## College of Micronesia-FSM Instructional Program Review Template & Checklist

Lead writer of program review should complete sections 1 – 5**. Non-program staff will complete section 6.**

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| 1. **Program Review Information**
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| 1.1 Instructional Program Full Official Title | Certificate of Achievement in Refrigeration and Air Conditioning Program |
| 1.2 Campus(es)  | CTEC | 1.4 Date submitted to supervisor | Feb 18, 2019 |
| 1.3 Lead writer (include campus code)  | Bertoldo B. Esteban Jr. | 1.5 Assessment program review cycle | Fall 2016 - Spring 2018(2 cohorts) |
| 1. **Program Overview**
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| **2.1 Program Mission** |
| What is the fundamental purpose and value of the program? 1 – 2 sentences, aligned with COM-FSM’s [mission statement](http://www.comfsm.fm/?q=mission-statement). |
| 2.1 To develop a skilled manpower and a globally competitive human resources of the Federated States of Micronesia in the field of refrigeration and air conditioning industry. |
| **2.2 Program Goals** |
| What do you expect your students to learn? Program goals are broad statements concerning knowledge, skills, or values that faculty members expect the graduating students to achieve. These can be your Program Learning Outcomes and should be consistent with program mission.  |
| 2.2 Its primary purpose is to provide students with marketable entry-level skills in the refrigeration and air conditioning 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 Learning Outcomes1. Identify safety and occupational health requirements in the Refrigeration and Air Conditioning industry.
2. Use specified hand and power tools for Refrigeration and Air Conditioning.
3. Perform basic hand skills in maintaining Refrigeration and Air Conditioning system to a given specifications.
4. Read and interpret basic electrical drawing and symbols related to Refrigeration and Air Conditioning.
5. Perform basic troubleshooting and repair of domestic refrigeration and air conditioning units.
6. Participate in the Air Conditioning and Refrigeration profession.
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| **2.3 Program History** |
| Describe the history of the program. When was the program first implemented and why? Note ***significant*** milestones in the development of the program and ***significant*** current activities. Be sure to include information on how the program has developed across State campuses and **note periods of program not being offered**, with reasons where possible. |
| 2.3 The program was created by recommendations of Pohnpei Campus Advisory Council to offer a certificate of achievement (COA) in refrigeration and air conditioning to train local students to acquire skills in installation, preventive maintenance and repair of the stated equipment and devices, which was a needed skill in the community and the local workforce. *Milestones:*2005 - One full time instructor was recruited to assist in designing the curriculum and offered courses on the same year. The first batch of refrigeration and air conditioning major are composed of twelve (12) new students.2007 – The program students were actively involved in the first Technology and Trade Exhibit event of the college. 2008 – The college purchased modern refrigeration and air conditioning instrument and equipment used for instructional purposes to improve the program. 2010 – The program had one graduate student to be part of the apprenticeship- training program under the USDOL, FSM education department and the college.2011 - Refrigeration and Air Conditioning Students Club (RACSC) was established with a mission of creating an open environment for refrigeration students to engage in professional and personal growth.2013 –The Office of Environment and Emergency Management (OEEM) of the FSM national government and COM-FSM Pohnpei Campus hosted the first “Good Practices in Refrigeration and Air Conditioning” Train the Trainers program in the Federated States of Micronesia. It was sponsored by the United Nation Environment Programme (UNEP) as part of the implementation of the Montreal Protocol here in the FSM.2014 – The [Memorandum of Understanding](program%20review%202019%20docs/MoU%20between%20OEEM%20and%20COM-FSM%20Final.pdf) between the FSM Office of Environment and Emergency Management and the College of Micronesia-FSM on Training and Capacity Building for the Management of Ozone Depleting Substances were sign by both parties.2015 – The [COM-FSM Board of Regents approved the program modification](program%20review%202019%20docs/BOR%20Approved%20RAC%20program%20modification.pdf) for the Certificate of Achievement in Refrigeration and Air Conditioning to be effective Fall 2015 during their August 6-7, 2015 meeting in Pohnpei State. The modification is not implemented due to faculty workload issue.