APPENDIX A

Course Assessment Fall 2009 - Spring 2011

Review of Performance: Course: VEE100 Soldering No. of Student: 30 Semester: Fall 2009

SLO#	Program SLO#	I, D, M	Reflection/Comment				
SLO#1: Identify and perform the techniques for printed circuit track and pad repair as well as component insertion and extraction.			SLO was assessed by written test questions, using the assessment criteria as stated in the course outlin Result of assessment revealed the following:				
			No of students	Score	Status		
			2	100%	passed		
			2	93%	passed		
			2	87%	passed		
			3	80%	passed		
			2	73%	passed		
			2	67%	failed		
			2	60% or	failed		
QY Q //Q . Q . J J			GY C	below			
SLO#2: Select the correct connection type		Introductory			ritten test questi		
and create reliable solder joints using basic hand soldering techniques.					ated in the cours vealed the follow		
nand soldering techniques.			Result of ass	sessinent ie	vealed the follow	vilig.	
			No of	Score	Status]	
			students				
			2	100%	passed		
			4	93%	passed		
			2	87%	passed		
			5	80%	passed		
			2	73%	passed		

SLO#3: Demonstrate the correct method of terminating the following basic connectors. Banana Plugs Crimp Connectors	Introductory	SLO was assassessment of Result of ass	ons based on se outline.		
□ BNC Connectors		No of students	Score	Status	
		3	100%	passed	
		3	93%	passed	
		5	87%	passed	
		3	80%	passed	
		2	73%	passed	
SLO#4: Describe the characteristics of, and the procedures for making good wire wrap connections. Recognize common wire wrapping faults and correctly terminate wire	Introductory	assessment of	criteria as st	ritten test questic ated in the cours shown below:	
wrap connections.		No of students	Score	Status	
		2	100%	passed	
		2	91%	passed	
		2	83%	passed	
		4	75%	passed	
		3	67% or below	failed	
SLO#5: By measurement perform basic wiring and connector troubleshooting.	Introductory	SLO was as based perfor as stated in t is shown in			
		No of students	Score	Status	
		8	100%	passed	
		2	91%	passed	
		2	83%	passed	
		1	75%	passed	
		2	67% or	failed	
			below		

Additional observations & recommendations:
The course is a 1.5 credit, with 1½ hour meeting per week. It's been recommended to deliver the course with no more 15 students per section due to the nature of the course and the size of workshop. Observations from students suggested the course to increase more time for practice. It's been recommended to modify course and merge it to other workshop skills enabling more practical time for practice.
Special comments: explanations on course grading, opportunities to achieve outcomes, how many students receive an A, B, C, etc.
Assessment of each SLO was based on Mid Term Exam and Final Exam with additional work from quizzes, class activities, and practical skills using the NIDA.
Signature: Date:

Review of Performance: Course: VEE103 Electronic Fundamentals I No. of Student: 15 Semester: Fall 2009

SLO#	Program SLO#	I, D, M	Reflection/Comment
SLO #1: Describe the basic concept of voltage and current and the behavior of these parameters in simple electrical circuits.	Since this is a fundamental course in the study of electronic/electrical, all of the course SLO support and meet all of the program SLO as listed in	All SLOs are Introductory level	SLO was assessed by written test questions, using the assessment criteria as stated in the course outline. Result of assessment revealed the following:
electrical circuits.	the catalog		No of students Score Status 2 100% passed 2 93% passed 2 87% passed 3 80% passed 2 73% passed 2 67% failed 2 60% or failed
SLO #2: Explain the purpose and identify the various types of resistors and their symbols. Identify the value, power	Same as above	Introductory	SLO was assessed by written test questions, using assessment criteria as stated in the course outline. Result of assessment revealed the following:
rating and tolerance of resistors using various types of industry codes.			No of students Score Status 2 100% passed 4 93% passed 2 87% passed 5 80% passed 2 73% passed
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above	Introductory	SLO was assessed by written test questions based on assessment criteria as stated in the course outline. Result of assessment is below:

T		1					
		No of students 3 3 5 3 2	Score 100% 93% 87% 80% 73%	passed passed passed passed passed passed			
Same as above	Introductory	assessment of Result of ass	criteria as st	written test questions based o stated in the course outline.			
		2 2 2 2 4 3	100% 91% 83% 75% 67% or	passed passed passed passed failed			
Same as above	Introductory	based perfor as stated in t is shown in to No of students 8	sessed by we mance test the course of the table be Score 100% 91%	based on assess outline. Result of low: Status passed passed	ment criteria		
Same as above	Introductory	SLO was ass assessment of Result of ass	75% 67% or below sessed by weriteria as st	passed failed rritten test quest rated in the cour			
	Same as above	Same as above Introductory	Same as above Introductory Same as above Introductory SLO was assassessment of Result of ass No of students 2 2 2 4 3 Same as above Introductory SLO was assassed perfor as stated in too is shown in the students No of students No of students No of students Result of ass Introductory SLO was assassed perfor as stated in too is shown in the students Introductory SLO was assassessment of the students Result of ass	Same as above Introductory SLO was assessed by wassessment criteria as stated in the course of is shown in the table be	Students 3		

			5 5 5	100% 80% 60% or below	passed passed failed				
SLO #7: Identify the following circuits, calculate and measure the circuit parameters of voltage, resistance, and current. Troubleshoot the series, parallel and series-parallel circuits.	Same as above	Introductory	based perfor	rmance test the course o	sed by written test questions and slance test based on assessment criter course outline. Result of assessment table below:				
			students 3 2 2 1 7	100% 90% 80% 70% 60% or below	passed passed passed passed failed				
SLO #8: Simplify and analyze complex Circuit using the following methods: a. Kirchoff's Laws b. Thevenin's Theorem c. Norton's Theorem	Same as above	Introductory	The course allotted time [3 hr block per week] not enough to allow students to be fully introd the SLO due to the additional time spent on ot SLO.						

