HAWAI`I COMMUNITY COLLEGE
CARPENTRY PROGRAM
PROGRAM REVIEW REPORT
November 13, 2006
Assessment Period: July 1, 2003 to June 30, 2006

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College Mission

The mission of the Hawaii Community College is to promote 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.

Program Mission

The mission of the Carpentry Program is to provide curricula and activities to prepare students for employment in the field of carpentry and to maximize the potential of the individual to fulfill his/her personal and career goals through development of his/her skills and abilities to meet the needs and requirements of a productive society.

PART I. EXECUTIVE SUMMARY OF PROGRAM STATUS

The Carpentry Program is placed in the Construction Technology Department of the Applied Technical Education Division which also consists of Agriculture, Architectural Engineering & CAD Technologies, and Electrical Installation & Maintenance Technologies.

The Carpentry Program provides two options for the students to pursue: A Certificate of Achievement (CA) or an Associate in Applied Science Degree (AAS). The CA program is a two semester curriculum which provides the students with job upgrading or entry level skills and the AAS is designed for providing the students with entry level skills in both residential and commercial construction and prepare them to enter the four year apprenticeship program within the Carpenter's Union, Local 745. The Carpenter's Union currently credits students who enter the union upon completion of the program with 1000 work and 240 classroom credits hours. In retrospect what this equates to is, instead of the student entering the union at a 40% level, which is $13.48 an hour. They start at a 45% of the journeyman wage ($33.70) or $15.17 an hour.

PART II. PROGRAM DESCRIPTION

Program History

The Hawai`i Vocational School was established in 1941 by the Act of the Territorial Legislature as a separately administered area vocational school. Its prime responsibility was to provide vocational education for Hawai`i County. Carpentry was one of the trade programs offered at that time along with Automotive Mechanics, Dressmaking, Machine Shop, and Sheet Metal and Welding. The school was first located on Waianuenue Avenue and was later moved to Reed's Bay.

In response to growing community needs and the dangers of recurring seismic waves at Reed's Bay, construction of a new facility was begun in 1952 and completed in 1956. The present carpentry shop is located on the corner of Manono and Kawili Streets in Hilo. The program was given the additional space it required in 1984 when three other trade programs moved to the mauka campus.

Under the enabling act passed by the 1969 State Legislature, the administration of the school transferred from the Department of Education to the University of Hawai`i in July 1969. The name was changed from Hawai`i Technical School to Hawai`i Community College and it became a part of the University of Hawai`i at Hilo. On July 20, 1990, the college was separated from UHH and became a part of the University of Hawai`i Community College System. As it did when it was a part of UHH, the college still has the responsibility of providing vocational-technical and general education courses and program that lead to the Certificate of Achievement and the Associate of Science and Associate of Arts degrees. The Carpentry program offers the C.A. and A.A.S. options.

The Carpentry program is currently in the process of building its 40th Model Home that is built on a site designated by the Department of Hawaiian Homes Lands. The success of this program is attributed to the cooperative and collaborative efforts of Hawai`i State and County agencies, private industry and the College. This program, which began in 1965, provides students with invaluable on-the-job skills and work experiences with a lot of emphasis on safe construction practices for all students.

Credentials offered

Associate of Applied Science Degree

- Provide curricula and activities that are up to date with the current trends of the construction industry.
- Maximize the full potential of the individual to fulfill his/her personal and career goals.
- Develop his/her skills and abilities to meets the needs and requirements of a productive society.

Certificate of Achievement

- Provide the basic entry level skills to enter the construction industry.
- Soft skills (communication, math, problem solving, teamwork, positive attitude, and taking the initiative
- Provide safety skills

Program Entry Requirements

Students will be selected on a first-come, first-served basis after meeting the program's minimum entry requirements, which are listed below:

For acceptance minimum placement test scores are:

- COMPASS Placement scores into Math 22 or Math 50 and ENG 21R or higher

Required skills or aptitudes:

- Manual dexterity and aptitude for precise work
- Ability to work in high places and good sense of balance
- Knowledge of blueprint reading

Faculty

Gene F. Harada, Professor, Carpentry Program, Construction Technology Department, ATE
Gordon Nekoba, Assistant Professor, Carpentry Program, Construction Technology Department, ATE

Facilities and equipment

The Carpentry Program is located in two buildings, Building 390 and Building 3386B. Building 390 is utilized by the first year instructor who teaches the Introduction to Carpentry and Finish Carpentry semesters. The classroom is inadequately ventilated. Ceiling fan doesn't work, and the air conditioner, when in operation, interferes with the lecturing phase of the classes. The shop area is infested with both ground and dry wood termites. Stationary machines are out dated and very expensive to maintain. The building could use a fresh coat of paint internally and externally. Majority of the door into and within the building is in dear need of being replaced. Dust collection system is due for repair to it's' "dust hopper", water leaks into the collection system, which cakes up the dusts and clogs the system. The bathroom accommodations are still structured as it was when the building was first built in the 1950's. Female students have to exist the building and utilize the external facilities connected to building 389.

