PALAU COMMUNITY COLLEGE

"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 THREE YEAR REVIEW

Academic Program

AGRICULTURAL SCIENCE

Period of Three Year Review

Fall 2009 to Summer 2012

Completed By: _____ALEX M. GACHALIAN_____ Date: _13 December 2013_
Program Instructor(s)

Program/Department Chair: ____ALEX M. GACHALIAN____ Date: _13 December 2013_

Dean of Academic Affairs: ____ROBERT RAMARUI____ Date: _13 December 2013_

Received by Institutional Research Office on:	Date	Name and Initial of receiving personnel
(Provide hard and electronic copy)	12/13/13	LTSara

Created: 2007 revisions: 2009; 2012; 3/2013

Program Review Narrative Summary

I.   Summary of the academic program purpose

This program is designed to equip students with employability skills with technical expertise and scientific knowledge in crop and animal productions, to become future agriculturists, and successful entrepreneurs; or for the pursuit of a higher education in the field of Agricultural Science. It also develops concern and awareness of the students to protection and preservation of the eco-system.

II.   The relationship of program to the college Mission Statement

As an open- door for technical skills development and training institution for occupational programs, Agricultural Science courses are designed to meet all the required competencies for future employment of students, and become prospective entrepreneurs of their respective communities. The program provides the students with scientific knowledge in farm expertise, and specialized skills in line with the goals of sustainable agriculture as one of the priority programs of the College.

Agricultural Science supports the college Mission through it goals:

- To develop future Agricultural Technologists with competent skills and committed citizens to improve their respective communities.

- To promote the concepts of entrepreneurship and enable the graduates to fully participate in the economic stability of the country.

- To extend technical expertise and assistance that is supportive to the national agricultural policies to strengthen the agricultural sectors of their community.

- To develop concerns and awareness among students in preserving diversities

III.   Summary of Program Data
    a. Figure 1 – Student Status
    b. Figure 2 – Number of Graduates
    c. Figure 3 – Class Information
    d. Figure 4 – Course Offering Information
    e. Figure 5 – Faculty Information
    f. Table 1 – Faculty to Class Size Ratio Information

IV.   Summary of Student Learning and Curriculum

        All AG CLO's are tied-up to program PLO's. The relationships between each CLO and PLO have provided direct links to achieve its effectiveness in meeting the learning objectives. The course assessments have provided an accurate means to evaluate students' progress and to address weakneses. It provides measures towards improvements to meet the expexted learning outcomes.Results of the previous course assessments indicated above average comprehension of students to the different courses learning outcomes

The assessment of program learning outcomes has provided improvements in achieving its objectives. Identified areas of concern are strengthen after assessments to further its improvements.Tied up in ILO's, it has provided guidance and gives added challenge to students to attain satisfactory completion of their degrees. This has led to more graduates that are well placed in their respective jobs.

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

1. Purchase of instructional support materials such as microscopes, egg incubator, digital portable pig scale, castrating tools, and audio visual materials.
2. Repair of pig pens and purchase of new breed of chicken for egg production
3. Hired one adjunct faculty to teach animal scince courses assisted by an Australian volunteer
4. Purchase school bus to transport students to CRE and during field trips to local farms

Students' knowledge and skills in crop and animal productions greatly improved as these instructional materials have supported their learning process. It has improved the working skills of students from basic understanding toward scientific applications.

CLO's that integrates electronic and audi-visual means of instruction/presentation and uses actual applications during laboratory have successfully met its learning objectives to obtain proficient levels.

AG program plans to have a computer room where students can access into the internet in conducting researches for their projects/ assignments. This will provide them faster means of learning with updated and accurate informations.

VI.   Summary of Program Major Strengths

- Agricultural Science program produces graduates leading to crop and animal production technologists.

- Students are trained to become future entrepreneurs with initiatives of Farm Managers that can contribute to national economic stability.

