HAWAI`I COMMUNITY COLLEGE COMPREHENSIVE PROGRAM REVIEW REPORT

ARCHITECTURAL, ENGINEERING & CAD TECHNOLOGIES PROGRAM

November 15, 2010

Assessment Period: July 1, 2007 to June 30, 2010

Initiator: Clyde Kojiro
Writer(s): Gayle Cho, Program Professor
Clyde Kojiro, Program Professor

Program Review at Hawai'i 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 Student Learning Outcomes is embedded in this ongoing systematic assessment. Reviewed by a college wide process, the Program Reviews are available to the college and community at large to enhance communication and public accountability.

HAWAII COMMUNITY COLLEGE
ARCHITECTURAL, ENGINEERING & CAD TECHNOLOGIES

A. Program Effectiveness

1. Write a brief narrative describing the program and how it supports the College's mission and Institutional Learning Outcomes (ILOs).

The Architectural, Engineering and CAD Technologies program grants an AAS degree requiring 64 credits consisting of AEC major courses, English, Math and 9 credits in Cultural, Natural, and Social Environment electives. AEC major courses includes manual drafting, residential and commercial working drawings, material and methods of construction, AutoCAD, engineering and surveying, construction codes, and Studio design courses. Incorporated into some of these are sustainability and green design studies. The program maintains 2 full-time faculty positions, one with extensive background in the area of civil, surveying and construction documents, the other a licensed architect. The AEC program also employs various lecturers for courses in their areas of expertise. The Department is located in Building 380 on the Manono Campus and occupies approximately 3,900 square feet. The AEC program enrolls up to 16 students maximum every Fall semester and strives to offer it's architectural drafting, design and surveying curriculum utilizing current equipment and software. These include, AutoCAD, Sketchup, Microsoft Office applications, Dell computer desk top systems and laptops, Nikon total station and data collector, hand-held GPS units, a variety of environmental measuring/testing digital devices, laser printers, ink jet plotters, projectors, DVD players, large screen HDTV presentation monitor with Elmo projection system, wide format scanner/printer, engineering copier, 3d printer, etc.

The AEC program maintains an advisory council made up of four Board members from the local industry as follows: an expert in survey and drafting equipment, a licensed land surveyor, a licensed architect, and a graduate of the AEC program. This ongoing advisory team guides the direction and decisions of the AEC program with regard to curriculum development based on the needs and expectations of the local industry, and delivered in a manner consistent with industry standards with the ultimate goal of graduating viable contributing members to the local workforce.

Graduates entering the workforce may find positions in government agencies such as the County of Hawai`i Planning Department, Building or Engineering Division; utility companies such as Hawai`i Electric Light Company, Department of Water, The Gas Company, State Highways and Transportation Division, etc.; or become contributing members in the private sector.

In preparation for this, the AEC program strives to provide the maximum learning opportunities for students to build proficiency in CAD and related technologies, construction methodology, field and manual dexterity, design and code comprehension and sound work ethics and values in the spirit of 'E "Imi Pono", while embracing our unique Island culture. In addition to trade skills, it is our commitment, in alignment with the College's mission, vision and institutional learning outcomes, to develop within the students important critical thinking, written and verbal communication skills, and

respect for the natural environment. Students are advised to supplement their learning experiences with a cultural elective in Hawaiian Studies to fully appreciate the history and sense of place, to be reflected in their design work and affecting their daily life style, choices, and decisions.

In our efforts to start assessments within our program's curricula, to be noted is the fact that the College's institutional learning outcomes were created after the development of AEC's program learning outcomes and student learning outcomes. Therefore, as we progress through the assessment process, these will be adjusted to align more closely with the general education learning outcomes.

2. As a result of a review of the program (e.g. courses, curricula, learning outcomes assessment results, economic impacts, community needs etc.) summarize what changes have been made and why. Attach as **Appendix A** – All completed Learning Outcomes Assessment results.

