|  |  |
| --- | --- |
| AP Full Official  | ***Certificate of Achievement (COA) in Electronic Engineering Technology (EET)*** |
| Campus | ***CTEC*** | AP Review Submission Date | October 2018 |
| Completed by | ***Gardner Edgar*** | AR Review Cycle | ***SY 2017-2018 (fall 17 to spring 2018)*** |
| **Program Goals** |
| Program goals are broad statements concerning knowledge, skills, or values that the faculty members expect the graduating students to achieve. |
| * ***Demonstrate entry level skills that are needed to pursue a career as a technician in the field of electronic or related areas.***
* ***Demonstrate intellectual skills and critical thinking skills to become effective learners and well informed citizen.***
 |
| **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 5 students.***
* ***2000 – One full time instructor was recruited to assist in designing and developing 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***
* ***2003 – First certificate graduates***
* ***2005 – Since the program served as the foundation of AAS ET and TT, two cohorts or more are needed for every semester. This led to teaching overloads and utilization of part-time instructors.***
* ***2011 – Due to low graduate rates or low number of students completing requirements within three or four semesters, program discouraged enrolling certificate-bound students. Certificate-bound students have great difficulties in completing the required courses in three or four semesters.***
* ***2012 – Due to the above claim, official request was send to VPIA office to prohibit certificate-bound students to enroll in the program. It was rather suggested that certificate should be viewed as an exit level.***
* ***Presently, program is focused in recruiting degree-bound students for fall 2014. Only 5 students were enrolled.***
* ***2014 - Develop CTE Servicing to provide students the opportunity to apply skills in a real world working environment. The CTE Servicing will also help students improve soft skills such as customer service, communication, job attitude, and more.***
* ***Due to low enrollment of degree-bound students, program allowed to recruit certificate-bound students in fall 2015.***
* ***2015 - Hired a new electronic instructor***
* ***2015 - Re-established advisory council for the program.***
* ***Brought back toolkit set as part of course requirements for new students in fall 2005 semesters.***
* ***Received four new oscilloscope testing equipment as a donation from Japan Government.***
* ***Identified the Electronic Technician Associations-International’s (ETAi) Student Electronic Technician (SET) exam as the third-party certification exam for EET program.***
* ***2016 - Upgraded the Nida computer lab with new 20 computers.***
* ***Submitted request to purchase new Nida training system including software and new trainer consoles.***
* ***2017 – Modified VEE100 Soldering to include new skills in BGA and lead-free soldering.***
 |
| **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. |
| ***The program serves as the foundation of the AAS ET and TT programs. Students must complete it before continuing into the AAS programs.******Electronic Engineering Technology program offers academic course work, technical skills training and practical experience to prepare the students for positions in the Electronic industry. Its primary purpose is to provide students with marketable entry-level skills in the electronic industry or any related field/career. The program qualifies 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 workforce. The academic and technical coursework will also prepare students to pursue advanced training in the area at higher institution.*** |
| **Program Admission Requirements** |
| This section describes the requirements for admission into the program and other requisites. |
| ***Initially, it has the same admission requirements of the other T&T certificate programs as stated below: [extracted from catalog, page 32]****“Admission to Certificate of Achievement Programs: High school graduates and General Education Development certificate holders who are not accepted into or are not interested in a degree program may apply for admission into an entry-level certificate of achievement program.”****However, current development over the years, it was proposed in 2012 that the program would now change its admission requirement to recruiting degree-bound students.******EET program had a different general requirements compared to other T&T certificate programs. Recent course modifications have suggested required requisites or the reading and writing level of students must be at ESL089/099 or better and a math level or MS100 or better. This is a necessary admission requirement to ensure students in program would be able to complete all requirements within 3 or 4 semesters (including summer) as suggested in the catalog.******Due to low enrollment of degree-bound students, certificate-bound students were recruited (SY 2015-present) to keep the program enrollment with a healthy figure.*** |
| **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.  |
| ***General Education Core Requirements……………………………..****15 credits* *MS 104 Technical Math I (4)* * *Prerequisite: MS094 or placed at 100 level for math on COMET (4)*

*MS 106 Technical Math II (4)* *CA 100 Computer Literacy (3)* * *Prerequisite: ESL089 Reading V or by placement (3)*

*Any Science with lab (4)* ***[preferably SC130 Physical Science]**** *Prerequisite: ESL089 Reading V or by placement (3)*
* *Prerequisite: ESL099 Writing V or by placement (3)*