[29 Feb. -3 March 2016](program%20review%202019%20docs/0.%20%E4%BC%9A%E8%AE%AE%E6%97%A5%E7%A8%8B%20Shenzhen%20events%20agenda%20draft%2026%20Feb.docx) – The program instructor attended the Asia and Pacific Regional Workshop on Flammable Refrigerants in the Room Air Conditioner (RAC) and Field Trip to RAC and Compressor Manufacture Plant in Shenzhen, China[20 June-1 July 2016](program%20review%202019%20docs/Agenda%20ToT%20workshop%20on%20Good%20Practices%20suva%2Cfiji.pdf)- The program instructor attended the Train-the-Trainers Workshop on Good Servicing Practices for Longer-term Low-GWP Alternatives in Refrigeration and Air Conditioning Sector conducted at Fiji National University, Suva, Fiji.[7-9 Dec. 2016](program%20review%202019%20docs/fsm-rac%20training%20photos.pdf)- The program instructor together with the National Ozone Unit (NOU) of DECEM-FSM conducted the First RAC Technician Workshop on Good Servicing Practices for Longer-term, Low-GWP Refrigerant Alternatives in Refrigeration and Air Conditioning Sector at the CTE Center, Kolonia, Pohnpei State.[3-5 Jan. 2017](program%20review%202019%20docs/kosrae-fsm%20training%20report-comfsm.pdf)- The program instructor together with the National Ozone Unit (NOU) of DECEM-FSM conducted the RAC Technician Workshop on Good Servicing Practices for Longer-term, Low-GWP Refrigerant Alternatives in Refrigeration and Air Conditioning Sector in COM-FSM, Tofol, Kosrae State.[6-9 Nov. 2017](program%20review%202019%20docs/training%20invitation%20letter.pdf) – The instructor attended Training Workshop on Installation and Maintenance Skills of Hydrocarbon (R-290) Based Room Air Conditioner in Guangzhou, China[May 2018](program%20review%202019%20docs/FSM%20Packard%20EE%20Contract%2023%20April%202018.docx) – Sub-grant Award to Support Energy Security and Climate Change Action in the FSM by Promoting Gold-Standard Energy Efficiency Practices and Policies for Air Conditioning Usage. This grant is coordinated by the Department of Environment, Climate Change and Emergency Management (DECEM) and Institute for Governance and Sustainable Development (IGSD). |
| **2.4 Program Description** |
| Describe how the program is organized in terms of design, its relationship to other programs in the college system, degree(s) offered, internationally recognized certifications, career pathways, connections with other higher education institutions, external organizations, employers, or government agencies and other features of the program you consider valuable or innovative.  |
| 2.4 This program is design to teach the students the principles of refrigeration and air conditioning. It is design to train students in installing, servicing and maintaining domestic and small commercial refrigeration systems. |
| **2.5 Program Admission Requirements** |
| What are the requirements for admission into the program in relation to the COMET and are there any other requisites? If any alternative admissions process exists, describe here.  |
| 2.5 A student must be a high school graduate or GED certificate holder. Applicants must take the COM-FSM entrance test (COMET) and be accepted by the Admissions Board. Acceptance by the Admissions Board is based on the applicant’s score on the COMET and other criteria as defined by the Admissions Board. |
| **2.6 Program Certificate / Degree Requirements** |
| List the requirements for students to gain a certificate/degree in the program. Include specific courses and their sequence, credits, and how internships and practical etc. may be incorporated. Present in a way that is understandable to a potential student. Include the program’s suggested schedule – is it still up to date and logical? |
| 2.6 **E. Program Certificate Requirements***Program requirements:****General Education Requirements:-----------14 credits***MS 104 Technical Math I (4)* *Pre-requisite: MS 094 or placed at MS 100 level for Math on COMET*

