

"We Guarantee Quality and Excellence"

Palau Community College is an accessible public educational institution helping to meet the technical, academic, cultural, social, and economic needs of students and communities by promoting learning opportunities and developing personal excellence.

INSTRUCTIONAL PROGRAM FOUR YEAR REVIEW

Academic Program

CONSTRUCTION TECHNOLOGY

Period of Four Year Review

Fall 2009 to Summer 2013

Completed By:

Lester Rekemesik Program Instructor(s)

Date: 2/16/15

Program/Department Chair:

. 4

Dean of Academic Affairs:

<u>Lester Rekemesik</u> Pahnt Jaman

Robert Rămarui

Date: <u>2/16/15</u>

Date: <u>2/16/15</u>

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Program Review Narrative Summary

• Summary of the academic program purpose:

The Construction Technology program is designed to meet academic and technical needs of the students and community in building construction. It equips students with knowledge, skills, proper work attitude/habit necessary to survive in this field as well as becoming a contributing member of the community. After completing the program, a student may either choose to advance their career or seek employment in building construction as draftsman, carpenter, mason, plumber, field foreman or building materials salesman. Students are also prepared as well to compete in this industry as building contractors.

The following Courses are offered in the Construction Technology Program:

- ✤ General Carpentry for None Major
- Construction Safety, Tools & Equipment
- Introduction to Construction
- Footing & Foundation
- ✤ Floor, Wall & Ceiling Framing
- Roof Framing & Exterior Finishing
- ✤ Interior Trim & Cabinet Making
- ✤ Blueprint Reading
- Construction Management
- Residential Plumbing
- Plumbing for None Major
- Basic Masonry/Concrete Work
- Selection and Design of Concrete Mixture
- ✤ Computer Aided Drafting

These courses are designed to enable students to pursue higher education, seek employment in this field or starting their own building construction business.

• The relationship of program to the college Mission Statement

PCC Mission Statement:

Palau Community College is an accessible public educational institution helping to meet the technical, academic, cultural, social, and economic needs of students and communities by promoting learning opportunities and developing personal excellence.

The Construction Technology Program supports the College Mission Statement by providing first and foremost, an **accessible educational institution** to all students. The program courses are designed to provide both **academic and technical** needs of students in order to pursue a

career of their choice in the construction arena. This program also recognizes the **cultural** differences of students from various islands and facilitates understanding of local building materials and construction methods, and the utilization of cultural aspects of tradition building codes. The Program also guarantees the **economic** needs of the students by equipping them with employable knowledge, skills, and work ethics for a promising career in the construction community. Additionally, The Construction Technology Program's Builders' Club accepts and undertakes projects to promote hands-on part of the program as well as provide opportunities for students to experience the economics of the trade. Overall the process allow for a real world learning opportunities a student can undertake to develop to become a contributing member of the community, a community which they helped to build.

- Summary of Program Data
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a. Figure 1. Student Status

Figure 1. Represent number of student enrollments in all courses as well as the number of students who passed, failed, audited, and withdrew from the courses. The difference between the passing and failing rates of students indicate that more students successfully pass CT courses.

No students enrolled in the courses as auditing students and only a few withdrew. Summer semester enrollment is very low as Internship Course in the only course offered.

Overall, the data indicates that majority of the students enrolled in CT courses successfully completed the courses.



b. Figure 2. Number of Graduated

Figure 2. Represent the number of graduates from the program. Apparently, the graph indicates low number of gradates each year, which basically mean s that only a few number of students are completing the program. The graph also indicates a scarce number of graduates every semester from spring 2010 to summer 2013.

Overall, it is without a doubt that very few students are completing the program compared to the enrollment number in Figure 1 in each semester. This also means that while many students are completing the program courses, only a few are able to graduate. It can be because they fail to complete their general education course requirement. This can also be evident through this graph by the scarce number of graduates each semester.



c. Figure 3. Number of classes based on enrollment

Figure 3 represent the number of classes based on enrollments. The graph clearly indicates that there are more classes with enrollment between 10 - 19 students then the class with under 10 student and zero classes with 20 or more students. The lowest enrollment would be in summer because only the internship course is offered. This is also evident in Figure 1 where summer shows a lowest number of enrollments.

Again, it is also evident that despite the high enrollment in the program course compare to the last review, the fact remains that only a few number of students are completing all program requirement therefore enrolling in the internship course in summer thus completing the program.



d. Figure 4. Class offering

Figure 4 shows the type of classes offered throughout the whole cycle. As evident, majority of classes offered are lecture and laboratory type of classes with exception of internship which is total laboratory class offered mostly in the summer. Sometimes depending on the student in also be offered in fall or spring as well.

