Review of Performance: (**VEE 240 Signal Processing**, Spring 2018, 10 students)
Submitted by: Nelchor Permitez Ed. D.

Institutional Student Learning Outcomes (ISLO):
ILO1: Effective oral communication.
ILO2: Effective written communication.
ILO3: Critical Thinking
ILO4: Problem Solving
ILO5: Intercultural knowledge and competence.
ILO6:Information literacy.
IL07: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: Practice a career in the Telecomm Industry.
PLO6: Troubleshoot microwave, fiber optics and telephone system.

<table>
<tr><th>SLO#</th><th>Program SLO#</th><th>I, D, M</th><th>ISLO</th><th>Reflection/Comment</th></tr>
<tr><td>1. Describe analog pulse modulation circuit operation.</td><td>Interpret schematic diagrams and waveforms.</td><td>D</td><td>7</td><td>The SLO was assess using written test (quiz) and hands-on troubleshooting

<table><tr><td>Number of students</td><td>Score</td><td>Comment</td></tr><tr><td>9</td><td>70 or better</td><td>Passed</td></tr><tr><td>1</td><td>69 or lower</td><td>Failed</td></tr></table>
Observation: Students were able to describe analog pulse modulation circuit operation in theory and in hands-on. However they find it difficult using</td></tr>
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<table>
<tr><td></td><td></td><td></td><td></td><td>oscilloscope, signal generators, frequency counter and digital tester</td></tr>
<tr><td>2. Describe Pulse coded modulation (PCM) circuit, operation and troubleshooting PCM circuit.</td><td>Interpret schematic diagrams and waveforms.</td><td>D</td><td>7</td><td>The SLO was assess using written test (quiz) and hands-on troubleshooting

<table><tr><td>Number of students</td><td>Score</td><td>Comment</td></tr><tr><td>10</td><td>70 or better</td><td>Passed</td></tr><tr><td>0</td><td>69 or lower</td><td>Failed</td></tr></table>
Observation: Students were able to describe Pulse coded modulation (PCM) circuit, operation and troubleshooting PCM circuit. However they find it difficult using oscilloscope, signal generators, frequency counter and digital tester. . Nida trainer cards are also worn out and need replacement.</td></tr>
<tr><td>3. Describe Delta modulation (DM) circuit, operation ar troubleshoot DM circuit.</td><td>Interpret schematic diagrams and waveforms.</td><td>M</td><td>7</td><td>The SLO was assess using written test (quiz) and hands-on troubleshooting

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Observation: Students were able to describe Delta modulation (DM) circuit, operation and troubleshoot DM circuit. However they find it difficult using oscilloscope, signal generators, frequency counter and digital tester. . Nida trainer cards are also worn out and need replacement.</td></tr>
<tr><td>4: Describe FSK (Frequency shift keying) circuit, operation and troubleshoot</td><td>Interpret schematic diagrams and waveforms.</td><td>M</td><td>7</td><td>The SLO was assess using written test (quiz) and hands-on troubleshooting

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<tr>
<td>FSK circuit</td>
<td></td>
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<td>

Observation: Students were able to describe FSK (Frequency shift keying) circuit, operation and troubleshoot FSK circuit.
However they find it difficult using oscilloscope, signal generators, frequency counter and digital tester. Nida trainer cards are also worn out and need replacement.</td>
</tr>
<tr>
<td>5. Describe Phase shift Keying (PSK) circuit, operation and troubleshoot PSK circuit.</td>
<td>Interpret schematic diagrams and waveforms.</td>
<td>M</td>
<td>7</td>
<td>The SLO was assess using written test (quiz) and hands-on troubleshooting

<table>
<tr><th>Number of students</th><th>Score</th><th>Comment</th></tr>
<tr><td>8</td><td>70 or better</td><td>Passed</td></tr>
<tr><td>2</td><td>69 or lower</td><td>Failed</td></tr>
</table>

Observation: Students were able to describe Phase shift Keying (PSK) circuit, operation and troubleshoot PSK circuit. However they find it difficult using oscilloscope, signal generators, frequency counter and digital tester. .
Nida trainer cards are also worn out and need replacement.</td>
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<tr>
<td>6. Describe and analyze Time and Frequency division multiplexing circuit operation and troubleshooting.</td>
<td>Interpret schematic diagrams and waveforms.</td>
<td>M</td>
<td>7</td>
<td>The SLO was assess using written test (quiz) and hands-on troubleshooting

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Observation: Students were able to describe and analyze Time and Frequency division multiplexing circuit operation and troubleshooting. .
Nida trainer cards are also worn out and need replacement.</td>
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Additional observations: Need to purchase additional set of NIDA cards to accommodate growing number of students enrolled in the course.

Recommendations: The NIDA cards were send for repair at the beginning of this Spring 2018 however to date there is no update yet from IC about it. Kindly follow up on this regards.

Signature: NELCHOR T. PERMITEZ
Professor

Date: May 14, 2018