MS 106 Technical Math II (4)ESL 050 Technical English (3) or SS 100 World of Work (3)CA 095 Computer literacy (3)***Technical Requirements:*** ***-----------21 credits***VEM 105 Basic Electricity for A/C (3)VEM 110 Workshop Fabrication (3)VEM 111 Electrical Wiring I (3)VEM 113 Refrigeration I (4)VEM 114 Refrigeration II (4)VWE 115 General Welding (4)***Total credits requirements: 35 credits*****Suggested Schedule** **Fall Semester** ESL 050 Technical English or SS 100 World of Work........... 3 MS 104 Technical Math I............................................................ 4 VEM 105 Basic Electricity for A/C........................................... 3 VEM 110 Workshop Fabrication................................................ 3 VEM 113 Refrigeration I............................................................. 4 17 **Spring Semester** MS 106 Technical Math II........................................................... 4 VEM 111 Electrical Wiring I....................................................... 3 VEM 114 Refrigeration II............................................................ 4 VWE 115 General Welding......................................................... 4 15 **Summer Session** CA 095 Computer Literacy......................................................... 3  3 |
|  **2.7 Program Courses and Enrollment** |
| List all courses offered in the program. Include enrollment data by campus and semester. In the second table, include courses, number of sections, # of students enrolled on each course, and enrollment ratio. Analyze the data you have presented and include explanation or interpretation.  |
|  **2.8 Program Faculty** |
| List all faculty (full-time and part-time) who teach this program. Include faculty member who taught during the assessed period but are no longer with COM-FSM and note this in status as X. In “Degrees Held”, include both level (BA, MA, PhD, and major or discipline). Note current professional development activities in process and expected completion date. |
| 2.8

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| --- | --- | --- | --- | --- |
| Instructor Name | Campus Code | Position | Degrees Held:Qualification, Major, University | StatusFT/PT/X |
| Bertoldo Esteban Jr |  | Professor | Master of Arts in Teaching (MAT) major in Electrical Technology, Marikina Institute of Science and Technology, Philippines Bachelor of Science in Industrial Education major in Refrigeration and Air Conditioning Technology Marikina Institute of Science and Technology, Philippines | FT |
| Romino Victor |  | Assistant Professor | Associate in Applied Science, Building Technology, College of MicronesiaElectrical Journeyman Certificate, US Dept. of Labor | FT |
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| 1. **Learning Outcomes and Program Health Indicators**
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| **3.1 Assessment of course student learning outcomes** |
| Present data which demonstrates the extent to which the program has achieved the established outcomes – course level assessment report. For each course, write out all the SLOs in full. Add or delete SLOs as appropriate. Copy-paste the below template for each course included in the program. After reviewing the data, write a sentence or two to describe your findings.  |
| Course Student Learning Outcomes for VEM 105 SLO 1 – Discuss fundamentals of electricity.SLO 2 – Manipulate electrical measuring instrumentsSLO 3 – Determine the electrical components of domestic refrigeration system.SLO 4 – Analyze electrical diagram of domestic refrigeration and air conditioning unit.SLO 5 – Troubleshoot electrical defects of domestic refrigeration and air conditioning system.SLO 6 – Repair electrical defects of a domestic refrigeration and air conditioning system.

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| --- | --- | --- |
| Course: | VEM 105 | Attainment of Course Student Learning Outcomes |
|  |  |
| SemesterYear | # enrolled | SLO 1 | SLO2 | SLO3 | SLO4 | SLO5 | SLO6 |  |
|  | # | % | # | % | # | % | # | % | # | % | # | % |  |
| Fall 2016 | 13 | 10 | 77 | 10 | 77 | 10 | 77 | 11 | 85 | 11 | 85 | 11 | 85 |  |
| Spring 2017 | 3 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 |  |
| Fall 2017 | 6 | 6 | 100 | 6 | 100 | 6 | 100 | 5 | 100 | 5 | 100 | 5 | 100 |  |
| Spring 2018 | 6 | 2 | 33 | 2 | 33 | 2 | 33 | 6 | 100 | 6 | 100 | 6 | 100 |  |

Written analysis:Course Student Learning Outcomes for VEM 113 SLO 1 – Discuss the fundamentals of refrigeration.SLO 2 – Perform basic shop practices.SLO 3 – Determine the different compression refrigeration systems.SLO 4 – Recognize the common refrigerants.SLO 5 – Troubleshoot and repair mechanical defects of domestic refrigeration system.

