MAUI COMMUNITY COLLEGE SUSTAINABLE CONSTRUCTION TECHNOLOGY 2009 PROGRAM REVIEW

November 15, 2009

I. OVERVIEW OF THE PROGRAM

A. Mission and Vision of the College

1. The College Mission:

Maui Community College is a learning-centered institution that provides affordable, high quality credit and non-credit educational opportunities to a diverse community of lifelong learners.

2. The College Vision:

We envision a world-class college that meets current and emerging Maui County education and training needs through innovative, high quality programs offered in stimulating learning environments. The College mission, goals, and actions will be guided by the Native Hawaiian reverence for the ahupua`a, a practice of sustaining and sharing diverse but finite resources for the benefit of all.

B. Mission and Vision of the Program

1. Sustainable Construction Technology Mission

The Sustainable Construction Technology (SCT) program prepares students in general building construction and maintenance of large and small structures, whether commercial, industrial, or residential. It also allows students to explore different trades prior to selecting a specialization.

The program mission statement reflects the college's mission statement in the following areas:

- > Students are trained in the latest technology and services that meet the changing educational and training needs of the community.
- Courses allow students to develop the occupational skills, academic competencies, and increased awareness they will need to become positive and confident contributing members of their community.

2. Sustainable Construction Technology Vision

The Program Vision is to provide competent workers and technicians to meet the employment needs for the County of Maui. Students will work towards LEED (Leadership in Energy and Environmental Design) and NAHB National Association Home Builders) certification.

The program will work towards this end by further improving the facility when the scheduled roof replacement is completed on the carpentry building.

3. Program Goals

- ➤ To prepare and place competent students in the construction, building maintenance, and sustainable technology related occupations.
- ➤ To provide employees already in the construction, building maintenance, and sustainable technology professions with additional skills and knowledge for technical upgrading.
- > To prepare students who want to continue or transfer to a 4-year university.
- To provide support courses for other Maui CC programs.
- ➤ To provide individuals with basic skills to enhance their own personal knowledge.

3. Student Learning Outcomes of the program

- a. Upon completion of the Sustainable Construction Technology Program, (A.A.S.) students will be able to:
- Identify personal strategies for connecting with the people being served.
- Identify work hazards and materials and use safe practices.
- Describe and select the safe way to use hand and power tools.
- Describe, select, and install the proper anchors, fasteners, and adhesives necessary for a specific project.
- Describe the difference between AC and DC currents.
- Describe and understand operation and functions of emergency circuits.
- Calculate electrical load by using Ohm's law.
- Describe and construct framing components.
- Perform interior and exterior carpentry.
- Perform estimating and take-off quantities for simple projects.
- Identify and select proper paint finishes.
- Apply paint using brush and roller.
- Identify and select proper type of piping for plumbing.
- Identify and select proper type of fitting for plumbing.
- Install and repair plumbing fixtures and connections to job specifications.
- Assemble and fabricate plumbing pipes and fittings to job specifications.
- Identify renewable energies (solar water, photovoltaic, wind, wave, ...etc.).
- Identify green building materials.

- Apply green building materials.
- Follow and apply all national and local building codes.
- Orally communicate with customers, management, and other technicians.

C. Relation to Maui CC Strategic Plan

- 1. The Sustainable Construction Technology (SCT) is using the Maui CC Strategic Plan Action Strategies and the five goals as a guide to making changes to the program. The program is strongest in the first and second goals in the Maui CC Strategic Plan:
 - a. Goal 1. Educational Effectiveness and Student Success
 - Maintain all aspects of the College as a learning-centered institution.
 - Provide instructional methods, technologies, materials, facilities, and academic support services that accommodate students of varied learning styles, backgrounds, interests, and abilities.
 - Provide students with access to a seamless UH system with full articulation between all campuses.
 - Engage students in active learning.
 Use technology to enhance student learning and the quality and efficiency of student service functions
 - b. Goal 2. A Learning, Applied Research, and Service Network

Engage in intellectual and educational activities that enable the county of Maui and the state of Hawai`i to flourish.