The lowest class offerings in this graph are usually the second year courses where only those with graduating potential are enrolled. The number of students resembles the internship enrollment in the summer.



e. Figure 5. Faculty Head Count

Figure 5 represents the number of full time and part time faculty that teaches CT classes. Currently, there are two full time CT faculties who teach all CT courses with exception of Internship which is handled by a part time faculty and employer's representatives. The early part of the graph shows three fulltime faculties because one faculty resigned thereafter.

f. Figure 6 faculty to class size ratio

	Fall			Fall			Fall		Summe	Fall	Spring	Sum
Datio	2009	Spring	Summe	2010	Spring	Summe	2011	Spring	r 2012	2012	2013	mer
Katio		2010	r 2010		2011	r 2011		2012				201
												3
Full												
Time	2.66	3 · 61	•	3 . 67	$3 \cdot 70$	•	3 · 60	3 . 68	•	2.68	2.61	1 · 5
Faculty	2.00	5.04	·	5.02	5.70	·	5.09	5.00	·	2.08	2.04	1.5
(F : S)												
Part												
Time			1.2			1 • 2			1.2			1.5
Faculty	- ·	·	1.2	·	·	1.3	·	·	1. 5	··	·	1.5
(F : S)												

The table above shows the faculty to student ratio. It illustrate the ratio of faculty to the number of student enrolled in each semester however does not show distribution of student amongst the faculties. There are usually two fulltime faculties for each regular semester and one part time faculty in the summer for the internship course. The number of student may seem higher because one student can be enrolled up to four p classes each semester. For example, a freshmen student can be enrolled in CT 122, 123, 124, and BP 115 in spring therefore if the class size is 10, then the ratio would be 2:40 but the actual faculty /student ratio would be 1: 30 and 1:10. In the summer, the ratio of student further illustrates a low number of students eligible for internship course leading to low graduation rate each year.

• Summary of Student Learning and Curriculum

Currently there are 14 courses offered in the program, three of which are for none majors and eleven are required for the degree program. All course outlines are updated and with identified Course Learning Outcome (CLO). All courses CLO's are aligned with Program Learning Outcome (PLO) with and all PLO's are aligned with the ILO's.

Summary of Course Assessment Data

a. How has assessment of course-level student learning outcomes led to improvement in program-level student learning?

There are five PLO's with all courses-level students learning outcome aligned accordingly. The PLO's are as follows;

- a. Student will demonstrate blueprint reading skills in residential construction
- b. Student will demonstrate carpentry skills in residential construction
- c. Student will demonstrate Masonry skills in residential construction
- d. Student will demonstrate plumbing skills in residential construction
- e. Student will demonstrate construction management skills in residential construction

Overall, the course assessment although still undergoing constant review and modification have been the detail assessment of the PLO's because in the end it is the program – level student learning outcome that will be affected. And it is the result of CLO assessment that will pave way for improvement in the program level. Shortcomings or successes as a result of the CLO's assessment will lead to the changes and the improvements at the program level.

b. How has assessment of program-level student learning outcomes led to certificate/degree program improvements?

Currently, the PLOs themselves are not directly assessed but rather indirectly. When the CLO's aligned with PLO's are assessed, PLO's are in returned assessed as well. Therefore, continuous assessment of the program courses in turn provides continuous

assessment of PLO's which provides clear picture of programs accomplishments. This can justify appropriate measures required for improvement if necessary. This also provide for a valid documentation for evidence in the event when major alteration is deemed necessary.

In the table above it is evident that the PLO's 1& 5 especially five needs some attention, more focus of resources must be geared toward PLO 5 as it is evident that the program is not meeting the set minimum percentage of students performing at the proficiency level. Improvement of participation and attendance of students must be addressed immediately in collaboration with the counselors.

• Summary of Evaluation of Previous Goals/Activities from Previous Cycle (Figure 5)

- a. List actions identified in your last program review or in any other related college plan(s)*.
 - Increase pass rates: Completion of General Education Courses prior to enrollment in the Program Courses. Ongoing
 - Increase pass rates : Ensure prerequisites have been completed prior to enrollment in the Program Courses. Ongoing
 - Facilitate improved pass rates for MA100, BA110, and BP115. Ongoing
 - Increase enrollment in ED110. Ongoing

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- Create a plan to recruit new students to CT program and encourage the return of former student. Ongoing
- Negotiate for improved students facilities: Ongoing
 - 1. Shower facilities
 - 2. Lounge/lunch room
 - 3. First Aid Kit and Equipment
 - 4. Fire extinguisher
- Improve class scheduling. Ongoing
- Secure sufficient funding to purchase materials. Ongoing
- Prepare schedule for replacement of outdated equipments and secure sufficient funding to procure new equipment. Ongoing
- Prepare a regular preventive maintenance schedule. Ongoing
- Establish Construction Department Safety Manual and Accident Procedures Manual and Accident Log. Ongoing
- Identify professional development opportunities. Ongoing
- Research and attend conferences and workshops for staff development. Ongoing
- Bachelor's Degree (education) Completed

b. What measurable outcomes were achieved due to the actions completed?