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| --- | --- | --- |
| Course: | VEM 113 | Attainment of Course Student Learning Outcomes |
|  |  |
| SemesterYear | # enrolled | SLO 1 | SLO2 | SLO3 | SLO4 | SLO5 |  |  |
|  | # | % | # | % | # | % | # | % | # | % |  |  |  |
| Fall 2016 | 11 | 7 | 63 | 7 | 63 | 7 | 63 | 10 | 91 | 10 | 91 |  |  |  |
| Spring 2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fall 2017 | 12 | 7 | 58 | 7 | 58 | 7 | 58 | 10 | 83 | 10 | 83 |  |  |  |
| Spring 2018 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Written analysis:Course Student Learning Outcomes for VEM 114 SLO 1 – Discuss fundamentals of air conditioning.SLO 2 – Install split type air conditioning system.SLO 3 – Perform servicing and maintenance of split type air conditioning system.SLO 4 – Recover and recycle refrigerant in the system. SLO 5 – Troubleshoot defects of split type air conditioning system.SLO 6 – Repair mechanical and electrical defects of split type air conditioning system.

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| --- | --- | --- |
| Course: | VEM 114 | Attainment of Course Student Learning Outcomes |
|  |  |
| SemesterYear | # enrolled | SLO 1 | SLO2 | SLO3 | SLO4 | SLO5 | SLO6 |  |
|  | # | % | # | % | # | % | # | % | # | % | # | % |  |
| Fall 2016 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Spring 2017 | 5 | 5 | 100 | 5 | 100 | 5 | 100 | 5 | 100 | 5 | 100 | 5 | 100 |  |
| Fall 2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Spring 2018 | 3 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 |  |

Written analysis:Course Student Learning Outcomes for VWE 115 SLO 1 – Discuss introduction to welding.SLO 2 – Explain welding safety.SLO 3 – Recognize types of weld and joints.SLO 4 – Set-up and operate oxy-acetylene and electric arc welding equipment.SLO 5 – Perform oxy-acetylene and electric arc welding practices.SLO 6 – Determine the causes and remedies of welding defects.

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| Course: | VWE 115 | Attainment of Course Student Learning Outcomes |
|  |  |
| SemesterYear | # enrolled | SLO 1 | SLO2 | SLO3 | SLO4 | SLO5 | SLO6 |  |
|  | # | % | # | % | # | % | # | % | # | % |  |  |  |
| Fall 2016 | 5 | 5 | 100 | 5 | 100 | 5 | 100 | 5 | 100 | 5 | 100 | 5 | 100 |  |
| Spring 2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fall 2017 | 3 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 |  |
| Spring 2018 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Written analysis:Course Student Learning Outcomes for VEM 110 SLO 1 – Describe the types of tubing used and refrigeration work.SLO 2 – Explain tube processes.SLO 3 – Perform soldering and brazing techniques.SLO 4 – Demonstrate how to use various hand tools.SLO 5 – Determine how to maintain and calibrate gauges.SLO 6 – Demonstrate the steps of using different equipment in servicing refrigeration system.