Objective 1:

Support the county and state economy, workforce development, and improved access to lifetime education for all by building partnerships within the UH University system and with other public and private educational, governmental, and business institutions.

c. The SCT Program mission and vision statements reflect these goals. The program realizes its importance to the overall mission of the college and the community.

D. Program Faculty

The Sustainable Construction Technology faculty includes two full time instructors and three part time lecturers. In order to keep the focus of the program on teaching

the latest sustainable skills, individuals with a wide range of up-to-date technical skills and experience are needed.

FULLTIME FACULTY

1. Carlton Atay

Sustainable Construction Technology Instructor

Title: Instructor.

Length of Service – 1 year

Courses Taught: CARP 20, CARP 41, CARP 43, MAIN 20,

MAIN40, MAIN 50, BLPR 22, ENRG 193V.

2. Mark Slattery

Sustainable Construction Technology Instructor

Title – Assistant Professor Length of Service – 30 years

Courses Taught: MAIN 30, MAIN 60, ELEC 20, ELEC 23

PART TIME FACULTY

1. William Bennett

Title: Lecturer

Length of Service: 5 years

Course taught: ENRG 101, ENRG 102, ENRG 103, ENRG 193V

2. **JEFF SAEKS**

Title: Lecturer

Number of semesters taught: 1 Course taught: MAIN 70, ELEC 23

3. Mark Morimoto

Title: Lecturer

Length of Service: 5 years

Course taught: WELD 19B, WELD 19C, WELD 19D

E. Ways in which program interacts with these organizations:

- 1. Advisory Committee:
 - a. The Sustainable Construction Technology (SCT) Advisory
 Committee includes two union representatives, a Maui CC staff
 member, two architects, two green energy consultants, and various
 owners and workers in the construction industry. The purpose of this
 committee is to advise the SCT program on the sustainable
 construction industry needs in the community and to guide the
 program towards fulfilling those needs.

The following are SCT program advisory committee members:

Bruce UU Carpenters Union Ray Shimabukuro Electrical Union

Marvin Tengan Maui CC Apprenticeship Gerald Hiyakumoto Hiyakumoto Architects Inc.

Earl Kono Riecke Sunnland Kono Architects

Leo Caires Maui Energy Co

Jennifer Stites Dowling Co/ Green Development

Hilton Unemori ECM Inc.

Ken Ota Irrigation Systems Inc. Ryan Ouye Service Rentals & Supplies

Jim Riley Developer

Juno Comilang Miyake Concrete Accessories Inc

II. CURRICULUM AND STUDENTS

A. General Education Standards (CCOWIQs), program goals, and student learning outcomes

Six general education standards are currently in place: creativity, critical thinking, oral communication, written communication, information retrieval and technology, and quantitative reasoning (COWIQs). The program uses these standards to guide the curriculum and to make modifications in the general education student needs at Maui Community College.

- 1. The history of these general education standards may be found by using this link: http://www.hawaii.edu/ovpp/gened/gedwww.htm
- 2. The Sustainable Construction Technology program is using these six standards to prepare students to have a successful career in sustainable construction and related fields. As a result of the standards being taught in the program, students will be able to do the following:

Quantitative Reasoning (Standard 2)

- Analyze and comprehend the meaning of construction drawings
- Use math in all courses to erect or build for a specific project
- Problem-solve difficult angles
- Perform according to procedures

Oral Communication (Standard 4)

- Relay information to co-workers and supervisors in taking steps to complete project
- Follow directions given orally

Written Communication (Standard 1)

- Write up a new job
- Write a description of repair work that has been performed

Informational Technology (Standard 3)

- Use computers to design and lay out work projects
- Find information and research equipment for specialization projects

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Critical Thinking (Standard 5)

- Lay out the groundwork for a project from start to finish
- Plan ways to work on a project alone or in a group
- Solve complex problems to complete a project

Creativity (Standard six)

- Create plans for structures that meet individual needs and requirements
- 3. The SCT program is designed to facilitate the development of these skills that give students methods to continue learning, to improve themselves, and to succeed in their careers.

