Assessment: Course Four Column

Courses (CTE) - Electrical Systems Technology

ELM 125:AC Motors and Alternators

Course Outcomes	*Assessment Measures*	*Results*	*Actions*
AC motor and alternator theory - Understand and apply AC motor and alternator theory. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Exam -** Completion of assigned reading and review questions with passing grades. Successfully passing tests. Demonstrating competency in classroom discussions. **Criterion:** Passing all assignments, tests and activities with a satisfactory grade.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes All students in this class that turned in assignments on time received passing grades for their course work. Their level of understanding was demonstrated through their test scores. (10/12/2017)	**Action:** At this time, there is little need for changes to this portion of the course. Although, I feel that some of the tests need to be written as to challenge the students for a more in depth understanding of the material as opposed to a general understanding. (10/12/2017)
Connect, operate and interpret data of an AC Alternator - Connect, operate and interpret data of an AC Alternator. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Lab work with LabVolt trainers will show the student's ability to understand the material. **Criterion:** Successful completion of lab exercises while demonstrating how AC alternators operate. Also, lab exercises that are completed correctly will have readings form the AC alternator that correlate with the exercise outline.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes Students were able to complete all lab exercises in the time allowed. The classroom portion of Outcome #1 and #2 allows for a smooth transition into this outcome. Some students required more assistance during the lab portion, but that is to be expected. (10/12/2017)	**Action:** I will be looking into an alternative means of lab trainers for this, and other, classes. The LabVolt machines work well, but are antiquated and I know there are better options available. This is a long term goal. (10/12/2017)
Squirrel Cage Induction, Wound Rotor and Synchronous Motors - Recognize Squirrel Cage Induction, Wound Rotor and Synchronous Motors. **Course Outcome Status:** Active	**Quiz -** Tests and identification of motors in the lab. **Criterion:** Correctly identify motors visually and from description.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes For the most part, students were able to identify motors based on description from reading in their books. Visual identification was much easier for the students, and more successful. (10/12/2017)	**Action:** In the future, I plan to spend more time with our cutaway motors to help the students see the differences and apply them to memory for easier

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Next Assessment: 2021-2022 **Start Date:** 10/10/2017			identification from description. (10/12/2017)
AC motors to different load requirements - Apply the various AC motors to different load requirements. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Successful completion of LabVolt exercises in lab. **Criterion:** Complete all labs correctly, safely and on time.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes Students were able to complete lab exercises in the time allowed. There were only small issues/questions that were answered through critical thinking and reviewing course material. (10/12/2017)	**Action:** As stated before, we are currently looking into other lab alternatives besides the LabVolt trainers as we feel there are better resources for our needs. (10/12/2017)
Apply Ohm's law to AC motors - Apply Ohm's law to AC motors requiring values of voltage, current and power. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Quiz -** Tests and labs where applying specific values to motors and their properties. **Criterion:** Being able to perform math functions using a calculator and applying Ohm's law as students were taught in AC/DC Theory classes.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes and No About half of the class was able to easily perform this task. The other half struggled and took some coaching. I feel that the material was adequate, but the student's math skills were lacking. (10/12/2017)	**Action:** Allowing more time for this specific learning outcome will allow for better success. I think that the foundation needs to be laid early on in our program, during AC/DC theory, on how to appropriately apply Ohm's law. (10/12/2017)
Terminate the various types of AC motors - Terminate the various types of AC motors. **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/10/2017	**Assignment - Lab -** Understand and identify the different leads inside of the motor termination box. Use proper methods to terminate the leads to incoming power leads. **Criterion:** Leads will be taped/connected correctly and to industry standards.	**Reporting Period:** 2016-2017 **Criterion Met:** Yes and No Students were able to verify motor leads inside the motor termination box and correctly wire up the motor to incoming power leads using various methods including tape, lugs and boots. (10/12/2017)	**Action:** I would like to incorporate more motor terminations into this class. I feel that a lot of motors fail due to faulty connections. Also, a poor connection is not safe for anyone near the motor. (10/12/2017)