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| Course: | VEM 110 | Attainment of Course Student Learning Outcomes |
|  |  |
| SemesterYear | # enrolled | SLO 1 | SLO2 | SLO3 | SLO4 | SLO5 | SLO6 |  |
|  | # | % | # | % | # | % | # | % | # | % | # | % |  |
| Fall 2016 | 8 | 7 | 88 | 7 | 88 | 7 | 88 | 7 | 88 | 7 | 88 | 7 | 88 |  |
| Spring 2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fall 2017 | 6 | 4 | 67 | 4 | 67 | 4 | 67 | 3 | 50 | 3 | 50 | 3 | 50 |  |
| Spring 2018 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Written analysis: |
| **3.2 Assessment of program student learning outcomes** |
| Which PSLOs did you focus on during this assessment review cycle? What did you find?  |
| 3.2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Program Outcome | Assessment Strategy | Target | Fall Results | Spring Results |
| 1. Identify safety and occupational health requirements in the Refrigeration and Air Conditioning industry. | Given the different types of HFC refrigerants, safety goggles, hand gloves and manifold gauge, the students will measure the standing pressure of each gasses and demonstrate safety procedures in handling high-pressure refrigerants. | 70% of all the students registered in this program must pass this PSLO. | **Fall 2017**7 (0 female; 7 males) out of 12 students (58%) successfully completed the VEM\_113\_CSLO\_1 as measured by group and class discussions, quizzes and performances.**Fall 2016**7 (1 female; 6 males) out of 11 students (64%) successfully completed the VEM\_113\_CSLO\_1 as measured by group and class discussions, quizzes and performances. |  |
| 2. Use specified hand and power tools for Refrigeration and Air Conditioning. | Given with the refrigeration hand tools, equipment and supplies, the student will demonstrate their proper uses and operations. | 70% of all the students registered in this program must pass this PSLO. | **Fall 2017**10 (0 female; 10 males) out of 12 students or 83% got a grade of "C" or better in the VEM\_113\_ CSLO5.**Fall 2016**10 (1 female; 9 males) out of 11 students (91%) successfully completed the VEM\_113\_ CSLO\_5 as measured by group and class discussions, quizzes and performances. |  |
| 3. Perform basic hand skills in maintaining Refrigeration and Air Conditioning system to a given specifications. | Given a split type air conditioning unit, tools, and supplies, the students will perform the procedures in preventive maintenance of a system. | 70% of all the students registered in this program must pass this PSLO. |  | **Spring 2018**3 (0 females; 3 males) out of 3 students (100%) successfully completed the VEM\_114\_ CSLO\_3 as measured by group and class discussions, performances, and quizzes.**Spring 2017**5 (0 female; 5 males) out of 5 students (100%) successfully completed this CSLO as measured bygroup and class discussions, quizzes and performances.  |
| 4. Read and interpret basic electrical drawing and symbols related to Refrigeration and Air Conditioning.  | Given a refrigerator, room air conditioner, multi-meter and electrical components, the student will rewire the units as specified in the schematic diagram. | 70% of all the students registered in this program must pass this PSLO. | **Fall 2017**5 (0 female; 5 males) out of 6 students or 83% got a grade of "C" or better in the VEM\_105\_ CSLO5.**Fall 2016**11 (1 female; 10 males) out of 13 students or 85% got a grade of "C" or better in the VEM\_105\_ CSLO5. |  |
| 5. Perform basic troubleshooting and repair of domestic refrigeration and air conditioning units. | Given a defective room air conditioner, refrigerator, recovery machine, vacuum pump, system analyzer and supplies, the students will diagnose the defects and repair it with workmanship. | 70% of all the students registered in this program must pass this PSLO. |  | **Spring 2018**3 (0 female; 3 males) out of 3 students or 100% got a grade of "C" or better in the VEM\_114\_ CSLO5.**Spring 2017**5 (0 female; 5 males) out of 5 students or 100% got a grade of "C" or better in the VEM\_114\_ CSLO5 |
| 6. Participate in the Air Conditioning and refrigeration profession. | The students will be group by two's and assign to do refrigeration and air conditioning services into the community. | 70% of all the students registered in this program must pass this PSLO. |  | **Spring 2018**3 (0 female; 3 males) out of 3 students or 100% got a grade of "C" or better in the VEM\_114\_ CSLO6.**Spring 2017**5 (0 female; 5 males) out of 5 students or 100% got a grade of "C" or better in the VEM\_114\_ CSLO6 |

