

**Review of Performance:** VEE 135 Digital Electronics I Spring 2017, (14 students, 13 males 1 female) P2  
**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.

SLO#	Program SLO#	I, D, M	ISLO	Reflection/Comment	
1. Tell the history and development of digital electronics.	3. Interpret schematic diagrams and waveforms.	I, D	6, 7	<b>Course Result</b>	SLO was assessed by written test questions using the assessment criteria as stated in the course outline. <b>13 (12 male &amp; 1 female)</b> out of <b>14</b> students <b>(92.9%)</b> completed the CSLO.
				<b>Target Met</b>	Yes
				Students need more time in hands-on and other practical procedure to reach mastery level performance.	

2. Describe and demonstrate the use of digital test equipment and its operating characteristics.	2. Use electronic tools and test equipment competently.	I,D	6, 7	<table border="1"> <tr> <td data-bbox="1024 240 1281 488"><b>Course Result</b></td> <td data-bbox="1281 240 1898 488">SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to demonstrate the operation of the different digital test equipment. <b>13 (12 male &amp; 1 female)</b> out of <b>14</b> students <b>(92.9%)</b> completed the CSLO.</td> </tr> <tr> <td data-bbox="1024 488 1281 529"><b>Target Met</b></td> <td data-bbox="1281 488 1898 529">Yes</td> </tr> </table>	<b>Course Result</b>	SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to demonstrate the operation of the different digital test equipment. <b>13 (12 male &amp; 1 female)</b> out of <b>14</b> students <b>(92.9%)</b> completed the CSLO.	<b>Target Met</b>	Yes	<p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>
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<b>Target Met</b>	Yes								
3. Examine the purpose of the 555 timer and digital integrated circuits.	3. Interpret schematic diagrams and waveforms.	I, D	6, 7	<table border="1"> <tr> <td data-bbox="1024 634 1281 883"><b>Course Result</b></td> <td data-bbox="1281 634 1898 883">SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline Students were able to observe and explain the operation of the 555 timer using the NIDA trainers. <b>12 (12 male &amp; 0 female)</b> out of <b>14</b> students <b>(85.7%)</b> completed the CSLO.</td> </tr> <tr> <td data-bbox="1024 883 1281 924"><b>Target Met</b></td> <td data-bbox="1281 883 1898 924">Yes</td> </tr> </table>	<b>Course Result</b>	SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline Students were able to observe and explain the operation of the 555 timer using the NIDA trainers. <b>12 (12 male &amp; 0 female)</b> out of <b>14</b> students <b>(85.7%)</b> completed the CSLO.	<b>Target Met</b>	Yes	<p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>
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<b>Target Met</b>	Yes								
4. Identify and describe the six basic logic gates and combinational circuits in digital electronics.	3. Interpret schematic diagrams and waveforms.	I, D	6, 7	<table border="1"> <tr> <td data-bbox="1024 1029 1281 1278"><b>Course Result</b></td> <td data-bbox="1281 1029 1898 1278">SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to describe and explain the operation of the different logic gates using the NIDA trainers. <b>12 (12 male &amp; 0 female)</b> out of <b>14</b> students <b>(85.7%)</b> completed the CSLO.</td> </tr> <tr> <td data-bbox="1024 1278 1281 1318"><b>Target Met</b></td> <td data-bbox="1281 1278 1898 1318">Yes</td> </tr> </table>	<b>Course Result</b>	SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to describe and explain the operation of the different logic gates using the NIDA trainers. <b>12 (12 male &amp; 0 female)</b> out of <b>14</b> students <b>(85.7%)</b> completed the CSLO.	<b>Target Met</b>	Yes	<p>Students need more time in hands-on and other practical procedure to reach mastery level performance.</p>
<b>Course Result</b>	SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to describe and explain the operation of the different logic gates using the NIDA trainers. <b>12 (12 male &amp; 0 female)</b> out of <b>14</b> students <b>(85.7%)</b> completed the CSLO.								
<b>Target Met</b>	Yes								

				Students need more time in hands-on and other practical procedure to reach mastery level performance.	
5. Recognize the number systems use in digital logic design and its conversion.	3. Interpret schematic diagrams and waveforms.	I, D,	6, 7	<b>Course Result</b>	SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to convert different number system and perform experiment using the NIDA trainers. <b>11 (11 male &amp; 0 female) out of 14 students (78.6%)</b> completed the CSLO.
				<b>Target Met</b>	Yes
				Students need more time in hands-on and other practical procedure to reach mastery level performance.	
6. Identify and describe flip-flop circuits.	3. Interpret schematic diagrams and waveforms.	I, D	4, 6,7	<b>Course Result</b>	SLO was assessed using hands-on experiment and written test questions using the assessment criteria as stated in the course outline. Students were able to explain the operation of the different flip-flop circuits using the NIDA trainers. <b>13 (13 male &amp; 0 female) out of 14 students (92.9%)</b> completed the CSLO.
				<b>Target Met</b>	Yes
				Students need more time in hands-on and other practical procedure to reach mastery level performance.	

**Special comments:** 13 out of 14 (13 males 0 female) or 92.9 % of the students got a grade of C and higher and 1 got F or 7.1%

**Summary of Grades:**

A+	=	0
A	=	0
A-	=	0
B+	=	1
B	=	3
B-	=	6
C+	=	1
C	=	1
C-	=	1
D+	=	0
D	=	0
D-	=	0
F	=	1

**Recommendations:** Laboratory equipment (NIDA cards) for Digital Electronics 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.

DANILO S. IBARROLA  
Instructor

**Date:** May 5, 2017