Assessment: Course Four Column

Courses (CTE) - Electrical Systems Technology

ELM 136:Programmable Controls App

Course Outcomes	Assessment Measures	Results	Actions
Software programs depending on type of PLC - Use different software programs depending on type of PLC. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Understanding the differences between software programs and their proprietary functions. This is done both in the lab and classroom. **Criterion:** Be able to write several ladder logic programs in different software applications.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes Students were successful in writing PLC programs in various software applications. (10/12/2017)	**Action:** For the upcoming year, Mike Elbert and I are looking into another PLC program that has more features and functions. With our current software, we have reached the end of its capability. (10/12/2017)
Design PLC programs - Design PLC programs. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Given a set of parameters, be able to write a functioning program to upload into a PLC. **Criterion:** Write a program that follows programming rules, and functions as the technical description says it should.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes Students were very successful in writing programs based on a set of given parameters. This is where students really begin to understand how the PLC program works. (10/12/2017)	**Action:** I don't feel as if anything needs to be done to this outcome. (10/12/2017)
Upload PLC programs into PLC CPU - Upload PLC programs into PLC CPU. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Connecting to a PLC with computer or laptop and transferring the program. **Criterion:** Successful transfer of program from computer to PLC. The program must operate when the computer is disconnected from the PLC.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes The results from this outcome were a bit scattered. Students had a hard time at first remembering the steps that had to be completed for a successful upload. After a couple of times walking through the process, they were able to complete on their own. (10/12/2017)	**Action:** Develop a written set of instructions on how to properly connect with the PLC and transfer a program. (10/12/2017)
PLC as main source of control for an	**Assignment - Lab -** Write a program		

Course Outcomes	Assessment Measures	Results	Actions
application - Use PLC as main source of control for an application. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	for the Rice Factory lab exercise. The PLC is used for all control on this lab. **Criterion:** Successfully write a program that functions with only the PLC and no relay logic.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes All students were able to complete this lab. Some had a harder time than others, but all were able to pass the exercise with some coaching where needed. (10/12/2017)	**Action:** Develop a second lab exercise to further this outcome. Having only one major lab seems to be a bit thin. (10/12/2017)
Troubleshoot problems - Troubleshoot problems associated with application using software and field troubleshooting. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Be able to identify problems using a PLC program as the main means of troubleshooting. Be able to correct the issue and verify with PLC. **Criterion:** Successful completion of Simutech PLC Troubleshooting program.	**Reporting Period:** 2016-2017 **Criterion Met:** No This was by far the student's most difficult task in this class. All students competed the program, but with varying results. (10/12/2017)	**Action:** This outcome needs to have a better teaching module to better serve the students. I will be developing this over the summer to make sure the students get the best possible experience for this learning outcome. (10/12/2017)