***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***Students who are required to complete the prerequisite courses will possibly add 10 credits additional to the 37 credits as required completing the program. Students who are placed at math level lower than 100 will need three semesters to complete all the math requirements with a total of 12 credits. (MS094 (4) → MS104 (4) → MS106 (4))There is no English or ESL required course(s) in the program as compared to the other certificate of achievement (COA) programs. Currently ESL 089 & ESL 099, which is the prerequisite for required courses such as CA100 and SC130, serves as the English level requirement for the program.**SUGGESTED CLASS SCHEDULE**(as shown in the catalog)Students who are required to complete prerequisites as mentioned above will NOT be able complete the program requirements in three semesters as mentioned above.The average credit per semester is lower than 17 credits. This is another factor that causes students not completing program requirements as suggested above. |
|  **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. |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Courses** | **Fall 2017** | **# of Sec** | **Spring 2018** | **# of Sec**  | **Summer 2018** | **# of Sec** |
| ***VSP 121*** | 67 | 3 | - | - | - | - |
| ***VEE100*** | 41 | 3 | - | - | - | - |
| ***VEE103*** | 41 | 2 | - | - | - | - |
| ***VEE104*** | - | - | 38 | 2 | - | - |
| ***VEE110*** | - | - | 34 | 2 | - | - |
| ***VEE125*** | - | - | - | - | 23 | 2 |
| ***VEE135*** | - | - | 32 | 3 | - | - |
| ***VEM110***  | 25 | 2 | - | - | - | - |
| ***MS104*** | 63 | 3 | 37 | 3 | 13 | 1 |
| ***MS106*** | 15 | 1 | 18 | 1 | 6 | 1 |
| ***CA100*** | 32 | 2 | 15 | 1 | 24  | 1 |
| ***SC130***  | 11 | 1 | 13 | 1 | - | - |
| ***SC117*** | 15 | 1 | 19 | 1 | - | - |
| ***MS094*** | 55 | 3 | 18 | 2 | 11 | 1 |
| ***ESL089*** | 36 | 2 | 20 | 1 | 40 | 2 |
| ***ESL099*** | 18 | 1 | - | - | 18 | 1 |

**Table 1: Courses and Enrollment*** *Students enrolled in VSP121 consisted of EET , ET, TT and CE majors*
* *Students enrolled in VEE110 consisted of EET and ET, and TT majors*
* *Students enrolled in VEM110 consisted of EET , ET, TT*
* *Students enrolled in MS104 consisted of all T&T and AFT*
* *MS094 is a prerequisite for MS104. ESL 089 is a prerequisite for CA100 & SC130 and SC117. ESL099 is a prerequisite for SC117 and SC130.*

*CE – Certificate of Achievement in Construction Electricity**BT – Associate of Applied Arts Science Degree in Building Technology, majoring in construction electricity* |
|  **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. |
|

|  |  |  |
| --- | --- | --- |
| **Instructor** | **Background** | **Courses taught** |
| *Gardner Edgar**Full-time instructor**Electronic/Telecommunication*  | BS in Electronic TechnologyTexas State University at San Marcos | VEE103, VEE104, VEE110, VEE125, VEE135, VSP121, MS094, VEE100 |
| *Nelchor Permitez**Full-time instructor**Electronic/Telecommunication* | BSIE in ElectronicMaster in EducationDoctor in Education | VEM110 |
| *Danilo Ibarrola**Full-time instructor**Electronic/Telecommunication* | BSIE in ElectronicMaster in Technical Education | VEE103, VEE104, VEE135, VEM110 |
| *Romino Victor**Full-time instructor**Electrical* | USDOL Journeyman AAS in BT major in electrical | VSP121 |

Instructors from other programs are often needed to assist the three full-time instructors in effectively delivering or offering courses for three different cohorts – Certificate of Achievement (COA) in Electronic Engineering Technology (EET), AAS Electronic Technology (ET), and AAS Telecommunications (TC). The COA EET is the entry program for the AAS ET and TC programs.  |
|  **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** | The following tables summarize the assessment results of each course level student learning outcomes reports for fall 2017, spring 2018, and summer 2018.