The program has four vehicles, 1 – 1981 GMC Flat Bed truck, 1 – 1982 Ford Box Van, 1 - 10 passengers 1986 Ford Van, and 1 – 1987 Ford four door crew cab truck. Also a 196? Case Tractor. Majority of the vehicles, plus the tractor were bought through the State Surplus. Upon receiving the vehicles by the program, they were constantly in need of repair, due to deterioration of the body and mechanical parts of the vehicles. The vehicles and tractor is a vital part of the Carpentry Program to provide meaningful activities to the students in learning life long skills that help them to be productive citizens in the community.

Building 3386B is a renovated Diesel Repair Shop that was vacated in 1984 when the Diesel Program was relocated to its current location on the upper campus of the University of Hawaii Hilo. The Concrete Form Construction and Rough Framing Classes are conducted in this building with the external open area to do the practical applications. Though the building was

renovated with its original structure as the main frame, it still lacks bathroom facilities for the students and a classroom. This has greatly reduced the shop area needed to conduct layout applications to teach the students and an inconvenience for them when the personal need arises.

Articulation agreements

Through the Program Coordinators Council, Hawaii Community College and Honolulu Community College have articulated their prospective programs with each other, so as students may transfer credits from one school to the other. Maui Community College, Kauai Community College no longer has a Carpentry Program.
The Carpentry Program has a verbal agreement with the Hawaii Carpenter's Union Local 745 located in Hilo Hawaii, in which any student that graduates from the Hawaii Community College two year Carpentry Program with either a Certificate of Achievement or Associate of Applied Science Degree will be credited upon being indentured into the union with a 1000 work hours and 240 class credits that will be applied to their apprenticeship requirements.

Advisory Boards

The program is well supported by a responsive advisory committee consisting of six members, besides a current student from the second year class, they are:

- Residential contractor
- Commercial contractor
- Carpenter's Union Local 745, East Hawaii
- Carpenter's Union Local 745, West Hawaii
- County of Hawaii, Public Works, Building Department, Supervising Inspector
- Representative from a building material supplier
- Student representative

The Advisory Board meets annually or as needed to gather information or recommendation that will be vital to the program to be abreast with the current industry standards and trends.

- December 10, 2003
- April 26, 2005

Off Campus

The Carpentry Program currently doesn't have a Distance Learning course but has in retrospect an annual off campus activity to promote life-long learning, hands-on activities, and an opportunity to serve the community, and learn the skills to succeed in the workforce.

The Annual Model Home is the Carpentry Programs "Capstone Project", in which the students climaxes their two years of learning entry level skills and using them to build a residential home for a deserving family of Hawaiian ancestry. While building a house in it's self is a big accomplishment for anyone, not every student coming into the program will be going into the work force, but they all will leave the college with valuable life skills, written and oral communication skills, problem-solving math skills and the confidence to succeed in the community and society.