As a result of a review and assessment of the program, changes have been made to the focus of the curricula based on learning outcomes, economic impacts, community needs and the importance of sustainability of the environment. The industry with the largest impact on our environment, is the construction industry. Bringing students who will be contributing members of this field to a level of awareness that will improve negative practices and impact on the natural environment is crucial. This shift has become the new focus of the program, and will continue to expand throughout various courses. Sustainability and green design is implemented in lectures, project assignments, written essays, and also in the capstone Model Home Project.

3. Briefly describe the program's strengths and weaknesses to include:
   a) An analysis of data elements (see **Table 5)**--demand, efficiency, and effectiveness:

Demand Indicators: Rated as Unhealthy

The rating of unhealthy is justified based on the calculations provided by the system. The Program is trying to incorporate into the curriculum Green Building Designs to expand the employment opportunity base. New employment opportunities within this area will hopefully make the demand indicators rise in the next review.

Efficiency Indicators: Rated as Healthy

The AEC Program has consistently filled to maximum capacity of sixteen new incoming students every Fall semester. Because of the intensity of the program some students were not expecting the vigor of the course work. Each student will spend about twenty-seven (27) to thirty (30) hours per week in the class doing research, project drawings, presentation boards, or model building. Historically, we lose between four or five students during the four semester program.

Effectiveness Indicators: Rated as Cautionary

The only indicator falling below the expected level is the persistence indicator Fall to Spring #19. The Program will use the peer tutor method to try and help the students falling behind in their work. In some instances, because we only offer the AAS degree, all the related courses are needed to be passed before our students can graduate. We are sure some students are completing one or more of the related requirements after they have passed the four semesters of the AEC Program.

b) Perceptions of the use of the program's assessment results of Program Learning Outcomes (PLO'/s) :

With the advent of the assessment process, our Advisory Council members have become more participatory within the programs curriculum. The Advisors have commented on the projects/artifacts and are mostly pleased with the rubrics and results. Typically for CTE programs however, our advisors have contributed to our curriculum and projects/artifacts for some time now.

c) Other pertinent information.

The AEC Program has to keep up with the newest CAD software and hardware. As it is our students are utilizing two or more programs at the same time. Our AutoCAD program is 2008 and is capable of 2D drafting and 3D pictorials simultaneously. SketchUp alone requires a lot of memory and frequently the program runs slowly or freezes up. This frustrates the students to no end.

Technology and Green/Sustainability Building products/designs are the driving forces with new job opportunities being created daily. Professor Gayle Cho has a certification as a Certified Green Professional (CGP) with the National Association of Home Builders (NAHB), as well as one of our Carpentry professors and with these certifications we have started to include green building concepts into our capstone project that we call the Department of Hawaiian Home Lands Model Home Project. Both programs are aiming for a "net zero" rating on this, as our first attempt at a sustainable Model Home Project.

Program Strengths and Weaknesses

Enumerate the top three strengths and weaknesses (No particular priority).

Strengths:

S1: Inclusion of "Green Building Technology" into the curriculum to improve the residential design and construction of the 2010 – 2011 Department of Hawaiian Home Lands capstone building project.

S2: The Program consistently is at maximum capacity every Fall semester. With the space available, the Program can only accommodate sixteen full-time students.

S3: The Program and students are fortunate to have caring, compassionate, knowledgeable professors and lecturers with community links locally and state wide. We constantly expose the students and encourage them to interact with architects, engineers, drafting firms and all related fields. We are hopeful that these interactions will lead to job opportunities.

Weaknesses

W1: The most significant weakness now is new and replacement employment opportunities, locally and state wide, where job positions are limited due to the weak economy and struggling construction market. The health of the construction industry and the economy has a direct correlation to our graduates. Hawaii County is the slowest as far as

economic growth and construction contracts. We need to make clear that a vast majority of our graduates remain and work within the county.

W2: Our classrooms/labs/work areas are inadequate, archaic, unhealthy, and depressing. Facilities are surely not the enticement that attracts students to our program. We deal with termite droppings, peeling paint, cramped and confined work spaces/stations, and unsightly lecture/resource/model building areas. More space to research and build mock-up of designs to analyze, examine, and observe would undoubtedly enhance the students learning. A separate project production workshop, extension of the first year (Level I) Lecture Room, relief from termite droppings, repairs and repainting of the department rooms, etc. would be an improvement to the existing learning environment.