Additional observations & recommendations:

The course is a 3-credit course, with 3 conduct hours per week throughout the semester. It is delivered 3 hour block a day per week. It has 8 SLO. SLO #1, #2, #3, #4, and #6 are mostly theory-based and SLO #5, #7, and #8 are both theory and skill-based, with strong emphasis on practical skills. The course is currently designed to integrate the NIDA training system as an instructional tool in providing students with the required practical skills as needed by the course, particularly with SLO #5, #7, and #8.
Based on previous observations on courses that use the NIDA, it has been suggested that the courses conduct times are not enough to provide students with sufficient time to be fully introduced or master the intended SLO.
Therefore, a recommendation has been proposed to modify the course to be remained as 3-credit course, with 2 hours lecture and 3 hours lab per week. With this recommendation, it will provide the course with the additional time as needed by students to be fully introduced to all SLO and to perform all the required practical skills as intended by the course.
Special comments: explanations on course grading, opportunities to achieve outcomes, how many students receive an A, B, C, etc.
Assessment of each SLO was based on Mid Term Exam and Final Exam with additional work from quizzes, class activities, and practical skills using the NIDA.
Signature:

Review of Performance: Course: VEE103 Electronic Fundamentals I No. of Student: 15 Semester: Fall 2009

SLO#	Program SLO#	I, D, M	Reflect	ion/Co	nment
SLO #1: Describe the basic concept of	Since this is a	All SLOs	SLO was	assesse	d by
voltage and current and the behavior	fundamental	are	written te	st quest	ions,
of these parameters in simple	course in the	Introducto	using the	assessn	nent
electrical circuits.	study of	ry level	criteria as	stated	in the
ciccircui circuits.	electronic/electri		course ou		
	cal, all of the		assessme	nt revea	led the
	course SLO		following	; :	
	support and				
	meet all of the		No of	Scor	Statu
	program SLO as		studen	e	S
	listed in the		ts		
	catalog		2	100	passe
				%	d
			2	93%	passe
					d
			2	87%	passe
				000/	d
			3	80%	passe
			2	720/	d
			2	73%	passe
			2	(70/	d fo:15
			2	67%	faile d
			2	60%	faile
			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	or	d
				belo	u
				w	
SLO #2: Explain the purpose and identify the various types of resistors and their symbols.	Same as above	Introducto	SLO was	1	d by
Identify the value, power rating and tolerance of resistors using various types of industry		ry	written te		•
codes.		'	using asse		
codes.			as stated		

	1		. 41	D 14	c
			outline. I		
			following		ieu ille
			TOHOWINE	٠.	
			No of	Scor	Statu
			studen	e	s
			ts		
			2	100	passe
				%	d
			4	93%	passe
			2	87%	d passe
				6770	d
			5	80%	passe
					d
			2	73%	passe
					d
			written to based on criteria a course o	as assessed by test questions a assessment as stated in the outline. Result of ent is below:	
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above	Introducto	written te based on criteria as course ou	est quest assessm s stated a atline. R	ions ent in the Result of
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou	est quest assessm s stated a atline. R	ions ent in the Result of
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessmen	est quest assessm s stated atline. R nt is bel	ions nent in the Result of ow:
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessmen	assessm s stated : atline. R nt is bel	ions ent in the desult of ow: Statu s
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessmen	est quest assessm s stated atline. R nt is bel	ions ent in the desult of ow: Statu s passe
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessment. No of studen ts 3	est quest assessm s stated itline. R nt is bel	ions eent in the desult of ow: Statu s passe d
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessmen	est quest assessm s stated atline. R nt is bel	ions nent in the desult of ow: Statu s passe d passe
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessment. No of studen ts 3	est quest assessm s stated itline. R nt is bel	ions nent in the Result of ow: Statu s passe d passe d
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessments No of studen ts 3	est quest assessm s stated at tiline. For nt is bel	ions nent in the desult of ow: Statu s passe d passe
SLO #3: Describe the purpose and types of switches, fuses and circuit breakers and identify their schematic symbols.	Same as above		written te based on criteria as course ou assessments No of studen ts 3	est quest assessm s stated at tiline. For nt is bel	ions nent in the desult of ow: Statu s passe d passe d passe

		2	73%	passe d
magnetism and their characteristics; describe how operation of the relay, magnetic circuit breaker and ry				
	No of studen ts 2	e 100	Statu s passe	
	2	91%	d passe d passe d	
		4	75%	passe d faile
		3	or belo w	d
Same as above	Introducto			ions and rmance essment in the Result of
		No of studen ts	Scor e	Statu s passe
-		Same as above Introducto	ry written te based on criteria as course ou assessme below: No of studen ts 2 2 4 3 Same as above Introducto ry SLO was written te skill-base test based criteria as course ou assessme the table. No of studen ts	same as above Introductory Same as above Introductory Introductory

	T		I I -	1	1
			2	91%	passe d
			2	83%	passe d
			1	75%	passe d
			2	67%	faile
				or belo	d
				w	
SLO #6: Using Ohm's Law to define the relationship between resistance, voltage, current, and power in an electrical circuit. By experimentation prove Ohm's Law.	Same as above	Introducto	SLO was written to based on criteria as course ou assessme below: No of studen ts 5	est quest assessm s stated in atline. R	ions ent in the esult of
SLO #7: Identify the following circuits, calculate and measure the circuit parameters of voltage, resistance, and current. Troubleshoot the series, parallel and series-parallel circuits.	Same as above	Introducto ry	SLO was written te skill-base test based criteria as course ou assessme the table	est quest ed perfor l on asse s stated in atline. R nt is sho	ions and rmance essment in the desult of

			1	-	T ~	T ~ 1
				No of	Scor	Statu
				studen	e	S
				ts		
				3	100	passe
					%	d
				2	90%	passe
						d
				2	80%	passe d
				1	70%	passe
					500/	d
				7	60%	faile
					or	d
					belo	
					W	
SLO #8: Simplify and analyze complex Circuit using the following methods:		Same as above	Introducto ry	The cour		
Circuit using the following methods:	. Vinale of Ca Laura		* 9	was not e		
	a. Kirchoff's Laws			students		
	b. Thevenin's Theorem			introduce		
	c. Norton's Theorem			due to the		
				spent on	otner SI	۵0.