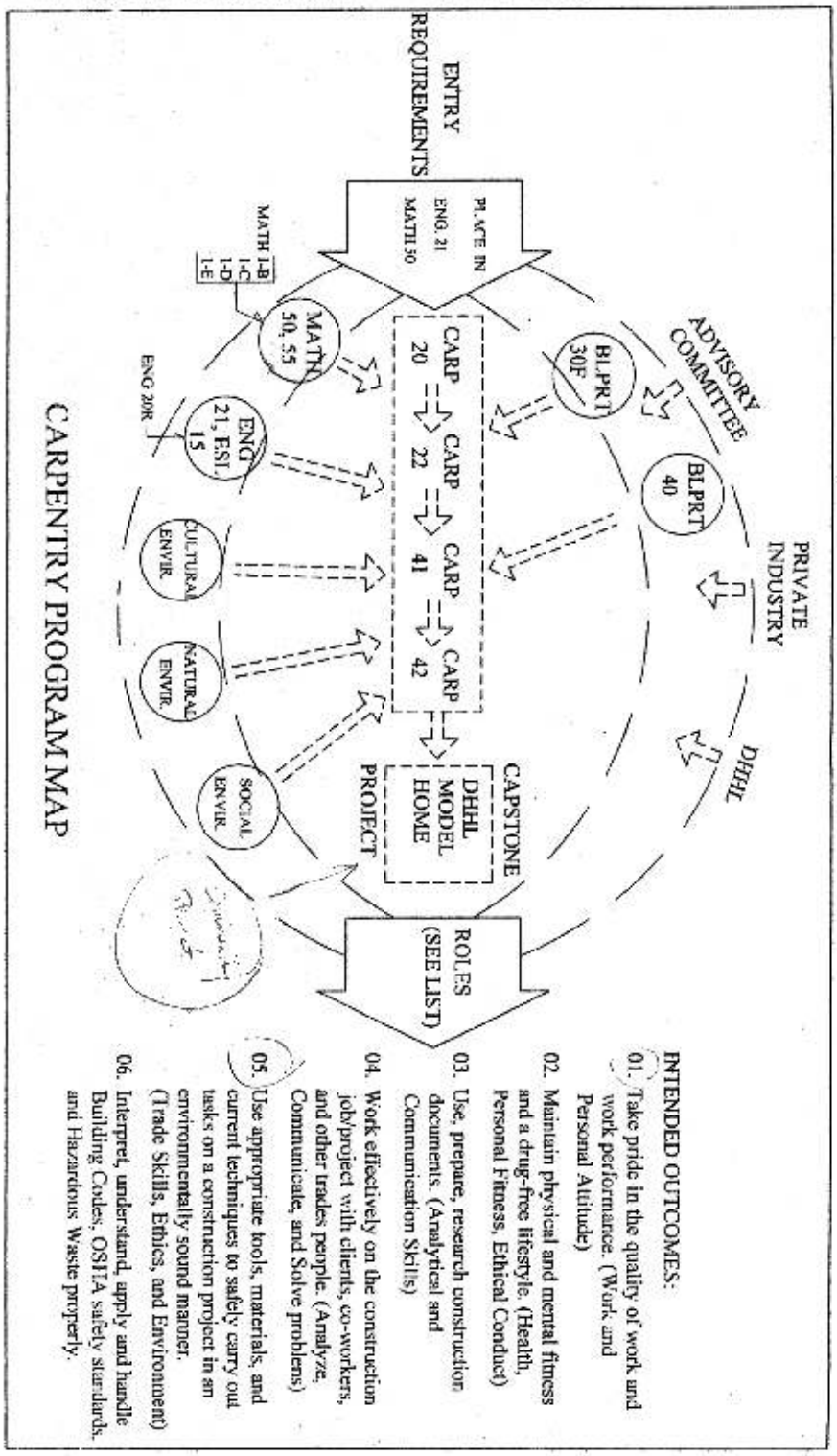
QUANTITATIVE TREND DATA CHART(as of 10-19-06)

	Fall 2003	Spring2004	AY	Fall 2004	Spring 2005	AY	Fall 2005	Spring 2006	AY
#1 Number of Unduplicated Majors	50	40	53	48	42	51	41	37	46
#2 Total Student Semester Hours	630	546	1176	602	491	1093	475	443	918
#3 FTE Student Majors	42.00	36.40	39.20	40.13	32.73	36.43	31.67	29.53	30.60
#4 Number of Graduates			15			15			11
#5 Number of classes	4	3	7	4	3	7	4	3	7
#6 Avg Class size	20.50	16.67	18.86	18.25	14.33	16.57	17.25	14.67	16.14
#7 Avg Class fit	101.6%	91.0%	97.0%	100.3%	82.5%	92.7%	95.6%	85.0%	91.1%
#8 FTE of BOR Appointed Program Faculty			2			3			2
#9 Number of FTE Faculty based on contact hours (FTE = 21)			2.71			2.71			2.71
#10 Student semester hours for all PPC class enrollments	501	429	930	447	360	807	438	339	777
#11 Student-Faculty Ratio			7.61			6.61			6.36
#12 PPC Credits Earned Ratio	.96	1.00	.98	.94	.99	.97	.93	.88	.90
#13 Non-PPC Credits Earned Ratio	.85	.95	.90	.91	.78	.84	.53	.65	.59
#14 PPC Avg GPA	3.44	3.13	3.28	3.44	3.52	3.48	3.03	3.62	3.32
#15 Non-PPC Avg GPA	2.39	2.34	2.37	2.36	2.16	2.26	2.30	2.03	2.17
#16 Budget			$10,941.79			$10,085.51			$11,669.88
#17 College Cost per SSH			$104.08			$119.01			$135.01
#18 Grant Cost per SSH			$1.24			$0.00			$0.00