W3: No rigid schedule for upgrading hardware, software and equipment to keep up with the constantly changing technological advances. The Program is appreciative of the upgrades that we have received in the past, however, software changes yearly requiring hardware upgrades to keep up with speed and memory. Additionally, our surveying portion of the curriculum needs to be expanded. There are more employment opportunities in the engineering/surveying area than the architectural area.

W4: The graduation rate of the Program still needs serious attention but the new focus of the college toward assessment of student learning outcomes has redirected our efforts. We anticipate that the assessment of SLO's will help the instructors assist students to counteract the cautionary rate. The Program has improved marginally in this area but it could be better. Under consideration is adding a Certificate of Competence and a Certificate of Completion, to assist those, who seek to gain applied skills only. In turn this would positively impact graduation rates.

4. Discuss the progress the program has made in meeting the goals set in the last Comprehensive Program Review.

The AEC Program has changed priorities and direction since the last comprehensive review. The economic down turn and the college's paradigm shift to the assessment process has evoked and induced the changes to our goals.

2006/G1: A rigid schedule for upgrading/replacing of computer hardware, software and surveying equipment needs to be established because the program is technology driven and easily outmoded.

The AEC Program is fully aware that the availability of funds to replace software, hardware, and equipment is difficult and a reasonable schedule is needed to at least keep up with industry.

2006/G2: Examine to improve graduation rate.

With the advent of the assessment process we have deferred the leaver survey. We are optimistic that the assessment process will alleviate the "cautious" rating. The graduation rate has risen minimally and we are hopeful it will continue to rise.

2006/G3: Continue developing course SLO's and assessment strategies.

The Program has developed three assessment strategies for three SLO's and will continue to develop them as per the required schedule.

2006/G4: Explore possible Engineering course articulation w/ OSU/Manoa.

We have not made any progress with the articulation of the Engineering courses with OSU or UH Manoa. However, at the Engineering Conference at Manoa on Oahu in October of 2010, UH Hilo expressed interest in meeting and discussing the possibility of some accord. Within the past five years only two or three students enrolled in a 4 year institution after graduating with an AAS degree from our program. Due to this low percentage of graduates pursuing a Bachelor's degree, AEC is focusing on new goals.

5. List the program's top 3 goals/plans for the next Comprehensive Review period. Briefly describe evidence that supports these goals/plans.

G1: Change or modify the curriculum to include more "Green/Sustainability" course work because of the growing need/interest in this area. In Hawai`i especially, with the high cost of oil, every possible effort to cut carbon emission is crucial. We have started with two experimental courses, one in the Spring of 2010 and the other is proposed for Spring 2011. Sustainability concepts and practices have been incorporated into existing courses in both the Spring and Fall of 2010. Incorporate "Green/Sustainability Technology" into the DHHL Model Home Project. The Model Home team's goal is to design and build a "net zero" residential dwelling for an eligible local family.

G2: Add more surveying course work into the curriculum. The potential for more job positions appear to be in this target area.

G3: Develop a sustainable/green designated workshop room for model building and project production. Students regularly work with paints, glues, cutting of balsa wood, fome core and cardboard, 3d printer powders and liquid sprays, etc. This dedicated space would need a multiple sink/counter area, storage for tools and supplies, large work tables w/stools, model building equipment, a safety eye-wash area, and a shared bathroom/wash up/changing area for the students. Currently, students face limited and inadequate conditions when working with these materials outside the CAD Lab. They crouch on the concrete floor of our building's main corridor walkway and also work on the lawn which is unsheltered from the sun, rain and wind. There is frequent pedestrian traffic and varying weather conditions to deal with. Also, at times, schedules conflict with landscape maintenance activities by the College's grounds

crew staff. To create this new workshop area, renovation to the existing walk in storage (old darkroom) and existing Level I lecture area would be necessary. In addition, extending out into the rear courtyard area would also be needed to expand the existing Lecture alcove. This new Lecture area will need presentation equipment: white boards, Elmo, HDTV system, computer, DVD player, etc. Taking advantage of natural lighting, ventilation, and incorporating energy saving devices and equipment would be optimal.