- Integrates electronic means of presentation of lessons and uses instructional support materials during practical application of skills during laboratory.

- Has qualified faculty with Masters Degree and PhD units to teach the courses of the Program.

- Has its own piggery, poultry, nursery and crop production farm where students practically apply their knowledge to improve their skills.

- Has a collaborative tie up with the Bureau of Agriculture, Taiwan Technical Mission Farm, and private sectors to enhance the capability skills of students through attendance in seminars and workshops that demonstrate approved farming practices.

VII. Recommendations for Improvements

1. Some improvements in the facilities need immediate attention by personnel concerned. These facilities are used to support the learning process of students.
2. Assistant instructor needs to be evaluated also to determine his efficiency in working with instructors and students.

VIII. Summary of Action Plans

Objective	Timeline	Person Responsible
1. Request a storage room for agricultural supplies, materials, and equipments. Storage room will help students learn correct housekeeping of farm tools and supplies.	January 2014	AG instructor
2. Hire one regular faculty. It will reduce the work load of the instructor and can assist in the preparations of teaching materials	Fall 2014	Administration
3. Request to modify the nursery roof into a monitor type of roofing. It will improve the ventilation of the nursery.	January 2014	AG instructor
4. Request to install automatic waterers for the pigs. This will provide sufficient drinking water to all pigs at all times.	January 2014	AG Instructor
4. To have one computer room at CRE with 10 computers for students use in their research work	Fall 2014	PCC-CRE
5. Request one pick up truck to transport AG supplies and materials to R and D station, and students of small classes during field trips.	Spring 2014	AG Instructor
6. Repair of the old pig house. Its walls and partitions should be changed into hog panels to provide ventilation.	Spring 2014	PCC-CRE

*Note: Other college plans may include the 15-Year Institutional Master Plan, the 5 Year Technology Plan, or other plans such as an approved academic department plan or committee plan.

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

Legend: Enrollment, Pass/Credit, Fail/No Credit, Audit, Withdraw

Data by term:
- Fa 2009: 35, 29, 5, 0, 1
- Sp 2010: 61, 55, 6, 0, 0
- Su 2010: 2, 2, 0, 0, 0
- Fa 2010: 58, 50, 8, 0, 0
- Sp 2011: 64, 64, 0, 0, 0
- Su 2011: 2, 2, 0, 0, 0
- Fa 2011: 65, 53, 9, 0, 3
- Sp 2012: 68, 61, 3, 0, 4
- Su 2012: 5, 5, 0, 0, 0
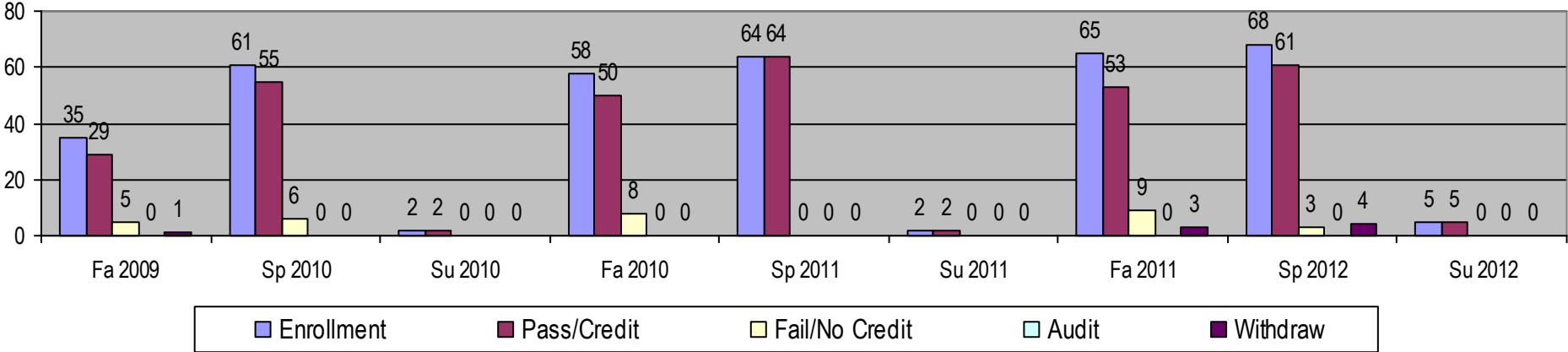
Figure 2. Number of Graduates

