College of Micronesia-FSM
Program Modification Request

Program:	**Initiator**:
Associate of Applied Science Degree in Building Technology major in Electrical	Cirilo B. Recana – Electrical Instructor

Suggested revisions and justifications:

1. Change the program major title from *AAS Building Technology major in Construction Electricity (BT major in CE)* to **AAS Building Technology major in Electrical (BTE)**. This will give students a broader scope in electrical concepts and skills that are more focused on the electrical trade competencies and are not limited to residential wiring.

2. Realigning the remedial courses of the certificate program into degree program and replace required gen ed of the Building Technology.

3. It is also proposed to replace the refrigeration courses (VEM 105 & VEM 113) with a Renewable Energy course (BTE 230 Photovoltaic Design and Installation) to keep abreast with the current technology and skills in demand in the Regional Pacific Technical Vocational Certification (Pacific TVET). Offering this course (Solar PV) will not require any additional budget from the college; training equipment is already available.

   With all the proposed changes, students in the program will be assured of graduation in a timely manner and equipped with the necessary skills and competencies required in the electrical field.

   The table below shows the comparisons of AAS Building Technology's current and proposed modification requests.

Summary of the Current and Proposed AAS Building Technology Program

	Current Program (AAS-BT major Construction Electricity) Source: COM-FSM Catalog	**Proposed Program (AAS-BT major Electrical)**
Mission (no changes)	The AAS in Building Technology – Electrical is dedicated to the college mission in providing academic, career and technical educational programs. This program prepares students for employment in the electrical trades by educating and developing their skills to enter a competitive skilled workforce.	The AAS in Building Technology – Electrical is dedicated to the college mission in providing academic, career and technical educational programs. This program prepares students for employment in the electrical trades by educating and developing their skills to enter a competitive skilled workforce.
Description	The Building Technology major Construction Electricity offers academic course work, technical skills training and practical experience to prepare the students for position as Electrician in this field. Students are introduced to theory, installation and practices in troubleshooting residential circuits, motor circuits and motor control circuits.	*The AAS in Building Technology - Electrical offers academic course work necessary for more advanced study and experiential development of skills in the electrical trade. Students are introduced to theory, installation practices, troubleshooting and maintenance of solid-state devices, electrical machines, motors, controls and solar photovoltaic systems.*

Goals	The goal of the program is to (1) Demonstrate the skills that are needed to pursue a career in Building Technology as electrician in the field of construction electricity. (2) Demonstrate intellectual skills and critical thinking skills to become effective learners and competent workforce.	*This program is designed to develop technical skills and practical experience to prepare students for positions as electrical technicians. Students will be introduced to theory, wiring practices, installation, troubleshooting and maintenance of electronic devices, electrical machines, motor controls and solar photovoltaic (PV) systems.*
Program Learning Outcomes	1. Practice safety and occupational health procedures in the work place. 2. Use electricity hand and power tools competently. 3. Test electrical equipment. 4. Interpret schematic wiring diagrams and waveforms. 5. Determine the amount of load per circuit. 6. Install residential wiring circuits according to given specification and plan. 7. Identify and interpret basic solid state (electronics) symbols and circuit schematics commonly found in the electrical industry. 8. Analyze circuit operations on basic motors. 9. Perform basic troubleshooting on basic motors. 10. Install and perform basic maintenance on air-conditioning units. 11. Interpret and install circuits according to rules and regulations of the National Electric Code book. 12. Install and analyze basic motor control circuits.	*1. Demonstrate proper use and maintenance of various hand and power tools used by electricians that comply with industry safety standards.* *2. Develop knowledge and skills through experimentation and calculation of electrical quantities of electrical circuits.* *3. Demonstrate knowledge and skills required in electrical wiring systems in compliance with current electrical codes and standards.* *4. Demonstrate competency in repair, installation and maintenance of electrical machines, solar photovoltaic systems and solid-state devices.* *5. Demonstrate ability to perform installation and troubleshooting of motors and controls.*
Program Requirements	**General Education Requirements: 31 cr.** ESL 050 Technical English (3) or SS 100 World of Work (3); MS 104 Technical Math I (4); MS 106 Technical Math II (4); BU 097 Introduction to Entrepreneurship	**General Education Requirements: 18 cr.** *EN 110 Advance Reading (3); EN 123 Technical Communication (3); Science with Lab (4); MS 104 Technical Math I (4); CA 100 Computer Literacy (3); Exercise Sport Science (1)*