Additional observations & recommendations:

The existing time of the course is not sufficient to

Special comments:

Assessment of each SLO was based on Mid Term Exam and Fina the NIDA.	al Exam with additional work from quizzes, class	activities, and practical skills using
Signature:	Date:	

Review of Performance: Course: VEE223 PC Hardware & Software No. of Student: 10 Semester: Fall 2009

SLO#	Program SLO#	I, D, M	Reflection/Comment
SLO #1: Build, configure, upgrade, and maintain a personal computer system.	This is an introductory course in repairing of personal computer, both hardware & software. SLO supports and meets program SLO #5 as stated in the college catalog.	Introductory	SLO was assessed by written test questions and skill-based performance exam using the assessment criteria as stated in the course outline. Result of assessment is shown below:
			No of Score Status students
			3 100% passed 3 90% passed
			3 90% passed 2 80% passed
			2 50% failed
SLO#2: Diagnose and resolve problems of a personal computer system.	Same as above	Introductory	SLO was assessed by written test questions and skill-based performance test using assessment criteria as stated in the course outline. Result of assessment revealed the following: No of Score Status students Students 8 100% passed 1 80% passed 1 70% passed
SLO#3: Install and configure various computer peripheral devices.	Same as above	Introductory	SLO was assessed by written test questions and skill-based performance exam based on assessment criteria as stated in the course outline. Result of assessment is below: No of Score Status

SLO#4: Resolve network connectivity problems on a local area network using a systematic troubleshooting approach.	Same as above	Introductory	based perfor	rmance exar ated in the o	passed passed failed ritten test quest n based on asse course outline.	ssment
			No of students 8 2	Score 100% 60% or below	Status passed failed	
SLO#5: Install, configure, upgrade, and maintain Microsoft Windows operating systems.	Same as above	Introductory	based performs as stated in the is shown in	rmance test the course of the table be		ment criteria
			No of students 4 4 2	Score 100% 80% 60% or below	passed passed failed	-
SLO# 6: Diagnose and resolve problems using Microsoft Windows system tools.	Same as above	Introductory	based perfor	rmance exartated in the o	ritten test quest n based on asse course outline. low: Status passed failed	ssment

				below		
SLO#7: Utilize relevant workplace safety and environmental standards during computer maintenance.	Same as above	Introductory	based perfor	rmance test he course o	based on asses utline. Result	
SLO#8: Effectively utilize a customer-oriented approach to resolve user problems.	Same as above	Introductory	based perfor	rmance test	based on asses utline. Result	
SLO#9: Provide computer hardware and software support based upon a set of standard and systematic diagnostic principles.	Same as above	Introductory	based perfor	mance test	based on asses utline. Result	stions and skill- sment criteria of assessment

Additional observations & recommendations:

The course uses Cisco's IT Essentials curriculum, which is a web-based instruction. It is structured with two major components. One is the theoretical aspect and the other is the skill-based aspect. The theoretical aspect uses the Cisco's web-based instruction with the support of daily lectures, student activities, and student lab work as prepared and delivered by the instructor. The skill-based aspect is developed and delivered by the instructor following the assessment criteria set by the Cisco curriculum. Course SLO are developed based on the Cisco curriculum and spread out in 10 chapters. Assessments of course SLO include on-line chapter exams, on-line final exam, and skill-based performance exams.

Due to the nature of the course, that is web-based, good Internet connection is a must to effectively deliver the course. Due to our current Internet connectivity speed, all on-line exams are scheduled from 5pm to 9pm.

Recommendation: Modify the course to include a required textbook, preferably Cisco IT Essentials from Cisco Press. Improve Internet connection speed.

Special comments: [explanations on course grading, opportunities to achieve outcomes, how many students receive an A, B, C, etc.]

The main cause of student failing the course is due to absenteeism and lack of participation in coursework.

Signature:		Date:
Review of Performance:	(VEE 100 Soldering and Mechanical To	ermination Techniques, Fall 2010, 40 students)

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
1. Identify and perform the techniques for printed circuit track and pad repair as well as component insertion and extraction	Practice safety and occupational health procedures in the workplace	D	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.	
			Letter Grade	Number of student
			A	25
			В	9
			С	6
2. Select the correct	Use electronics	D	The SLO was assess using hands-on troubl	eshooting and written quiz and

connection type and	tool and test		examination.	
create reliable solder	equipment			
joints using basic hand	competently			
soldering techniques			Students need more time in hands-on and	d other practical procedure to reach
			mastery level performance.	
			, ,	
			Letter Grade	Number of student
			Letter Grade	Number of student
			А	19
			В	8
			С	13
3. Demonstrate the	Use electronics	М		
correct method of	tool and test		The SLO was assess using hands-on troubl	eshooting and written quiz and
terminating basic connect	equipment		examination.	eshooting and written quiz and
terminating sasie comicee	competently		CAMINICATION	
			Students need more time in hands-on and	d other practical procedure.
			Letter Grade	Number of student
			А	15

			В	11
			С	14
4. Describe characteristics of and procedures for making good wire	Use electronics tool and test equipment competently	M	The SLO was assess using hands-on trouble examination.	leshooting and written quiz and
wrap connection.			Students need more time in hands-on an mastery level performance.	d other practical procedure to reach
			Letter Grade	Number of student
			A	19
			В	8
			С	13

5. Test basic wiring and connector.	Use electronics tool and test equipment competently	M	The SLO was assess using hands-on troubleshooting and written quiz and examination.	
			Students need more time in hands-on an mastery level performance.	d other practical procedure to reach
			Letter Grade	Number of student
			A	19
			В	8
			С	13

Additional observations: Need more electronics kit for practice to achieve high level of competency in soldering practice.