G4: The Program would like to add a Certificate of Competence and a Certificate of Completion to assist some students in meeting their educational goals. Some students seek formal fundamental skills with goals to personally build upon on their own. Such students would be able to leave the program with some kind of degree. Many of our students have personal lives that include family, children, and "paying the bills" issues. The AEC program would like to address such personal challenges and acknowledge those achieving an education at these levels.

B. Action Plan for Program Improvement: Complete Tables 1-4 to provide justification for program budget requests

Table 1—Prioritized Top 3 Non-Cost Items

(examples are given in *italics; delete & replace with Program's items*)

***Strengths/Weaknesses are numbered (S1, S2, S3; W1, W2, W3) and taken from A.3**

			Justifications	
Task:	**Academic yr.**	**Who is responsible**	**How does it improve program effectiveness?**	**Addresses which strength or weakness***
1. Incorporate additional Green Technology Design concepts by modifying the curriculum to include the Capstone Project and foster and encourage possible student certification in residential sustainability	*Yearly & Spring 2011*	*Gayle Cho Clyde Kojiro*	*Anticipate increase in student interest resulting in increased persistence levels from Fall to Spring semester. In addition, green technology and sustainability awareness, knowledge and possible certification would increase marketable skills for future job opportunities.*	*S1 & W1*
2.Add more Engineering courses to the Program	*Spring 2012*	*Gayle Cho Clyde Kojiro*	*Students interested in engineering will have more exposure to course work and equipment, thus gain increased preparation & job skills.*	*W1 & W3*
3.Impliment a Certificate of Competence & Certificate of Completion degree	*Fall 2012*	*Gayle Cho Clyde Kojiro*	*By addressing the varying needs and time constraints of some student populations they will gain acknowledgment of their short term training in the AEC program. In turn, this could impact the program's effectiveness data.*	*S2 & W4*

Table 2 —Prioritized Top 3 Cost Items ("G" funded requests only)

(examples given in *italics; delete & replace with Program's items*)

***Budget Categories: P=Personnel; S1x=Program Review Special Fund; SE=Supplies Enhanced; Eq=Equipment (>= $5K)**
****Strategic Outcomes Goals and Performance Measures are: A1.1, B4., C1., D3., E2., etc.**

		Justifications		
Priority	**$ amount & budget category* Except R/M**	**Best fits which Strategic Outcomes Goal and Performance Measure(s)** and how?**	**Addresses which strength or weakness?**	**If currently grant funded, please explain: put date when funding ends and indicate HawCC commitment to support, if any**
1. Multiple levels of certification/training & software in Green Building Technology	*$24k,Eq.*	*Goal 1, Green Building Technology Certification/Training*	*S1*	
2. purchase robotic total station & GPS surveying system.	*$62k,Eq.*	*Goal 2, Add more surveying course work to the curriculum.*	*W3*	
3. develop a model building/project production workshop, artifact storage/display, lecture room extension, furnishing & equipment	*$950k,S1x*	*Goal 3, Provide adequate physical facilities*	*W2*	

Table 3.--Repair and Maintenance

Nature of Problem	**Describe Location: e.g. Building(s) & Room(s)**
Termite droppings	Building 380, rm. 31,32,33
Electrical and network system upgrade	Building 380, rm. 30,31,32,33
Repainting of all rooms, closets, built-in shelves, etc.	Building 380, rm. 30, 31, 32, 33 + storage areas & closets

Table 4—Equipment Depreciation, if applicable

(examples given in *italics; delete & replace with Program's items* & add rows as needed)

Key to abbreviations:
CP=Controlled Property w/item value $1K-$5K
E=equipment w/item value >$5K

