpenters or in sales at material supply companies. Several past graduates have achieved their ultimate goal of becoming a contractor.
- The program has been fortunate to have an annual capstone project; the Department of Hawaiian Homes/Hawaii community College Model Home. As a teaching tool, it involves all aspects of an actual residential building project.

Weaknesses

- With the current economical downfall, carpenter demand is at an all time low, and projected to improve at a slow pace at best. This floods the pool of unemployed carpenters and lessens the chance for new graduates of the program looking for employment. Possible attrition can also be attributed to the slow economy when students, even in midterm, decide that the construction industry may not hold a job for them upon graduation, thus changing majors before graduation. Though no fault of the program it does figure into the health indicators as a weakness.
- Gender inequity is an issue that once again, depends on the industry and their stereotypical perceptions of women in the carpentry field. Women have consistently enrolled in the program, but in small numbers (average is two a year). Until the industry changes and can accept women as an asset, instead of a liability, female students will be under represented.
- Embracing *Green Building Technology* should be implemented into the program as vigorously as possible. The limiting factor though, is funding and readily available products. Though Hawaii is thought of to be low on the requirements of energy efficient construction, we can still try to dovetail existing green technology into some segments of the Model Home. The task at hand is to convince the Dept. of Hawaiian Homes to incorporate these technologies.

**Part III
Action Plan:**

Action Plan 2008-2009	Status
<p>The Carpentry Program will closely monitor the progress of the Construction Academy's students that enter the Hawaii Community College Carpentry Program to ensure the 3 credits are justified by what is taught at the high schools.</p>	<p>Ongoing. The incoming class of 2009/2010 includes 4 students that completed BC1 and 1 student that completed both BC1 and BC2. They have done well and display the knowledge and skills obtained in their Construction Academy classes.</p>
<p>Currently the Carpenter's Union Local 745 credits students graduating from the Carpentry Program with a total of 1000 work hours and 240 classroom hours. This is applied to the students' records upon being accepted into the Carpenter's Union Local 745. Further attempts to negotiate with the union to get additional credits for the students have being unsuccessful, but will be continually pursued.</p>	<p>Ongoing. The agreement with the Carpenter's Union has remained unchanged. It is still an incentive, however, for students that choose the union sector. 5 students from last year's graduating class entered the union.</p>
<p>The program will continue to work with Department of Hawaiian Home Lands under a contract that is in effect until 2011. This involves the carpentry students constructing an affordable, residential dwelling on Hawaiian Home Lands for a qualified Hawaiian applicant.</p>	<p>Gene Harada, Model Home Coordinator is currently seeking the extension of the contract that allows the Model Home to be built on Hawaiian Homes land.</p>
<p>The Carpentry Program will continue to manage its resources by promoting recycling of valuable construction materials throughout the academic year. By maximizing the use of the following materials through conservation and recycling, the program saves money and promotes sustainability standards:</p> <ul style="list-style-type: none"> • concrete masonry unit (hollow tile) • concrete form materials (2 x 6,8,10,12) • flooring materials (2x 6 & 8, 4 x 6, 8)) • sheathing materials (3/4" x 4 x 8 T & G Flooring) • framing materials (2 x 4, 6, 8) • roofing materials (Galvanized Roof Iron) • nails • using "green" technology, i.e. water borne finishes (paint, varnish) 	<p>The Carpentry Program continues to recycle lumber and plywood products necessary for practice tasks and procedures. Finishes are water borne type whenever possible and if sprayed, utilizes HVLP technology minimizing waste and VOC emissions. Recycling also helps the program keep within its annual, operating budget.</p>
<p>The Carpentry Program also depends on the local building industry to provide direction and resources for our curriculum. We have received donations of hundreds of board feet of hard and</p>	<p>The program is fortunate to have generous supporters (contractors and businesses) in the local building industry. They are a source of current</p>

<p>soft woods to be recycled in our laboratory tasks and projects. They have been an invaluable source of information on tools, machines, materials and procedures which our program must consider to keep up with the current and future industry.</p>	<p>technological procedures and materials as well as provide discounts or donated building supplies. HPM Building Supply, Big Island Countertops, S & S Cabinets, Zen Woodworking, and Gladys Sonomura have made generous contributions in 2008/2009.</p>
---	---