B. CCOWIQ and Program Outcome curricular grids

The grid below shows which general education standards were the major, moderate, or minor emphasis of the course--or not part of the course. The grid gives us an opportunity to compare the emphasis on the different standards in all the courses in the program.

Map of General Education Outcomes by Course:

	Critical Thinking	Information Retrieval	Quantitative Reasoning	Oral Comm.	Written Comm.	Creativity
AEC 80	2	2	2	1	2	0
BLPR 22	2	2	2	1	2	1
CARP 20	2	2	2	2	1	0
CARP 41	2	2	2	2	1	0
CARP 42	2	2	2	2	1	0
CARP 43	2	2	2	2	1	0
CARP 44	2	2	2	2	1	0
ELEC 20	2	2	2	2	1	0

ELEC 23	2	2	2	2	1	0
ENRG						
101	2	2	2	1	2	0
ENRG						
103	2	2	2	1	2	0
IEDB 20	1	2	2	1	1	0
MAIN 20	2	2	2	2	1	0
MAIN 30	2	1	2	2	1	0
MAIN 40	2	2	2	2	1	0
MAIN 50	2	2	2	2	1	0
MAIN 60	2	2	2	1	1	0
MAIN 65	2	2	2	2	1	0
MAIN 70	1	2	1	1	2	0

- 3 Major Emphasis: The student is actively involved (uses, reinforces, applies, and is evaluated) in the student learning outcomes. The learning outcome is the focus of the class.
- 2 Moderate Emphasis: The student uses, reinforces, applies and is evaluated by this outcome, but it is not the focus of the class.
- 1 Minor Emphasis: The student is provided an opportunity to use, reinforce, and apply this learning outcome but does not get evaluated on this learning outcome.
- 0 No Emphasis: The student does not address this learning outcome.

Maui Community College Program Assessment Plan Associate of Applied Science in Sustainable Construction Technology

Program Learning Outcomes:

- 1. Use appropriate materials, tools, equipment and procedures to carry out tasks performed on construction projects
- 2. Use math skills to solve problems related to construction plans
- 3. Maintain a safe and healthy worksite and construction project
- 4. Identify the latest construction materials and processes
- 5. Minimize the "waste stream" from projects with an emphasis on efficient reuse of formerly scrap material

- 6. Demonstrate how to retrofit existing buildings with affordable energy-saving projects that have reasonable payback periods for the initial investment
- 7. Research recent advances in locally developed energy sources
- 8. Demonstrate knowledge of the requirements of the Green Building certification program
- 9. Demonstrate knowledge of how to implement the sustainable living practices of the host Hawaiian Culture

Map of Program Learning Outcomes by Course

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
AEC 80	X	X	X	X			X		
BLPR 22	X	X	X	X			X		
CARP 20	X	X	X	X	X	X	X	X	X
CARP 41	X	X	X	X	X	X	X	X	X
CARP 42	X	X	X	X	X	X	X	X	X
CARP 43	X	X	X	X	X	X	X	X	X
CARP 44	X	X	X	X	X	X	X	X	X
ELEC 20	X	X	X	X	X	X	X	X	X
ELEC 23	X	X	X	X	X	X	X	X	X
ENRG 101	X	X	X			X	X	X	X
ENRG 103	X	X	X	X	X	X	X	X	X
IEDB 20		X	X		11	- 11		X	X
MAIN 20	X	X	X	X	X	X	X	X	X
MAIN 30	X	X	X	X	X	- 11		71	X
MAIN 40	X	X	X	X	X				X
MAIN 50	X	X				V		v	
			X	X	X	X		X	X
MAIN 60	X	X	X						
MAIN 65	X	X	X			V	v		
MAIN 70		X	X		l	X	X	<u> </u>	

Program learning outcomes to be assessed each year of the program review cycle. Identify the learning outcomes by number.

A) Timetable

						1
	SP 2010	F 2010	S 2011	F 2011	S 2012	F 2012
PLO 1	X	X	X	X	X	X
PLO 2	X	X	X	X	X	X
PLO 3	X	X	X	X	X	X
PLO 4	X					
PLO 5	X	X	X	X	X	X
PLO 6	X					
PLO 7	X					
PLO 8	X					
PLO 9	X					

^{*} PLO 1, 2, 3, & 5 will be assessed each semester and reported annually.

