Attachment 1 –A
Revised July 2007

UNIVERSITY OF HAWAI`I COMMUNITY COLLEGES
ANNUAL INSTRUCTIONAL PROGRAM REVIEW
PROCEDURES, COMPONENTS, AND MEASURES

ARCHITECTURAL, ENGINEERING AND CAD TECHNOLOGIES

Hawai`i Community College

Introduction:
Program Mission Statement and brief description of the program including a listing of program level student learning outcomes.

The Architectural, Engineering & CAD Technologies (AEC) program prepares students for employment with architectural firms, contractors, engineers, and surveyors, or county, state and federal agencies. Students develop skills that enable them to complete job responsibilities that could include making schematic sketches, construction working drawings of buildings, shop drawings, construction material sales type tasks, blueprint interpretation and other field related duties, to assisting a surveying crew.

Entry requirements for the program include placement into Math 22 and placement into Eng 20R or ESL 9 or prior completion of both. The program also provides Blueprint Reading courses required by students majoring in the following programs: Carpentry, Electrical Installation & Maintenance Technology, and Machine Welding & Industrial Mechanics Technologies.

The program in collaboration with the construction academy has articulated its specialized blueprint courses (BLPR 30F - Blueprint Reading for Carpenters; BLPR 22 - Blueprint Reading and Drafting; AEC 80 - Basic Drafting; BLPR 30D - Blueprint Reading for Machine Trades) with the DOE course TIN 5310—Drafting Technology.

The AEC program level student learning outcomes are as follows:

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.

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 and other projects that are assigned.

4. Use with reasonable competence our surveying hand tools/equipment, Theodolite, total station, 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 skill as well as and 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.

Part I. Quantitative Indicators for Program Review

	AY 04-05	AY 05-06	AY 06-07
AEC			
1. Annual new and replacement positions in the State	1327	1327	1327
2. Annual new and replacement positions in the County	22	22	22
3. Number of majors	41	57	51
4. Student Semester Hours for program majors in all program classes	328	341	358
5. Student Semester Hours for Non-program majors in all program classes	123	150	136
6. Student Semester Hours all program classes	451	491	494
7. FTE Program enrollment	30.07	32.73	32.93
8. Number of classes taught	13	14	13
9. Determination of program's health based on demand (Health, Cautionary, or Unhealthy)			Healthy
10. Average Class Size	14.54	14.5	15.69
11. Class fill rate	87.5%	86.02%	94.44%
12. FTE of BOR appointed program faculty	2	2	2
13. Student/Faculty ratio	20.5:1	28.5:1	25.5:1
14. Number of Majors per FTE faculty	20.5	25.91	25.5
15. Program Budget Allocation (Personnel, supplies and services, equipment)	$100,660.00	$110,142.00	$101,188.00
16. Cost Per Student Semester Hour	$223.19	$224.32	$204.83
17. Number of classes that enroll less than ten students	1	0	0
18. Determination of program's health based on Efficiency (Healthy, Cautionary, or Unhealthy)			
19. Persistence of majors fall to spring	68.29%	76.79%	86.27%
20. Number of degrees earned (annual)	8	11	7
21. Number of certificates earned (annual)	0	0	0
22. Number of students transferred (enrolled) to a four-year institution in UH	0	0	0
23. Perkins core indicator: Academic Attainment(1P1)	91.67%	87.50%	88.24%
24. Perkins core indicator: Technical Skill Attainment (1P2)	76.92%	88.89%	88.89%
25. Perkins core indicator: Completion Rate (2P1)	23.08%	33.33%	55.56%
26. Perkins core indicator: Placement in Employment Education, and Military (3P1)	.00%	100.00%	50.00%
27. Perkins core indicator: Retention in Employment (3P2)	.00%	100.00%	100.00%
28. Perkins core indicator: Non Traditional Participation	37.50%	46.34%	41.30%

(4P1)			
29. Perkins core indicator: Non Traditional Completion (4P2)	2	28.57%	45.45%
30. Determination of program's health based on effectiveness (Healthy, Cautionary, Or Unhealthy)			
31. Determination of program's overall health (Healthy, Cautionary, or Unhealthy)			
32. Number of FTE Faculty	2	2.2	2

Part II. Analysis of the Program:
Strengths and weaknesses in terms of demand, efficiency, and effectiveness based on an analysis of data.

The program is healthy. Data elements are reasonable compared to other programs in the same department and division.

Data elements 1-9, demand elements, for new and replacement positions, number of majors, SSH's, and FTE program enrollment are strong and improving with each subsequent year.

Program efficiency for average class size, fill rate, student/faculty ratio, number of majors per FTE faculty, program budget allocation, cost per SSH, and number of classes less than ten students have been steadily improving over the review years. Cost per student semester hours have been declining indicating the program is improving in its efficiency.

Program effectiveness including majors fall to spring semesters, degrees earned, Perkins 1P1, 1P22P1, 3P1, 3P2, 4P1, and 4P2 are reasonable or better as compared to programs within the division. We excel at non-traditional participation and completion rates (4P1, 4P2) while over-all completion rates (2P1), although improved significantly, could be better.

