Cycle: 2018-2021

Associate's Degree IN APPLIED SCIENCE WITH A MAJOR IN Electronics Engineering Technology

Program Mission Statement:
The Electronics Engineering Technology program (EET) uses classroom and complementary laboratory experiences to provide students with applied technical skill to include building, testing, troubleshooting, and repairing applied electronic circuits and equipment. Students accumulate a variety of academic and experiential knowledge which will prepare them for careers with a variety of manufacturing industries

Division: Technical & General Education
AVP: Dan Averette
Department Chair: Shawn Reed
Director: David C. Edwards
SACSCOC Standard: 8.2A

Accrediting Agency: ☐ Yes ☒ No
Name: N/A
Certification Exam(s): ☐Yes ☒ No
Agency Name:
Credential:

Program Student Learning Outcome	Monitoring Year
Students will utilize lab resources to build and test a circuit, employing transistors and RLC (Resistor, Inductor, & Capacitor) circuit techniques.	2018-2019
Develop PLC programs to simulate process operations, and apply timers, counters, and comparison instructions to ladder programs.	2019-2020
Model, construct, and test circuits and applications involving logic gates, flip-flops, registers, and counters. Operate microprocessor devices, and demonstrate data transfer operations.	2020-2021
Analyze, and predict the performance of operational amplifiers and related linear integrated circuits. Apply concepts of transformers, poly-phase systems.	2020-2021

STUDENT LEARNING OUTCOMES FOR AAS.EET – 2018-2019

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance for the program?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? NOTE: include student ratio with all results.	How will you use this information to improve the program
Applied Technologies: Students will utilize lab resources to build and test a circuit, employing transistors and RLC (Resistor, Inductor, & Capacitor) circuit techniques.	EET 131	Students will be given a project which applies transistors and RLC [Resistor-Inductor-Capacitor] Circuit Competencies.	70% of students will achieve a grade of 70% or better on the Transistor/RLC Circuit Project.	Spring 2019	10/11 [91%] students met the objective. The lowest assessment score was 60%; the highest score was 100%; the average for this cohort was 85.4%.	The expected level of performance was met. Faculty will develop a transistor circuit student project focusing on transistor function in the circuit as either an amplifier or as an on/off switch, including simulation.

STUDENT LEARNING OUTCOMES FOR AAS.EET - 2019-2020

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance for the program?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? NOTE: include student ratio with all results.	How will you use this information to improve the program
Applied Technologies: Develop PLC programs to simulate process operations, and apply timers, counters, and comparison instructions to ladder programs.	EET 235	Students will be able to program, test, and troubleshoot a latching circuit scenario.	70% of students will achieve a 70% or better grade for this task project.	Spring 2020	17/18 [94%] students met the objective Report highest and lowest cohort scores as well as average. The lowest assessment score was 65%; the highest score was 100%; the average for this cohort was 88.6%.	The expected level of performance was met. Faculty will develop a PLC student project application expanding the latching circuit scenario, and including implementation of memory bits and timers.

STUDENT LEARNING OUTCOMES FOR AAS.EET – 2020-2021

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance for the program?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? NOTE: include student ratio with all results.	How will you use this information to improve the program
Applied Technologies: Model, construct, and test circuits and applications involving logic gates, flip-flops, registers, and counters. Operate microprocessor devices, and demonstrate data transfer operations.	EET 145	Students will be given a project which applies logic gates. The students will construct and test digital circuits using [AND, OR, NAND, NOR] gates.	70 % of students will achieve a 70% or better grade for this task project.	Fall 2020	14/15 [93%] students met the objective. The lowest assessment score was 65%; the highest score was 100%; the average for this cohort was 85.33%.	The expected level of performance was met. Faculty will develop a logic circuits student project application combining different configurations of the [NOT, AND, OR] gates, and building multiple Combinational Logic Circuits.

STUDENT LEARNING OUTCOMES FOR AAS.EET – 2020-2021

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance for the program?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? NOTE: include student ratio with all results.	How will you use this information to improve the program
Applied Technologies: Analyze, and predict the performance of operational amplifiers and related linear integrated circuits. Apply concepts of transformers, poly-phase systems.	EET 220	Students will be given a project which applies operational amplifiers with negative feedback. The students will construct and test an inverting amplifier, a noninverting amplifier, and a voltage-follower.	70 % of students will achieve a "C" or better grade for this task project.	Fall 2020	12/13 [92%] students met the objective. The lowest assessment score was 60%; the highest score was 100%; the average for this cohort was 86.15%.	The expected level of performance was met. Faculty will develop an operational amplifier student project extending the experimental side of the inverting and non-inverting amplifiers applications through software simulation.