|  |  |  |
| --- | --- | --- |
| **Course** | **SLO Asses. Outcome** | **Recommendation** |
| **VEE100 Soldering** | * All course SLO’s targets were met.
* 37 out of 41 (90%) students achieved a grade of C or higher.
 | * Students need more time in soldering practice
* Student toolkit ordered is not sufficient
* Need to upgrade course to include new soldering procedures currently practiced in the field
 |
| **VEE103 Electronic Fundamentals I** | * All course SLO’s target were met
* 34 out of 41 (83%) students achieved a grade of C or higher
 | * Nida equipment must be enough (at least 5 sets) to accommodate the class.
* Need quality analog meters to be purchased
* Students struggled with the use engineering notation in calculating circuit parameters.
 |
| **VEM110 Workshop Fabrications (Electronic)** | * All course SLO’s targets were met
* 25 out of 25 (100%) students achieved a grade of C or higher
 | * Course materials must be sufficiently provided and purchased before the beginning of the semester. This also included the student’s toolkit to ensure that the lab exercises will be performed by the students in a timely manner. Student toolkit should be ordered earlier and distributed to students at least on the 2nd week of the semester.
 |
| **VEE104 Electronic Fundamentals II** | * Not all the targets were met. SLO2, SLO4, and SLO8 - 6 students (30%) struggled to pass to meet the target.
* 21 out of 40 (53%) students achieved a grade of C or better.
* 13 out 40 students failed the course due to absenteeism and lack of effort.
 | * Need to modify course to increase more hours for student to practice hands-on and theory (computation skills)
* Need to purchase more Nida & testing equipment to accommodate 20 students
* Need to upgrade Nida software to provide students with better alternative instructional tools to struggling students in keeping up with the course pace.
 |
| **VEE110 Discrete Devices I** | * All course SLO’s targets were met.
* 27 out of 32 (84%) students achieved a grade of C or higher.
 | * Need additional equipment such as analog & digital multi-meters and oscilloscope to ensure lab exercises will be well performed by students per lesson.
* Need to purchase additional Nida trainer cards and consoles
* Modify course to remove the existing required textbook.
 |
| **VEE135 Digital Electronics I** | * All course SLO’s target were met
* 26 out of 32 (81%) students achieved a grade of C or better.
 | * Need additional Nida cards and test equipment (pulse & logic probes)
* Modify course to change the required textbook
 |
| **VEE125 Electronic Circuits** | * All course SLO’s target were met
* 19 out of 22 (86%) students achieved a grade of C or better.
 | * Continue to utilize circuit construction to design, build, and test audio amplifiers and tone generators as practical projects for the class.
* Need to purchase more Nida cards to provide experiments to all students in a timely fashion.
* Modify course to change the required textbook.
 |

 |
| **Assessment of program student learning outcomes** | **The information below summarizes the program student learning outcomes assessment report for school year 2017 to 2018.****Program Student Learning Outcomes (PSLO)**1. Practice safety and occupational health procedures in the workplace.
2. Use electronic tools and test equipment competently.
3. Interpret schematic diagrams and waveforms.
4. Build electronic projects to a given specification.

**What we looked at:*** Focused on PSLO 1 and PSLO 2

**What we found:*** PSLO 1: Practice safety and occupational health procedures in the workplace.
* Assessment strategies:
	+ While performing assigned practical tasks, instructor assessed and rated students’ performances using a safety checklist.
* Results:
	+ VEE104 – 18 out of 18 (100%) students achieved a score of 70 (rating of developing and exemplary) or better
	+ VEE135 – 20 out of 20 students achieved a score of 70 (rating of developing and exemplary) or better
* PSLO 2: Use electronic tool and test equipment competently.
* Assessment strategies:
	+ Students were tasked to setup and use the multi-meter to measure resistance, voltage, and current (VEE103)
	+ Students were tasked to setup and use the oscilloscope and function generator to measure voltage, period, and frequency of sine and non-sine waveforms (VEE104)
* Results:
	+ VEE103 – 15 out of 22 (70%) students were rated as exemplary and developing
	+ VEE104 – 28 out of 38 (75%) students were rated as exemplary and developing
* Performance Rubric

|  |  |  |
| --- | --- | --- |
| Rating | Score | Description |
| Exemplary | 90-100 | Complete tasks on time by correctly following instructions with no mistakes; work on tasks independently or with no assistance from instructor. |
| Developing | 70-89 | Complete tasks on time by correctly following instructions with a few mistakes; works on tasks with minimal assistance from instructor. |
| Unacceptable | 69 or below | Does not complete tasks on time; does not follow instructions; shows no interest or motivation to work on or complete tasks. |

**What we are planning to work on:**1. Upgrading our computer-assisted instruction program (Nida) to continue to use it as an instructional tool to train our students.
2. Modifying selected courses to be updated and compliance with the industry standards:
	* Increase practical exercises with less impact to increase program credit requirements.
	* Upgrade teaching materials – tools, equipment, and materials
	* Compliance with industry standard – establish third-party certification, preferably ETA – Student Electronic Technician (SET)
3. Modify required textbooks to help reduce program cost. Acquire electronic textbooks for all courses.
4. Recruit more degree-bound students
 |
| **Program enrollment (historical enrollment patterns, student credits by major)** | **Enrollment by Major & Credits by Major and program**

|  |  |  |  |
| --- | --- | --- | --- |
| Term | Enrollment by Major | Credits by Major | Credits by Program |
| Fall 2017 | 37 | 460.5 | 460 |
| Spring 2018 | 24 | 295 | 295 |
| Summer 2018 | 23 | 138 | 138 |

Data is provided by the office of IRPO. **Credits Enrolled, Attempted, and Earned (averages)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term | Credit Enrolled Average | Credit Attempted Average | Credit Earned Average | Term GPA Average |
| Fall 2017 | 9.4 | 9.4 | 8.4 | 1.86 |
| Spring 2018 | 10.5 | 10.5 | 8.7 | 1.87 |

Data is provided by IRPO.  |
| **Average class size** | **Program Sections, Enrollment Ratio, and Average Class Size**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Term | Sections | Enroll Max | Enroll | Enroll Ratio | Average Class Size |
| Fall 2017 | 15 | 324 | 264 | 81.5% | 17.6 |
| Spring 2018 | 15 | 310 | 184 | 59.4% | 12.3 |

Data is provided by IRPO.  |
| **Course completion rate** | **Course Completion (%) Withdrawals (Major)**

|  |  |  |  |
| --- | --- | --- | --- |
| Term | Students | ABC | ABCDROP% |
| Fall 2017 | 76 | 86.8% | 88.2% |
| Spring 2018 | 62 | 90.3% | 91.9% |

Date is provided by IRPO |
| **Student persistence rate and retention rate** | **Persistence and Retention Rates**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| New Students Fall 2017 | Students Spring 2018 | Students Fall 2018 | Persistence Spring 2018 | Retention Fall 2018 |
| 33 | 25 | 10 | 75.8% | 30.3% |

Data is provided by IRPO |
| **Graduation rates – based on a yearly numbers** | **Graduates by Major**

|  |  |  |  |
| --- | --- | --- | --- |
| AY2014/15 | AY2015/16 | AY2016/17 | Ay2017/18 |
| 6 | 12 | 6 | 9 |

Data is provided by IRPO |
| **Student seat cost** | **Tuition ($135 per credit) and Fees**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Total Credits | Fall | Spring | Summer | Total Cost |
| 37 credits | **17 credits** |  **17 credits** | **3 credits** | $4,995 |
| $2,295 | $2,295 | $405 |
| Fees: Registration, Health, Activity, Technology, Facility Use (full-time), Vocational Fee | $275 | $275 | $100 | $650 |
| Tuition & Fees | $2,570 | $2,570 | $505 | **$5,645** |
| Costs of prerequisites & additional 1 summer semester | $1,450 |
| Total Cost with prerequisites | **$7,095** |

**Additional costs due to course required prerequisites**

|  |  |  |
| --- | --- | --- |
| Prerequisite Courses | Credits | Cost |
| MS094 Intro to Tech Math | 4 | $540 |
| ESL089 Reading V | 3 | $405 |
| ESL099 Writing V | 3 | $405 |
| Fee for 1 additional summer semester | $100 | $100 |
| Total Credits & Costs | **10** | **$1,450** |

