

Assessment: Course Four Column

Courses (CTE) - Electrical Systems Technology

ELM 112:Electrical Theory, DC

<i>Course Outcomes</i>	<i>Assessment Measures</i>	<i>Results</i>	<i>Actions</i>
<p>Understand and apply Electron Current Flow Theory - Understand and apply Electron Current Flow Theory. This theory is the one used throughout the GBC Electrical Systems Technology Curriculum.</p> <p>Course Outcome Status: Active</p> <p>Next Assessment: 2023-2024</p>	<p>Exam - Study, learn and be prepared to discuss the properties of Atomic Structure, Magnetism, Semi-conductors and chemical action (batteries).</p> <p>Criterion: Written tests, Review questions on this subject and student participation in DC problems at the white board.</p>	<p>Reporting Period: 2018-2019</p> <p>Criterion Met: Yes</p> <p>Demonstrated proficiencies (scores) from Exams, Review Questions and Quizzes.</p> <p>Results Analysis: Track each students progress through grades recorded on a spread sheet for this course. (09/04/2019)</p>	<p>Action: Planned improvement for understanding as relates to this class will be facilitated through increased lab work utilizing simple DC series/parallel circuits with a DC supply and doing calculations from these exercises. (09/04/2019)</p>
<p>Recognize Electron Current Flow Theory - Recognize Electron Current Flow Theory. This is discussed but not used in actual DC Theory work.</p> <p>Course Outcome Status: Active</p> <p>Next Assessment: 2023-2024</p>	<p>Exam - Insure all students correctly understand Electron Flow theory, as presented in the Delmar text and that they are equally aware of Conventional Current Flow Theory as well</p> <p>Criterion: Exams on current flow using handouts and video presentations. Also basic theories covering biasing and how a diode could enable or block Conventional or electrical current flow,</p>	<p>Reporting Period: 2018-2019</p> <p>Criterion Met: Yes</p> <p>The students thoroughly studied the drawings and the Power Point Demonstration on the differences between the 2 theories by used of a battery supply, conductors and a diode.</p> <p>Results Analysis: Exams were presented and drawings required to be completed for grade using both methods though all students understood that all material for this course was written using The Electron Flow Theory. (09/04/2019)</p>	<p>Action: Will increase at the board time doing Sample electrical problems. Increased video information on this subject. (09/04/2019)</p>
<p>Basic DC electrical properties - Calculate basic DC electrical properties including the: Volt, Amp, Watt, and the Ohm.</p> <p>Course Outcome Status: Active</p>	<p>Discussion - Opening discussions introducing these electrical quantities and introduction into the National Electrical Code Definitions (Article 100) for official descriptions</p>	<p>Reporting Period: 2018-2019</p> <p>Criterion Met: Yes</p> <p>All students rated very well on this subject as evidenced by test scores, homework assignments, and review questions for each chapter discussing these terms.</p>	<p>Action: Introduce some different sources of information from other texts on this subject. I have several under review at this time that I believe excerpts from them would</p>

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<p>Next Assessment: 2023-2024</p>	<p>of these electrical quantities. Criterion: Exams and text book work on these items to include student participation in sample board-work problems.</p>	<p>Results Analysis: Students performed well in this area as progress was monitored every week by their own work. (09/04/2019)</p>	<p>be beneficial to overall class benefit. (09/04/2019)</p>
<p>Apply Ohm's Law to DC circuits requiring values of Resistance, Voltage, Current and Power - Apply Ohm's Law to DC circuits requiring values of Resistance, Voltage, Current and Power. True Power as well as Apparent power will be discussed and calculated Course Outcome Status: Active Next Assessment: 2023-2024</p>	<p>Exam - A lot of work done here as this is the basic building block for all DC Theory. A lot of testing for correct symbol usage for three quantities, quizzes on assigned reading material Criterion: Extensive exams to cover all aspects of Ohm's Law and an additional exam(s) to cover electrical terms used for electrical calculations.</p>	<p>Reporting Period: 2018-2019 Criterion Met: Yes Students performed very well in this area at grasping the fundamental terms for DC electrical work. Results Analysis: All students received above average scores on a variety of information and class participation in discussion of these terms and their importance in the electrical field. (09/04/2019)</p>	<p>Action: Continue to stress the importance of this subject in all electrical study aspects. Will introduce additional material from other texts to improve understanding. (09/04/2019)</p>
<p>Identify open, closed and short circuits in basic DC circuits - Identify open, closed and short circuits in basic DC circuits. Course Outcome Status: Active Next Assessment: 2023-2024</p>	<p>Exam - Tests, power points on this type of an electrical fault, and correct troubleshooting techniques reduce downtime. Criterion: Good test scores, completed hand-out assignments in a timely manner, introduction to NEC questions on this subject matter</p>	<p>Reporting Period: 2018-2019 Criterion Met: Yes Good results as evidenced by returned work, exams using these types of electrical faults, and a basic introduction to Arc Flash. Results Analysis: Will continue with this course of action as it has proven successful. The more class participation on sample problems at the board, the better the understanding of the concepts by the class. (09/04/2019)</p>	<p>Action: Introduce additional material on electrical troubleshooting. Show video of actual short circuits and how best to clear them or initially avoid them entirely. (09/04/2019)</p>
<p>Analyze and simplify complex series and parallel circuits and connect both in various lab applications - Analyze and simplify complex series and parallel circuits and connect both in various lab applications. Course Outcome Status: Active Next Assessment: 2023-2024</p>	<p>Assignment - Written - Cover the basic requirements for Series, Parallel, and Series-Parallel circuits by sample problems of all 3 types written and solved on the board by students. Criterion: Have the students solve a complex Series-Parallel problem solving for all the unknowns.</p>	<p>Reporting Period: 2018-2019 Criterion Met: Yes Excellent result were achieved with a hands-on-approach to this subject as it encompasses all the goals of DC Theory Results Analysis: Great student understanding of basic DC theory concepts, terms, units of measure, symbols and there mathematical values. (09/04/2019)</p>	<p>Action: Introduce additional basic concept work on solving DC Theory problems. More Series-Parallel problems would be beneficial. (09/04/2019) Follow-Up: The class performed very well on this subject and showed a great interest in DC Theory and recognized its value in future electrical calculations and subjects of the electrical trade. (09/04/2019)</p>

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