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| **3.3 Program enrollment trends by campus** |
| Looking at the data, write a few sentences to describe what conclusions you can make about changes in enrollment for your program during the assessment period and compared to the previous assessment period.  |
| **Full-time Students (12 credits or more)**

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| --- | --- | --- | --- | --- | --- | --- |
| **Term** | **Chuuk** | **CTEC** | **Kosrae** | **National** | **Yap** | **Grand Total** |
| Fall 2016 |  | 7 |  |  |  |  |
| Fall 2017 |  | 5 |  |  |  |  |
| Spring 2017 |  | 8 |  |  |  |  |
| Spring 2018 |  | 4 |  |  |  |  |
| **Grand Total** |  |  |  |  |  |  |

**Part-time Students (less than 12 credits)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Term** | **Chuuk** | **CTEC** | **Kosrae** | **National** | **Yap** | **Grand Total** |
| Fall 2016 |  | 6 |  |  |  |  |
| Fall 2017 |  | 2 |  |  |  |  |
| Spring 2017 |  | 3 |  |  |  |  |
| Spring 2018 |  | 4 |  |  |  |  |
| **Grand Total** |  |  |  |  |  |  |

Description and Conclusion: |
| **3.4 Course completion rate** |
| How many students completed the course? What percentage of students does this represent? What percentage of students withdrew from the course?  |
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| --- | --- | --- |
|  | **Fall 2016** | **Fall 2017** |
| **Courses** | **# of students** **who passed** **(A,B,C or P)** | **Pass rate %** **(A,B,C or P)** | **# of students enrolled** | **# of students withdrew** | **% withdrew** | **# of students** **who passed** **(A,B,C or P)** | **Pass rate %** **(A,B,C or P)** | **# of students enrolled** | **# of students withdrew** | **% withdrew** |
| VEM105 | 10 | 76.92 | 13 | 3 | 23.08 | 5 | 71.43 | 7 | 2 | 28.57 |
| VEM113 | 10 | 90.91 | 11 | 1 | 9.09 | 10 | 71.43 | 14 | 4 | 28.57 |
| VEM110 | 7 | 87.50 | 8 | 1 | 12.50 | 3 | 50.00 | 6 | 3 | 50.00 |
|  |  |  |  |  |  |  |  |  |  |  |

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| --- | --- | --- |
|  | **Spring 2017** | **Spring 2018** |
| **Courses** | **# of students** **who passed** **(A,B,C or P)** | **Pass rate %** **(A,B,C or P)** | **# of students enrolled** | **# of students withdrew** | **% withdrew** | **# of students** **who passed** **(A,B,C or P)** | **Pass rate %** **(A,B,C or P)** | **# of students enrolled** | **# of students withdrew** | **% withdrew** |
| VEM105 | 3 | 75 | 4 | 1 | 25 | 6 | 85.71 | 7 | 1 | 14.29 |
| VEM114 | 5 | 100 | 5 | 0 | 0 | 3 | 75 | 4 | 1 | 25 |
| VWE115 | 5 | 100 | 5 | 0 | 0 | 3 | 60 | 5 | 2 | 40 |
|  |  |  |  |  |  |  |  |  |  |  |

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| **3.5 Student persistence and retention rate** |
| Persistence: How many students continued their program between semesters? What percentage does this represent? Retention:  |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NewStudents** **Fall 2016** | **Students** **Spring 2017** | **Students** **Fall 2017** | **Persistence** **Spring 2017** | **Retention** **Fall 2017** |
| 7 | 5 | 4 | 71.43 | 57.14 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NewStudents** **Fall 2017** | **Students** **Spring 2018** | **Students** **Fall 2018** | **Persistence** **Spring 2018** | **Retention** **Fall 2018** |
| 5 | 4 | 1 | 80.00 | 20.00 |

 |
| **3.6 Graduation rate** |
| Graduation is calculated by tracking a cohort of people who joined full-time for the first time in Fall semester. Data presented tracks cohort who started the program *before* the current assessment cycle began, to see how many graduated and how long they took to graduate in the period under review. Complete the table with the data provided. If you have alternative data you wish to present, include ***in addition to*** completing the table below including how you calculated this data and your rationale. If no students enrolled full-time for the first time, write NA. |
|