Figure 2. Number of Graduates

Legend: AS/AA, AAS, CA

Data by term:
- Fa 2019: 0, 1, 0
- Sp 2010: 0, 2, 0
- Su 2010: 0, 3, 0
- Fa 2010: 0, 0, 0
- Sp 2011: 0, 2, 0
- Su 2011: 0, 3, 0
- Fa 2011: 0, 0, 0
- Sp 2012: 0, 1, 0
- Su 2012: 1, 4, 0

Figure 3. Number of Classes Based on Student Enrollment

Legend: Under 10 Students | 10 – 19 Students | 20 – 29 Students | 30 or more Students

Data by term:
- Fa 2009: Under 10 = 4, 10–19 = 0, 20–29 = 1, 30+ = 0
- Sp 2010: Under 10 = 3, 10–19 = 3, 20–29 = 0, 30+ = 0
- Su 2010: Under 10 = 1, 10–19 = 0, 20–29 = 0, 30+ = 0
- Fa 2010: Under 10 = 0, 10–19 = 3, 20–29 = 1, 30+ = 0
- Sp 2011: Under 10 = 1, 10–19 = 5, 20–29 = 0, 30+ = 0
- Su 2011: Under 10 = 1, 10–19 = 0, 20–29 = 0, 30+ = 0
- Fa 2011: Under 10 = 0, 10–19 = 3, 20–29 = 1, 30+ = 0
- Sp 2012: Under 10 = 1, 10–19 = 5, 20–29 = 0, 30+ = 0
- Su 2012: Under 10 = 1, 10–19 = 0, 20–29 = 0, 30+ = 0

Figure 4. Class Offering

Legend: Total Prog/Dept Classes Taught | Total Lecture ONLY Classes | Total Lecture and Lab Classes | Total Online Classes