	(3); CA 100 Computer Literacy (3); EN 123 Technical Communications (3); CA 100 Computer Literacy (3); SC 130 Physical Science w/lab (4); Humanities (3 credits) Any Course in art, music, history, literature, philosophy or language (3); Exercise Sports Science (1 credit).	
	Major Requirements: 23 cr. VEE 110 Discrete Devices I (3); VEE 266 Rotating Machinery (3); VEE 222 Discrete Devices II (3); VEM 105 Basic Electricity for AC (3); VEM 113 Basic Refrigeration I (4); VEM 212 National Electrical Code (3); VEM 240 Industrial Wiring (4) **Total Requirements: 71 credits**	**Major Requirements: 17 cr.** *BTE 212 National Electrical Code (3); BTE 230 PV: Design Principles and Installation (4); BTE 240 Industrial Wiring: Motor Control (4); VEE 222 Discrete Device II (3); VEE 266 Rotating Machinery (3).* **Total Requirements: 62 credits**
Suggested Schedule	**(Year 1** **Fall Semester (17 cr.)** ESL 050 Technical English or SS100 World of Work (3) MS 104 Technical Math I (4) VEM 103 Basic Electricity I (4) VEM 110 Workshop Fabrication (3) VSP 121 Industrial Safety (1.5) **Spring Semester (18 cr.)** CA 100 Computer Application (3) MS 106 Technical Math II (4) 5) 104 Basic Electricity II (5) VEM 111 Electrical Wiring I (3) VEM 112 Electrical Wiring II (3)	***Year 1: 26 cre.*** Completion of the Technical Requirements for Construction Electricity (CE) CE 102 (3) Electrical Drawing & Sketching CE 103 (3) Basic Electricity I CE 104 (3) Basic Electricity II CE 110 (5) Workshop Practices CE 111 (3) Electrical Wiring I CE 112 (3) Electrical Wiring II CE 121 (3) Workplace Health & Safety EN 123 (3) Technical Communication
	Year 2 **Fall Semester (16 cr.)** VEE 110 Discrete Device I (3) VEE 266 Rotating Machinery (3) EN 123 Technical Communication (3) SS 150 History of Micronesia (3) SC ### Science with Lab (4) **Spring Semester (18 cr.)** VEE 222 Discrete Device II (3) VEM 105 Basic Electricity for AC (3) VEM 113 Refrigeration II (4) VEM 212 NEC (3) VEM 240 Industrial Wiring (4) ESS ### Exercise Sports (1)	***Year 2: 35 cre.*** ***Fall Semester (16cr.)*** *Science with lab (4); CA 100 (3); VEE 222 (3); VEE 266 (3); BTE 212 (3)* ***Spring Semester (16 cr.)*** *EN 110 Advanced Reading (3); MS 104 (4); ESS (1); BTE 230 (4); BTE 240 (4).*
	Summer Semester	***Summer Semester***

	None	***CE 150 (4)*** *Cooperative Education*

Summary of consultation within the division: CTEC Instructional Coordinator reviewed this proposal with the program instructor and then presented to CTE Dean. They are all in full support of the proposed changes to the program.	
Summary of consultation with other campuses where this program is offered: BT program is not available or offered at any other campuses except CTEC.	
Division Chair/Instructional Coordinator/Director signature:	**Date submitted to CC:**
Decision reached by CC: [ ] **Approved** [ ] **Disapproved**	
If not approved, reasons for disapproval:	
CC Chair signature:	**Date submitted to VPIA:**
VPIA signature:	**Date submitted to EC:**
EC Chair signature:	**Date signed/or date submitted for BOR approval, if required:**
	Date approved by BOR, if required: