Review of Performance: (**VTE 260 Microwave** , Fall 2014, 17 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 the basic principles microwaves. microwave devices.</td><td>Troubleshoot radio communication, microwave, fiber optic and telephone systems.</td><td>M</td><td>7</td><td>The SLO was assess using hands-on troubleshooting and written test.

Students were able to describe how microwave communication works.

<table><tr><th>Letter Grade</th><th>Number of student</th></tr><tr><td>A</td><td>1</td></tr><tr><td>B</td><td>2</td></tr><tr><td>C</td><td>12</td></tr></table></td></tr>
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<tr><td></td><td></td><td></td><td></td><td><table><tr><td>D</td><td>2</td></tr></table></td></tr>
<tr><td>2. Describe t operation microwave transmitters.</td><td>Troubleshoot radio communicati on, microwave, fiber optic and telephone systems.</td><td>M</td><td>7</td><td>The SLO was assess using hands-on troubleshooting and written test.

Students were able to describe the operation of microwave transmitters using NIDA trainers.

<table><tr><td>Letter Grade</td><td>Number of student</td></tr><tr><td>A</td><td>1</td></tr><tr><td>B</td><td>2</td></tr><tr><td>C</td><td>12</td></tr><tr><td>D</td><td>2</td></tr></table></td></tr>
<tr><td>3. Describe t operation microwave receivers.</td><td>Troubleshoot radio communicati on, microwave, fiber optic and telephone systems.</td><td>M</td><td>7</td><td>The SLO was assess using hands-on troubleshooting and written test.

Students were able to describe the microwave receiver circuits using NID trainers.
<table><tr><td>Letter Grade</td><td>Number of student</td></tr><tr><td>A</td><td>1</td></tr><tr><td>B</td><td>2</td></tr><tr><td>C</td><td>13</td></tr><tr><td>D</td><td>1</td></tr></table></td></tr>
<tr><td>4. Compare waveguides with other methods of energy transfer.</td><td>Troubleshoot radio communicati on, microwave, fiber optic and telephone</td><td>M</td><td>7</td><td>The SLO was assess using hands-on troubleshooting and written test.

Students were able to compare different types of waveguides and its advantages and disadvantages..
<table><tr><td>Letter Grade</td><td>Number of student</td></tr><tr><td>A</td><td>1</td></tr><tr><td>B</td><td>3</td></tr><tr><td>C</td><td>12</td></tr></table></td></tr>
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<tr><td></td><td>systems.
.</td><td></td><td></td><td><table><tr><td>D</td><td>0</td></tr><tr><td>F</td><td>1</td></tr></table></td></tr>
<tr><td>5. Describe t theory and operation horn antennas, microwave reflectors and lenses.</td><td>Troubleshoot radio communicati on, microwave, fiber optic and telephone systems.</td><td>M</td><td>7</td><td>The SLO was assess using hands-on troubleshooting and written test.

Students were able to describe the different parts of antenna system of a microwave system.<table><tr><td>Letter Grade</td><td>Number of student</td></tr><tr><td>A</td><td>1</td></tr><tr><td>B</td><td>3</td></tr><tr><td>C</td><td>11</td></tr><tr><td>D</td><td>1</td></tr><tr><td>F</td><td>1</td></tr></table></td></tr>
<tr><td>6. Describe cavity Resonators and tube microwave devices.</td><td>Troubleshoot radio communicati on, microwave, fiber optic and telephone systems.</td><td>M</td><td>7</td><td>The SLO was assess using hands-on troubleshooting and written test.

Students were able to differentiate the microwave circuits were vacuum tube and semiconductor were use.<table><tr><td>Letter Grade</td><td>Number of student</td></tr><tr><td>A</td><td>1</td></tr><tr><td>B</td><td>3</td></tr><tr><td>C</td><td>11</td></tr><tr><td>D</td><td>1</td></tr><tr><td>F</td><td>1</td></tr></table></td></tr>
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Additional observations: Students are more interested when taught with actual device shown to them instead of plane picture presentation.

Special comments: 15 out of 17 or 88% students got a grade of "C" or higher. 1 student got A, 3 students got B and 11 students got C. There is 1 student get D and 1 student got F due to absenteeism.

Recommendations: Annual site visit on telecommunication partners should always be done everytime the course is offered for the students to understand more the actual devices connectivity and its operation in actual form.

Signature: NELCHOR T. PERMITEZ
Professor

Date: December 12, 2014