Data by term:
- Fa 2009: Total Prog/Dept = 5, Lecture ONLY = 0, Lecture and Lab = 4, Online = 0
- Sp 2010: Total Prog/Dept = 6, Lecture ONLY = 1, Lecture and Lab = 4, Online = 0
- Su 2010: Total Prog/Dept = 1, Lecture ONLY = 0, Lecture and Lab = 0, Online = 0
- Fa 2010: Total Prog/Dept = 4, Lecture ONLY = 0, Lecture and Lab = 4, Online = 0
- Sp 2011: Total Prog/Dept = 6, Lecture ONLY = 1, Lecture and Lab = 4, Online = 0
- Su 2011: Total Prog/Dept = 1, Lecture ONLY = 0, Lecture and Lab = 0, Online = 0
- Fa 2011: Total Prog/Dept = 4, Lecture ONLY = 0, Lecture and Lab = 4, Online = 0
- Sp 2012: Total Prog/Dept = 6, Lecture ONLY = 1, Lecture and Lab = 4, Online = 0
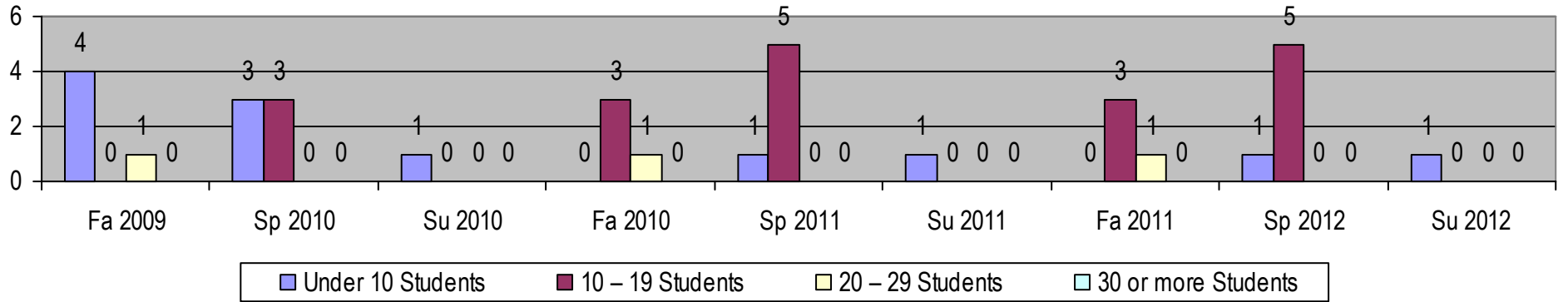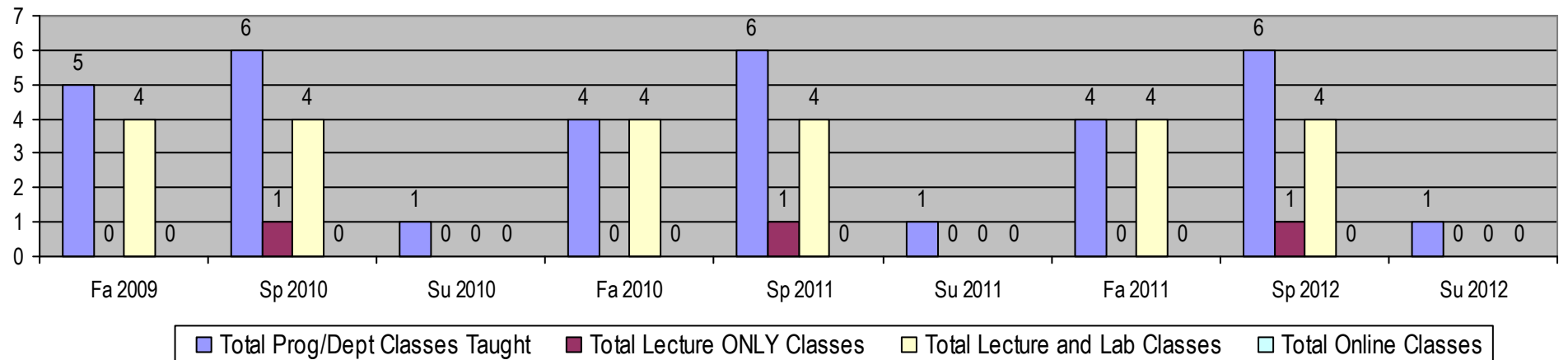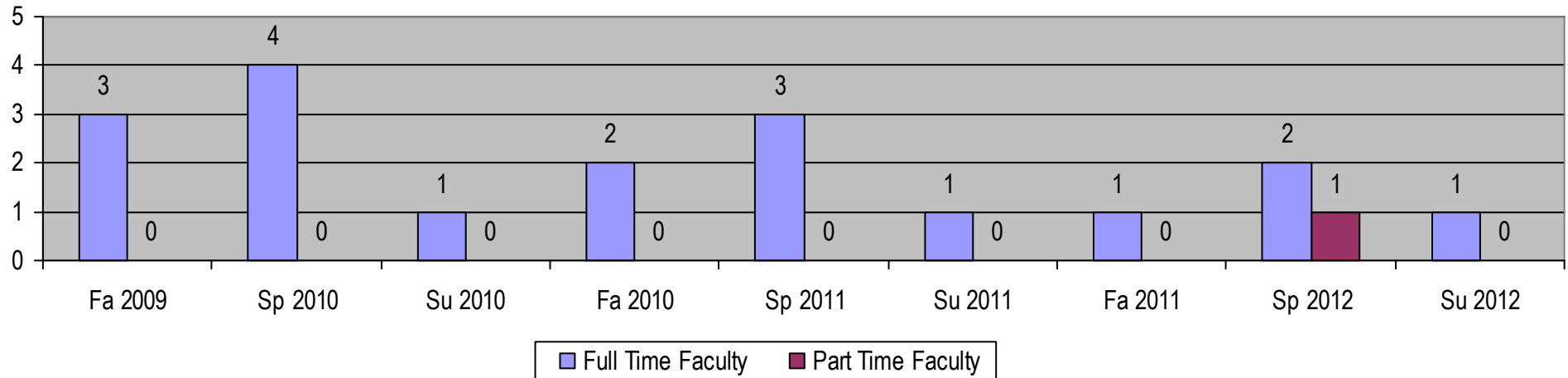- Su 2012: Total Prog/Dept = 1, Lecture ONLY = 0, Lecture and Lab = 0, Online = 0