Program Assigned Equipment (E) and Controlled Property (CP) (List in order of chronological depreciation date)	Category: CP or E	Expected Depreciation Date	Estimated Replacement Cost
2008 AutoCAD 2D Software (x42)	*E*	*2011*	*$3.5K ea. ($150K)*
2008 Dell CPU's plus monitors (x39)	*E*	*2011*	*$2.5K ea. ($100K)*
2008 Elmo Projector	*CP*	*2011*	*$2K*
2007 Sharp ARM 162 11X17 Engineering Copier	*CP*	*2011*	*$4K*
1999 HP Design Jet 755cm ink jet plotter	*E*	*2011*	*$16K*
2007 Dell Laptop(x3)	*CP*	*2012*	*$2K*
2007HP Printers (5200) (x2)	*CP*	*2012*	*$1.5K ea. (3K)*
1996 Drafting desks & CAD desks w/chairs(x35), 8' Lecture Tables(x8) w/chairs(x32)	*E*	*2012*	*$25K*
2007 HP Printers (5550) (x2)	*CP*	*2012*	*$2K ea. (4K)*
2007 2-Projectors	*CP*	*2012*	*$2K*
2009 HDTV/DVD Projection	*CP*	*2013*	*$3K*
2008 Xerox Wide Format Copier	*E*	*2013*	*$22K*
2008 1055cm HP ink jet plotter	*E*	*2013*	*$17K*
2008 3d ZPrinter	*E*	*2014*	*$50K*

C. Table 5—Data Elements

Analysis Preview (click here to print)

College: Hawaii Community College
Program: Architectural Engineering & CAD Tech

Part I. Quantitative Indicators

Overall Program Health: Cautionary

Majors Included: AEC

Demand Indicators			Academic Year		Demand Health Call
			08-09	09-10	
1	New & Replacement Positions (State)		65	47	Unhealthy
2	New & Replacement Positions (County Prorated)		2	3	
3	Number of Majors		62	59	
4	SSH Program Majors in Program Classes		613	675	
5	SSH Non-Majors in Program Classes		318	342	
6	SSH in All Program Classes		931	1,017	
7	FTE Enrollment in Program Classes		31	34	
8	Total Number of Classes Taught		27	29	

Efficiency Indicators			Academic Year		Efficiency Health Call
			08-09	09-10	
9	Average Class Size		13.8	14.2	Healthy
10	Fill Rate		84%	88%	
11	FTE BOR Appointed Faculty		2	2	
12	Majors to FTE BOR Appointed Faculty		31	29.5	
13	Majors to Analytic FTE Faculty		25.4	22.8	
13a	Analytic FTE Faculty		2.4	2.6	
14	Overall Program Budget Allocation		$159,883	$237,257	
14a	General Funded Budget Allocation		$159,883	$237,257	
14b	Special/Federal Budget Allocation		$0	$0	
15	Cost per SSH		$172	$233	
16	Number of Low-Enrolled (<10) Classes		0	2	

Effectiveness Indicators			Academic Year		Effectiveness Health Call
			08-09	09-10	
17	Successful Completion (Equivalent C or Higher)		89%	95%	Cautionary
18	Withdrawals (Grade = W)		15	3	
19	Persistence (Fall to Spring)		75%	71%	

20	Unduplicated Degrees/Certificates Awarded		10	14	
20a	Degrees Awarded		10	14	
20b	Certificates of Achievement Awarded		0	0	
20c	Academic Subject Certificates Awarded		0	0	
20d	Other Certificates Awarded		0	0	
21	Transfers to UH 4-yr		0	2	
21a	Transfers with credential from program		0	1	
21b	Transfers without credential from program		0	1	

Distance Education: Completely On-line Classes		Academic Year		
			08-09	09-10
22	Number of Distance Education Classes Taught		0	0
23	Enrollment Distance Education Classes		0	0
24	Fill Rate		0%	0%
25	Successful Completion (Equivalent C or Higher)		0%	0%
26	Withdrawals (Grade = W)		0	0
27	Persistence (Fall to Spring Not Limited to Distance Education)		0%	0%

Perkins IV Core Indicators 2008-2009		Goal	Actual	Met
28	1P1 Technical Skills Attainment	90.00	94.12	Met
29	2P1 Completion	44.00	58.82	Met
30	3P1 Student Retention or Transfer	55.00	75.86	Met
31	4P1 Student Placement	50.00	66.67	Met
32	5P1 Nontraditional Participation	16.00	28.57	Met
33	5P2 Nontraditional Completion	15.25	50.00	Met

Last Updated: October 19th, 2010

Appendix A
Learning Outcomes Assessment Results

Architectural, Engineering & CAD Technologies

Program SLO's

1. Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency.

2. Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement.

3. Use with reasonable competence our two-dimensional and three-dimensional CAD programs to create architectural and engineering drawing documents for use in the Construction Technology Capstone DHHL Model Home Project.

4. Use with reasonable competence our surveying hand tools/equipment, Theodolite, total stations, and GPS Garmins safely on campus and at the DHHL Model Home Project site.

5. Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.

6. Demonstrate computation, communication, critical thinking, research, and problem-solving skills as well as an appreciation for the diversity of cultures, community, and the environment.

7. Take pride in the quality of projects and performance, possess responsible work ethics and standards, and model attitudes of professionalism and appearance.

COURSE	SLO's	SLO #1	SLO #2	SLO #3	SLO #4	SLO #5	SLO #6	SLO #7
AEC 80		X				X		
AEC 110B		X			X	X		
AEC 110C		X			X	X		
AEC 115			X			X		
AEC 117				X		X		
AEC 118			X			X		
AEC 120			X		X	X		
AEC 123			X		X	X		
AEC 127				X		X		
AEC 130			X		X	X		
AEC 131			X			X		
AEC 133					X	X		
AEC 134		X				X		
AEC 135			X		X	X		
AEC 137				X		X		
AEC 138			X		X	X		
AEC 140			X		X	X		
AEC 141B					X	X		
AEC 142					X	X		
AEC 144				X		X		
AEC 147				X		X		

Hawai'i Community College

Instructional Program Assessment Plan For Learning Outcomes

(AAS Degree) – (Architectural/Engineering & CAD Technology)

Submitted by: Gayle Cho, Clyde Kojiro (04-25-08)

Semester: Spring 2008
Student Learning Outcome (program level) for Assessment* (taken from Appendix):

PLO #1: Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency.

Step 1. Identify the artifact(s) (i.e., student work) for assessment and course(s) from which selected:

Name/Description of artifact: Manual drawings of geometric construction shapes. (AEC 80)
Manual drawings of axonometric pictorials. (AEC 80)
Manual drawings of orthographic projections. (AEC 80)
Demonstrate visualization proficiency. (AEC 80)

Step 2. Develop the assessment tool (e.g., rubric) to be used with 3 levels of assessment, if applicable—Level 1=does not meet expectations; Level 2=meets expectations; Level 3=exceeds expectations. Attach the assessment tool.

Step 3. Set the Performance Rate : Will/should be done within the allotted time frame and to industry standards.

Step 4. Describe the method used to collect the artifacts:

Where or from whom artifacts will be collected: Collected by the instructor from the students.
When will artifacts be collected: Artifacts will be collected in the Fall semester for grading and assessed in the Spring semester.

Step 5. Describe the sampling method used to collect the data:

AEC 80: 20% of randomly selected artifacts will be selected.

Step 6. Describe the composition of the Assessment Team (AT) (add more rows as needed):

Evaluator(s):
1 Faculty or Professional Engineer
2 Advisory committee member or past graduate
3 County or State construction inspection personnel

Step 7. The Assessment Team uses the assessment tool(s) (e.g., rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

PLO #1: Demonstrates entry-level skills for accuracy in drawings geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency.
Title: Manual drawing techniques for basic technical drawing.

		Not Yet	Meets Expectations	Exceeds Expectations
Demonstrates entry-level skills for accuracy in technical drawing.		Does not have the concept for constructing geometric dwg.	Produces geometric, axonometric pictorials	Able to accurately & professionally finish dwg. project.
Able to identify the relationship of features in drawings		Indistinguishable oriented features W/ no relationship to other views or products/objects.	Produces orthographic dwgs with features correctly oriented& timely.	Willing to produce more views to clearly show product in a timely
Demonstrate visualization proficiency		Not able to see or visualize the object to grasp concept.	Able to identify & check all features graphically.	Able to project lines for use to insure accuracy & correct orientation.