Special comments: In the final tally most student got B and C while there are only 6 receive A.

surface mount devices (SMD), ball grid array (BGA) and the use of infra red light and hot air technique in soldering. Need to purchase hot air soldering station, Infra red soldering station and its consumable materials.					
Signature:	Date:				
Name typed, position					

Recommendations: Modify the course outline and increase the time frame for the course and include the modern method of soldering such as

Review of Performance: (VEE 103 Electronics Fundamental 1, Fall 2010, 11 students)

Submitted by: Nelchor Permitez Ed. D.

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
Describe the basic concept of voltage and current and the	Practice safety and occupational	I	The SLO was assess using and written quiz	and examination.
behavior of these parameters in simple	health procedures in		Letter Grade	Number of student
electrical circuits.	the workplace		A	2
			В	4
			С	5
2. Explain the purpose and identify the various types of resistor symbols. Identify the value, power rating and	Practice safety and occupational health procedures in	I	The SLO was assess using and written quiz	and examination.
tolerance of resistors	the workplace		Letter Grade	Number of student
using various types of industry codes.			А	3
			В	5
			С	2

Describe the purpose ar types of switches, fuses ar circuit breakers and identi	and occupational	I	The SLO was assess using and written qu	uiz and examination.
their	health procedures in		Letter Grade	Number of student
schematic symbols.	the workplace devices		A	2
	devices		В	3
			С	6
4. Define magnetism a electromagnetism and th characteristics.	Practice safety and occupational health procedures in the workplace	I	The SLO was assess using and written quiz and examination. Letter Grade Number of	
				Number of student
	·		A	2
	·		A B	
	·			2
			В	2 4

the multimeter and controls. Safely a accurately use a multime to measure the circ			The SLO was assess using and written quiz	
quantities of resistan	•		Letter Grade	Number of student
voltage and current.	the Workplace		A	1
			В	5
			С	5
6. Using Ohms law to def the relationship between	Use electronics tool and test equipment competently	1	The SLO was assess using and written quiz	, examination and practical test.
resistance, voltage,			Letter Grade	Number of student
current and power in electrical circuit.			A	1
			В	3
			С	7
7. Identify circuits	Use electronics tool and test	I		
and calculate and	equipment			
measure voltage,	competently		The SLO was assess using and written quiz	and examination.

current and resistance.				
			Letter Grade	Number of student
			A	2
			В	4
			С	5
8. Simplify and	Use electronics tool and test	I		
analyze complex circuits.	equipment		The SLO was assess using and written quiz	z and examination.
	competently			
			Letter Grade	Number of student
			A	2
			В	4
			С	5

Additional observations: The course can be best taught if there is more hands on component to support the theory.

Special comments:	Majority of the student receive B and C grades.
Recommendations mastery competend	: The course need to be modify for the inclusion of more hands on component and the time must be increase to reach the cy level.
Signature:	Date:
Naı	me typed, position

Review of Performance: (VEE 222 Discrete Devices 2, Fall 2010, 12 students)

Submitted by: Nelchor Permitez Ed. D.

SLO#	Program	I, D, M	Reflection/Comment
	SLO#		
1. Describe the purpose and operating characteristics of a UJT and SCR.	Perform Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices	D	12 out of 12 students got B on this SLO. The students was able to perform competently diagnosis, diagramming circuit tracing. The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.
2. Describe UJT operation.	Perform Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices	D	12 out of 12 students got B on this SLO. The students was able to perform competently diagnosis, diagramming circuit tracing. The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach

			mastery level performance.
3. Describe SCR trigger circuit.	Perform Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and	M	12 out of 12 students got B on this SLO. The students was able to perform competently diagnosis, diagramming circuit tracing. The SLO was assess using hands-on troubleshooting and written quiz and examination.
4. Describe SCR	devices	M	12 out of 12 students got B on this SLO. The students was able to perform
power control Operation.	Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices		competently diagnosis, diagramming circuit tracing. The SLO was assess using hands-on troubleshooting and written quiz and examination.
5. Perform SCR troubleshooting.	Troubleshooting techniques to maintain, diagnose, and repair	M	12 out of 12 students got B on this SLO. The students was able to perform competently diagnosis, diagramming circuit tracing.
	electronic equipment and		The SLO was assess using hands-on troubleshooting and written quiz and examination.

	devices		
6. Describe the relationshi between triac, and SCR, Dia and Four layer devices.	techniques to maintain , diagnose, and	M	12 out of 12 students got B on this SLO. The students was able to perform competently diagnosis, diagramming circuit tracing.
	repair electronic equipment and devices		The SLO was assess using hands-on troubleshooting and written quiz and examination.
7. Describe the construction	o .	М	12 out of 12 students got B on this SLO. The students was able to perform
operation and application PUT devices.	techniques to maintain , diagnose, and		competently diagnosis, diagramming circuit tracing.
	repair electronic equipment and devices		The SLO was assess using hands-on troubleshooting and written quiz and examination.

Additional observations: The Nida cards for SLO 6 and SLO 7 need to be replace.