Figure 5. Faculty Head Count

NOTE: Full Time Faculty refers to full time faculty in the program/department. A Part Time Faculty includes adjuncts as well as Full Time Faculty that are teaching courses not within their program/department. These Full Time Faculty are assissting other programs outside of their own, therefore, are considered Part Time Faculty.

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

Ratio	Fall 2009	Spring 2010	Summer 2010	Fall 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012	Summer 2012
Full Time Faculty (F : S)	3:35	4:61	1:2	2:58	3:64	1:2	1:65	2:55	1:5
Part Time Faculty (F : S)	__:__	__:__	__:__	__:__	__:__	__:__	__:__	1:13	__:__

2.0 Student Learning and Curriculum

How many program courses are there? (refer to catalog)	%of courses with Identified CLOs	% of course outlines updated	% of courses whose Textbooks are updated (outline reflects change)	% of PLOs aligned with ILOs
10	100%	90%	2%	100%

3.0 Course Assessment Data

Year 1: School Year _2011_____

Semester Assessed	Course Assessed	CLO - PLO Alignment	Results of Assessments
Fall 2011	AG 214	CLO 1- PLO 1 CLO 2,3-PLO 2 CLO 5- PLO 3 CLO 4- PLO 4	CLO 1- 56% of the students obtain above average CLO 2- 78% of the students obtain above average CLO 3- 100% of students obtain above average CLO 4,5-90% of students obtain above average proficiency
Fall 2011	AG 215	CLO 1,4,6- PLO 1 CLO 2,5- PLO 2 CLO 7- PLO 3 CLO 3- PLO 4	CLO 1-70% of students obtain average proficiency CLO 2- 60% of students obtain average proficiency CLO 3,4,5- 70% of students obtain above average CLO 6,7- 60% of students obtain average proficiency
	AG 123	CLO 1,2,3,4- PLO 1 CLO 5- PLO 2,3	
Spring 2011	AG 124	CLO 1,2,3-PLO 1 CLO 6- PLO 2 CLO 4- PLO 3 CLO 5- PLO 4	CLO 1,4,5,6- 89% of students obtain above average CLO 2-91% of students obtain above average proficiency CLO 3- 100% of students obtain above average
	AG 223	CLO 5- PLO 1 CLO 1,4- PLO 2 CLO 2,6- PLO 3 CLO 3- PLO 4	