Architectural, Engineering & CAD Technologies Program
Artifact Assessment Results
Spring 2009

Evaluation Team Members:

01. Alan Inaba, P.E., Inaba Engineering Inc.
02. Mr. James McKeague, AIA, Architect.
03. Mr. Rodney Chinnen, CEO, Hubs Hawaii

Program Learning Outcome to be assessed:

PLO #1: Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identifying the relationship of features to demonstrate visualization proficiency.

Evaluation Team Member Results:

There were three randomly chosen student drawing projects representing the projects mentioned in Program Learning Outcome #1. The three student drawing projects also represent twenty percent of the class of sixteen.

Each member evaluated the student drawings using the rubric provided and the comments were very positive. They agreed that the evaluation rubric and the PLO are appropriate assessment tools for the program.

Planned Action:

- Continue to offer the manual drawing course with the focus on visual proficiency.
- Plan for tutoring/individualized attention and more time in lab for those that have "not yet" met expectations.
- According to the evaluation team, the 20% sampling gathered by the instructor was more than meeting the standards of the AEC program objectives. The results were positive but the membership cautioned the program that the technology of the field was moving rapidly and that other means of delivering the manual drawing curriculum was needed.

Hawai'i Community College

Instructional Program Assessment Plan For Learning Outcomes

(AAS Degree) – (Architectural/Engineering & CAD Technology)

Submitted by: Gayle Cho, Clyde Kojiro (09-01-09)

Semester: Spring 2009
Student Learning Outcome (program level) for Assessment* (taken from Appendix):

PLO #2: Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement.

Step 1. Identify the artifact(s) (i.e., student work) for assessment and course(s) from which selected:

Research reports using power point presentations on products/materials locally accessible. (AEC 123)(120)(118)(130)(80)
Research reports/boards presentations on composition, installation, durability, and advantages/disadvantages. (AEC 142)(140)(

Step 2. Develop the assessment tool (e.g., rubric) to be used with 3 levels of assessment, if applicable—Level 1=does not meet expectations; Level 2=meets expectations; Level 3=exceeds expectations. Attach the assessment tool.

Step 3. Set the Performance Rate : Will/should be done within the allotted time frame and to industry standards.

Step 4. Describe the method used to collect the artifacts:

Where or from whom artifacts will be collected: Collected by the instructor from the students.
When will artifacts be collected: Artifacts will be collected in the Spring 09 semester for grading and assessed in the Fall semester.

Step 5. Describe the sampling method used to collect the data:

AEC 80: 20% of randomly selected artifacts will be selected.

Step 6. Describe the composition of the Assessment Team (AT) (add more rows as needed):

Evaluator(s):
1 Faculty or Professional Engineer
2 Advisory committee member or past graduate
3 County or State construction inspection personnel

Step 7. The Assessment Team uses the assessment tool(s) (e.g., rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

	Not Yet	Meets Expectations	Exceeds Expectations
Demonstrates Entry level skills for accuracy in researching Products/materials.	Does not have the concept For researching materials/products. Inaccurate instructions with unusable or incorrect information.	Produces informative presentation boards or electronic boards With accurate information.	Can be used for presentations on a professional level with samples and instructions for installation and care.

Architectural, Engineering & CAD Technologies Program
Artifact Assessment Results, PLO #2
Spring 2009

Evaluation Team Members:

04. Donna Marcelino, Lecturer, Blprt./AEC Program
05. Mr. Anthony Fukuoka, Graduate
06. Mr. Rodney Chinnen, CEO, Hubs Hawaii

Program Learning Outcome to be assessed:

PLO #2: Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement.

Evaluation Team Member Results:

There were four randomly chosen student presentation boards representing the projects mentioned in Program Learning Outcome #2. The four student boards also represent twenty-five percent of the class of sixteen.

Each member evaluated the student boards using the rubric provided and the comments were very positive. They agreed that the evaluation rubric and the PLO are appropriate assessment tools for the program.

Planned Action:

- According to the evaluation team, the samples gathered by the instructor were more than meeting the standards of the PLO #2 program objectives. The results were positive but the membership cautioned the Program that materials now available requires a serious and concerted effort to accommodate recyclable materials used in construction. Going "GREEN" is the wave of the future and cost factors should be considered with every design and construction.

