AP Full Official	*AAS Telecommunication*		
Campus	*PNI*	AP Review Submission Date	*March 2014*
Completed by	*Nelchor T. Permitez*	AR Review Cycle	*2012-2013*

Program Mission

The Technology and Trade Division of COM-FSM is dedicated to create a high quality workforce through educational excellence and student success in collaboration with its diverse communities.

Program Goals

Program goals are broad statements concerning knowledge, skills, or values that the faculty members expect the graduating students to achieve.

Its primary purpose is to provide students with marketable entry-level skills in the telecommunication industry or any related field/career. It is designed to qualify students to take external licensure, vendor-based, or skill standards examinations in the field. If standardized external exams are not available in the field of study, the program prepares students at skill levels expected of employees in an occupation found in the local economy.

Program History

This section describes the history of the program. This includes the date and reason of implementation, significant milestones in the development of the program, and significant current activities.

Milestones:

1999 - The first course was offered with five students.
2000 - One full time instructor was recruited to assist in designing curriculum and offer courses
2001- Additional instructor was recruited and enrollment increased to 12 students
2003 - Substantive change report to WASC was approved to extend COA in Electronics to include Advanced Certificate and Associate of Applied Science degree in Electronic Technology and Telecommunication Technology

- Commenced the use of computer assisted instruction (NIDA) to improve course delivery
- Recruited 12 Technicians from FSMTC to enroll in the AAS Telecommunication Technology program

2004 – First AAS degree graduates

- Fall 2004 – 5 students in Telecommunications Technology; 6 students in Electronic Technology

2005 – Modified Fiber Optic course to be in compliance with the Electronic Technicians Association (ETA) standards

Currently working on course modifications to improve quality and course delivery based on recommendations from program/course assessment. Course modifications include the introduction of wireless systems, radio communication equipment servicing, and merging VTE 281 (Cellular Phone Servicing) and VTE 280 (Telephone system) as one course.

Program Description

The program description describes the program, including its organization, relationship to other programs in the system, program design, degree(s) offered, and other significant features of the program, such as elements/resources for forward-looking new program contributions to the state's economy, or specialized program accreditation.

Maintenance, troubleshooting, repairing and modifying Telecommunication equipment and systems is the base for a career as a technician in this high-tech field. Telecommunications is one of the fastest growing industries in the world. The computer and information technologies are driving the need for more telecommunications services. The academic course work, technical skills training and practical experience available in this program prepare the student for positions within the industry. Training on and with the state of the art computer aided instruction system at COM-FSM will provide the technical edge needed in today's telecommunications industry. Embedded within the program are three separate exit points, Certificate of Achievement in Electronics Engineering Technology, Advance Certificate in Telecommunications Technology and the Associate of Applied Science in Telecommunication Technology.

Program Admission Requirements

This section describes the requirements for admission into the program and other requisites.

The program is structured to begin their course offerings at the certificate level (Certificate of Achievement in Electronic Engineering Technology). Therefore, the admission requirements for the program follow the same the admission requirements for all certificates of achievement programs as offered by the College in which students must complete high school education or equivalence to enter in the program.

Students must be admitted into degree programs based on the results of the College of Micronesia-FSM Entrance Exam (COMET) to further their studies into the Advanced Certificate and Associate of Applied Science degree. Students who are admitted into the programs as certificate bound status must change their status to degree bound by retaking and passing the COMET into the degree programs.

Program Certificate/Degree Requirements

This section specifies the requirements for obtaining a certificate/degree in the program, including specific courses,, sequencing of courses, total credits, internships, practical, etc.

Associate of Applied Science in Telecommunication (AAS TC)

General Education Core Requirements……..15 credits

Mathematics (8 credits)
MS 104 Technical Math I (4)
MS 106 Technical Math II (4)

Computer Applications (3 credits)
CA 100 Computer Literacy (3)

Natural Science (4 credits)
Any Science with lab: [preferably SC130 Physical Science]

Technical Requirements……..……22 credits

VEE 103 Electronic Fundamentals I (3)
VSP 121 Industrial Safety (1.5)
VEE 100 Soldering and Mechanical Termination Techniques (1.5)
VEM 110 Workshop Fabrications (3)
VEE 104 Electronic Fundamentals II (4)
VEE 110 Discrete Devices I (3)
VEE 125 Electronic Circuits (3)
VEE 135 Digital Electronics I (3)

Total Requirements…….…….. . 37 credits

Advanced Certificate in Telecommunication Technology

General Education Requirements …….. 3 credits

English (3 credits)
EN 123 Technical Communications (3)