Year 2: School Year 2012

Semester Assessed	Course Assessed	CLO - PLO Alignment	*Results of Assessments*
Fall 2012	AG 111	CLO 4,5-PLO 1 CLO 1,3-PLO 2 CLO 2- PLO 3 CLO 2- PLO 4	CLO 1- 50% of the students obtain a grade of 79% CLO's 2,3,4- 60% of students obtain above average CLO 5- 70% of the students obtain abopve average
Fall 2012	AG 216	CLO 1- PLO 1 CLO 4,5- PLO 2 CLO 3- PLO 3 CLO 2- PLO 4	CLO 1, 5- 100% of students obtain above average CLO 2,4- 91% of students obtain above average CLO 3- 73% of students obtain above average
Spring 2012	AG 122	CLO 1,2,3- PLO 1 CLO 4- PLO 2 CLO 5- PLO 3 CLO 3 PLO 4	ClO 1,2,4- 100% of students obtain above average CLO 3- 77% of students obtain above average CLO 5- 69% of students obtain above average
Spring 2012	AG 219	CLO 1- PLO 1 CLO 2- PLO 2 CLO 5- PLO 3	CLO 1- 80% of students obtain average CLO 2-50% of students obtain average

		CLO 3,4- PLO 4	CLO 3-50% of students obtain above average CLO's 4,5-85% of students obtain above average
Fall 2012	AG 216	CLO 1- PLO 1 CLO 4,5- PLO 2 CLO 3- PLO 3 CLO 2- PLO 4	CLO 1, 5- 100% of students obtain above average CLO 2,4- 91% of students obtain above average CLO 3- 73% of students obtain above average
Spring 2012	AG 220	CLO 1,2- PLO 1 CLO 3,4- PLO 2 CLO 5- PLO 3 CLO 4- PLO 4	CLO 1-80% of students obtain above average CLO 2,3- 70% of students obtain average CLO 4,5- 70% of students obtain above average

Year 3: School Year 2013

Semester Assessed	Course Assessed	CLO - PLO Alignment	Results of Assessments
Spring 2013	AG 122	CLO 1,2,3- PLO 1 CLO 4- PLO 2 CLO 5- PLO 3 CLO 3 PLO 4	85 % of students achieved average competency 100% of students achieved above average competency 100% of students achieved above average competency 80% of students achieved abcve average competency
Spring 2013	AG 124	CLO 1,2,3-PLO 1 CLO 4- PLO 3 CLO 5- PLO 4	96% of students achieved above average competency 100% of students achieved above average competency 89% of students achieved above average competency
Spring 2013	AG 219	CLO 1- PLO 1 CLO 2- PLO 2 CLO 5- PLO 3 CLO 3,4- PLO 4	100% of students achieved above average competency 78% of students achieved average competency 100% of students achieved above average competency 84% of students achieved above average competency
Spring 2013	AG 220	CLO 1,2- PLO 1 CLO 3,4- PLO 2 CLO 5- PLO 3 CLO 4- PLO 4	60% of students achieved average competency 67% of students achieved average competency 100% of students achieved above average competency 100% of students achieved above average competency

4.0 Program Learning Outcomes (PLOs) Assessment

List PLOs	Proficiency Level	Results of Assessments
PLO 1 PLO 2 PLO 3 PLO 4	AG 111-CLO 4,5- 65% got level 4 AG 111-CLO 1,3- 55% got level 4 AG 111- CLO 2- 60% got level 4 AG 111- CLO 2- 60% got level 4	60% of the students obtain proficiency level 4 equivalent to above average
PLO 1 PLO 2 PLO 3 PLO 4	AG 122 -CLO 1,2,3-92% got level 4 AG 122-CLO 4- 100% got level 4 AG 122-CLO 5- 60% got level 4 AG 122-CLO 3- 77% got level 4	82% of the students obtain proficiency level 4 equivalent to above average
PLO 1 PLO 2 PLO 3 PLO 4	AG 124 CLO 1,2,3- 93% got level 4 AG 124 CLO 6- 89% got level 4 AG 124 CLO 4- 89% got level 4 AG 124 CLO-5 89% got level 4	90% of the students obtain proficiency level 4 equivalent to above average
PLO 1 PLO 2 PLO 3 PLO 4	AG 214 CLO 1-50% got level 4 AG 214 CLO 2,3-89% got level 4 AG 214 CLO 5- 90% got level 4 AG 214 CLO 4- 90% got level 4	80% of the students obtain proficiency level 4 equivalent to above average
PLO 1 PLO 2	AG 215 CLO 1,4,6- 67% got level 4 AG 215 CLO 2,5- 65% got level 4 AG 215 CLO 7- 60% got level 4	66% of the students obtain proficiency level of 4 equivalent to above average