CONTINUOUS STUDENT IMPROVEMENT

This Cycle's Results and Comparison to Last Cycle's and Recommended Actions:

Focus on current documentation centers on program student learning objectives instead of an integrated PSLO/CSLO approach; we are assessing student performance to align with this shift of focus. Overall student performance met goals for this round of assessments. In the current evaluation cycle performance was consistent across a broad range of assessments & learning objectives. The difficulty and scope of future cycle assessments will be increased; we will document student performance.

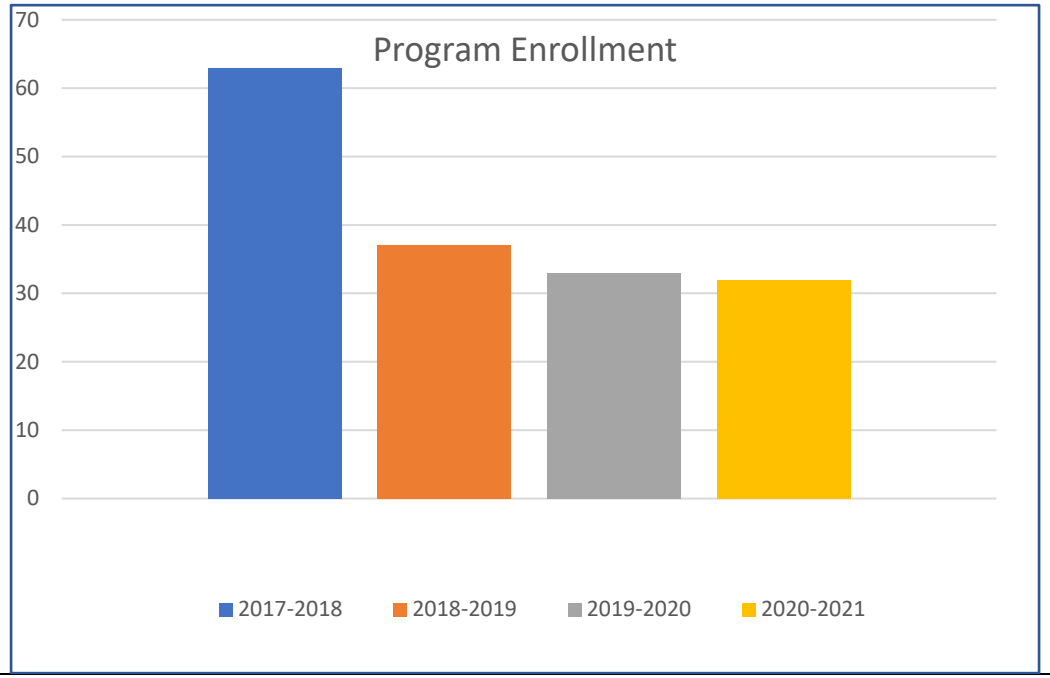
We have added a quantitative analysis component/computer technology component to all Engineering Technology Curricula to boost critical thinking/reasoning skills. We will be monitoring student performance moving forward.