Technical Requirements …….……..…… 11 credits

VEE 230 Radio Communications (3)
VEE 235 Digital Electronics II (3)
VEE 240 Signal Processing (3)

Technical Elective (2)
(Student may choose any technical course subject to approval by division)
VEE 250 Co-operative Education (2)

VTE 281 Cellular Phone Repairs (3)

General Education Requirements …….. 4 credits

Humanities (3)

Any course in art, music, history, language, philosophy (3)

Physical Education (1)

Any Physical Education course

Major Technical Requirements ……..…… 12 credits

VTE 260 Microwaves (3)
VTE 261 Fiber Optics Installations (3)
VTE 270 Telecommunication Systems (3)
VTE 280 Telephone Systems (3)

Sub Total Requirements …….. **16 credits**

Advanced Certificate ……...…… **51 credits**

Graduation Requirements ……..……..…….. 67 credits

ASSOCIATE OF APPLIED SCIENCE in TELECOMMUNICATION TECHNOLOGY
Suggested Schedule

COM-FSM Requirements

First Semester		Second Semester	
MS 104 Technical Math I	4	MS 106 Technical Math II	4
CA 100 Computer Application	3	VEE 104 Electronic Fundamentals II	4
VSP 121 Industrial Safety Electrical/Electronic	1.5	VEE 110 Discrete Devices I	3
VEE 100 Soldering and Mechanical Termination Techniques	1.5	VEM 110 Workshop Fabrications	3
Any Science Course w/Lab	4	VEE 125 Electronic Circuits	3
VEE 103 Electronic Fundamentals I	3		17
	17		

Summer Session

VEE 135 Digital Electronics I	3
	3

Exit 1: Certificate of Achievement in Electronic Engineering Technology Total Requirement: 37 Credits

Third Semester	
EN 123 Technical Communications	3
VEE 235 Digital Electronics II	3
VEE 230 Radio Communications	3
VEE 240 Signal Processing	3
Technical Elective	2/3
	14/15

Exit 2: Advanced Certificate in Telecommunication Technology Total Requirement: 51/52 Credits

Fourth Semester	
Humanities	3
VTE 260 Microwave	3
VTE 265 Fiber Optics	3
VTE 270 Telecommunication Systems	3
VTE 280 Telephone Systems	3
Exercise Sport Science course	1
	16

Exit 3: Associate of Applied Science in Telecommunication Technology Graduation Requirements: 67-68 Credits

Source: COM-FSM catalog

Program Courses and Enrollment

This section lists courses offered in the program, including number of sections, course enrollment, section fill rates, and redundancy of courses across the institution.

Course	*Fall 12*	*Spring 12*	*Fall 13*	*Spring 13*
VEE230	*8*		*12*	*12*
VEE235	*13*		*17*	
VEE240	*15*	*11*	*11*	*14*
VEE250				*13*
VTE260		*18*		*Not offered*
VTE261	*18*			
VTE270		*17*		*Not offered*
VTE280	*6*	*17*	*13*	
VTE281		*16*		*Not offered*

Table 1. AAS TC courses offerings from 2012-2013.

The table 1, shows the courses for AAS TC program. The number of each student per course every semester and they only form 1 section for each course at Pohnpei campus. *Source COM-FSM website IRPO data.*

Program Faculty

This section reports the faculty of the program, including full-time and part-time faculty. The degrees held and rank are provided for the full-time and part-time faculty. Finally, provide the faculty student ratio for the program.

Full time faculty

1. Nelchor Permitez – Associate Professor
   BSIE major in Electronics
   MIST, Philippines
   Master of Education (M.Ed.) major in Educational management
   MIST, Philippines
   Doctor of Education (Ed.D.) major in Educational management,
   EARIST, Philippines

2. Gardner Edgar – Division Chairman, Assistant professor
   BS in Technology, Texas University

Faculty to student ratio: 1:15

Program Indicators

This section provides the data for analyzing the extent to which the program has achieved the established outcomes and criteria. This is the most important part of the program review. The data that will be collected and evaluated are the following:

Assessment of course student learning outcomes of program courses	See appendix 1, The result shows the technical courses offered in AAS TC for AY2012-2013. Each have Course Student learning Outcome, Assessment strategies and Target & task, result and Improvement & follow-up.
Assessment of program student learning outcomes	See appendix 2, The result shows the AAS TC for AY2012-2013 Program Learning Outcome result divided into four column namely: Goal, Program student learning outcomes, Assessment strategies and Target & task, result and Improvement & follow-up

Program enrollment (historical enrollment patterns, student credits by major)

