Discipline	Course Number	Title
Computer Networking Technology	226	CNT 226 06/28/2023- Enterprise Networking, Security, and Automation (ENSA)
College	Division	Department
Business and Computer Technologies	Business and Computer Technologies	Computer Science & Information Technology
Faculty Preparer		John Trame
Date of Last Filed Assessment Report		

I. Review previous assessment reports submitted for this course and provide the following information.

1. Was this course previously assessed and if so, when?

Yes Winter 2017

2. Briefly describe the results of previous assessment report(s).

No surprises based on this assessment. Their ability to architect, build, configure and maintain a small local area network was demonstrated as exceptional.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

No changes intended.

II. Assessment Results per Student Learning Outcome

Outcome 1: Configure and troubleshoot routers and switches.

- Assessment Plan

    o Assessment Tool: Outcome-related questions on the Cisco skills-based final exam

    o Assessment Date: Fall 2021

- o Course section(s)/other population: Random sample of a minimum of three sections over the three-year period

- o Number students to be assessed: All students

- o How the assessment will be scored: The skills exam is scored by WCC faculty, using the CISCO-provided rubric.

- o Standard of success to be used for this assessment: At least 70% of students must score 70% or higher on the Skills-Based Final Exam.

- o Who will score and analyze the data: Department faculty and external sources (if available)

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

This was the only section of the class taught during the winter 2023 semester. Only 11 students completed this accelerated online class.

I cannot get access to any classes prior to the winter 2023 semester. This information is housed at the Cisco Networking Academy site. They have archived all classes prior to the winter 2023 semester.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This was the only section of CNT 226 for the winter 2023 semester. It was an accelerated (4-week) DL class.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The online Cisco Networking Academy Skills exam was used.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: <u>Yes</u>
Only overall data was collected for the skills exam. The skills exam will be removed from future assessments. The low score for this skills exam was 68%. The high score for this skills exam was 100%. The mean score for this skills exam was 97%. Over 70% of the students scored 70% or higher on this skills exam. The standard of Success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective. The skills exams are not an efficient method of assessment, nor are they as accurate in assessing learning as the Cisco exams. The extra tool will be removed for future assessments.

Outcome 2: Implement Access Control Lists (ACLs) to filter traffic.

- Assessment Plan

- o Assessment Tool: A Departmental Task List will be used to assess proficiency (pass/fail) in applying the concepts and in performing hands-on tasks.

- o Assessment Date: Fall 2021

- o Course section(s)/other population: All

- o Number students to be assessed: All

- o How the assessment will be scored: Departmentally-developed rubric

- o Standard of success to be used for this assessment: 70% of the students will successfully complete all of the tasks.

- o Who will score and analyze the data: Departmental faculty will score and analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Only 11 students completed this accelerated online class.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This was the only section of CNT 226 for the winter 2023 semester. It was an accelerated (4-week) DL class.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Students completed a series of tasks and were evaluated based on a departmental skills test. All students were rated as either pass or fail in each of the areas to be evaluated.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: <u>Yes</u>
The low score for this skills exam was 68%. The high score for this skills exam was 100%. The mean score for this skills exam was 97%. Over 70% of the students scored 70% or higher on this skills exam. The standard of success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective. This was a manually-created skills exam. However, there are questions related to this outcome on the Cisco written exam. We will be using the Cisco written exam to assess this outcome in future reports.

Outcome 3: Configure Network Address Translation (NAT).

- Assessment Plan
    - Assessment Tool: Outcome-related questions on the Cisco online final exam
    - Assessment Date: Fall 2021
    - Course section(s)/other population: All
    - Number students to be assessed: All

- o How the assessment will be scored: Answer key

- o Standard of success to be used for this assessment: 70% of the students will score 70% or higher on the outcome-related questions

- o Who will score and analyze the data: Departmental faculty will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Only 11 students completed this accelerated online class.

I cannot get access to any classes prior to the winter 2023 semester. This information is housed at the Cisco Networking Academy site. They have archived all classes prior to the winter 2023 semester.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This was the only section of CNT 226 for the winter 2023 semester. It was an accelerated (4-week) DL class.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The Cisco Networking Academy written online exam was used.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

5 of the 60 total test questions pertained to this outcome.

95.9% of the students answered these questions correctly.

More than 70% of the students scored 70% or better on the questions pertaining to this outcome.

The standard of success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective.