One measurable outcome, as result of the many actions ongoing, is the continuing increase in enrollment especially for local student. This is an indication of recruitment effort in the local high schools. Another achievement as result of scheduling improvements is the increase in the retention and passing of CT classes although much work still needs to be done for the General Education Courses required where most of the students failing.

As for the faculty, many workshops, trainings and seminars were attended mostly on the issue of accreditation compliance while only a few were on the respective trade area. It is up to each instructor to seek opportunities elsewhere and the college will be willing to fund. The bachelor degree acquisition was complete and one faculty is now in compliance with college credentials requirements.

c. Evaluate the success of the completed actions. Did the completed actions lead to improvement of student learning?

Certainly, the completed action along with the many ongoing ones led to the overall improvement of the student learning. the improvement on resources acquisitions and improvement on the quality of instructors led to the improvement on the quality of instructions. Facility and the technological improvement also helped provide adequate learning environment conducive to student learning as skills development.

d. What modifications do you plan to make to the program to improve student learning?

Update and validate all the courses, continue to improve on class scheduling, and seek opportunities and resources to help students complete, especially the general education courses, and graduate.

Incorporate local expertise in the private sector in the development of the validation of the courses to entice more adjunct faculty for specializes area instruction. This can also be a motivation to student to work toward filling those positions after graduation.

Update major changes/accomplishments since the last review.

Course assessment is one of the major improvements of the program since the last review. We can now assess all courses in line with the program and institutional learning outcome. And all the changes and improvement can now be directly tied to the student learning outcome.

• Summary of Program Major Strengths

- a. Continuous improvement in enrollment shows that the program is progressing.
- b. Employment of the graduates is another good example of the strength of the program, it's a positive sign that the program is graduating employable students
- c. Students are able to perform campus and community projects demonstrating skills learned from the program.
- d. Finish projects on and off campus that are performed by the students with positive results reflect the strength of the program.

• Recommendations for Improvements

- a. Does the student assessment data and/or any other college plan indicate overall program needs that may require support from the institution? Define these observed needs supported by assessment data and/or any other college plan.
 - One area that is clearly visible as a result of assessment is the low retention and completion rating. And this has been an ongoing issue for many years now. We can

spend so much time, effort, and resources to improve the quality of instructional services but if the student does not complete the program and move on, then our services are meaningless. This is not to say that nothing has been done, it is not enough therefore only a little progress is realized. There are more that needs to be done and the time is of essence.

- Collaboration between the counselor and program faculty must be improved, the reporting of WSPR and house calls is old news, more have to be incorporated in order to get the message across, perhaps more parental and community involvement.
- Another needs of the program that requires immediate action is the hiring of assistant instructor. This is not a result of assessment but rather an ongoing plan for college in an effort to improve the quality of the instructional delivery by reducing the student to faculty ratio in all the shop area programs. Construction is one of the programs without assistant instructor.
- Summary of Action Plans
 - a. Review and update all courses to meet the validity requirement
 - Emphasize the input from local expertise support group for skills validity
 - Since text book is not used, incorporate utilization of on- line resources
 - b. Improve student success rate
 - 1. Increase students success in CT212, BP115, & AD120
 - 2. Continue to improve students' performance in Genera Ed classes
 - c. Continue to improve student facilities
 - include shower facility at least
 - d. Continue to upgrade shop equipment and establish preventive maintenance schedule
 - Prepare equipment replacement plan
 - Prepare preventive maintenance schedule
 - e. Expedite the establishment of department safety and accident report manual and accident log
 - f. Schedule annual professional development workshops, conferences, and other opportunities
 - g. Establish relations with local employers for improved apprenticeship and internship opportunities.
 - h. Continue to provide adequate materials, supplies and equipment
- Summary of Resource Request (if any)
 - Personnel
 - a. Immediate hiring of assistant instructor to meet the ongoing college plan to hire assistant instructors for all shop area
 - Facilities
 - a. Shower facility for carpentry shop for students to be able get ready for class after the laboratory of on site work
 - Equipment are currently being replaced according to the college long term budgetary plan
 - Supplies are currently being provided on needs basis every semester
 - Trainings
 - a. Faculty will work with academic affairs office to ensure ongoing Professional development training, workshops, or seminars

- b. Technical advancement training will also be planned annually
- c. OSHA training on industrial safety will take place immediately this summer 2015
- d. Trainer Certification Training will be scheduled in the summer 2015 after the safety training

Appendix A: Program Review Assessment Data

1.0 Program Data



Figure 1. Number of Students Enrolled, Pass/Credit, Fail/No Credit, Audit and Withdraw

Figure 2. Number of Graduates



■AS/AA ■AAS ■CA





Figure 4. Class Offering



Figure 5. Faculty Head Count



Table 1. Faculty to Class Size Ratio (program headcount).