^{*} PLO 4, 6, 7, 8, & 9 will be assessed each spring and reported annually.

^{*} The SCT program will work towards developing a rubric to show the levels that SCT students are achieving the learning outcomes during the 2009 – 2010 program year.

C. Student Achievement

	Overall Program	Health		Healthy
	Demand Indicators	Academic Year		
			08-09	
1	New & Replacement Positions (State)		266	
2	New & Replacement Positions (County Prorated)		33	
3	Number of Majors		76	Demand Health
4	SSH Program Majors in Program Classes		406	Healthy
5	SSH Non-Majors in Program Classes		750	
6	SSH in All Program Classes		1,156	
7	FTE Enrollment in Program Classes		39	
8	Total Number of Classes Taught		22	
	Efficiency Indicators	Academic Year		
-	Efficiency Indicators	Academic Year	08-09	
9	Average Class Size	Academic Year	17.5	
9	Average Class Size Fill Rate	Academic Year	17.5 71%	
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9 10 11	Average Class Size Fill Rate	Academic Year	17.5 71%	Efficiency Health
9 10 11 12	Average Class Size Fill Rate FTE BOR Appointed Faculty	Academic Year	17.5 71% 3.0	Efficiency Health Healthy
9 10 11 12	Average Class Size Fill Rate FTE BOR Appointed Faculty Majors to FTE BOR Appointed Faculty	Academic Year	17.5 71% 3.0 25.2	•
9 10 11 12 13 13a	Average Class Size Fill Rate FTE BOR Appointed Faculty Majors to FTE BOR Appointed Faculty Majors to Analytic FTE Faculty	Academic Year	17.5 71% 3.0 25.2 34.0	•
9 10 11 12 13 13a	Average Class Size Fill Rate FTE BOR Appointed Faculty Majors to FTE BOR Appointed Faculty Majors to Analytic FTE Faculty Analytic FTE Faculty	Academic Year	17.5 71% 3.0 25.2 34.0 2.2	•
9 10 11 12 13 13a 14	Average Class Size Fill Rate FTE BOR Appointed Faculty Majors to FTE BOR Appointed Faculty Majors to Analytic FTE Faculty Analytic FTE Faculty Overall Program Budget Allocation	Academic Year	17.5 71% 3.0 25.2 34.0 2.2 C/P	•
9 10 11 12 13 13a 14 14a 14b	Average Class Size Fill Rate FTE BOR Appointed Faculty Majors to FTE BOR Appointed Faculty Majors to Analytic FTE Faculty Analytic FTE Faculty Overall Program Budget Allocation General Funded Budget Allocation	Academic Year	17.5 71% 3.0 25.2 34.0 2.2 C/P	•
9 10 11 12 13 13a 14 14a 14b 15	Average Class Size Fill Rate FTE BOR Appointed Faculty Majors to FTE BOR Appointed Faculty Majors to Analytic FTE Faculty Analytic FTE Faculty Overall Program Budget Allocation General Funded Budget Allocation Special/Federal Budget Allocation	Academic Year	17.5 71% 3.0 25.2 34.0 2.2 C/P C/P	•

	fectiveness Indicators	Academic Year		
	rectiveness mulcators		08-09	
17	Successful Completion (Equivalent C or Higher)		70%	
18	Withdrawals (Grade = W)		22	
19	Persistence (Fall to Spring)		72%	
20	Unduplicated Degrees/Certificates Awarded		14	Effectiveness Health
20a	Number of Degrees Awarded		14	Cautionary
20 b	Certificates of Achievement Awarded		8	
20c	Academic Subject Certificates Awarded		0	
20d	Other Certificates Awarded		0	
21	Transfers to UH 4-yr		4	
21a	Transfers with degree from program		4	
21b	Transfers without degree from program		0	