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Cohort** | **# of first time full time students** | **# of students who graduated in 100% (2 years)** | **% of students who graduated in 2 years** | **# of students who graduated in 150% (3 years)** | **% of students who graduated in 3 years** | **# of students who graduated in 200% (4 years)** | **% of students who graduated in 4 years** |
| Fall 2014 | 4 | 1 | 25.00 | 1 | 25.00 | 1 | 25.00 |
| Fall 2015 | 2 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |

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| 1. **Value of Program for Students**
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| **4.1 Students’ satisfaction** |
| If you have conducted any formal evaluation of students’ satisfaction within your program, input your results and findings here. If not, write NA and consider how you may incorporate this into future assessment planning. |
| 4.1 Data below are obtained from students evaluation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Fall 2016 | Spring 2017 | Fall 2017  | Spring 2018 |
| VEM 105 | 4.7 | 4.7 | 4.6 | n/a |
| VEM 110 | 4.4 | n/a | 4.4 | n/a |
| VEM 113 | 4.7 | n/a | 4.2 | n/a |
| VEM 114 | n/a | 5.0 | n/a | 4.2 |
| VWE 115 | n/a | 4.5 | n/a | 4.0 |

Legend:1 = Never 2 = Rarely 3 = Sometimes 4 = Usually 5 = AlwaysPlease check the hyperlink for more information: [(students evaluation per course)](program%20review%202019%20docs/student%20evaluation-f2016%20to%20sp2018.docx) |
| **4.2 Transfer data**  |
| COM-FSM is working to develop a more comprehensive understanding of students transferring to other institutions of higher education. Provide any methods and information you can on students who went on from your program to pursue their studies elsewhere. Type I transfer students: those who **graduated** your program then continued their studies at another institution of higher education. Type II: those who gained credits within your program then left to complete their degree requirements at another institution of higher education.  |
| 4.2 Most of the graduates in the program are continuing to our AAS Building Technology major in Electricity. Some are also transferring to COM-FMI campus.  |
| **4.3 Alumni data**  |
| COM-FSM is working to develop a more comprehensive understanding of our alumni pathways. Provide any methods and information you can on alumni from your program during the assessed period.  |
| 4.3

|  |  |  |
| --- | --- | --- |
| Name/Graduates | Year Graduated | Municipality |
| Augustine Augustine |  | Kitti |
| Wiener Hinga | Spring 2009 | Netts |
| Jimmy Silbanuz | Fall 2009 | Madolehniwmh |
| Wendolin Lainos | Fall 2009 | Netts |
| Prenston Ioanis | Summer 2009 | Kitti |
| Michael Leo Francisco | Spring 2012 | Ouh |
| Mills Poll |  | Kitti |
| Jeffry Joseph |  | Kitti |
| Nelsiro George |  |  |
| Ryan Weital | Spring 2016 | Ouh |
| Arcin David | Spring 2016 | Kapinga  |
| Darson Noah | Spring 2016 | Kapinga  |
| Mayson Lickei | Spring 2018 | Kapinga  |
| Myron Damian | Spring 2018 | Kitti |
|  |  |  |

 |
| **4.4 Employment** |
| If your program has conducted an employer survey or collected feedback from employers in relation to your program, its outcomes, its graduates, include results here. If not, consider how you may incorporate this into your assessment planning.  |
| 4.4

|  |  |
| --- | --- |
| Name/Graduates | Employer |
| Prenston Ioanis | MicroPC/RAC Technician |
| Augustine Augustine | COM-FSM, Pohnpei Campus/RAC Technician |
| Jimmy Silbanuz | COM-FSM, Pohnpei Campus/Building Maintenance |
| Nelsiro George | COM-FSM, National Campus/RAC Technician |
| Myron Damian | MicroPC/RAC Technician |