**Student Seat Cost ranges from $5,645 to $7,095** |
| **Cost of duplicate or redundant courses/programs/services** | VSP121 Safety (1.5 credits) is currently utilized as one of the requirements for COA Construction Electricity. VEE110 Discrete Devices I (3 credits) is also currently utilized as one of the requirements for the AAS Building Technology program. The EET program is also currently offered at Yap Campus and Kosrae Campus. |
| **Revenue generated by program – tuition (program allocated), grant income** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term | Enrollment | Credits | Tuition | Total |
| Fall 2017 | 37 | 460 | $135 | $62,100 |
| Spring 2018 | 24 | 295 | $135 | $39,825 |
| Summer | 23 | 138 | $135 | $18,630 |
| Total Revenue (Tuition) | **$120,555** |

 |
| **Students’ satisfaction rate** | Every fall and spring semesters, student evaluation of instructor and course is conducted. Below are the evaluation questions. The following table outlines the results of the program core courses based on the evaluation questions from fall 2017 and spring 2018 semesters from sections selected randomly. The core courses were randomly selected.1. ***The instructor ensured that the contact hours for the class are maintained by conducting class on a regular basis.***
2. ***The instructor welcomed and encouraged questions and comments.***
3. ***The instructor presented the course content clearly.***
4. ***The instructor emphasized the major points and concept.***
5. ***The instructor was always well prepared.***
6. ***The instructor made sure that the students were aware of the Student Learning Outcomes (SLOs) for the course.***
7. ***The instructor gave clear directions and explained activities or assignments that emphasized the course SLOs.***
8. ***The instructor planned class time and assignments that encouraged problem solving and critical thinking.***
9. ***The instructor presented data and information fairly and objectively, distinguishing between personal beliefs and professionally accepted views.***
10. ***The instructor demonstrated thorough knowledge of the subject, by using relevant examples and scenarios.***
11. ***I received feedback on assignments/quizzes/exams in time to prepare for the next assignment/quiz/exam.***
12. ***Overall, this instructor was effective.***
13. ***Overall, this course was a valuable learning experience.***
14. ***The course syllabus was clear and complete.***
15. ***The student learning outcomes were clear.***
16. ***The SLOs helped me focus in this course.***
17. ***Classes started and ended on time.***
18. ***Assignments, quizzes, and exams allowed me to demonstrate my knowledge and skills.***
19. ***The testing and evaluation procedures were fair.***
20. ***There was enough time to finish assignments.***
21. ***Expectations were clearly stated.***
22. ***Course materials were relevant and useful.***
23. ***The textbook for this course was appropriate for this level of course.***
24. ***The assigned readings were relevant and useful.***
25. ***The on-line resources were relevant and useful.***

|  |  |
| --- | --- |
| **1=strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree NA=not applicable** | **Average Rating** |
| **Courses** |
| **Evaluation Questions** | VSP121(P3)Fall 2017 | VEE100 (P1)Fall 2017 | VEM110 (P2) Fall2017 | VEE103 (P1) Fall2017 | VEE104 (P1) Spring 2018 | VEE110 (P2) Spring 2018 | VEE135 (P1) Spring 2018 |
| 1 | 4.1 | 4.7 | 4.6 | 4.5 | 4.7 | 4.7 | 5.0 | **4.6** |
| 2 | 4.6 | 4.8 | 4.7 | 4.3 | 4.7 | 4.8 | 5.0 | **4.7** |
| 3 | 4.5 | 4.8 | 4.8 | 4.4 | 4.5 | 4.7 | 5.0 | **4.7** |
| 4 | 4.6 | 4.8 | 4.8 | 4.3 | 4.4 | 4.8 | 5.0 | **4.7** |
| 5 | 4.4 | 4.8 | 4.8 | 4.5 | 4.4 | 4.9 | 5.0 | **4.6** |
| 6 | 4.6 | 4.8 | 4.8 | 4.3 | 4.3 | 4.7 | 4.9 | **4.6** |
| 7 | 4.5 | 4.8 | 4.8 | 4.5 | 4.3 | 4.7 | 5.0 | **4.6** |
| 8 | 4.4 | 4.8 | 4.8 | 4.5 | 4.3 | 4.6 | 4.9 | **4.5** |
| 9 | 4.6 | 4.8 | 4.8 | 4.5 | 4.2 | 4.7 | 4.9 | **4.6** |
| 10 | 4.6 | 4.9 | 4.8 | 4.3 | 4.6 | 4.8 | 4.9 | **4.7** |
| 11 | 4.7 | 5.0 | 4.8 | 4.3 | 4.4 | 4.5 | 5.0 | **4.6** |
| 12 | 4.6 | 5.0 | 4.8 | 4.5 | 4.6 | 4.4 | 4.9 | **4.7** |
| 13 | 4.5 | 4.9 | 4.8 | 4.5 | 4.5 | 4.5 | 4.9 | **4.6** |
| 14 | 4.6 | 4.8 | 4.7 | 4.6 | 4.6 | 4.6 | 4.9 | **4.7** |
| 15 | 4.5 | 4.4 | 4.8 | 4.4 | 4.5 | 4.5 | 4.9 | **4.7** |
| 16 | 4.6 | 4.8 | 4.8 | 4.4 | 4.4 | 4.8 | 4.9 | **4.7** |
| 17 | 4.5 | 4.6 | 4.8 | 4.4 | 4.5 | 4.8 | 5.0 | **4.6** |
| 18 | 4.6 | 4.7 | 4.7 | 4.6 | 4.4 | 4.7 | 4.8 | **4.6** |
| 19 | 4.6 | 4.5 | 4.8 | 4.5 | 4.6 | 4.8 | 5.0 | **4.7** |
| 20 | 4.6 | 4.2 | 4.8 | 4.5 | 4.6 | 4.5 | 4.9 | **4.6** |
| 21 | 4.6 | 4.2 | 4.7 | 4.5 | 4.6 | 4.6 | 5.0 | **4.6** |
| 22 | 4.4 | 4.2 | 4.8 | 4.5 | 4.4 | 4.7 | 4.8 | **4.5** |
| 23 | 4.4 | 4.4 | 2.6 | 4.6 | 4.6 | 4.7 | 4.9 | **4.3** |
| 24 | 4.4 | 4.2 | 4.6 | 4.4 | 4.3 | 4.7 | 4.9 | **4.5** |
| 25 | 4.3 | 4.2 | 3.8 | 4.2 | 4.6 | 4.7 | 4.9 | **4.4** |

