

Institutional Learning Outcomes (ILO):

- ILO1: Effective oral communication
- ILO2: Effective written communication
- ILO3: Critical thinking
- ILO4: Problem solving
- ILO5: Intercultural knowledge and competence
- ILO6: Information literacy
- ILO7: Foundations and skills for life-long learning
- ILO8: Quantitative reasoning

Program Learning Outcomes (PLO)

- PLO1: Practice Safety and occupational health procedures in the workplace.
- PLO2: Use electronic tools and test equipment competently.
- PLO3: Interpret schematic diagrams and waveforms.
- PLO4: Build electronic projects to a given specification.
- PLO5: Perform troubleshooting techniques to maintain and resolve hardware/software related problems in a personal computer system.
- PLO6: Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.

SLO#	Program SLO#	IDM	ILO	Reflection/Comment									
1. Demonstrate the understanding of the basic principles and characteristics of alternating current, sinusoidal/non-sinusoidal waveforms and the basic operations of an AC generator and its characteristics.	3	I, D	3	<p>SLO was assessed by written test questions using the assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>69 or lower</td> <td>failed</td> </tr> <tr> <td>13</td> <td>70 or better</td> <td>passed</td> </tr> </tbody> </table> <p>7% failed, 93% passed</p> <p>Observation: <i>students with low scores – reason was due to reading comprehension problem. Coursework reading level is too advance for certificate level students, such as concepts and terminologies.</i></p>	No. of students	Score	Comment	1	69 or lower	failed	13	70 or better	passed
No. of students	Score	Comment											
1	69 or lower	failed											
13	70 or better	passed											

<p>2. Analyze an AC circuit by using Ohm's Law to calculate voltage, current, and resistance.</p>	<p>2, 3</p>	<p>I, D</p>	<p>3</p>	<p>SLO was assessed by written test questions and a performance exam using the assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1" data-bbox="1157 204 1902 310"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>69 or lower</td> <td>failed</td> </tr> <tr> <td>13</td> <td>70 or better</td> <td>passed</td> </tr> </tbody> </table> <p>7% failed, 93% passed</p> <p>Observation: <i>students with low scores – reason was due to poor math skills, mainly the application of engineering (scientific) notations and using scientific calculators.</i></p> <p><i>Program needs to purchase 5 analog multi-meters and 20 customized parts-kit</i></p> <p>Note: <i>Circuit board construction was also introduced to transform circuit sketching to actual circuits. Additionally, circuit analysis is also conducted to compare circuit calculations to circuit measurements.</i></p>	No. of students	Score	Comment	1	69 or lower	failed	13	70 or better	passed
No. of students	Score	Comment											
1	69 or lower	failed											
13	70 or better	passed											
<p>3. Describe the function of each of the following electronic testing equipment and safely & accurately setup the equipment to perform its use on an AC circuit.</p> <ul style="list-style-type: none"> a. Oscilloscope b. Function/Signal Generator c. Frequency Counter 	<p>1, 2, 3</p>	<p>I</p>	<p>3, 4</p>	<p>SLO was assessed by written test questions and a performance exam using the assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1" data-bbox="1157 967 1902 1073"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>69 or lower</td> <td>failed</td> </tr> <tr> <td>13</td> <td>70 or better</td> <td>passed</td> </tr> </tbody> </table> <p>7% failed, 93% passed</p> <p>Observation: <i>To master the use of testing equipment, students must first have a full understanding of the theoretical aspects of the testing equipment. Poor English skills were a contributing factor in mastering this SLO. In addition, SLO required more time for students to practice.</i></p> <p><i>Also, program needs to purchase more test probes and a couple of oscilloscopes and function generators.</i></p>	No. of students	Score	Comment	1	69 or lower	failed	13	70 or better	passed
No. of students	Score	Comment											
1	69 or lower	failed											
13	70 or better	passed											
<p>4. Describe the purpose and the</p>				<p>SLO was assessed by written test questions using the</p>									

