They following 3 SLOs (1-3) are essential skills required of students at the completion of the course. As such, they need to be assessed each semester the course is offered. SLOs 4&5 while important are not essential as they are concepts revisited in CIS 141 and thus have been eliminated from the SLO list for CIS 140.

CIS 140 – SLO #1: Upon successful completion of CCNA 1, students will be able to Convert an 8-bit binary (base 2) number to a base 10 number and a base 10 number to an 8-bit binary number.

Assessment Results (conversions)

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	10	6	6	2	24
F09	12	6	3	2	23
S10	14	7	2	3	26
F10	8	12	2	0	22
F11	10	8	4	0	22

Assessment Results (powers of 2)

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	9	10	1	4	24
F09	16	6	0	1	23
S10	23	1	0	2	26
F10	22	0	0	0	22
F11	20	2	0	0	22

S09 - Conversions need additional work. Will add more problems in the fall term. Powers of two were not clearly defined, in terms of what was expected. Will need to clarify the expectation to list both the powers of two in exponential form as well as the base 10 values. A score of two on this task indicated the base 10 values were listed, however the exponential powers of two were not listed.

F09 - Conversions improved over spring, however students still require additional practice problems as indicated by the results. Powers of two showed a marked improvement as the expectations were better stated.

S10 – Results indicate a strong understanding of the conversion process – modification in delivery is not needed.

F10 – Results indicate a solid understanding of the conversion process – errors in the conversion process resulted from arithmetic errors and not in a lack of understanding of the process. Additional time will be spent demonstrating mathematical error checking strategies. Students understanding of the powers of two was 100%.

F11 – Results indicate a solid understanding of the conversion process –conversion process errors were mostly arithmetic and not a lack of understanding of the conversion process. Students understanding of the powers of two was satisfactory.

CIS 140 – SLO #2: Upon successful completion of CCNA 1 student will be able to Identify the 568A and 568B cable termination standards and use the standards to properly terminate both ends of straight-through and a cross-over Cat5 cable using RJ45 connectors.

568A

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	12	4	9	3	28
F09	15	1	5	2	23
S10	20	1	2	1	24
F10	12	3	1	2	18
F11	16	4	1	1	22

568B

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	13	4	9	2	28
F09	15	0	6	2	23
S10	20	2	2	0	24
F10	14	1	2	1	18
F11	18	2	2	0	22

F09 – The assessment results show improvements in results from the spring term. However 1/3 of the students at the time of assessment had not memorized the wiring standards. Additional instruction will be included on this topic.

S10 & F10 Students have a solid understand of this concept. No re-teaching is required.

F11 Students have a solid understand of this concept. No re-teaching is required.

CIS 140 – SLO #3: Upon successful completion of CCNA 1 student will be able to list, in the correct order the 7 layers of the OSI and provide brief description of the components and services at each layer.

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	13	1	11	3	28
F09	13	5	3	2	23
S10	7	10	10	0	27
F10 – Define	8	5	5	1	19
F10 – Order	17	2	0	0	19
F11 – Define	14	4	4	1	23
F11 – Order	20	2	1	0	23

F09 - The results of the assessment indicate a majority understanding of the OSI layers. Additional clarification of the upper three layers is required. The upper 3-layers will be re-taught during in the next face-to-face class session.

S10 - The results of the assessment indicate 63% of the students have satisfactory understanding of the OSI layers. The majority were able to put the layer in the correct order, however the descriptions for the each layer showed a lack of understanding. The concept will be re-taught at the next class meeting.

F10 - The students have a clear understanding concerning the correct order of the 7 layers of the OSI model. The results of the 2nd part of the assessment indicate 68% of the students have satisfactory understanding of the definitions of OSI layers, however the students require additional instruction on the top 3 layers.

F11 - The students have a clear understanding concerning the correct order of the 7 layers of the OSI model. The results of the 2nd part of the assessment indicate 72% of the students have satisfactory understanding of the definitions of OSI layers, the top 3 layers will be future defined.

This SLO has been removed from CIS 140
CIS 140 – SLO #4: Upon successful completion of CCNA 1, students will be able to select and install the proper cables for interconnecting a topology consisting of routers, switches and end user devices.

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	12	9	5	0	26
F09	11	1	6	1	19
S10	6	11	7	1	25
F10	10	6	2	1	19
F11	10	7	5	0	22

Results indicate additional work is still needed on teaching cable concepts. The goal is for 80% of the students to be able to select the appropriate cable for the given topology. Spring 2010 class indicated an issue with the assessment item. It will be revised for the fall term to include a clarification of the router type specified for cabling.

F10 - The clarification of router type worked to clear up the prior issue from the spring term. The students still had some confusion in terms of the router port type. This will be clarified in semester 2.

F11 - The students still had some confusion in terms of interface cards and topology devices. This assessment item will be revised for the fall 12 term to make certain student understand what devices the media is supporting.

This SLO has been removed from CIS 140

CIS 140 – SLO #5: Upon successful completion of CCNA 1 student will be able to develop a classful IP addressing scheme for a 5 network topology with 24 hosts per network

Term	Score of 3	Score of 2	Score of 1	Score of 0	Total Assessed
S09	10	5	5	6	26
F09	11	10	1	2	24

S10	**12**	**12**	**1**	**5**	**30**
F10	**15**	**2**	**4**	**3**	**24**
F11	**18**	**1**	**2**	**1**	**22**

F09 - The results of this assessment indicate a need to re-teach the concept of the subnet mask. Of the students who scored a 2 on this SLO assessment, all but one of the students received a score of two because they were unable to provide the correct subnet mask for the 8 subnet split. This is actually the norm for semester 1 students.

S10 - The results of this assessment indicate a need to re-teach the concept of the subnet mask. Of the students who scored a 2 on this SLO assessment, all but one of the students received this score because they were unable to provide the correct subnet mask for the 8 subnet split. The 5 students who scored 0 were students who had missed the class instruction on this topic. While this is the norm for CCNA 1 students, I have added an additional (extra class session) to the schedule that will focus entirely on IP addressing and subnetting.

F10 - The students have a solid understanding of an 3-8 bit split. Those students who did not complete this assessment with 100% accuracy were mostly confused by the address groupings (network – broadcast – subnet mask). I used a different approach to teach this topic and am hopeful the students who did not understand the differences between the network broadcast and usable host addresses now understand this idea. I will reassess at the start of Sem 2. I am also modifying the assessment tool to clear up the areas of confusion that may be leading to incorrect responses.

F11 - The students have a solid understanding of an 3-8 bit split. Those students who did not complete this assessment with 100% accuracy did not understand how to generate multiples of a given number. This is not an addressing issue, but rather an arithmetic issue.