	Fa12	Sp12	Fa13	SP13
Number of students	*63*	*56*	*51*	*44*
Ave credit enrolled	*10.6*	*11.3*	*10.5*	*10.6*
Number of credits	*66*	*207*	*39*	*43*

Table 2. AAS TC program enrollment historical patterns and credits

The table 2, shows the number of students, average credit enrolled and number of credits for each semester for the AY 2012-2013 fall and spring semester. *Source COM-FSM website IRPO data.*

Average class size

program	term	section	enrollMax	enrollment	enrollRatio	AvgClassSize
Telecommunications (AAS)	Fall 2011	1	23	23	100.0%	23.0
Telecommunications (AAS)	Fall 2012	2	28	24	85.7%	12.0
Telecommunications (AAS)	Fall 2013	1	15	13	86.7%	13.0
Telecommunications (AAS)	Spring 2012	4	69	69	100.0%	17.3

Table 3. AAS TC Program section, enrollment ratio and average class size.

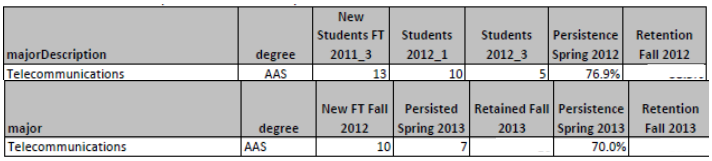
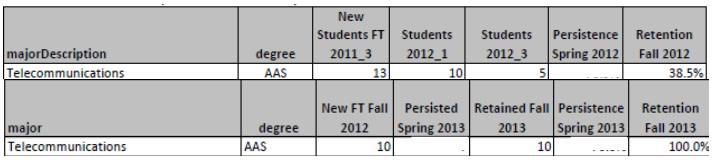
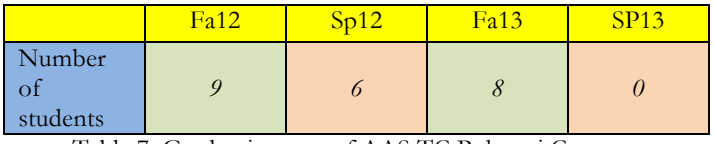
The table 3, shows the AAT TC data for AY 2012-2013 fall-spring semester, section, enrollment maximum, enrollment, enrollment ratio and average class size. *Source COM-FSM website IRPO data.*

Course completion rate

major	degree	term	students	ABCorP%	ABCDorP%	W%
Telecommunication Technology	AAS	Fall 2013	224	75.0%	81.7%	2.7%
Telecommunication Technology	AAS	Spring 2011	130	80.8%	86.2%	6.9%
Telecommunications	AAS	Fall 2012	220	83.2%	86.4%	7.3%
Telecommunications	AAS	Fall 2013	3	100.0%	100.0%	0.0%
Telecommunications	AAS	Fall 2013	176	79.5%	83.5%	9.7%
Telecommunications	AAS	Spring 2012	209	73.2%	80.9%	10.0%
Telecommunications	AAS	Spring 2013	148	74.3%	83.8%	10.8%

Table 4. Course completion rate of AAS TC.

The table 4, shows the AAS TC AY 2012-2013 fall to fall semester , number of students for each semester, ABC or Pass percentage, ABCD or P % and the withdrawal percentage. *Source COM-FSM website IRPO data.*

Student persistence rate (semester to semester)	 Table 5. The Persistence rate of AAS TC. The table 5, shows the AAS TC persistence rate for spring 2012 the result is 76.% and on Spring 2013 the result is 70%. The result is base on original 13 on 2011 new full-time student that become 10 or 76.9 % on the following Spring 2012. The 10 full-time students in 2012 become 7 or 70%on the following spring 2013. *Source COM-FSM website IRPO data.*
Student retention rate (Fall-to-Fall for two-year programs; Fall-to-Spring for one-year programs)	 Table 6. The Retention rate of AAS TC for two years. The table 6, shows the AAS TC retention rate for fall 2012 is 38.5% and on fall 2013 the result is 100%. The result is base on original 13 on 2011 new full-time student that become 5 or 38.5 % on the following fall 2012. The 10 full-time students in 2012 that stay the same number of 10 or 100% on the following fall 2013. *Source COM-FSM website IRPO data.*
Success rates on licensing or certification exams (CTE, TP, Nursing, etc)	Currently there is no certification or licensing exams in place in FSM however the courses are currently in modification process aligning the competency skills requirements of Electronics Technician Association (ETA) in United States to meet the current industry standards set forth by the telecommunication association.
Graduation rate based on yearly number	 Table 7. Graduation rate of AAS TC Pohnpei Campus. The table 7, shows that there were 9 graduate in Fall 2012, 6 students graduate in spring 2012 and 8 students graduate in fall 2013 for AY 2012-2013. *Source COM-FSM OAR Pohnpei campus data.*
Students seat cost	TBD
Cost of duplicate or redundant courses, programs or services	TBD
Students' satisfaction rate	Using the four point Likert scale, 15 student respondents who