The program's over-all health is "Healthy" and improving.

Significant Program Actions
(new certificates, stop-out; gain/loss of positions, results of prior year's action plan)

Accomplishments of prior year's action plan items:
1. Developed student learning outcomes for all program courses:

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

*See page 1 for description of SLOs.

2. Continued involvement with Construction Academy.

3. Continued to utilize Forest Team's Nikon Total Station with data collector this Fall 2007 semester and will continue to share in the use of this equipment in the Spring 2008 semester.

4. Began documenting assessment strategies of student learning outcomes including: obtaining professional approvals of our students drawings; obtaining the building permit of our capstone project, and the students' drawings have been deemed usable by sub-contractors for their use in each area of construction.

5. Renewed site license this Fall semester for continued use of Sketch-Up.

6. Evaluated the current computer systems and an upgrade is determined necessary for the 2nd year computers to be able to run the proposed Revit software. We are currently working with OCET and PCATT for funding to upgrade equipment.

7. Seeking funding from OCET/PCATT for Revit software and instructor training.

8. Acquired a large format copier, the 6204 Wide Format by Xerox.

9. Acquired two additional projectors and one laptop. Purchase of an Elmo is planned for Spring 2008.

Part III. Action plan:

1. Continue involvement in the Construction Academy endeavors.

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2. Continue to request the use of Forest Team's Nikon Total Station with data collector until AEC obtains own equipment.

3. Continue documenting assessment strategies of student learning outcomes.

4. Pursue computer equipment upgrades, Revit & Civil3D software, with training.

5. Begin implementation of a student AutoCAD Users Group to further enhance student proficiency in utilizing CAD software programs.

6. Continue use and license agreement for SketchUp software.

7. Reassess current curriculum: adjustment of credits, course pre-requisites, etc.

8. Proceed with installation of AutoCAD 2008, acquired through Construction Academy and seek upgrade training for faculty.

Part IV. Resource Implications (physical, human, financial)

CHART 1: PHYSICAL FACILITIES ASSIGNED TO PROGRAM

List Bldng/Rm/Lab/Shop	Describe Renovation/Repair Needed	Estimated Cost
Building 380/30 Level I CAD Lab	-increase square footage to provide efficient working space for student workstations -increase square footage to provide lecture area -replace light fixtures -improve electrical -improve internet cable layout -install fixed projection system -repair exhaust fan in printing room -improve lighting in printing room -provide student project display space -upgrade air-conditioning system	$ 508,000.00
Building 380/31 Faculty Office	-divide into 2 separate offices -install separate phone lines -replace all light fixtures -upgrade electrical outlets -improve internet cable layout -upgrade air-conditioning system	$ 90,000.00
Building 380/32 Level II Lecture Room	-install window coverings -install fixed projection system -provide additional internet lines -provide student project display space -upgrade air conditioning system	$58,000.00
Building 380/33 Level II CAD Lab	-increase square footage for more workstations -improve electrical -improve internet layout -upgrade air-conditioning system	$ 300,000.00

CHART 1A: INVENTORY LIST: EQUIPMENT & 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
(1989) Theodolite Surveying Instrument	E	2007	$25,000.00
(2001) Dell Desk top system-faculty I	CP	2008	$2,000.00
(2001) Dell Desk top system-faculty II	CP	2008	$2,000.00
(2001) Dell Desk top system-Lecturer III	CP	2008	$2,000.00
(2001) Dell Desk top system classrm. 30,33	E	2008	$80,000.00
(2002) 3 - Garmin V GPS Units	CP	2008	$1,600.00
(2002) Toshiba Laptop I system - faculty	CP	2008	$2,000.00
(2004)Software CAD Programs	E	2008	$40,000.00
(1999) HP DesignJet 755cm ink jet plotter	E	2008	$15,500.00
(2005) HP DesignJet 1055cm ink jet plotter	E	2010	$18,000.00
(2007) Dell Laptop II system-faculty	CP	2012	$2,000.00
(2007) 2 –Projectors	CP	2012	$2,000.00
(2007) 2 – HP 5200 Plotter	CP	2012	$3,000.00
(2007) 2 – HP 5550 Plotter	CP	2012	$4,000.00
(2007) Xerox 6024 Wide Format Engineering Copier	E	2012	$20,000.00
(2007) Sharp AR-M162 11x17 Engineering Copier	CP	2012	$4,000.00

CHART 2: PERSONNEL

Instructors
1. Gayle Cho, Professor
2. Clyde Kojiro, Professor
3. Lecturer
4. Lecturer
5. Lecturer

CHART 3: BUDGET REQUESTS

Describe Item	Biennium Request – 1st Yr.	Biennium Request – 2nd Yr.	Reallocation of Funds and/or Positions	X Amt. Line Item
Nikon Total Station w/ Data Collector	X.			$25,000.00
Computer hardware & Software upgrades & training		X		$100,000.00
Trimble GPS Surveying Equipment		X		$50,000.00
Furnishings		X		$20,000.00
Xerox 6024 Wide Format Engineering Copier E-file Feature	X			$5,000.00