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

Data current as of: 9/22/2009 - 3:45 PM

Distance EducationCompletely On-line		Academic Year	
Classes			08-09
22 Number of Distance Education Classes Taught			0
23 Enrollment Distance Education Classes			0
24 Fill Rate			0%
25 Successful Completion (Equivalent C or Higher)			0%
26 Withdrawals (Grade = W)			0
Persistence (Fall to Spring Not Limited to			
Distance Education)			0%
Perkins IV Core Indica	ators		
Perkins IV Measures 2007-2008	Goal	Actual	Met
28 1P1 Technical Skills Attainment	90.00	100.00	Met
29 2P1 Completion	44.00	42.86	Did Not
30 3P1 Student Retention or Transfer	55.00	72.22	Met
31 4P1 Student Placement	50.00	90	Met
32 5P1 Nontraditional Participation	25.00	19.48	Did Not
33 5P2 Nontraditional Completion	25.00	8.33	Did Not

The SCT Program continues to address the performance in the areas of 1P1 and 2P1, while continuing to address the students' need in the area of academic and remedial challenges. A high number of students enrolled in the program are not completing the general education credits, making these students unsuccessful in meeting their graduating requirements. The program changes have grown out of a desire to reflect the change in construction throughout the nation, as students in SCT are facing academic and remedial challenges.

In the area of completion, instructors and counselors have aggressively worked with students to move them through the "paper process" of applying for their degrees and certificates. The instructors and counselors help students complete their graduation requirements by doing continued monitoring and tracking of students for classes.

D. Changes made in accord with the recommendations of the previous program review for Program Health Indicators (PHIs)

Due to the present economic situation, the roof on the carpentry shop has been delayed to the summer of 2010, along with the new upgrade of electrical power to the building. Therefore, no additional equipment was upgraded to make this a universal shop for all SCT and apprentice programs.

Since the retirement of the full-time building maintenance instructor, the new instructor this Fall 2009 is making progress in cleaning the building out to accommodate the courses he is teaching and to make room for sustainable additions to courses.

In Spring 2009, scaffolds, fall arrest systems, and training videos were purchased to cover the safety issues of working in high places. This equipment and material is required for the training of students in the installation of photovoltaic panels on the building maintenance building roof. It is also used to train students who wish to receive a two-year certified card for training on the scaffold and fall arrest system.

Even though the students were unable to install the PV panels on the roof due to the delay in structural plans and permitting, they were trained to erect and dismantle scaffolds using the safety harness. Since Maui CC now has all the permitting and structural plans approved, the ENRG 193V class in Fall 2009 will go through the same training of erecting and dismantling scaffolds using the fall arrest system and will install PV panels on the building roof.

E. Changes made in accord with the recommendation of the previous program review for Perkins measures

Due to the retirement of the last long term faculty, and my becoming the Program Coordinator in May 2009, I have no data at this time. The focus has been on upgrading the curriculum to meet the requirements. I plan to learn more about the Perkins measures.

F. Measurable Benchmarks

Since the formal start of the program in Fall 2008, enrollment in the program has steadily grown, except in non-traditional participation. As the Program Coordinator, I plan to work with the Perkins coordinator to help get more non-traditional students enrolled in the program.

G. Program/Certificate/Degree Standards, Student Learning Outcomes (SLOs)

- 1. See http://mauicc.hawaii.edu/http://mauicc.hawaii.edu/catalog/ Requirements for Certificate of Competence (Cert.Co.):
 - Basic Carpentry Skills: 6 credits: CARP 20 (3), BLPR 22 (3)
 - Rough and Finish Carpentry: 8 credits: CARP41 (3), 43 (3), 193V (2)
 - Basic Drafting Skills: 6 credits: BLPR 22 (3), AEC 80 (3),
 - ENRG PRODUCTION: 6 credits: ENRG 101 (3), 103 (3)
 - Safety: 2 credits: OSH 20 (1), HLTH 31 (1)
 - Electrical Maintenance: 5 credits: ELEC 20 (3), 23 (2)
 - Maintenance Painting: 4 credits: MAIN 20 (2), 40 (20
 - Small Equipment Repair: 6 credits: ELEC 23 (2), MAIN 20 (2), 60 (2)
 - Maintenance Plumbing: 4 credits: MAIN 20 (2), 50 (2)
 - Welding for Trades: 3 credits: WELD 19B, 19D

2. Certificate of Completion in Introductory Sustainable Construction Technology : 16 credits

CARP 20 (3), MAIN 20 (2), ENRG 101 (3), ELEC 20 (3), OSH 20 (1), HLTH (1), MATH 50 (3)

3. Certificate of Achievement in Sustainable Construction Technology: 33 credits

Includes all coursework in the first and second semesters listed below.