Special comments: Majority of the students earned B grade.

Recommendation	ions: The course outline need to modify for the incl	usion of more time in hands-on activities which serves as a core of this
program.		
Signature:	Da	te:
	Name typed, position	

Review of Performance: (VEE 235 Digital 2, Fall 2010, 13 students)

Submitted by: Nelchor Permitez Ed. D.

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
1. Describe the basic operating principles of registers and memory circuits.	Interpret schematics diagrams and waveforms.	D	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to read mastery level performance.	
			Letter Grade	Number of student
			А	0
			В	6
			С	7

2. Identify the purpose and probe the input and output of a 4 bit storage register.	and schematics examination.		leshooting and written quiz and	
			Students need more time in hands-on and other practical procedure to r mastery level performance.	
			Letter Grade	Number of student
			A	0
			В	5
			C 8	
3. Identify and describe the function and probe the input and output of	Interpret schematics diagrams and waveforms.	М	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.	
a 4 bit shift register.				

			Letter Grade A B C	Number of student 0 6 7
4: Identify and describe t function and probe the input and output of an 8 bit shift register.	Interpret M schematics diagrams and waveforms.	M	The SLO was assess using hands-on trouble examination. Students need more time in hands-on an mastery level performance. Letter Grade	
			А	0

			В	8	
			С	5	
5. Describe the normal operation and the	Interpret schematics	M			
characteristics of a 64 bit memory circuit.	diagrams and waveforms.		The SLO was assess using hands-on troubleshooting and written quiz and examination.		
			Students need more time in hands-on and other practical procedure to mastery level performance.		
			Letter Grade	Number of student	
			A	0	
			В	9	
			С	4	
6. Describe how counting circuit perform arithmetic functions.	Interpret schematics diagrams and waveforms.	М	The SLO was assess using hands-on troub examination.	leshooting and written quiz and	

			Students need more time in hands-on a mastery level performance.	nd other practical procedure to reach
			Letter Grade	Number of student
			A	0
			В	7
			С	6
7. Recognize the normal operation of a ripple counte circuit.	Interpret schematics diagrams and waveforms.	М	The SLO was assess using hands-on troul examination.	bleshooting and written quiz and
			Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
			Letter Grade	Number of student
			А	0

			В	3
			С	10
8. Describe the purpose of an up counter circuit.	Interpret schematics diagrams and waveforms.	М	The SLO was assess using hands-on trouble examination.	leshooting and written quiz and
			Students need more time in hands-on an mastery level performance.	d other practical procedure to reach
			Letter Grade	Number of student
			А	0
			В	6
			С	7
9. describe the purpose of a down counter circuit.	Interpret schematics diagrams and waveforms.	М	The SLO was assess using hands-on troubleshooting and written quiz and examination.	

			Students need more time in hands-on an mastery level performance.	d other practical procedure to reach
			Letter Grade	Number of student
			A	0
			В	11
			С	2
10. Describe the function and the operating characteristics of a 4 bit adder. Interpret schematics diagrams and waveforms.	M	The SLO was assess using hands-on trouble examination. Students need more time in hands-on an mastery level performance.		
			Letter Grade	Number of student
			A	0

			В	9	
			С	4	
11. Describe the normal operation of 4 bit subtractor	Interpret schematics diagrams and waveforms.	M	The SLO was assess using hands-on troubleshooting and written quiz and examination.		
			Students need more time in hands-on an mastery level performance.	d other practical procedure to reach	
			Letter Grade	Number of student	
			A	0	
			В	6	
			С	7	
12. Explain the basic principl of conversion and data circuits.	Interpret schematics diagrams and waveforms.	M	The SLO was assess using hands-on troubleshooting and written quiz and examination.		
			Students need more time in hands-on an	d other practical procedure to reach	

			mastery level performance.	
			Letter Grade	Number of student
			A	0
			В	8
			С	5
13. Identify the purpose of a D/A conversion circuit and it operating characteristics	cuit and it schematics	M	The SLO was assess using hands-on trouble examination. Students need more time in hands-on and mastery level performance.	
			Letter Grade	Number of student
			А	0
			В	6

			С	7
14. Identify the purpose and describe the basic operation a data selector circuit and measure its output	•	М	The SLO was assess using hands-on troubleshooting and written quiz and examination.	
signals.			Students need more time in hands-on an mastery level performance.	nd other practical procedure to reach
			Letter Grade	Number of student 0
			В	5
			C	8
15. Describe the function of a data distribution circuit and	Interpret schematics diagrams and waveforms.	M	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.	
its operating characteristics and measure its output signals.				

		Letter Grade	Number of student		
		А	0		
		В	6		
		С	7		
Additional observations: Needs more NIDA cards set to accommodate growing number of students.					
Special comments: Most of	of the students got grades of B and	J C.			
Recommendations: Modify	y the course outline and increase r	number of time for hands-on.			
Signature:		Date:	_		
Name type	d, position				

Review of Performance: (VEE 240 Signal Processing, Fall 2010, 12 students)

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
1. Give general description of analog pulse modulation, pulse amplitude modulation (PAM), pulse width modulation (PWM) and pulse position modulation (PPM)	Perform Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices	D	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.	
			Letter Grade	Number of student
			А	3
			В	6
			С	3
Describe Pulse coded modulation (PCM) circuit, operation and troubleshooting	Perform Troubleshooting techniques to maintain,	D	The SLO was assess using hands-on troubl examination.	eshooting and written quiz and

PCM circuit.	diagnose, and repair electronic equipment and devices		Students need more time in hands-on and other practical procedure to reach mastery level performance.	
			Letter Grade	Number of student
			А	4
			В	6
			С	2
modulation (DM) circuit, operation and troubleshoot DM circuit. rep ele equ	Perform M Troubleshooting techniques to maintain , diagnose, and repair electronic equipment and devices	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.		
			Letter Grade	Number of student
			A	4
			В	4
			С	4