Hawai'i Community College

Instructional Program Assessment Plan For Learning Outcomes

AAS Degree – Architectural, Engineering & CAD Technologies

Submitted by: Gayle Cho/Clyde Kojiro , (May 7, 2010)

Semester: Spring 2010
Student Learning Outcome (program level) for Assessment* (taken from Appendix):

PLO #5: Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.

Step 1. Identify the artifact(s) (i.e., student work) for assessment and **course(s) from which selected:

Name/Description of artifact: Project assignment handout, project presentation boards, written essays and project models of Figure/Ground unit of study. (AEC 133 Architectural Studio A)

**** If there are multiple sections for a course and at least one is offered in a distance education (DE) modality (Banner Instructional Methods codes for DE are: DCO=distance completely online; DIV=distance interactive video; OS=off-site), an artifact from the DE section should be included. If another section of a DE course is also offered face-to-face (i.e., traditional lecture in-person), artifacts should be collected for BOTH the face-to-face section and the DE section for comparison purposes.**

Step 2. Develop the assessment tool (e.g., rubric) to be used with 3 levels of assessment, if applicable—Level 1=does not meet expectations; Level 2=meets expectations; Level 3=exceeds expectations. Attach the assessment tool.

Step 3. Set the Performance Rate

Step 4. Describe the method used to collect the artifacts:

Where or from whom artifacts will be collected: Collected by the instructor from the students.
When will artifacts be collected: Artifacts collected in the Fall 2009 for assessment in the Spring 2010.

Step 5. Describe the sampling method used to collect the data:

25% of randomly selected student projects.

Step 6. Describe the composition of the Assessment Team (AT) (add more rows as needed):

Evaluator(s):
1 Rodney Chinnen, CEO, Hubs Hawaii
2 Alan Inaba, P.E., Inaba Engineering, Inc.
3 James McKeague, AIA, Architect

Step 7. The Assessment Team uses the assessment tool(s) (e.g., rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

Advisor:			Date:
PLO #5: Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.			
Skill Description	**Not Yet Meets**	**Meets Expectations**	**Exceeds Expectations**
Demonstrates clear understanding of the Figure/Ground concept in a minimum of 4 out of 6 panel designs.	Concept demonstrated in less than 4 panel designs.	Concept demonstrated in 4 panel designs.	Concept demonstrated in more than 4 panel designs.
Demonstrates visual design inventiveness in meeting the criteria in at least 4 panels	Design inventiveness meets criteria in less than 4 panels.	Design inventiveness meets criteria in 4 panels.	Design inventiveness meets criteria in more than 4 panels.
Clearly communicate the visual content of the design created in the form of a written essay.	Gives little information on the content of the design created.	Describes some information of the content in the design created.	Fully describes the visual content of the design created.
Demonstrate accuracy and quality of workmanship in fabricating a 3-dimensional model of the Figure/Ground cube.	Inaccurate finished dimensions. Poor quality in cutting and gluing. Untidy edges and joint connections.	Adequate tolerance in finished dimensions. Edges moderately straight cut and glued. Corner joints fairly connected.	Accurate finished dimensions. Straight and sharp cut edges & neatly glued. All corner joints well connected.

Architectural, Engineering & CAD Technologies Program
Artifact Assessment Results
Spring 2010

Evaluation Team Members:

01. Rodney Chinnen, CEO, Hubs Hawai`i
02. Alan Inaba, P.E., Inaba Engineering, Inc.
03. James McKeague, AIA, Architect

Program Learning Outcome to be assessed:

PLO #5: Formulate, design, revise and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.

Evaluation Team Members Results:

The team viewed seven (7) randomly selected projects representing 50% of the class group. Their findings admit the concept of figure/ground is abstract and the team noted that achieving the true concept in creating all six panel designs was difficult for the student to achieve. However, they agreed that each of the projects contained at least 80% or higher conformance. Using the rubric provided, they assessed the artifacts and determined that at least seven (7) artifacts 'meets expectations'.

Planned Action:

The team recommended providing more examples demonstrating the concept for a clearer understanding. One suggestion was also to reduce the number of panel designs or provide additional guidance during the design process.