PLO 3 PLO 4	AG 215 CLO 3- 70% got level 4	
PLO 1 PLO 2 PLO 3 PLO 4	AG 216 CLO 1- 100% got level 4 AG 216 CLO 4,5 96 % got level 4 AG 216 CLO 3 73% got level 4 AG 216 CLO 4- 91% got level 4	90% of the students obtain proficiency level of 4 equivalent to above average
PLO 1 PLO 2 PLO 3 PLO 4	AG 219 CLO 1- 80% got level 3 AG 219 CLO 2- 50% got level 3 AG 219 CLO 5- 85% got level 4 AG 219 CLO 3,4 68% got level 4	71% of the students obtain proficiency level of 3.5 equivalent to above average
PLO 1 PLO 2 PLO 3 PLO 4	AG 220 CLO 5- 70% got level 4 AG 220 CLO 3,4- 70% got level 4 AG 220 CLO 5- 70% got level 4 AG 220 CLO 4- 70% got level 4	70% of the students obtain proficiency level of 4 equivalent to above average

5.0 Evaluation of Previous Program Review Action Plans

Indicate the status of the previous program review action plans

Action Plan Activity/Objectives	Status Complete/Ongoing/Incomplete	Remarks
Request a storage room for agricultural supplies, materials, and equipments. Storage room will help students learn correct housekeeping of farm tools and supplies.	Incomplete	To be requested again on Spring 2014
Hire one regular faculty with at least holder of BS degee in agriculture. It will reduce the work load of the instructor and can teach other AG courses.	Incomplete	To be requested again on Spring 2014
Request to modify the nursery roof into a monitor type of roofing. It will improve the ventilation of the nursery.	Incomplete	To be requested again on Spring 2014

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
To have one computer room for students use in their research/activity work	Research through intrnet on educational websites can provide students a good souurce of accurate and detailed informations to support their knowledge	10 computers	Fall 2014
Hire one regular faculty with at least a BS degree.	It will reduce the work load of the instructor and can assist in the preparations of teaching materials	Salary	Fall 2014
Request to install automatic waterers for the pigs.	This will provide sufficient drinking water to all pigs at all times. Indicated in management of farm animals to have drink sufficient amount of water everyday	Water pipes and fittings	Spring 2014
Modify the old pighouse walls and partitions	Hog panels provide better ventilations than concrete walls. This will serve as a model to students in choosing appropriate materials for swine housing	Hog panels and steel bars	Spring 2014
Request one pick up truck	Pick up truck is an accessible vehicle to different farms during students' field trips to enhance their management skills in crop and animal productions	Pick up truck	Fall 2014

7.0 Resource Requests

Type of Resource	Description	Estimated Amount Requested	Justification
Personnel	AG Instructor		To teach some of the AG courses
Facilities	Nursery roof, Piggery walls, pig waterers		Improvement of existing facilities nescessary for updating of knowledge and skills of students
Equipment	Pick up truck		Versatile vehicle in transporting AG Supplies and materials to CRE farm and small group of studentas during field trips to local farms
Supplies			
Software	computers		Used in advanced learning, research work of students
Training			
Other			
Total			

Appendix B: Provide Program Learning Outcomes (PLOs)
Appendix C: Provide program mapping that shows alignment of CLOs – PLOs – ILOs
Appendix D: Provide signature assignment form
Appendix E: Provide all supporting evidence for this review