Ratio	Fall 2009	Spring 2010	Summe r 2010	Fall 2010	Spring 2011	Summe r 2011	Fall 2011	Spring 2012	Summe r 2012	Fall 2012	Spring 2013	Sum mer 201
												3
Full												
Time	2.66	3 · 61		3 · 62	$3 \cdot 70$	•	3 · 60	3 · 68	•	2.68	2.64	1 · 5
Faculty	2.00	5.04	·	5.02	5.70	•	5.07	5.00	•	2.00	2.04	1.5
(F:S)												
Part												
Time			$1\cdot 2$			1 · 3			1.3			1.5
Faculty	- ·	·	1.2	·	·	1.5	·	•	1. 5	·	·	1.5
(F:S)												

2.0 Student Learning and Curriculum

How many program courses are there? (refer to catalog)	% of courses with Identified CLOs	% of course outlines	% of courses whose Textbooks are updated	% of PLOs aligned with
		updated	(outline reflects change)	ILOs
12	100%	100%	N/A	100%

3.0 Course Assessment Data Year 1: School Year 2010 -2011

Semester	Course	CLO - PLO Alignment	Results of Assessments
Assessed	Assessed	_	
Fall 2010	AD120	CLO 1,2,3,4,6 – PLO 1 CLO 5 – PLO 5	100% of students performed below proficiency level for CLOs 1-3 while 50% of the student performed at proficiency level for CLOs 4-8. No action is needed
	CT113	CLO 1- PLO 1 CLO 1,2,3,4,6 – PLO 2 CLO 1,5 – PLO 3 CLO 1 – PLO 4 CLO 1 – PLO 5	90% of students performed at the proficiency level for CLO 1-6; no action is needed
Spring 2011	CT123	CLO 1-6 – PLO 1,2 CLO1 – PLO 5	90% of students performed at proficiency level for CLO1-6; no action needed at this time
	CT124	CLO 1-6 – PLO 1,2 CLO 1 – PLO 5	90% of students performed at proficiency level for CLO1-6; no action needed at this time

Year 2: School Year 2011-2012

Semester	Course	CLO - PLO Alignment	Results of Assessments
Assessed	Assessed		
	AD120	CLO 1,2,3,4,6 – PLO 1 CLO 5 – PLO 5	20% of students (1: 5 students) performed at the proficiency level for CLO 1- 5 due to poor attendance, need counselors input.
Fall 2011	CT112	CLO 1-5 – PLO 2 CLO 1 – PLO 3-5	90% of students performed at proficiency level for CLO 1- 5; no action is needed
	CT113	CLO 1- PLO 1 CLO 1,2,3,4,6 – PLO 2 CLO 1,5 – PLO 3 CLO 1 – PLO 4 CLO 1 – PLO 5	90% of students performed at proficiency level for CLO 1- 6; no action is needed
	CT115	CLO1-7 – PLO 1,2 CLO 1,2,6,7 – PLO 3 CLO 1 – PLO 4 CLO 1,2,3 – PLO 5	80% of students performed at proficiency level for CLO 1- 4; no action is needed 90% of students performed at proficiency level for CLO 5-7; no action is needed
	MS101	CLO 1,3,4 – PLO 1 CLO 1-4 – PLO 3 CLO 1 – PLO 5	85% of students performed at proficiency level for CLO 1-5; no action needed at this time
	CT212	CLO 1-5 – PLO 5	33% of students performed at proficiency level for CLO 1-5; attendance problem, need to work w/ counselor for improvement.

Year 3: School Year 2012 – 2013

Semester	Course	CLO - PLO Alignment	Results of Assessments
Assessed	Assessed		
	CT112	CLO 1-5 – PLO 2	100% of students performed at proficiency
		CLO I = PLO 3-5	level for CLO 1,2,& 4; no action needed at this
			time.
			80% of students performed at proficiency level
Fall 2012			for CLO 3&5; no action needed at this time.
	CT113	CLO 1- PLO 1	90% of student performed at proficiency level
		CLO 1,2,3,4,6 – PLO 2	for CLO 1-6; no action needed at this time.
		CLO 1,5 – PLO 3	
		CLO 1 – PLO 4	
		CLO 1 – PLO 5	
	CT115	CLO1-7 – PLO 1,2	90% of student performed at proficiency level
			for CLO 1-7; no action needed at this time.