4: Describe FSK	Perform	М	The SLO was assess using hands-on troub	pleshooting and written quiz and
(Frequency shift keying) circuit,	Troubleshooting techniques to maintain,		examination.	
operation and troubleshoot FSK circuit	diagnose, and repair electronic equipment and devices		Students need more time in hands-on and other practical procedure to reach mastery level performance.	
			Letter Grade	Number of student
			A	4
			В	6
			С	2
5. Describe Phase shift Keying (PSK) circuit, operation and troubleshoot PSK circuit.	Perform Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices	M	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to read mastery level performance.	
			Letter Grade	Number of student

			А	5
			В	5
			С	2
6. Describe Time division Multiplexing (TDM circuit, operation and troubleshoot TDM circuit.	Perform Troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices	M	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.	
			Letter Grade	Number of student
			A	3
			В	6
			С	3
7. Describe Frequency Division Multiplexing (FDN circuit, operation and troubleshoot FDM circuit	Perform Troubleshooting techniques to maintain, diagnose, and repair	M	The SLO was assess using hands-on troub examination. Students need more time in hands-on an mastery level performance.	
	electronic equipment and		,	

	devices				
			Letter Grade	Number of student	
			A	3	
			В	4	
			С	5	
Additional observations: Need to purchase additional set of NIDA cards to accommodate growing number of students enrolled in the course.					
Special comments: There	e are 4 students got	A, 4 students go	ot B and 4students got 4.		
Recommendations: Modify the course outline and increase the allotted time for hands-on.					
Signature:			Date:		
Name typ	ed, position				

Review of Performance: (VEE 235 Digital 2, Spring 2011, 29 students)

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
Identify and describe the history and development of digital electronics.	Use electronic tools and test equipment competently.	D	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to reach mastery level performance.	
			Letter Grade	Number of student
			A	2
			В	10
			С	17

Describe digital electronics hardware.	Use electronic tools and test equipment competently	D	The SLO was assess using hands-on troul examination.	bleshooting and written quiz and
			Students need more time in hands-on a mastery level performance.	nd other practical procedure to reach
			Letter Grade	Number of student
			A	1
			В	8
			С	20
Describe the basic operating principles of buffers and inverters.	Use electronic tools and test equipment competently	М	The SLO was assess using hands-on troul examination.	bleshooting and written quiz and
			Students need more time in hands-on a mastery level performance.	nd other practical procedure to reach

			Letter Grade A B C	Number of student 2 14 13
4. Describe various digital test equipment and their operating characteristics.	Use electronic tools and test equipment competently	M	The SLO was assess using hands-on troub examination.	leshooting and written quiz and
			Students need more time in hands-on an mastery level performance.	nd other practical procedure to reach
			Letter Grade	Number of student
			A	2

			В	8
			С	19
5. Explain the purpose and the operation for the 555 Timer.	Use electronic tools and test equipment competently	M	The SLO was assess using hands-on troub examination.	leshooting and written quiz and
			Students need more time in hands-on an mastery level performance.	nd other practical procedure to reach
			Letter Grade	Number of student
			A	5
			В	9
			С	15
6. Describe the purpose, construction, and operation of various integrated circuits.	Use electronic tools and test equipment competently.	М	The SLO was assess using hands-on troub examination.	leshooting and written quiz and

	Students need more time in hands-on mastery level performance.	and other practical procedure to reach
	Letter Grade	Number of student
	А	3
	В	7
	С	19
7. Identify and describe the AND gate operation. Measure input to output waveforms.	The SLO was assess using hands-on trouexamination. Students need more time in hands-on mastery level performance.	
	Letter Grade	Number of student
	A	4
	В	15

	С	10
8. Identify and describe the OR gate operation. Measure input to output waveforms.	The SLO was assess using hands-on trouble examination.	eshooting and written quiz and
	Students need more time in hands-on and mastery level performance.	d other practical procedure to reach
	Letter Grade	Number of student
	A	6
	В	11
	С	12
9. Identify and describe the NOT gate operation. Measure input to output waveforms.	The SLO was assess using hands-on trouble examination. Students need more time in hands-on and mastery level performance.	

	Letter Grade	Number of student
	A	8
	В	16
	С	5
10. Identify and describe the NAND gate operation. Measure input to output waveforms.	The SLO was assess using hands-on troub examination. Students need more time in hands-on an mastery level performance.	
	Letter Grade	Number of student
	A	7
	В	17
	С	5
11. Identify and describe the NOR gate operation. Measure input to output waveforms.	The SLO was assess using hands-on trouk examination.	bleshooting and written quiz and
	Students need more time in hands-on a	nd other practical procedure to reach

	mastery level performance.	
	Letter Grade	Number of student
	A	6
	В	7
	С	16
12. Identify and describe the XOR gate operation. Measure input to output waveforms.	The SLO was assess using hands-on troub examination.	leshooting and written quiz and
	Students need more time in hands-on an mastery level performance.	d other practical procedure to reach
	Letter Grade	Number of student
	А	3
	В	7
	С	19

13. Describe the purpose and operation of various combinational circuits.	The SLO was assess using hands-on trexamination.	oubleshooting and written quiz and	
	Students need more time in hands-on and other practical procedure to reach mastery level performance.		
	Letter Grade	Number of student	
	A	4	
	В	8	
	С	17	
14. Describe the different types of logic families and their operating characteristics.	The SLO was assess using hands-on trexamination.	oubleshooting and written quiz and	
	Students need more time in hands-or mastery level performance.	and other practical procedure to reach	
	Letter Grade	Number of student	