4. Requirements for Associate in Applied Science (A.A.S.) Degree: 64-67 credits

CARP 20 (3), 41 (3), 43 (3) MAIN 20 (2), 30 (2), 40 (2), 50 (2), 60 (2), 70 (2) ELEC 20 (3), 23 (2) ENRG 101 (3), 103 (3) MATH 50T (2), 50Y (1) WELD 19B(1), 19D (1) AEC 80 (3) BLPR 22 (3) COM 130/BUS 130 (3), COM 145, or Speech 151 (3) HLTH 31 (1) OSH 20 (1) Elective Natural Science (3) COOP 193V (2) Elective Social Science (3) Technical Electives: MAIN 65 (2), IEBD 20 (3) CARP 42 (3), or other courses within the program: Elective Humanities (3) ELEC, ENRG, MAIN, CARP, BLPR, AEC ENG 55 (3) or ENG 22 (3)

5. Student Learning Outcomes of the program

- a. Upon completion of the Sustainable Construction Technology Program (A.A.S.) students will be able to:
 - Identify personal strategies for connecting with the people being served.
 - Identify work hazards and materials and use safe practices.
 - Describe and select the safe way to use hand and power tools.
 - Describe, select, and install the proper anchors, fasteners, and adhesives necessary for a specific project.
 - Describe the difference between AC and DC currents.
 - Describe and understand the operation and functions of emergency circuits.
 - Calculate electrical load by using Ohm's law.
 - Describe and construct framing components.
 - Perform interior and exterior carpentry.
 - Perform estimating and take-off quantities for simple projects.
 - Identify and select proper paint finishes.
 - Apply paint using brush and roller.
 - Identify and select proper type of piping for plumbing.
 - Identify and select proper type of fitting for plumbing.
 - Install and repair plumbing fixtures and connections to job specifications.
 - Assemble and fabricate plumbing pipes and fittings to job specifications.
 - Identify renewable energies (solar water, photovoltaic, wind, wave, ...etc.).
 - Identify green building materials.
 - Apply green building materials.
 - Follow and apply all national and local building codes.
 - Orally communicate with customers, management, and other technicians.

H. Program trends, including student goals, enrollment trends, retention, and time of completion.

Many students do not earn certificates or degrees because they are already working part time in the field while enrolled in the program. They complete the program courses but fail to complete the general educational courses. We encourage all students to continue their education and complete the certificate or degree, but the urge to work full time is too great. The students that are continuing to work and attend college part time are completing their certificates or degrees in three years. The Perkins indicators show that the number of program graduates is low, but it does not indicate how many of the students are working in the field as a career.

I. Changes in field; resources; shifts to respond to changes

Improvement to the program continues under the direction of the Program Coordinator, adding new equipment, upgrading the curriculum, and being creative in ways to make students successful. The program uses G- funds to supplement all courses in the SCT program.

J. Major curricular changes since last review.

SCT has acquired updated textbooks and materials to meet the industry standards. Also new power tools were purchased to meet safety standards and supplies were replenished to meet work standards.

K. Student advising and the degree to which faculty participate in the mentoring of students.

Faculty continues to be available to all students for advising in instructional and career planning. Advice is given freely and communication runs both ways. Each semester class advising includes note taking, test taking, and team advising, including meetings with a vocational counselor where class planning for college completion is conducted. Instructors participated in new-student orientation programs for new students, resulting in easier transitions for students into the SCT program.

L. Opportunities for student involvement in program-related organizations, clubs, and governance.

There is no SCT program club; however, students may participate in the campus student government activities. Students in the program participate in the annual erection and dismantling of the Maui CC county fair booth, and students are invited to participate in decorating the booth.