Based on the ratings of each of the evaluation questions for each of the core courses as listed in the table above, the averages ranged from 4.3 to 4.7 ratings, which indicated that the students who evaluated the courses were in agreement with the evaluation question as stated above. Hence, students were satisfied with the course deliveries in terms of the instructors, methods of instructions, teaching materials, and student learning outcomes. |
| **Alumni data** | All students who have completed the EET program are currently pursuing their AAS degree in either Electronic Technology (ET) or Telecommunications (TC). |
| **Employment data & employer feedback** | No current data available |
| **Program added or cancelled at nearby regional institutions (PCC, GCC, Hawaii schools, UOG, CMI, NMC)** | PCC offers a similar program entitled, Certificate of Achievement in General Electronics, which has a total of 60 credits. Coursework included basic electronics, analog & digital electronics, circuit applications, microcontrollers, video & audio systems, PC maintenance, and Internship. GCC offers a similar certificate program entitled, Secondary CTE Electronic Program – this is a 2-plus-2 program that begins enrolling students at the high school level and progresses into GCC where they complete the program. Coursework included electronics, PC essentials, and networking. The program also serves as a stepping stone for their degree programs in Computer Networking and System TechnologyHonolulu Community College (HCC) also offers a similar certificate program called Computing Electronic Networking Technology (CENT). The program is designed to provide the student with a mixture of knowledge and hands-on training with an emphasis on preparing students for entry-level employment in the ICT industry. The program also serves as a stepping for the CENT degree program.UOG offers professional development training program in Computer Certification courses.College of the Marshall Islands (CMI) has no electronics or other similar certificate programsNorthern Marianas College (NMC) also has no electronics or other similar certificate programs. |
| **Transfer rate** | EET program serves as the first year program for the AAS in Electronic Technology (ET) and Telecommunication (TC). If not all, most students who successfully completed the EET certificate program advance to the AAS degree programs as Electronic Technology or Telecommunication major. |
|  **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. | 1. Low graduation rate – students are not completing program’s requirements after 1 year or three semesters (fall, spring, summer) as stated in the suggested class schedule.
	* Students, who are required to enroll in prerequisite courses such as MS094 and ESL089, needed an additional semester to complete program requirements, which delayed from graduating in three semesters as stated in the program’s suggested class schedule.
	* Students with poor math and English skills.
	* Class scheduling is another factor in delaying students from graduating.
		+ Class conflicts
		+ Students did not follow the program’s suggested class schedule.
2. Based on course level assessment, many of the recommendations indicated the ineffectiveness of delivering courses due to limited and unavailability of tools, equipment and materials for instructional purposes. Therefore, it is recommended to purchase or acquire the necessary equipment, tools, experiment cards, and other instructional materials as needed to effectively deliver courses.
3. Based on the course level assessment reports, another recommendation indicated the need of providing students more time to practice skills.
4. Low gainful employment – no external licensure to validate program’s skill competency level.
5. Low student transfer rate to the degree programs (Electronic and Telecommunication)
 |
| **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. | **The recommendations below address the above findings of #1 and #5, which deal with low completion/graduation rates and low transfer rate:**1. Recruit more degree-bound students or students who would not require enrolling in prerequisite courses such as MS094 and ESL089 will increase the program completion and graduation rate.
2. Certificate-bound students must begin their enrollment in the summer semester immediately after high school graduation. This will allow students to be able to complete all program requirements (core, general education, and prerequisite) courses in a one year frame. Such students will begin their study with the prerequisite courses (MS 094 and ESL089) in the summer semester right after high school graduation. This will allow the students to get back on track and follow the suggested class schedule of the program as stated above completing the all program requirements in fall, spring, and summer semesters to obtain their certificates.
3. A better class scheduling and student advising must be implemented to allow students to follow the suggested class schedules as stated in the catalog. One of the reason students did not usually follow the suggested class schedule was the amount of credits per semester that students must enrolled in fall and spring semesters. Based on the suggested class schedule, students required a minimum of 17 credits per semester and 3 credits in the summer semester, which is the last semester. Most students, by their own choices, enrolled with 15 or lower credits per semester. Another reason that students did not follow the suggested class schedule was due to poor class scheduling which created many class conflicts preventing students to enroll in more credits.
4. The EET program serves as the foundation or the 1st year requirement for the Associate of Applied Science (AAS) degree programs in Electronic Technology (ET) and Telecommunication (TC). Ultimately, the EET program prepared students for the degree programs in ET and TC. Currently, students must meet two requirements to advance into the degree programs. (1) Complete all EET program course requirements; (2) pass the COMET into the degree programs. It is recommended to modify the current requirements by removing the second requirement. Given the current program structure and curriculum, any students who have successfully completed all of the program requirements (prerequisite, core, and general education) clearly indicated that such students have acquired the necessary academic skills to be considered as degree-bound students which accommodated the initial purpose of this particular requirement. Therefore, it is recommended to amend the program requirements for the AAS degree programs in ET and TC by removing the requirement of passing the COMET into the degree programs. This recommendation will also help increase completion and graduation rates for the EET program by providing certificate-bound students a better transition into the degree programs. It will also help increase program recruitment by providing certificate-bound students a workable program to obtain a degree program in ET or TC.