major	degree	New Students FT 2011_3	Students 2012_1	Students 2012_3	Persistence Spring 2012	Retention Fall 2012
Telecommunications	AAS	13	10	5	76.9%	

major	degree	New FT Fall 2012	Persisted Spring 2013	Retained Fall 2013	Persistence Spring 2013	Retention Fall 2013
Telecommunications	AAS	10	7		70.0%	

majorDescription	degree	New Students FT 2011_3	Students 2012_1	Students 2012_3	Persistence Spring 2012	Retention Fall 2012
Telecommunications	AAS	13	10	5		38.5%

major	degree	New FT Fall 2012	Persisted Spring 2013	Retained Fall 2013	Persistence Spring 2013	Retention Fall 2013
Telecommunications	AAS	10		10		100.0%

	Fa12	Sp12	Fa13	SP13
Number of students	*9*	*6*	*8*	*0*

	evaluated the course offered in AAS ET the total computed mean rate is 3.7 which means satisfactory rating. Source *AY2012-2013 students evaluation form.*
Alumni data	From the 15 students graduate for AY2012-2013, 1 student pursue bachelors education in Hawaii, 1 full time employed at V6AH station, 13 are locally employed however not related to the program they finish which is consider as "underemployed". *Source Trade and technology division survey 2014.*
Employment data and employer feedback (employer survey)	The V6AH station supervisor very much satisfied in the performance and skills of our AAS TC graduate which really fits the job description of their AM station. The FSMTC is also one of our partner employer during the immersion they gave a very satisfactory rating on our students performance including one of our apprentice.
Program added or cancelled at nearby regional institutions (PCC, GCC, Hawaii schools, UOG, CMI, NMC)	HCC and GCC offers course on cabling network which one integral part of telecommunication program.
Transfer rate	For AY 2012-2013, there is 1 recorded and track that pursue his education to bachelors program at Hawaii. *Source Trade and technology division survey 2014.*
Analysis	
Findings This section provides discussion of information discovered as a result of the evaluation such as problems or concerns with the program and what part of the program is working well and meeting expectation.	*A. Program course enrollment.* *The program course enrollment according to the collected data the average result is 14 thus produce 4-5 section per semester.* *B. Course student learning outcome.* *In AAS TC there were nine (9) technical courses that need to take by a student to earn the degree. All of this courses the target is at least 70% of the student registered in the course must at least receive a grade of 70 or "C" or better as seen on TRACDAT generated report.* *The target is met for AY 2012-2013 and the turnout rate of the students who got a 70or "C" or better grade is above 70%.* *C. Program Student Learning Outcome.* *AAS TC have 6 PSLO each have a corresponding technical courses which fulfill each learning outcome to comply the program objective. The result base on the generated report from TRACDAT the 6 PSLO target was met accordingly.* *D. Program Enrollment.* *d.1 Historical enrollment pattern* *Based on the data gathered the enrollment for each semester for AY 2012-2013 Fall-Spring-Fall-spring semester the trending is high (63,56,51,44).* *d.2 Students Average credit in AAS ET.* *The recorded Student credit enrolled for this program for AY 2012-2013 fall-spring-fall-spring semester are 10.6, 11.3, 10.5 and 10.6 thus shows its below the regular credit load of 12.* *E. Average class size.*

The average class size for AY2012-2013 varies from semester to semester are 23, 12, 13 and 17.

F. *Course completion rate.*
The data for AY2012-2013 completion rate for Fall-Spring-Fall-spring semester 83.2%,73.2%,79.5% and 74.3%.

G. *Persistence rate (semester to semester).*
Spring 2012 is 76.9% and Spring 2013 is 70.0% . The trend goes down by 6.9%.

H. *Retention rate (fall to fall)*
Fall 2012 is 38.5% and Fall 2013 is 100%. The trend goes up by 61.5%.

I. *Success rate on licensing or certification exam.*
The AAS TC program does not require the student to pass on licensing or certification exam given by the third party certification body to graduate however the courses on this program are being look after by the qualified professional instructor from time to time to meet the standards and competencies needed by the industry for them to be competitive and be able to pass on Electronics Technician Association(ETA) telecommunication certification exam.