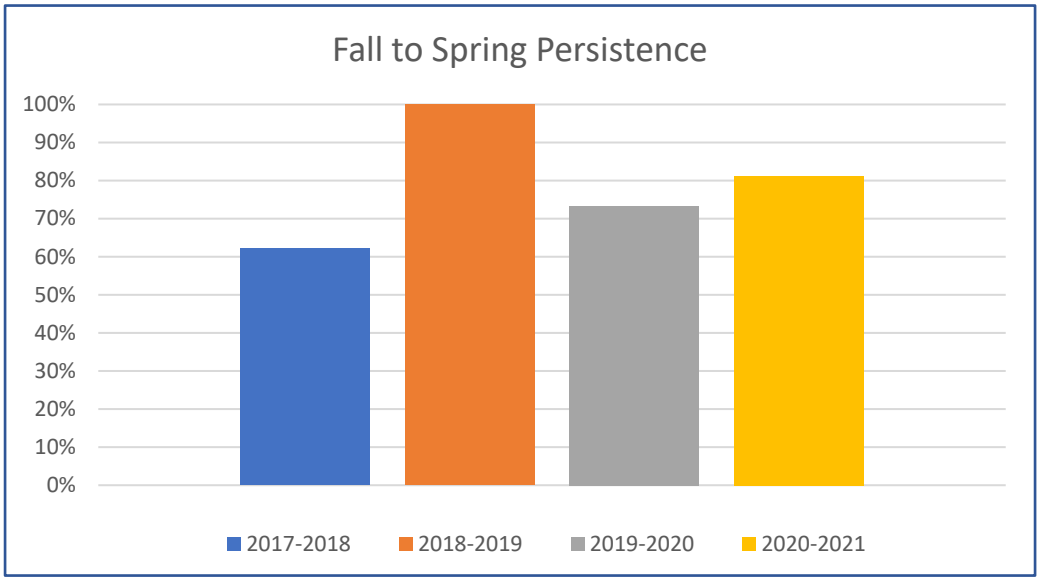
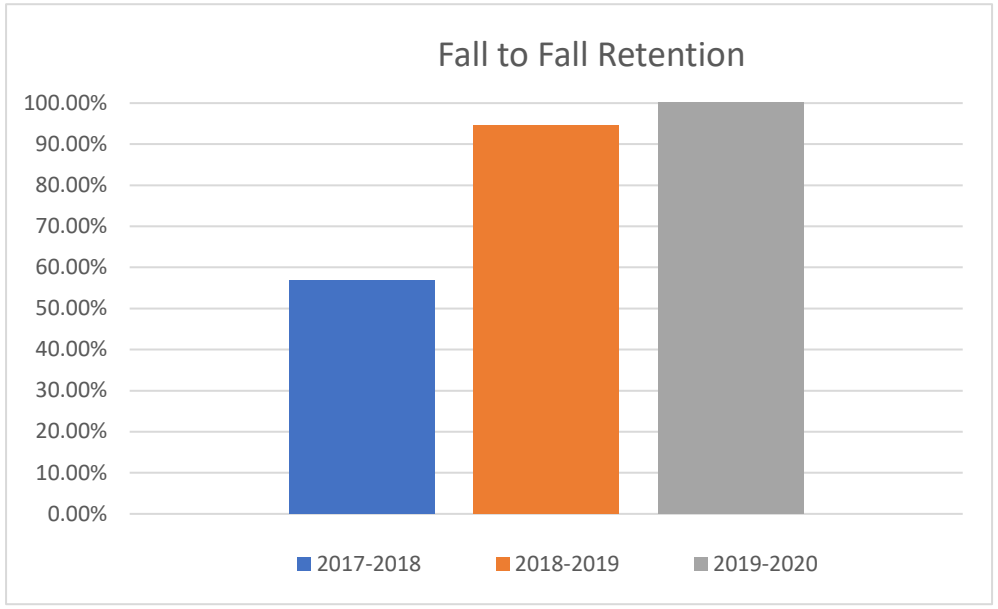
A PLC trainer purchase has provided additional equipment for instruction. This will allow more sophisticated assessment of PLC student skills and allow faculty to target specific areas of comprehension. We will develop and integrate assessments into PLC training to utilize this resource effectively. The increased availability of equipment should enhance student performance.