	A	5
	В	7
	С	17
15. Describe the number systems used in digital electronics. Perform mathematical calculations and conversions using digital mathematics.	examination.	nds-on troubleshooting and written quiz and hands-on and other practical procedure to reach
	Letter Grade	Number of student
	A	5
	В	9
	С	15
16. Describe how a decimal encoder performs base 10 to binary conversion.	The SLO was assess using hal examination.	nds-on troubleshooting and written quiz and
	Students need more time in mastery level performance.	hands-on and other practical procedure to reach

The SLO was assess using hands-on trou	historia de Cina de Ci
examination. Students need more time in hands-on a mastery level performance.	
Letter Grade A B	Number of student 6 10
The SLO was assess using hands-on trou examination.	13 bleshooting and written quiz and
_	Examination. Students need more time in hands-on a mastery level performance. Letter Grade A B C The SLO was assess using hands-on trou

	Students need more time in hands-on armastery level performance.	nd other practical procedure to reach
	Letter Grade	Number of student
	A	4
	В	9
	С	16
19. Explain the basic operating principles of a flip-flop circuit.	The SLO was assess using hands-on trouk examination.	pleshooting and written quiz and
	Students need more time in hands-on armastery level performance.	nd other practical procedure to reach
	Letter Grade	Number of student
	A	5
	В	9

	С	15	
20. Identify and describe the purpose and the operation of an RS flipflop circuit.	The SLO was assess using hands-on troub examination.	leshooting and written quiz and	
	Students need more time in hands-on and other practical procedure to read mastery level performance.		
	Letter Grade Number of studer		
	A	4	
	В	8	
	С	17	
21. Identify and describe the purpose and the operation of a Clocked RS flip-flop circuit.	The SLO was assess using hands-on troub examination.	leshooting and written quiz and	
	Students need more time in hands-on ar mastery level performance.	nd other practical procedure to reach	

	Letter Grade	Number of student
	А	4
	В	9
	С	16
22. Identify and describe the purpose and the operation of a D-type flip-flop circuit.	The SLO was assess using hands-on trou examination.	bleshooting and written quiz and
	Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
	Letter Grade	Number of student
	A	3
	В	7
	С	19
23. Identify and describe the purpose and the operation of a JK flip-flop circuit.	The SLO was assess using hands-on trou examination.	l bleshooting and written quiz and
	Students need more time in hands-on a	and other practical procedure to reach

	mastery level performance.	
	Letter Grade	Number of student
	А	5
	В	8
	С	16
24. Identify and describe the purpose and the operation of a Master Slave flip-flop circuit.	The SLO was assess using hands-on troub examination. Students need more time in hands-on an mastery level performance.	
	Letter Grade	Number of student
	А	6
	В	5
	С	18

Additional observations: Needs more digital NIDA cards set to	accommodate growing number of students.
Special comments: Most of the students got grades of B and	C.
Recommendations: Modify the course outline and increase no	umber of time for hands-on.
Signature:	Date:
Name typed, position	

Review of Performance: (VEE 224 Video Product Servicing, Spring 2011, 13 students)

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
Repair television (TV) and computer monits system.	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	D	The SLO was assess using hands-on troublest examination. Students need more time in hands-on and commastery level performance. Letter Grade A B C	
				-

2. Repair video cassette reco	rders Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	D	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to re mastery level performance.	
			Letter Grade	Number of student
			A	4
			В	6
			С	3
3. Repair compa disc (CD) play	troubleshooting techniques to maintain, diagnose, and	М	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to remastery level performance.	
	repair electronic equipment and devices.			

			Letter Grade A B C	Number of student 5 6 2
4. Repair digital video disc (DVD) player.	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	M	The SLO was assess using hands-on troub examination. Students need more time in hands-on armastery level performance. Letter Grade A	

			В	2	
			С	5	
		•	isolation transformers installed in the world attention transformers installed in the world attents.	kshop to avoid electrical shock during	
servicing, transformer thether	and meager test	er to accommo	date growing number of students.		
Contribution of Theorem		.	at Book 12 at the state of C		
Special comments: There were	e 5 students got <i>F</i>	A, 5 students go	ot B and 3 students got C		
Recommendations: Modify the technology and increase number		-	uid crystal display (LCD) video, light emittin	g diode (LED) video and plasma video	
teermology and mercuse number					
Signature:			Date:		
			Date:	-	
Name typed, po	Name typed, position				

Review of Performance: (VEE 225 Business machine servicing, Spring 2011, 11 students)

SLO#	Program	I, D, M	Reflection/Comment	
	SLO#			
Service and repair machine.	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	D	The SLO was assess using hands-on trouble examination. Students need more time in hands-on and mastery level performance. Letter Grade A	d other practical procedure to reach Number of student
			В	9

2.	Service and repair computer printers (laser and deskjet).	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and	D	The SLO was assess using hands-on troubleshooting and written quiz and examination. Students need more time in hands-on and other practical procedure to remastery level performance.		
		devices.		Letter Grade	Number of student	
				A	0	
				В	2	
				С	9	
3.	Service and repair cal registers.	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	M	The SLO was assess using hands-on trouble examination. Students need more time in hands-on an mastery level performance.		

			Letter Grade A B C	Number of student 0 3 8
photocopiers. 1	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	M	The SLO was assess using hands-on troub examination. Students need more time in hands-on an mastery level performance.	d other practical procedure to reach
			Letter Grade A	Number of student 0

			С	9
5. Service and repair microwave ovens.	Perform troubleshooting techniques to maintain, diagnose, and repair electronic equipment and devices.	M	The SLO was assess using hands-on troub examination. Students need more time in hands-on armastery level performance.	
			Letter Grade A	Number of student 0
			В	3
			С	8

Additional observations: Needs more test equipment such as isolation transformers installed in the workshop to avoid electrical shock during servicing, transformer checker and meager tester to accommodate growing number of students.

