

**Review of Performance:** VEE 103 Electronics Fundamentals I Fall 2015, (18 students) P1  
**Submitted by:** Danilo S. Ibarrola

**Institutional Student Learning Outcomes (ISLO):**

- ILO1:** Effective oral communication.
- ILO2:** Effective written communication.
- ILO3:** Critical Thinking
- ILO4:** Problem Solving
- ILO5:** Inter-cultural 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.

SLO#	Program SLO#	I, D, M	ISLO	Reflection/Comment												
1. Describe the fundamentals of voltage and current and the behavior of these parameters in simple electrical circuits.	3. Interpret schematic diagrams and waveforms.	I, D	6, 7	<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>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>11</td> </tr> <tr> <td>B</td> <td>4</td> </tr> <tr> <td>C</td> <td>0</td> </tr> <tr> <td>D</td> <td>2</td> </tr> <tr> <td>F</td> <td>1</td> </tr> </tbody> </table>	Letter Grade	Number of student	A	11	B	4	C	0	D	2	F	1
Letter Grade	Number of student															
A	11															
B	4															
C	0															
D	2															
F	1															

				Students need more time in hands-on and other practical procedure to reach mastery level performance.												
2. Explain the purpose and identify the various types of resistors and their symbols. Identify the value, power rating and tolerance of resistors using various types of industry codes.	3. Interpret schematic diagrams and waveforms.	I, D	6, 7	<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>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>7</td> </tr> <tr> <td>B</td> <td>5</td> </tr> <tr> <td>C</td> <td>5</td> </tr> <tr> <td>D</td> <td>1</td> </tr> <tr> <td>F</td> <td>0</td> </tr> </tbody> </table> <p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>	Letter Grade	Number of student	A	7	B	5	C	5	D	1	F	0
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A	7															
B	5															
C	5															
D	1															
F	0															
3. Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	3. Interpret schematic diagrams and waveforms.	I, D	6, 7	<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>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>10</td> </tr> <tr> <td>B</td> <td>5</td> </tr> <tr> <td>C</td> <td>5</td> </tr> <tr> <td>D</td> <td>0</td> </tr> <tr> <td>F</td> <td>2</td> </tr> </tbody> </table> <p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>	Letter Grade	Number of student	A	10	B	5	C	5	D	0	F	2
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A	10															
B	5															
C	5															
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<p>4. Define magnetism and electromagnetism and their characteristics; describe how these characteristics are utilized in the operation of the relay, magnetic circuit breaker and meter.</p>	<p>3. Interpret schematic diagrams and waveforms.</p>	<p>I, D</p>	<p>6, 7</p>	<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="1108 331 1562 553"> <thead> <tr> <th>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>10</td> </tr> <tr> <td>B</td> <td>3</td> </tr> <tr> <td>C</td> <td>2</td> </tr> <tr> <td>D</td> <td>0</td> </tr> <tr> <td>F</td> <td>2</td> </tr> </tbody> </table> <p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>	Letter Grade	Number of student	A	10	B	3	C	2	D	0	F	2
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A	10															
B	3															
C	2															
D	0															
F	2															
<p>5. Describe the function of the multimeter and its controls. Safely and accurately use a multimeter to measure the circuit quantities of resistance, voltage, and current.</p>	<p>1. Practice safety and occupational health procedures in the workplace. 2. Use electronics tools and test equipment competently. 3. Interpret schematic diagrams and waveforms.</p>	<p>I, D, M</p>	<p>6, 7</p>	<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="1108 776 1562 998"> <thead> <tr> <th>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>9</td> </tr> <tr> <td>B</td> <td>4</td> </tr> <tr> <td>C</td> <td>4</td> </tr> <tr> <td>D</td> <td>1</td> </tr> <tr> <td>F</td> <td>0</td> </tr> </tbody> </table> <p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>	Letter Grade	Number of student	A	9	B	4	C	4	D	1	F	0
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A	9															
B	4															
C	4															
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F	0															
<p>6. Using Ohm's Law to define the relationship between resistance, voltage, current, and power in an electrical circuit. By</p>	<p>3. Interpret schematic diagrams and waveforms.</p>	<p>I, D</p>	<p>4, 6,7</p>	<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>												

<p>experimentation prove Ohm's Law.</p>				<table border="1" data-bbox="1108 240 1562 464"> <thead> <tr> <th>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>8</td> </tr> <tr> <td>B</td> <td>2</td> </tr> <tr> <td>C</td> <td>2</td> </tr> <tr> <td>F</td> <td>1</td> </tr> <tr> <td>F</td> <td>5</td> </tr> </tbody> </table> <p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>	Letter Grade	Number of student	A	8	B	2	C	2	F	1	F	5
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A	8															
B	2															
C	2															
F	1															
F	5															
<p>7. Identify the following circuits, calculate and measure the circuit parameters of voltage, resistance, and current. Troubleshoot the series, parallel and series-parallel circuits.</p> <ul style="list-style-type: none"> <li>a. Series Circuit</li> <li>b. Parallel Circuit</li> <li>c. Series and Parallel Circuit</li> <li>d. Voltage Divider Circuit</li> <li>e. Bridge Circuit</li> </ul>	<p>3. Interpret schematic diagrams and waveforms.</p>	<p>I, D</p>	<p>4, 6, 7</p>	<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="1108 704 1562 928"> <thead> <tr> <th>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4</td> </tr> <tr> <td>B</td> <td>3</td> </tr> <tr> <td>C</td> <td>5</td> </tr> <tr> <td>D</td> <td>1</td> </tr> <tr> <td>F</td> <td>5</td> </tr> </tbody> </table> <p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>	Letter Grade	Number of student	A	4	B	3	C	5	D	1	F	5
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<p>8. Simplify and analyze complex circuits using the following methods:</p> <ul style="list-style-type: none"> <li>a. Kirchhoff's Laws</li> <li>b. Thevenin's Theorem</li> <li>c. Norton's Theorem</li> </ul>	<p>3. Interpret schematic diagrams and waveforms.</p>	<p>I, D</p>	<p>6,7</p>	<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="1108 1276 1562 1351"> <thead> <tr> <th>Letter Grade</th> <th>Number of student</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>6</td> </tr> </tbody> </table>	Letter Grade	Number of student	A	6								
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A	6															

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**Special comments:** 16 out of 18 or 89% of the students got a grade of C and higher and 2 or 11% got F.

**Summary of Grades:**

**A+ = 0**  
**A = 2**  
**A- = 0**  
**B+ = 4**  
**B = 5**  
**B- = 4**  
**C+ = 1**  
**C = 0**  
**C- = 0**  
**F = 2**

**Recommendations:** Laboratory equipment (NIDA cards) for Electronics Fundamentals I must be enough for at least 3 to 5 sets to be able for the students to perform their required experimentation. Additional quality analog and digital multi-meter must also be purchase so that more hands on experimentation can be done.

Signature:      DANILO S. IBARROLA  
                          Instructor

**Date:** DEC. 2015