The skills exams are not an efficient method of assessment, nor are they as accurate in assessing learning as the Cisco exams. The extra tool will be removed for future assessments.

Outcome 4: Implement protocols to manage the network.

- Assessment Plan
  - Assessment Tool: Outcome-related questions on the Cisco online final exam
  - Assessment Date: Fall 2021
  - Course section(s)/other population: All
  - Number students to be assessed: All
  - How the assessment will be scored: Answer key
  - Standard of success to be used for this assessment: 70% of the students will score 70% or higher on the outcome-related questions
  - Who will score and analyze the data: Departmental faculty will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Only 11 students completed this accelerated online class.

I cannot get access to any classes prior to the winter 2023 semester. This information is housed at the Cisco Networking Academy site. They have archived all classes prior to the winter 2023 semester.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This was the only section of CNT 226 for the winter 2023 semester. It was an accelerated (4-week) DL class.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The Cisco Networking Academy written online exam was used.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

7 of the 60 total test questions pertained to this outcome.

95.7% of the students answered these questions correctly.

More than 70% of the students scored 70% or better on the questions pertaining to this outcome.

> The standard of success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

> Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

> Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective.
>
> The skills exams are not an efficient method of assessment, nor are they as accurate in assessing learning as the Cisco exams. The extra tool will be removed for future assessments.

Outcome 1: Configure and troubleshoot routers and switches.

- Assessment Plan

    - Assessment Tool: Outcome-related questions on the Cisco online final exam

    - Assessment Date: Fall 2021

    - Course section(s)/other population: All

    - Number students to be assessed: All

    - How the assessment will be scored: Answer key

    - Standard of success to be used for this assessment: 70% of the students will score 70% or higher on the outcome-related questions

    - Who will score and analyze the data: Departmental faculty will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Only 11 students completed this class.

I cannot get access to any classes prior to the winter 2023 semester. This information is housed at the Cisco Networking Academy site. They have archived all classes prior to the winter 2023 semester.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This accelerated (4-week) DL section was the only section of CNT 226 during the Winter 2023 semester.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The Cisco Networking Academy written online exam was used.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

4 of the 60 total test questions pertained to this outcome.

85.2% of the students answered these questions correctly.

More than 70% of the students scored 70% or better on the questions pertaining to this outcome.

The standard of success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective.

The skills exams are not an efficient method of assessment, nor are they as accurate in assessing learning as the Cisco exams. The extra tool will be removed for future assessments.

Outcome 3: Configure Network Address Translation (NAT).

- Assessment Plan
    - Assessment Tool: Outcome-related questions on the Cisco skills-based final exam
    - Assessment Date: Fall 2021
    - Course section(s)/other population: Random sample of a minimum of three sections over the three-year period
    - Number students to be assessed: All students
    - How the assessment will be scored: The skills exam is scored by WCC faculty, using the CISCO-provided rubric.
    - Standard of success to be used for this assessment: At least 70% of students must score 70% or higher on the Skills-Based Final Exam.
    - Who will score and analyze the data: Departmental faculty and external sources (if available)

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Only 11 students completed this accelerated online class.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This was the only section of CNT 226 for the winter 2023 semester. It was an accelerated (4-week) DL class.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The online Cisco Networking Academy Skills exam was used.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: No

Only overall data was collected for the skills exam. The skills exam will be removed from future assessments.

The low score for this skills exam was 68%.

The high score for this skills exam was 100%.

The mean score for this skills exam was 97%.

Over 70% of the students scored 70% or higher on this skills exam.

The standard of success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

> Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective.
>
> The skills exams are not an efficient method of assessment, nor are they as accurate in assessing learning as the Cisco exams. The extra tool will be removed for future assessments.

Outcome 4: Implement protocols to manage the network.

- Assessment Plan

    o Assessment Tool: Outcome-related questions on the Cisco skills-based final exam

    o Assessment Date: Fall 2021

    o Course section(s)/other population: Random sample of a minimum of three sections over the three-year period

    o Number students to be assessed: All students

    o How the assessment will be scored: The skills exam is scored by WCC faculty, using the CISCO-provided rubric.

    o Standard of success to be used for this assessment: At least 70% of students must score 70% or higher on the Skills-Based Final Exam.

    o Who will score and analyze the data: Departmental faculty and external sources (if available)

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2023	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
20	11

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Only 11 students completed this accelerated online class.