Part IV. Quantitative Data Analysis

- The number of majors decreased during the past three years from 53 to 46, due to industry demands for untrained workers.
- Number of graduates for the last three years has dropped from 15 to 11, due to medical or personal problems not associated with the program.
- The average class fit has averaged at 93.6% which shows that the demand for the program is stable, regardless of the construction demands.
- The Program Paid Core class (PPC) GPA has maintained an averaged of 3.36 for the past three years, which is a reflection on the students desire and will to excel in their primary class.
- Non-Program Paid Core classes (PPC) GPA has averaged 2.27 the past three academic years reflecting the students concern of the need to acquire required electives to qualify for the Associate of Applied Science Degree (AAS) degree. An average of 83% of the students completes the elective classes.
- College Cost per Student Semester Hours (SSH) has increased since AY 2003-2004, from $104.00 to $135.00 in AY 200-2006. This is primarily due to faculty wage increase, escalating material costs and maintenance of equipment.

Part V. Program SLO's



Program Student Learning Outcomes

- Form, pour, and finish a residential driveway and sidewalk according to drawing documents.
- Practice commercial form building according to industry practices.
- Adhere to the ethical and professional practices and industry standards to perform tasks.
- Be familiar with the Building Code Requirements for Residential Construction.
- Understand how to utilize the Simpson Strong –tie catalog.
- Recognize the various floor framing members, calculate and assemble a hands-on practical.
- Be knowledgeable of the various wall framing members, layout, calculate and assemble a hands-on practical.
- Recognize the different types of roof designs calculate various types of rafters using the
- Full Length Rafter Book and participate on a hands-on practical. Calculate, estimate, fabricate and install roof sheathing on a practical
- Participate in the construction of a residential home on site

Part VII. Course SLO's

Within the Carpentry Program there are four 12 credit courses. They are:

Introduction to Carpentry

- Be able to recognize and install various interior wall and ceiling finishes
- Be able to construct and install a basic residential kitchen and bathroom cabinetry
- Fabricate and install a wooden door frame
- Fabricate and install a wooden window frame
- Be able to trim out a basic residential dwelling
- Identify and use information from sections and details of the blueprint
- Participate in the finishing of a basic site residential dwelling

Formative Evaluation

- Complete a written exam for each area covered
- Practical's
- Live job performance application

Concrete Form Construction

- Form, pour, and finish a residential driveway and sidewalk according to drawing documents
- Practice commercial form building according to industry practices.

- Adhere to the ethical and professional practices and industry standards to perform tasks

Formative Evaluation

- Complete a written exam for each area covered
- Participate in live practical
- Demonstrate the ability to perform assigned tasks

Rough Framing

- Be familiar with the Building Code Requirements for Residential Construction
- Understand how to utilize the Simpson Strong Tie catalog
- Recognize the various floor framing members, layout, calculate and assemble a hands-on practical
- Be knowledgeable of the various wall framing members, layout, calculate and assemble a hands-on practical
- Recognize the different types of roof design , calculate various types of rafters using the Full Length Rafter Book and participate on a hands-on practical
- Calculate, estimate, fabricate and install roof sheathing on a practical
- Participate in the construction of a residential home on site

Formative Evaluation

- Complete a written exam for each area covered
- Participate in live practical
- Demonstrate the ability to perform assigned tasks

Finishing

- Interpret a shop drawing of a basic woodworking project
- Develop a stock cutting and finish bill list for a basic woodworking project
- Fabricate parts and assemble a basic woodworking project according to specification and follow safety rules
- Recognize and maintain acceptable industry standards and practices

Formative Evaluation

- Complete a written exam for each area covered
- Demonstrate the ability to perform assigned tasks

Part VIII. Program Summary

Alignment with College Mission

The Carpentry Program's mission aliens' with the College's Mission by providing the students with the basic entry level skills needed to enter the construction industry or maintenance field, by using the most current and up to date techniques available. Promoting life-long learning, providing curricula and activities that will help him/her develop their individual skills and abilities which will guide them into being a productive member in our community.