**The recommendations below address the #2 findings as state above, which deals with ineffectiveness of delivering courses due to limited and unavailability of tools, equipment and materials for instructional purposes.**1. Upgrade the Nida training system. Purchase the needed Nida experiment cards, Nida training consoles, testing equipment, and other instructional materials to effectively deliver courses to students.
2. Student toolkit sets needed to be purchased, prepared, and available to students to purchase at earliest as possible, preferably the second week of instruction.

**The recommendation below address the #3 findings as stated above that deals with the need of additional course time for students to practice to achieve mastery of skills.** 1. Modify selected courses to increase more time on hands-on practice. For example, VEE103 Electronic Fundamentals-I is currently a 3 credit hours lecture/lab course type, which means 3 hours of lecture and lab altogether. The course can be modified to provide students with 2 hours lecture and 3 hours lab with the same 3 credit hours. The modification increases the course contact hours from 3 hours to 5 hours, but the credit-hour remains 3 credits. The calculation is based on the Carnegie unit. 1 lecture hour is equivalent to 1 credit hour and 1 lab hour is equivalent to 3 contact hour.

**The recommendation below address the #4 findings as stated above that deals with gainful employment & better employment opportunity of the program’s graduates.**1. Articulate the program’s curriculum to an internationally recognized third party certification program such as the Electronic Technician Association (ETA) Student Electronic Technician (SET) certification or the Certified Electronic Technician (CET). Upon completing the EET program, students will be sitting in this certification exam as part of the course requirement. As a recipient of the SET or CET, students’ skills competencies and employment opportunities will be boosted locally and aboard.
	* Modify selected courses to articulate existing EET curriculum to the ETA SET certification skills competencies.
	* ETA certification training for instructors
	* Become a certified institution to administer the ETA SET and CET.
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*Form is newly revised. Previous Program Reviews are available at* [*http://wiki.comfsm.fm/Academic\_Programs*](http://wiki.comfsm.fm/Academic_Programs)

*Micronesian Studies is a very good example. Program review checklist is on the next page.*