operating characteristics of an inductor and analyze a resistive/inductive (RL) circuit by calculating and measuring total inductance, reactance, impedance, and phase relationships of voltage and current.	1, 2, 3	I, D	3, 4	<p>assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1" data-bbox="1159 212 1902 318"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>69 or lower</td> <td>failed</td> </tr> <tr> <td>12</td> <td>70 or better</td> <td>passed</td> </tr> </tbody> </table> <p>14% failed, 86% passed</p> <p><i>Observation: Contributing factors for low scores were due to poor English skills, poor math skills, and the lack of studying. Due to the pace of the class, most parts of hands-on experimentation were not delivered because of needed additional time spent on theoretical concept and circuit calculation.</i></p>	No. of students	Score	Comment	2	69 or lower	failed	12	70 or better	passed
No. of students	Score	Comment											
2	69 or lower	failed											
12	70 or better	passed											
5. Describe an RL filter circuit and its operating characteristics				<p>SLO was assessed by written test questions using the assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1" data-bbox="1159 735 1902 841"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>69 or lower</td> <td>failed</td> </tr> <tr> <td>12</td> <td>70 or better</td> <td>Passed</td> </tr> </tbody> </table> <p>14% failed, 86% passed</p>	No. of students	Score	Comment	2	69 or lower	failed	12	70 or better	Passed
No. of students	Score	Comment											
2	69 or lower	failed											
12	70 or better	Passed											
6. Describe the purpose and the operating characteristics of a capacitor and analyze a resistive/capacitive (RC) circuit by calculating and measuring total capacitance, reactance, impedance, and phase relationships of voltage and current.	1, 2, 3	I, D	3, 4	<p>SLO was assessed by written test questions using the assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1" data-bbox="1159 1049 1902 1154"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>69 or lower</td> <td>failed</td> </tr> <tr> <td>12</td> <td>70 or better</td> <td>Passed</td> </tr> </tbody> </table> <p>14% failed, 86% passed</p>	No. of students	Score	Comment	2	69 or lower	failed	12	70 or better	Passed
No. of students	Score	Comment											
2	69 or lower	failed											
12	70 or better	Passed											
7. Describe an RC filter circuit and its operating characteristics.	1, 2, 3	I, D	3, 4	<p>SLO was assessed by written test questions and a performance exam using the assessment criteria as stated in the course outline. Result of assessment is shown below:</p> <table border="1" data-bbox="1159 1357 1902 1463"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>69 or lower</td> <td>Failed</td> </tr> <tr> <td>13</td> <td>70 or better</td> <td>Passed</td> </tr> </tbody> </table>	No. of students	Score	Comment	1	69 or lower	Failed	13	70 or better	Passed
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				7% failed, 93% passed <i>Observation: Due to the pace of the class, most parts of hands-on experimentation were not delivered because of needed additional time spent on theoretical concept and circuit calculation.</i>									
8. Describe the purpose and operating characteristics of a RCL circuit and the effects of a resonant circuit.	1, 2, 3	I, D	3, 4	SLO was assessed by written test questions using the assessment criteria as stated in the course outline. Result of assessment is shown below: <table border="1" data-bbox="1157 430 1906 535"> <thead> <tr> <th>No. of students</th> <th>Score</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>69 or lower</td> <td>Failed</td> </tr> <tr> <td>13</td> <td>70 or better</td> <td>Passed</td> </tr> </tbody> </table> 7% failed, 93% passed <i>Observation: Due to the pace of the class, most parts of hands-on experimentation were not delivered because of needed additional time spent on theoretical concept and circuit calculation.</i>	No. of students	Score	Comment	1	69 or lower	Failed	13	70 or better	Passed
No. of students	Score	Comment											
1	69 or lower	Failed											
13	70 or better	Passed											
9. Describe the purpose, operation, and characteristics of a transformer	1, 2, 3	I, D	3, 4	<i>Due to the pace of the class, SLO was not covered</i>									
10. Describe the purpose, operation, and characteristics of a relay switch.	1, 2, 3	I, D	3, 4	<i>Due to the pace of the class, SLO was not covered.</i>									

I – Introduced, D – Developing, M - Mastery

FINAL GRADES:

A = 1 C = 6 F = 0
 B = 7 D = 0

Recommendations:

Modify SLO's to achievable competency to meet all the required theory and practical/experimentations of the course.

Signature: **Cirilo B. Recana**
 Electrical Instructor

Date Submitted: May 2017