The following are additional Action Plan items to those “Ongoing”

- Create rubrics, not only to assess the program’s four PLOs, but also for each instructional unit. This would produce a consistent and equitable grading format.
- Involve other vocational programs in assisting the carpentry program maintain its ability to fulfill course curriculum and objectives. Ex. Repair/maintenance of existing shop vehicles or donated vehicles required for the transportation of students and materials to and from the annual Model Home project.
- Prepare students, not only for the final objective of becoming a apprentice level carpenter, but for related, non physical job opportunities such as estimators, material sales, company expeditors, plan checking and construction coordination. This may be an avenue for females to enter the male dominated construction industry.
- Recruit/retain non-traditional students. Females are largely under-represented in the carpentry field even though they can achieve equal levels of knowledge and hand skills as males.
- Educate instructors on the *Green Building Technology* movement that will inevitably become the building standard in the near future. Existing curriculum content should include these technologies, even if only at the informational level.

**Part IV:
Resource Implications (physical, human, financial)**

To uphold the current trends and technology changes that graduates may experience upon graduation, then employment, the carpentry program must constantly evaluate procedural and tool/machinery updates required for this ever evolving industry. Though workshops and conferences covering these new technologies as well as improving teaching strategies will always be the program’s top priorities, equipment required to implement these changes will be the most challenging concern to complete these changes. These include the replacement and purchase of the following tools/machines:

- **Replacement heavy-duty, crew cab, 1 ton pick-up truck. The construction of the Model Home requires the SAFE transportation of students and materials to the off campus job site. The program has been using several used, donated vehicles for transportation. However, it is not uncommon for these vehicles to break down or be compromised in it's SAFE drivability. They have to constantly be "band-aided" to keep on running. Approx. cost: \$40,000.00**
- **Replace 16 year old vertical panel saw. The current model is obsolete and replacement parts and qualified service technicians are nonexistent. This saw is indispensable to cut large panels SAFELY and is used in the first and fourth semesters. Approx. cost: \$25,000.00**
- **Replace termite infested lumber racks with heavy duty metal rack systems and work stations. Building 390 is infested with termites in most of the existing wooden storage racks and work stations. Stocking instructional wooden materials, including plywood, is at risk of termite infestation. The structural integrity of these existing racks is also in question and poses a SAFETY issue. Approx. cost: \$10,000.00**
- **Modify current Carpentry building 3385B, by adding on a Classroom and Restroom facilities. During the renovation of the old Diesel Repair Shop, which is now the Carpentry Shop, the Classroom and Restroom was eliminated from the renovation due to cost. Because of that, shop space has been drastically reduced and poses a SAFETY factor. The classroom which is part of the shop constantly accumulates dust on the student's desk and poses a safety hazard if we don't clean it up daily. The restroom accommodations are non-existing for there is none in the building. The nearest facility is approximately 100 yards away, in another building. A covered work area adjoining to the shop would help extend the program's valuable materials and equipment from the constant exposure to the weather that only Hilo has. Approx. cost: \$1,000,000.00**
- **Replace the 50 plus years old Case Backhoe (bought from state surplus) that is mainly used during the construction of the annual model home project and support the college's Auxiliary Services. During the construction of the Model Home Project, the equipment is utilized to subsidize the manual labor of trenching, land clearing and grading, which otherwise would require the services of a sub contractor and in turn, would add-on additional cost to the construction of the home. Approx. cost: \$82,000.00**
- **Replacement of the 1981, 17,400 GVW Flatbed Truck. Vehicle is the primary vehicle to transport materials to and from Model Home Job Site. It is also utilized to support the College's Auxiliary Services when need. Trying to maintain the operability of the vehicle because of it's age and**

wear & tear, is a constant factor that we deal with every year. Fortunately we've had an outstanding support from the Auto Mech. Program and Diesel Program in keeping the vehicle running. It would be desirable to have a flatbed truck with a hydraulic dump. This would eliminate asking the DOT (Department of Transportation) constantly for their support. Approx. cost: \$70,000.00

[AY 2009 Completed Annual Program-Unit Reviews](#)