	DD115		
	BP115	CLO 1-5 – PLO 1	60% of students performed at proficiency level
		CLO 5 – PLO 5	for CLO1-5 PROJECT; need encouragement to
Spring 2013			complete work on time
			23% of student performed at proficiency level
			for CLO 1-5 FINAL EXAM; need more time to
			prepare for exam.
	AD 210	CLO 1-7 PLO1	89% of students performed at proficiency level
		CLO 4,5,6 – PLO 4	for CLO 1-7; no action needed at this time

4.0 Program Learning Outcomes (PLOs) Assessment

List PLOs	Proficiency Level	Results of Assessments
CT PLO #1	CT113- CLO 1 - 90% CT115- CLO 1-7 - 80% CT123 - CLO1-6 - 90% CT124 - CLO 1-6 - 90% CT212 - CLO 1-5 - 33% BP115 - CLO 1-6 - 60% AD120 - CLO 1-6 - 20% MS101- CLO 1,3,4 - 85% AD210 - CLO 1-7 - 89%	71% of the student reached proficiency level for CT PLO #1 no action is needed
CT PLO # 2	CT 112 - CLO 1-5 - 100% CT113 CLO 1,2,3,4,6 - 90% CT115 - CLO 1-7 - 80% CT123 - CLO 1-6 - 90% CT124 - CLO 1-6 - 90%	90% of the students reached proficiency level for CT PLO #2; no action is needed
CT PLO #3	CT112 – CLO 1 - 100% CT113 – CLO 1,5 – 90% MS101 – CLO 1-4 – 85%	92% of the students reached proficiency level for CT PLO #3; no action is needed
CT PLO #4	CT112 – CLO 1 – 100% CT113 – CLO 1 – 90% AD210 – CLO 4,5,6 – 89%	93% of the students reached proficiency level for CTPLO #4; no action is needed
CT PLO #5	CT112 – CLO 1 – 100% CT113 – CLO 1 – 90% CT123 – CLO 1 – 90% CT124 – CLO 1 – 90% CT212 – CLO 1-5 – 33% MS101 – CLO 1 – 85% BP115 – CLO 5 – 60%	67% of the students reached proficiency level for CTPLO #5; need to work closely with counselors to reduce absences for BP115 & CT212, student failure is due to not showing up therefore, missing works and exams

5.0 Evaluation of Previous Program Review Action Plans

Action Plan Activity/Objectives	Status Complete/Ongoing /Incomplete	Remarks
Increase pass rates: Completion of General Education Courses prior to enrollment in the Program Courses	Ongoing	It's being partially implemented on a case by case basis depending on students academic performances
Increase pass rates: Ensure prerequisites have been completed prior to enrollment in the Program Courses	Complete	It's being implemented
Facilitate improved pass rates for MA100, BA110, and BP115	Ongoing	Counselors are scheduling these classes much later for those at risk students, allowing them to complete all prerequisites.
Increase enrollment in ED110	Ongoing	ET Program instructors are working on this.
Create a plan to recruit new students to CT program and encourage the return of former student	Ongoing	Counselors and office of admission are working closely in this regard to all programs students
Negotiate for improved students facilities: 5. Shower facilities 6. Lounge/lunch room 7. First Aid Kit and Equipment 8. Fire extinguisher	Ongoing	Carpentry shop remodeling planning is ongoing to include shower and students lounge, First Aid Kits are readily available for students all the time, and the Fire Extinguisher is place in the shop.
Improve class scheduling	Ongoing	Since last year, block scheduling has been piloted and tested for the improvement of courses completion and retention. I was officially approved and implemented Fall 2014 and still undergoing review and modification.
Secure sufficient funding to purchase materials	Ongoing	Academic Affairs Dean and Business Office are working together to make sure materials, supplies, and equipments are readily available.
Prepare schedule for replacement of outdated equipments and secure sufficient funding to procure new equipment	Ongoing	Most of the Equipments have been replaced with new portable type for energy efficiency. Others, although outdated, are still in good condition.
Prepare a regular preventive maintenance schedule	Ongoing	The schedule is undergoing review, however regular preventive maintenance on all equipment including shop facilities is ongoing.

Indicate the status of the previous program review action plans

Establish Construction Department	Ongoing	Program Faculty is currently preparing
Safety Manual and Accident		draft for review
Procedures Manual and Accident Log		
Identify professional development	Ongoing	Program faculty is continuously seeking
opportunities		opportunities with the support of
		academic affairs office.
Research and attend conferences and	Ongoing	Program faculty is continuously
workshops for staff development		attending staff development workshops
		and conferences on and off island
Bachelor's Degree (education)	Completed	Program Faculty (Lester) earned his
		degree in 2012

6.0 Action Plans

Based on this program review results, describe the program action plan for the next three (3) academic years. Include necessary resources.