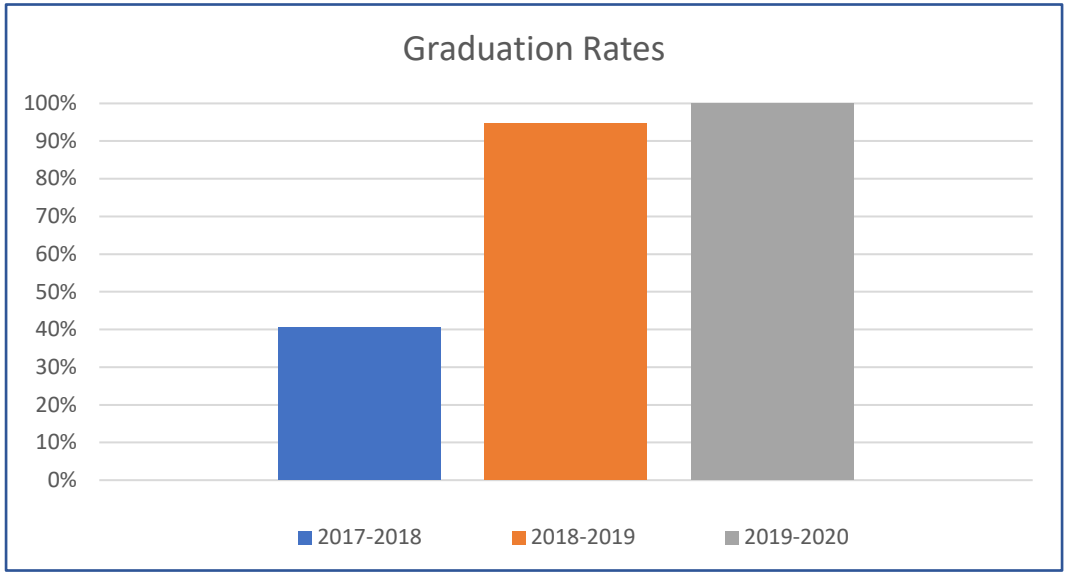
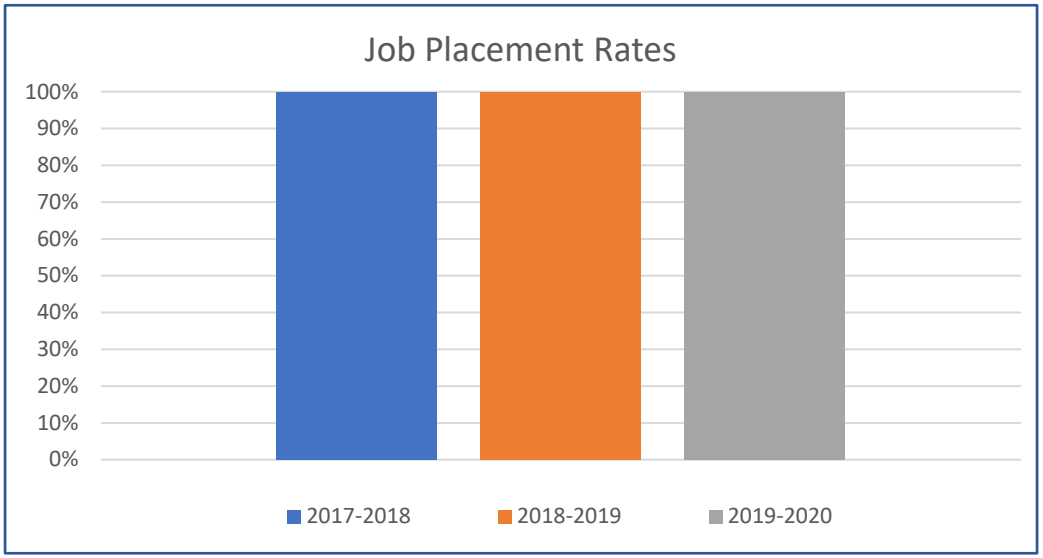
A state system purchase of manufacturing simulation equipment has afforded us the opportunity to expand automation preparation for students. This will be integrated within the PLC training the students receive. Training on different PLC manufacturing systems will enhance student preparation for the workforce.

Enrollment has been trending downward over the past three years. Recent events have exacerbated the trend and placed a barrier to enrollment increases. As we return to a normal environment, enrollment is expected to rebound due to the breadth of industries involved with electronics engineering technology in the area and their associated employment needs. Placement rates for Electronics Engineering Technology (EET) majors within the service area remain high. Logistics generally drive fall to Spring retention and this statistic is generally good. Fall to Fall retention is the major issue due for ET majors to the challenges inherent in the program. Within this cycle Fall to Fall retention has been good, but it will be important to continue to monitor current student performance and identify challenges proactively. It is imperative to continue to develop mentoring and STEM student support initiatives for engineering technology students as a whole to ensure continued progress and improve graduation rates. Note that job placement rates have remained good throughout the cycle.

PROGRAM VITAL STATISTICS

Indicator	Trend Analysis	Action Plans
	Enrollment dropped off after 2017-2018; it has remained consistent since that time. The 2017-2018 numbers correlate with economic performance at that time.	Enrollment is expected to increase as the economy recovers from the pandemic scenario and employers within the service area expand production efforts. We need to utilize media effectively to underscore the need for Electronics Engineering Technology graduates in the service area.

Indicator	Trend Analysis	Action Plans
	First semester to second semester persistence is generally fair	We need to acquire focused data on student enrollment to identify STEM challenges and take initiative to bolster student achievement. We will also seek to connect students with student mentors within the first two terms of their enrollment.
	Fall to Fall retention is generally good.	We will strive to engage students in majors' courses sooner in their academic careers. Developing rapport with new students is increasingly important. We will also focus on connecting students with student mentors within the first three terms of their enrollment.

Indicator	Trend Analysis	Action Plans
	Graduation rates are generally very good. There was an observed anomaly in 2017-2018.	We will identify challenges for new students and identify initiatives to address STEM difficulties and postsecondary preparation barriers.
	Placement rates for this program are generally excellent.	Continue to work with industry liaison to identify placement opportunities for both internships and full-time positions.