Special comments:	Most of the students got grades of B and C.
Recommendations:	Modify the course outline and increase number of time for hands-on.
Signature:	Date:
Nan	ne typed, position

Review of Performance: (VEE 230 Radio communication, Spring 2011, 10 students)

SLO#	Program	I, D, M	Reflection/	/Comment
	SLO#			
Describe the basic communications system various	Practice career in telecommunication industry.	I	The SLO was assess using hands-on trou examination.	bleshooting and written quiz and
signal processing techniques and the safety precautions to be observed when dealing with this type of equipment.	Troubleshoot microwave, fiber optic, radio communication and telephone system		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
			Letter Grade	Number of student
			A	3
			В	6
			С	1
Describe and measure Amplitude Modulated signals.	Practice career in telecommunication industry.	D	The SLO was assess using hands-on trou examination.	bleshooting and written quiz and

	Troubleshoot microwave, fiber optic, radio communication and		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach	
	telephone system		Letter Grade	Number of student	
			A	4	
			В	5	
			С	1	
Describe and measure Frequency Modulated signals	telecommunication industry.	telecommunication industry.		The SLO was assess using hands-on trouexamination. Students need more time in hands-on a	
	Troubleshoot microwave, fiber optic, radio communication and telephone system		mastery level performance.		
			Letter Grade	Number of student	
			A	3	
			В	6	
			С	1	

Identify Single Sidebane	Practice career in	ı	The SLO was assess using hands-on trou	ubleshooting and written quiz and
transmitters and	telecommunication	•	examination.	
receivers, different	industry.		CAGITITIC COLI.	
types of	industry.			
transmission lines				
and their			Students need more time in hands-on	and other practical procedure to reach
characteristics.	Troubleshoot		mastery level performance.	
Characteristics.	microwave, fiber		, '	
	optic, radio			
	communication and			
	telephone system			
			Letter Grade	Number of student
			A	4
			В	6
			С	0
6. Describe Amplitude	Practice career in		The SLO was assess using hands-on trou	Lubleshooting and written quiz and
Modulated circuits.	telecommunication		examination.	
iviodalated direction	industry.		- CAGITITIO CONT	
	illuusti y.			
			Students need more time in hands-on	and other practical procedure to reach
	Troubleshoot		mastery level performance.	
	microwave, fiber		·	
	optic, radio			
	communication and			
	telephone system			
			Letter Grade	Number of student

			A	4
			В	5
			С	1
6 . Describe basic Amplitude Modulation circuit construction.	Practice career in telecommunication industry.	I	The SLO was assess using hands-on trou examination.	ibleshooting and written quiz and
	Troubleshoot microwave, fiber optic, radio communication and telephone system		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
			Letter Grade	Number of student
			A	3
			В	6
			С	1
7. Measure signals in a diode modulator and demodulator circuit.	Practice career in telecommunication industry.	D	The SLO was assess using hands-on trou examination.	ibleshooting and written quiz and
	Troubleshoot microwave, fiber		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach

		optic, radio communication and telephone system			
				Letter Grade	Number of student
				A	6
				В	3
				С	1
8.	Troubleshoot Amplitude Modulate transmitter and receiver systems.	Practice career in telecommunication industry.	М	The SLO was assess using hands-on trou examination.	ibleshooting and written quiz and
		Troubleshoot microwave, fiber optic, radio communication and telephone system		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
		terepriorie system		Letter Grade	Number of student
				A	2
				В	5
				С	3
9.	Describe Frequency Modulated circuits.	Practice career in telecommunication	1	The SLO was assess using hands-on trouexamination.	Ibleshooting and written quiz and

	industry. Troubleshoot microwave, fiber optic, radio communication and		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
	telephone system		Letter Grade	Number of student
			A	5
			В	4
			С	1
10. Describe basic Frequency Modulate Circuit operation.	Practice career in telecommunication industry.	I	The SLO was assess using hands-on trouexamination.	ubleshooting and written quiz and
	Troubleshoot microwave, fiber optic, radio communication and telephone system		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
	, ,,,,,,,		Letter Grade	Number of student
			A	4
			В	5

			С	1
11. Describe Frequency Modulated transmitter and receiver circuits.	Practice career in telecommunication industry.	I	The SLO was assess using hands-on trouexamination.	ubleshooting and written quiz and
	Troubleshoot microwave, fiber optic, radio communication and telephone system		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach
			Letter Grade	Number of student
			A	3
			В	4
			С	3
12. Observe the operation and measure signals in a integrated circuit transmitter and	Practice career in telecommunication industry.	D	The SLO was assess using hands-on trou examination.	
receiver.	Troubleshoot microwave, fiber optic, radio communication and telephone system		Students need more time in hands-on a mastery level performance.	and other practical procedure to reach

			Letter Grade	Number of student
			А	6
			В	2
			С	2
13. Troubleshoot Frequency Modulated transmitters and receivers.	Practice career in telecommunication industry. Troubleshoot microwave, fiber optic, radio communication and telephone system	M	The SLO was assess using hands-on trouexamination. Students need more time in hands-on a mastery level performance.	
			Letter Grade	Number of student
			А	4
			В	5
			С	1

Additional observations: Need to purchase additional set of Radio communication FM, AM and SSB NIDA cards to accommodate growing number of students enrolled in the course.

Special comments: There are 4 students go	ot A, 4 students got B and 1 student got C.
transceiver, citizens band (CB) transceiver,	line must be increase its credit number and include topics such as include high frequency (HF) radio and transceiver station setup and antenna installation in the topics and increase the allotted time for ology and servicing must be included on this course.
Signature:	Date:
Name typed, position	