Action Plan Activity/Objectives	How will this action plan improve student learning outcomes? (CLO, PLO, ILO)	Needed Resources (if any)	Timeline
Review and update all courses	Update as well as validating student learning outcome at all levels		Within this academic year
Continue to improve class scheduling	Increasing class completion and retention	In collaboration with Counselors	Within a year
Increase students success in CT212, BP115, & AD120	Increase the percentage of number of student performing at proficiency level	Required materials and supplies	Within a year
Improve student attendance and retention	Increase student performance in class and signature assignments	In collaboration with Counselors	ASAP
Improve students performance in Genera Ed classes	Increase internship course enrollment and graduation rating	Funding for tutors and lab for shop program students at the lower campus	ASAP
Continue to improve student facilities to include shower facility at least	Allow students to prepare for their other classes without going back home. Improve classes attendance, also provide for hands for students	Funding	Before the next review
Continue to upgrade shop equipment and establish preventive maintenance schedule	Allow graduates to enter into work forces prepared with compatible equipment's use and maintenance skills	Funding	As soon as funding is available
Expedite the establishment of department safety and accident report manual and accident log	Ensures students safety and all incidents documentation.	Expert o n the field Required materials	ASAP

Schedule annual	Improve faculties performance	Funding	Yearly
professional	which will have greater impact on		
development	the overall success of the program		
workshops,	both at course-level and program-		
conferences, and other	level students learning outcome		
opportunities			
Establish relations	Guarantee on-site exposure to	Fulltime Coordinator is	Within this
with local employers	students as well as employment	required	year
for improved	and career advancement after		
apprenticeship and	graduation. This will also		
internship	Strengthen internship course and		
opportunities.	its intended purpose.		
Increase hand-on	This will increase the level of	Reliable Transportation	Starting this
activities and	skills development from lab to		semester
opportunities	real-world experience.		
Continue to provide	Students performance relies on	Timely resources	Semester by
adequate materials,	adequate resources required	acquisitions	semester
supplies and			
equipment			

7.0 Resource Requests

Type of	Description	Estimated	Justification
Resource		Amount	
		Requested	
Personnel	Assistant instructor	\$15,378.00	To fulfill the plan of the college in reducing the
			faculty to student ration
Facilities	Shower room		For students to use after laboratory classes
Equipment			
Supplies			
Software			
Training	Industry Safety Training		To help prepare safety and accident manual and report log
Other			
Total			

Appendix B: Program Learning Outcomes (PLOs)

Palau Community College Construction Technology Program Program Learning Outcomes

During the program duration, the *Program Learning Outcomes* (PLOs) will be assessed through the use of signature assignments of course learning outcomes which are aligned with the PLOs. A rating scale will be used to determine the students' proficiency level of each PLO using specifically aligned assignments. The numerical ratings of 5, 4, 3, 2 and 1 are not intended to represent the traditional school grading system of A, B, C, D and F. The descriptions associated with each of the numbers focus on the level of student performance for each of the course learning outcomes listed below.

Rating Scale:	5 Exellent
	4 Above Average
	3 Average
	2 Below Average
	1 Unaceptable

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Competency 1: Student will demonstrate blueprint reading skills in residential construction

Numerical Value	Performance Criteria		
5	Demonstrate ability to freehand sketch isometric, oblique and orthographic projections of complex objects; identify building features, materials and types of construction from lines, symbols and abbreviations on drawings and schedules; determine and calculate building dimensions; interpret notes and specifications; create basic set of plans using layers, blocks, external references, and model and paper space in AutoCAD at entry-level with 90 – 100 % accuracy.		
4	Demonstrate ability to freehand sketch isometric, oblique and orthographic projections of complex objects; identify building features, materials and types of construction from lines, symbols and abbreviations on drawings and schedules; determine and calculate building dimensions; interpret notes and specifications; create basic set of plans using layers, blocks, external references, and model and paper space in AutoCAD at entry-level with 80 – 89% accuracy.		
3	Demonstrate ability to freehand sketch isometric, oblique and orthographic projections of complex objects; identify building features, materials and types of construction from lines, symbols and abbreviations on drawings and schedules; determine and calculate building dimensions; interpret notes and specifications; create basic set of plans using layers, blocks, external references, and model and paper space in AutoCAD at entry-level with 70 – 79% accuracy		

2	Demonstrate ability to freehand sketch isometric, oblique and orthographic projections of complex objects; identify building features, materials and types of construction from lines, symbols and abbreviations on drawings and schedules; determine and calculate building dimensions; interpret notes and specifications; create basic set of plans using layers, blocks, external references, and model and paper space in AutoCAD at entry-level with 65 – 70% accuracy.
1	Demonstrate ability to freehand sketch isometric, oblique and orthographic projections of complex objects; identify building features, materials and types of construction from lines, symbols and abbreviations on drawings and schedules; determine and calculate building dimensions; interpret notes and specifications; create basic set of plans using layers, blocks, external references, and model and paper space in AutoCAD at entry-level with less than 65% accuracy.

Competency 2 Student will demonstrate carpentry skills in residential construction.

Numerical Value	Performance Criteria	
5	Demonstrate ability to perform required carpentry skills including measuring, layout, cutting, ripping, leveling, plumbing, smoothing, shaping, installing, and finishing in residential construction at entry-level with $90 - 100\%$ accuracy.	
4	Demonstrate ability to perform required carpentry skills including measuring, layout, cutting, ripping, leveling, plumbing, smoothing, shaping, installing, and finishing in residential construction at entry-level with 80 - 89% accuracy.	
3	Demonstrate ability to perform required carpentry skills including measuring, layout, cutting, ripping, leveling, plumbing, smoothing, shaping, installing, and finishing in residential construction at entry-level with $70 - 79\%$ accuracy.	
2	Demonstrate ability to perform required carpentry skills including measuring, layout, cutting, ripping, leveling, plumbing, smoothing, shaping, installing, and finishing in residential construction at entry-level with 65 – 69% accuracy.	
1	Demonstrate ability to perform required carpentry skills including measuring, layout, cutting, ripping, leveling, plumbing, smoothing, shaping, installing, and finishing in residential construction at entry-level with less than 65% accuracy.	

Competency 3 Student will demonstrate masonry skills in residential construction.

Numerical Value	Performance Criteria
5	Demonstrate ability to perform required masonry skills including measuring, layout,
	leveling/plumbing, cutting, installing, and finishing in residential construction at entry-level with
	90 – 100% accuracy.
	Demonstrate ability to perform required masonry skills including measuring,
4	layout, leveling/plumbing, cutting, installing, and finishing in residential construction at entry-
	level with 80 – 89% accuracy
	Demonstrate ability to perform required masonry skills including measuring, layout,
3	leveling/plumbing, cutting, installing, and finishing in residential construction at entry-level with
	70 – 79% accuracy
	Demonstrate ability to perform required masonry skills including measuring, layout,
2	leveling/plumbing, cutting, installing, and finishing in residential construction at entry-level with
-	65 – 69% accuracy.
	Demonstrate ability to perform required masonry skills including measuring, layout,
1	leveling/plumbing, cutting, installing, and finishing in residential construction at entry-level with
1	less than 65% accuracy
1	

Competency 4 Student will demonstrate plumbing skill in residential construction.

Numerical Value	Performance Criteria		
5	Demonstrate ability to perform required plumbing skills including measuring, layout, cutting, leveling/plumbing, installing, and testing in residential construction at entry-level with 90 – 100% accuracy.		
4	Demonstrate ability to perform required plumbing skills including measuring, layout, cutting, leveling/plumbing, installing, and testing in residential construction at entry-level with 80 – 89% accuracy.		
3	Demonstrate ability to perform required plumbing skills including measuring, layout, cutting, leveling/plumbing, installing, and testing in residential construction at entry-level with 70 – 79% accuracy.		
2	Demonstrate ability to perform required plumbing skills including measuring, layout, cutting, leveling/plumbing, installing, and testing in residential construction at entry-level with 65 – 69% accuracy.		
1	Demonstrate ability to perform required plumbing skills including measuring, layout, cutting, leveling/plumbing, installing, and testing in residential construction at entry-level with less than 65% accuracy.		

Competency 5. Student will demonstrate construction management skills in residential construction

Numerical Value	Performance Criteria		
5	Demonstrate ability to plan, organize and control small construction projects using appropriate scheduling methods, estimate materials and labor costs, review building contract documents, recognize site health and safety hazards, instigate strategies for construction site and project documentation in residential construction at entry-level with $90 - 100$ % accuracy.		
4	Demonstrate ability to plan, organize and control small construction projects using appropriate scheduling methods, estimate materials and labor costs, review building contract documents, recognize site health and safety hazards, instigate strategies for construction site and project documentation in residential construction at entry-level with 80 – 89% accuracy.		
3	Demonstrate ability to plan, organize and control small construction projects using appropriate scheduling methods, estimate materials and labor costs, review building contract documents, recognize site health and safety hazards, instigate strategies for construction site and project documentation in residential construction at entry-level with $70 - 79\%$ accuracy.		
2	Demonstrate ability to plan, organize and control small construction projects using appropriate scheduling methods, estimate materials and labor costs, review building contract documents, recognize site health and safety hazards, instigate strategies for construction site and project documentation in residential construction at entry-level with 65 – 70% accuracy.		
1	Demonstrate ability to plan, organize and control small construction projects using appropriate scheduling methods, estimate materials and labor costs, review building contract documents, recognize site health and safety hazards, instigate strategies for construction site and project documentation in residential construction at entry-level with less than 65% accuracy.		