M. Use of lecturers to teach courses; related concerns

Lecturers are used in the program when full time faculty are unable to teach a class due to instructor load. The program coordinator recruits the best qualified person to teach the subject.

An on-going concern is lecturers' teaching abilities and experience. Coordination and support of the lecturer is crucial to assure that he or she has the ability to teach at the level that assures the theory and learning outcomes are met. The Program Coordinator is charged with mentoring lecturers and supporting them through the process of becoming successful instructors. Lecturers are also evaluated through the standard college evaluation process whereby students rate the instructor in each class.

N. Admission policy

The program has found that students need to complete English 19 with a grade C or better or test into at least English 22 to do well in the SCT program. The program also requires Math 22 [D] or concurrent for CARP 20, and (Math 1 [C] or COMPASS Pre-Algebra (47) for ENRG 101.

The program also uses Compass Writing (40) skills as a prerequisite.

O. Job placement, including job prospects and procedures for placing graduates

- 1. The campus has a job placement office in the form of Cooperative Education where students receive credit for working at on-the-job skills.
- 2. The program is working with the unions in the construction industry for

job placement upon completion of courses when there are openings.

3. This was the first year of a shadowing program. Students from high schools spend class time in the program participating with our regular students, giving high school students hands-on experience in the classroom and lab.

P. Articulation with high schools, community colleges, and four-year institutions

1. Sustainable Construction Technology has an articulation agreement with the Department of Education statewide. This agreement allows high school Building Construction students who completed two years in the Building Construction with a B or better to receive three credits in an articulated class in Maui CC Sustainable Construction Technology.

Q. Centers or Institutes

None is in place, to the best of my knowledge.

V. ANALYSES OF PROGRAM – TYING IT ALL TOGETHER

A. Summary statement

- 1. The Program continues to make progress towards improvement in all areas. Changes made by the Program Coordinator and instructors are visible in every aspect of the program, including the increase in student numbers; the partnerships with the industry, community, and other Maui CC programs on campus; the overall appearance of the shops and classrooms; and the addition of new equipment and technology.
- 2. The SCT Program will continue to progress in achieving the standards for Green Building (National Association Home Builders) Professional Certification and teach the content of Leadership in Energy and Environmental Design (LEED).

B. The following are our plans for next year:

- 1. Continue to recruit students, including non-traditional, into the SCT program (at college fairs, shop tours, career fairs, school visitations).
- 2. Work with Non-Traditional Committee to continue recruitment and retention of non-traditional students.
- 3. Work with counselor to increase number of students who apply for and receive certificates.
- 4. Continue cleaning and transforming the carpentry, maintenance, and welding shops to enable more efficient use of the buildings, including green building equipment.

- 5. Increase past efforts with Service Learning. Re-establish a partnership with Habitat for Humanity on Maui. In the past, this has given students many hands-on opportunities to practice varied skills and trades. Additional partnerships will also be explored.
 - 6. Review and update the curriculum to keep it in line with developing industry trends, while making sure that the basics (including verbal and computational skills) are adequately covered.
 - 7. Pursue certification of LEED or NAHB.
 - 8. Work with the Sustainable Science program to align sustainable course offerings.

C. Budget for Next Year:

- 1. Review all the equipment and material needs and request funding for the latest technology tools and materials.
- 2. Continue working with RDP (Rural Development Program) for grants.
- 3. Upgrade training videos for safety and equipment use.

D. BOR questions:

• Is the program organized to meet its objectives (student learning outcomes?)

YES

• Is the program meeting student learning outcomes?

YES

• Are program resources adequate?

No, additional funds for equipment and materials are needed.

• Is the program efficient?

At this point, it is a work in progress.

• Does your review provide evidence of a quality program?

YES

 Are the program outcomes compatible with the student learning outcomes?

YES

• Are the program student learning outcomes still appropriate functions of the college and university?

YES

- E. Resource Implication (physical, human, financial)
 - 9. Assistance/support from RDP.
 - 10. Sustainable Construction Technology instructors and counselors.
 - 11. State General Funds.