AGRICULTURAL SCIENCE
PLO's and CLO's Map

Courses	PLO 1. Students will develop competent agricultural skills with ethical standards in their commitment to develop their respective agricultural sectors	PLO 2. Students will demonstrate scientific knowledge and skills of a prospective entrpreneur	PLO 3. Students will recognize the value and develop awareness in preserving diversities of the environment	PLO 4. Students will effectively deliver relevant extension services providing quality services and assistance to agriculture sectors	ILO's
AG 111	CLO 4, 5	CLO 1, 3	CLO 2	CLO 2	ILO 1-6
AG 122	CLO 1, 2, 3	CLO 4	CLO 5	CLO 3	ILO 1,2,3,6
AG 123	CLO 1, 2, 3, 4	CLO 5	CLO 5		ILO 1-6
AG 124	CLO 1,2,3	CLO 6	CLO 4	CLO 5	ILO 1-6
AG 214	CLO 1	CLO 2, 3	CLO 5	CLO 4	ILO 1-5
AG 215	CLO 1, 4, 6	CLO 2, 5	CLO 7	CLO 7, 3	ILO 1-6
AG 216	CLO 1	CLO 4, 5	CLO 3	CLO 2	ILO 1-6
AG 219	CLO 1	CLO 2	CLO 5	CLO 3, 4	ILO 1-6
AG 220	CLO 1, 2	CLO 3,4	CLO 5	CLO 4	ILO 1-6
AG 223	CLO 5	CLO 1, 4	CLO 2, 6	CLO 3	ILO 1-6

AGRICULTURAL SCIENCE

PROGRAM LEARNING OUTCOMES

1. Student will develop competent agricultural skills with ethical standard in their commitment to develop their respective agricultural economy.

2. Students will demonstrate scientific knowledge and technical skills of prospective entrepreneurs.

3. Students will recognize the value and awareness in preserving diversities of the environment and be cognizant to the principles of preservation.

4. Students will effectively deliver relevant extension services to their respective communities providing services and assistance to the agriculture sectors

STUDENT LEARNING OUTCOME SKILL SHEET

AG 214 - HORTICULTURAL CROP PRODUCTION

1

Student Name: Semester:

Instructor: **Alex Gachalian**

Criteria of Assessment	Rating scale	Points	Grade
CLO 3. Perform the different methods of asexual plant propagation			0
Accuracy in performing the practices: 30%		0	0
Performs correctly the procedures	1 - 5		
Uses appropriate tools correctly	1 - 5		
Demonstrate efficiency in workmanship	1 - 5		
Quality of work: 30%		0	0
Observe standard cutting procedure	1 - 5		
Bark of the material used was intact	1 - 5		
The cambium layers of both scions and stocks are properly jointed	1 - 5		
Work habits: 30%		0	0
Observes safety rules in use of tools	1 - 5		
Uses tools and equipments properly	1 - 5		
Ability to follow directions	1 - 5		
Speed: 10%		0	0
The tasks are accomplished on target time	1 - 5		
CLO 4. Demonstrate efficiency in growing plants in the nursery			0
Strategy: 60%		0	0
Uses the proper mixtures and ratio of soil media	1 - 5		
Plant and transplant seeds and seedlings in proper depths	1 - 5		
Water and fertilize the plants accurately and regularly	1 - 5		
Work Habits: 40%		0	0
Uses tools properly	1 - 5		
Ability to follow directions	1 - 5		
Observe safety rules when working	1 - 5		
CLO 5. Perform the different vegetables, root crops and fruit tree crop production practices			0
Accuracy in performing the practices 40%		0	0
Construct planting beds with correct dimensions	1 - 5		
Transplant seedlings with standard planting distances	1 - 5		

Work Habits 30%		0	0
Uses equipments and tools properly	1 - 5		
Observe safety rules while working	1 - 5		
Ability to follow directions	1 - 5		
Strategy 20%		0	0
Uses appropriate kinds and ratio of soil media	1 - 5		
Handle seedling and transplant carefully to minimize injury	1 - 5		
Water and fertilize the plants accurately and regularly	1 - 5		
Speed 10%		0	0
The activity is accomplished on scheduled time	1 - 5		