Appendix C: Program Mapping

CONSTRUCTION TECHNOLOGY PROGRAM MAP

Course	PLO 1 (Blueprint reading) Student will freehand sketch isometric, oblique and orthographic projections of complex objects; identify building features, materials and types of construction from lines, symbols and abbreviations on drawings and schedules; determine and calculate building dimensions; interpret notes and specifications; create basic set of plans using layers, blocks, external references, and model and paper space in AutoCAD at entry-level.	PLO 2(Carpentry) Students will perform required carpentry skills including measuring, layout, cutting, ripping, leveling, plumbing, smoothing, shaping, installing, and finishing in residential construction at entry-level.	PLO 3 (Masonry) Students will perform required masonry skills including measuring, layout, leveling/plumbing, cutting, installing, and finishing in residential construction at entry- level	PLO 4 (Plumbing) Students will perform required plumbing skills including measuring, layout, cutting, leveling/plumbing, installing, and testing in residential construction at entry- level	PLO 5 (Construction management) Students will plan, organize and control small construction projects using appropriate scheduling methods, estimate materials and labor costs, review building contract documents, recognize site health and safety hazards, instigate strategies for construction site and project documentation in residential construction at entry-level	Institutional Learning Outcomes (ILOs)
CT112		CLO 1,2,3,4&5	CL01	CLO1	CLO 1	ILO 1, 2,3,4&5
CT113	CLO 1	CLO1,2,3,4&6	CLO1&5	CLO1	CL01	ILO 1,2, 3,4,5&6
CT115	CLO1,2,3,4,5,6&7	CLO1,2,3,4,5,6&7	CLO1,2,6&7	CLO 1	CLO1,2,3,	ILO 1, 3
CT122	CLO1,2,3,4&5	CLO1,2,3,4&5			CLO 1&2	ILO 1, 3,4&5
CT123	CLO 1, 2, 3, 4, 5&6	CLO 1, 2, 3, 4, 5&6			CLO1	ILO 1, 3,4&5
CT124	CLO 1, 2, 3, 4, 5&6	CLO 1, 2, 3, 4, 5&6			CLO 1	ILO 1, 3,4&5
CT212	CLO 1, 2, 3, 4, 5					ILO 1, 2,3,4&5
BP115 or AD120	CLO 1,2,3,4,5,6				CLO 5	
MS101	CL01,3&4		CLO 1, 2, 3, 4		CL01	<i>ILO 1, , 3,</i>
PL214	CLO3&4			CLO 1, 2, 3, 4,5&6	CLO1,2,3&6	ILO 1, 3
AD210	CLO 1-7					
CT222	CLO1	CLO2	CLO3	CLO4	CLO5	ILO 1-6

Appendix D Signature Assignment Form

CONSTRUCTION TECHNOLOGY PROGRAM SIGNITURE ASSIGNMNET

COURSE NUMBER	COURSE TITLE	SEMESTER CREDIT	SIGNITURE ASSIGNMEN
AD120	INTRODUCTION TO ARCHITECTURAL DESIGN AND DRAFTING	3	MIDTERM EXAM/MAJOR PROJECT
BP115	BLUEPRINT READING FOR CONSTRUCTION	3	MIDTERM EXAM/ FINAL EXAM
CT110	GENERAL CARPENTRY FOR NONE MAJORS	2	PROJECT/ FINAL EXAM
CT112	CONSTRUCTION SAFETY, TOOLS, & EQUIPMENT	2	INDIVIDUAL PROJECT/ FINAL EXAM
CT113	INTRODUCTION TO CONSTRUCTION	3	INDIVIDUAL PROJECT/ FINAL EXAM
CT115	FOOTING AND FOUNDATION	3	PROJECT/ FINAL EXAM
CT122	FLOOR, WALL & CEILING FRAMING	3	PROJECT/ FINAL EXAM
CT123	ROOF FRAMING & EXTERIOR FINISHING	3	PROJECT/ FINAL EXAM
CT124	INTERIOR TRIM & CABINET MAKING	3	PROJECT/ FINAL EXAM
CT212	CONSTRUCTION MANAGEMENT	3	MIDTER EXAM/FINAL EXAM
CT222	INTERNSHIP	4	TRAINING RATING SHEET
PL110	PLUMBING FOR NON MAJORS	3	PROJECT/ FINAL EXAM
PL214	RESIDENTIAL PLUMBING	3	PROJECT/ FINAL EXAM
MS101	BASIC MASONRY/ CONCRETE WORK	3	PROJECT/ FINAL EXAM
MS110	SELECTION AND DESIGN OF CONCRETE	3	PROJECT/ FINAL EXAM
AD210	COMPUTER-AIDED DRAFTING	3	MIDTER EXAM/MAJOR PROJECT

Appendix E: Provide all supporting evidence for this review