Strengths and Weaknesses

Strengths

- A variety of practical applications provided in the shop and job sites
- Strong ties with community organizations
- A five (5) year contract providing DHHL with a Model Home.
- Yearly graduate survey on status of students in work force

Weaknesses

- Lack of funds to up date vehicles for the safety of the students
- Maintenance of existing facilities
- Upgrading of stationary shop machines

Action Plan Tasks	Year	Responsible Party
• Articulate with Local High Schools Through the Construction Academy	2006 - 2007	Gene Harada Gordon Nekoba
• Explore the possibilities of obtaining credits for graduates going into Carpenter's Union	2007 -2008	Gene Harada

Part IX. Budget Implications

Does the program have sufficient resources and are they being used efficiently?
What does the program need in order to meet its goals over the next review period?

- The Carpentry Program manages its resources by budgeting and promoting recycling of valuable construction materials throughout the academic year. By maximizing the use of the following materials by conservation and recycling, the program has being able to efficiently extend the life of its use.

    - concrete masonry unit (CMU) 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

- In order for the program to continue maintaining and improving its goals over the next review period, the following are required

    - replacement of its aging and irreparable vehicles for safely transporting students to the job site and visitations. *The replace of the 1987 Crew Cab Truck, regardless it being newer than the 1981 Flatbed Truck, was previously bought through the State Surplus after it was acquired from the U. S. Navy. The general condition of the vehicle, at the time of purchase was quite evident by the amount of mileage and body damage that it had already acquired while owned by the Navy, but it still had sufficient amount of life in it to meet the Carpentry Programs needs. Since the time of purchase, the vehicle has gone through numerous repairs and mechanical upgrades to keep it in working condition. It has come to a point where it's a safety issue if we try to prolong its' use.*
    - upgrading of the stationary machines up to industry standards
    - providing a safe well maintained facility
    - up grading of its computer system
    - providing an environment conducive to learning

CHART 1: FACILITIES ASSIGNED TO PROGRAM

List Bdng/Rm/Lab/Shop	Describe Renovation/Repair Needed	Estimated Cost
Building 3386B	- bathroom facilities for both males and females, and faculty - classroom is non-existing	$1,000,000.00

	- fiber optics for computer link	
Building 390 - exterior	- needs fresh coat of paint - exterior door to shop needs to be replaced - dust collection system need to be overhauled, upgraded	$300.000.00
- classroom	- needs fresh coat of paint - air conditioning system not adequate and noisy - ceiling fan needs to be replaced - exterior door needs to be replaced - needs to be treated for termites, both ground and dry wood termites	$30,000.00
- shop	- needs fresh coat of paint - electrical needs to be upgraded - doors need to be replaced - ventilation system needs to be improved - treated for termites	$200,000.00
- bathroom	- needs to be renovated and upgraded to accommodate both males and females - treated for termites	$750,000.00
- tool room	- door needs to be replaced - needs fresh coat of paint - treated for termites	$25,000.00
- office	- door needs to be replaced – security - needs painting - treated for termites - upgrading of the computer system	$25,000.00

CHART 2: INVENTORY LIST: EQUIPMENT and CONTROLLED PROPERTY

Program Assigned Equipment (E) and Controlled Property (CP) (List in order of chronological depreciation date)	Category: E =item value > than $5K CP =item value $1K - $5K	Expected Depreciation Date	Estimated Replacement Cost
1981 Truck GMC Flatbed	E - $9,962.00	2006	$50,000.00
1987 Ford 4 x 2 Crew Cab Truck	E - $13,670.00	2006	$45,000.00
Tractor Case Backhoe	E - $3,000.00	2007	$40,000.00
Computer Macintosh Apple Computer Power Mac 7200/120	CP - $2,842.00	2007	$4,000.00
Power Trowel 36”	CP - $800.00	2007	$3,000.00
12” Contractor Duty Radial Arm Saw	E- $700.00	2007	$3,500.00
20” Wood Cutting Band Saw	E – 1,000.00	2007	$3,500.00

CHART 3: BUDGET REQUESTS

Describe Item	Biennium Request – 1st Yr.	Biennium Request – 2nd Yr.	Reallocation of Funds and/or Positions	X Amt. Line Item
1987 Ford 4 x 2 Crew Cad Truck	1st yr			$45,000.00
Computer Macintosh Apple Computer Power Mac 7200/120	1st yr			$5,000.00
36" Power Trowel	1st yr			$3,000.00
12" Contractor Duty Radial Arm Saw	1st yr			$3,500.00
1981 Truck GMC Flatbed		2nd yr		$50,000.00
Tractor Case Backhoe		2nd yr		$40,000.00
20" Wood Cutting Band Saw		2nd yr		$3,500.00