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| 1. **Analysis**
 |
| **5.1 Findings** |
| What question(s) were you trying to answer in this assessment review cycle? What does the information presented here tell you? Summarize the problems with the program as supported by your data. What part(s) of the program are working well? What did you work towards that you are happy with? To what extent were the recommendations made in the previous assessment cycle applied? |
| 5.1 **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. Assessment of course student learning outcomes of program courses*** All CSLO’s were assessed on time and met the targets.
* The program offerings are outdated; we need to adapt with the changes in the trade due to the [implementation guidelines of Montreal Protocol in FSM](program%20review%202019%20docs/Request%20for%20curriculum%20change%20and%20certification%20program.pdf).

**2. Assessment of program student learning outcomes*** All PSLO’s were assessed on time and met the targets.

**3. Program enrollment*** Low enrollment in the program particularly every spring semester. This is due to the effect of the cohort program, students from AAS building technology program registered during the Fall semester took the slots for new RAC major students. During the Spring semester, only the few RAC major students can register because of the pre-requisite courses.

**4. Average class size*** The minimum of ten students per course during spring 2017 and 2018 were not met.

**5. Course completion rate*** There were a high course completion rates from all students who registered in all the technical program courses.

**6. Student persistence and retention rate*** There is a good persistence and retention rate during AY2016-17.
* Most students are stopped attending school after completing their technical courses requirement.

**7. Success rates on licensing or certification exams** * There is no certification exam for our graduates develop yet, however with our collaboration with the OEEM, we are discussing the possibility of giving a licensure examination to all the refrigeration and air conditioning mechanics/technicians in the country to support the implementation of Montreal Protocol.

**8. Graduation rate based on yearly number*** There is no student graduated during AY2016-17 and have 2 students graduated during AY2017-18. There is a low graduation rate because the Technical Math requirements of the program is the same level with the AAS degree programs.

**9. Students’ satisfaction rate** * Very good satisfaction rate based on the [student’s course evaluation](program%20review%202019%20docs/student%20evaluation-f2016%20to%20sp2018.docx) conducted during the period of this program review.

**10. Alumni data** * There were 14 alumni of this program since it was started in Fall 2005.

**11. Employment data and employer feedback (employer survey)*** There were 4 graduates and 2 nongraduates in the program that are currently working in the refrigeration and air conditioning industry. There is a low employability rate due to the lack of practical skills of our graduates.

**12. Transfer rate*** Most of the graduates in the program are transferring to our AAS Building Technology major in Electricity. Some are also transferring to COM-FSM, FMI campus in Yap State.
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| **5.2 Recommendations** |
| Given your findings stated in 5.1, and given the existing resources, how can the program be improved or enhanced? What recommendations do you give to yourself and other faculty members? How can your supervisor and administrative staff at COM-FSM help facilitate these improvements? What questions or problems would you like to resolve in the next academic years? |
| 5.2 Recommendations* Implement the new program curriculum to improve the quality of our graduates. The expected outcomes of the new curriculum are;
1. Higher graduation rate.
2. Higher employability rates among our graduates.
3. Increase enrollment in the program.
4. Lessen the student expenses and shorten the period of time to complete the program.
5. Skill level of graduates will be suitable from the industry standards.
6. Graduates are capable to pass certifications/licensure examination in the refrigeration and air conditioning trade.
7. The new curriculum courses are aligned to meet the implementation requirements of the Montreal Protocol in the FSM.
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| 1. **Financial & Regional Considerations**
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| **Section 6 to be completed by non-program staff**  |
| **6.1 Student’s seat cost** |
|  |
| 6.1 |
| **6.2 Cost of duplicate or redundant courses / programs / services** |
|  |
| 6.2 |
| **6.3 Revenue generated by program** |
| Tuition (program allocated), grant income |
| 6.3 |
| **6.4 Programs at regional institutions** |
| List if the same or similar program is offered, has been added or cancelled at other institutions (PCC, GCC, Hawaii, UoG, CMI, NMC) |
| 6.4 |