J. *Graduation rate.*
COM-FSM Pohnpei campus for AY 2012-2013 were able to produce 23 graduates for AAS ET. Source OAR COM-FSM Pohnpei.

K. *Seat Cost-TBD*

L. *Cost of Duplicate or redundant courses, programs or services-TBD*

M. *Students' satisfaction rate was measured using a course satisfactory survey form prepared by Technology and trade division. 15 student respondent evaluated the course and the total computed mean is 3.7 which means satisfactory rating. Source AY2012-2013 students evaluation form for AAS TC program.*

N. *Alumni rate.*
1 graduate of this program pursue to further their education, 1 is a full time employee of V6AH AM radio station and 13 are locally employed but not on the degree they finish.
There are several alumni feedback telling that most of technical courses and general education courses of the AAS TC are not articulated in regional schools such as Hawaii and Guam.

O. *Employment data and employer feedback.*
1 graduate work at V6AH AM radio station and the feedback of the station supervisor is satisfactory and 1 work in FSMTC whose performance is also outstanding as describe by his supervisor.

P. *Program Added or cancelled at regional institutions.*
HCC and GCC offers 1 course similar to AAS TC the Fiberoptic installation.
Honolulu Community College charge tuition fee by credit hour which is why a 3 credit course whose credit hour is 5(2 hrs lecture, 3 hrs lab) assuming the per credit is $100 it cost $500.
COM-FSM student pay by credit, a course similar to above example will only cost $300.

Q. *Transfer rate.*

One graduate was track pursuing his studies for bachelors program at Hawaii and taking engineering program.

To date, in the island of Pohnpei there were few FM and AM station broadcasting network, one (1) cable station ICTV and one (1) major telecommunication company (FSMTC) that can provide employment for TC graduate and not regularly hiring personnel for the expansion on their business

	operation. *However the demand of telecommunication technician is high in overseas such as Hawaii, Guam, U.S. mainland and in U.S. military.* *There are technical courses in AAT TC that need to modify the content to meet the fast changing competency requirements of the current technological changes.* *The graduation rate in this program is low due to most of the students could hardly comply or pass on their general education courses.* *The success rate of the student taking the technical requirement courses is high base on course student level outcome (CSLO) per course result and the target are all met as plan.*
Recommendations This section provides recommendations from the program on what to do to improve or enhance the quality of program and course learning outcomes as well as program goals and objectives. This section should also include suggestions that describe how the program might be able to create opportunities for a better program in the future. Some examples are exploring alternate delivery mechanisms, forming external partnerships, or realigning with other programs.	*It is recommended the following strategy should be adopted to ensure the sustainability of TC program and meet the industry demand for TC technician.* 1. *Combined VTE 280 and VTE 270 into one course and include more hands-on time in telephone set servicing instead.* 2. *Make the VTE 281 (Cellular Phone Servicing) as a regular technical course requirements instead of taking it as elective. This course is only offer in COM-FSM which gives an advantage to our graduate later on.* 3. *Remove the VEE 266 course as one of its elective course.* 4. *Purchase NIDA cards use for VEE 230 and VEE 240. Most of these card are already defective.* 5. *Additional room is likewise recommended to house the NIDA materials , devices and equipment for proper securing and monitoring purpose. Likewise not mix up to the workshop class room tools and equipment where most of the troubleshooting and repair of equipment and appliances is conducted.* 6. *Ii is also recommended that the technical courses and general education courses must be revisit and benchmark to that of Hawaii community college (HCC) and Guam Community College (GCC) for continuation purpose suppose the student pursue further their education on this regional accredited schools.* 7. *The suggested course offering in the catalog must be strictly followed unless otherwise that the student is graduating for consideration.* 8. *The tuition fee by credit currently followed should be change to tuition fee charge to credit hours by this approach the return of investment of the program that has a laboratory or workshop hour in their courses is compensated accordingly like the other institution in the region which charges their tuition fee by credit hour and not by the credit.* 9. *The AAS TC program is one of the popular program in the CTE it is recommended that new teaching personnel must be hire or give overload to the existing instructor to handle the courses needed by the students. The return of investment of this move will likewise add to the college revenue in the end.* *If adjunct instructor is hire their education, experience and skills must be screen thoroughly to not jeopardize the quality of the AAS AT PLO's and SLO's.* 10. *It is also suggested that the division of trade and technology be institutionalized so it will have an independent budget to runs its programs much effectively most specially in purchasing its resources for training and instruction to fulfill the PSLO's and CSLO'S instead of clinging its budget to Pohnpei campus instructional division.*