I cannot get access to any classes prior to the winter 2023 semester. This information is housed at the Cisco Networking Academy site. They have archived all classes prior to the winter 2023 semester.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This was the only section of CNT 226 for the Winter 2023 semester. It was an accelerated (4-week) DL class.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The online Cisco Networking Academy Skills exam was used.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

Only overall data was collected for the skills exam. The skills exam will be removed from future assessments.

The low score for this skills exam was 68%.

The high score for this skills exam was 100%.

The mean score for this skills exam was 97%.

Over 70% of the students scored 70% or higher on this skills exam.

The standard of success was met.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed extremely well, both on the written and the skills exam regarding this outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

> Successful completion by all students of hands-on modules and a capstone project/skills exam demonstrated student understanding and strength of skill for this objective.
>
> The skills exams are not an efficient method of assessment, nor are they as accurate in assessing learning as the Cisco exams. The extra tool will be removed for future assessments.

III. Course Summary and Intended Changes Based on Assessment Results

1. Based on the previous report's Intended Change(s) identified in Section I above, please discuss how effective the changes were in improving student learning.

> Based on the written and skills final exams results, I would say that student outcomes are currently being met. Changes that have been made are successful.

2. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

> The overall impression is that this course is meeting the students' needs. I did not see any surprises.

3. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

> This information will be shared in a department meeting.

4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Outcome Language	Align our outcome language more closely with the Cisco Networking Academy outcome language.	Our current outcome language does not directly match the Cisco Networking Academy language. As a result, the data from the Academy site does not appear to	2024

		directly align with our outcomes. This can be confusing for anyone not intimately familiar with internetworking terminology/language.	
Assessment Tool	Remove skills assessment for all outcomes. Assess the course with the written Cisco exam only.	As explained in the assessment report for CNT 206, it is my opinion as a subject matter expert that the Cisco exam is a much stronger measurement of student learning.	2023
Other: Data Collection Process	To ensure that I have access to the assessment data housed at the Cisco Networking Academy site I will create all the classes at that site in future semesters, add myself as an instructor in each class along with the instructor who is actually teaching the class.	This year, Cisco changed their policy. They no longer permit any instructor, or the main contact for a given academy, such as WCC, to access a class that they are not teaching. Therefore, I must be listed as an instructor on every section of every class at the Cisco Networking Academy site, to have access to the assessment data. Cisco also changed their policy regarding access to previous semester classes. Previously, we had access to three years' worth of classes prior to archival. Now they are archiving classes within six months of the start date of a given class. For example, all fall 2022 and earlier classes are	2023

		already archived. We have no access to archived classes. Therefore, I cannot retrieve data from any classes prior to the Winter 2023 semester.	

5. Is there anything that you would like to mention that was not already captured?

6.

III. Attached Files

CNT 226 Final Exam Summary

Faculty/Preparer: John Trame **Date:** 06/28/2023
Department Chair: Scott Shaper **Date:** 06/30/2023
Dean: Eva Samulski **Date:** 07/06/2023
Assessment Committee Chair: Jessica Hale **Date:** 01/04/2024

Discipline	Course Number	Title
Computer Networking Technology	226	CNT 226 03/16/2017- Scaling Networks
Division	Department	Faculty Preparer
Business and Computer Technologies	Computer Instruction	James Lewis
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Configure and troubleshoot routers and switches

- Assessment Plan

    o Assessment Tool: The Cisco Systems online final exam (blind-scored)

    o Assessment Date: Winter 2017

    o Course section(s)/other population: all

    o Number students to be assessed: all

    o How the assessment will be scored: Answer Key

    o Standard of success to be used for this assessment: 75% of the students will score 70% or higher on the exam.

    o Who will score and analyze the data: Departmental faculty will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
7	7

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All enrolled students were assessed.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This course was F2F this term and all students were assessed.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

This SLO was assessed in a hands-on exercise in which students actually built, tested and verified several router and switch configurations. Exercise modules 2 and 3 were the rubrics for this SLO. Successful completion of the objectives for this SLO were Pass / Fail against the requirements of the exercise.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

All students were successful in completion of this objective (7/7). All students successfully passed the online final examination minimum requirement of 75%.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students cabled and created configuration scripts for a segment of an enterprise network. They successfully built, troubleshot and maintained the functionality of an instructor-introduced network that included routers, switches, and a client and server relationship.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Student success can be maintained by continuing the capstone practical hands-on examination.

Outcome 2: Resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks

- Assessment Plan

    o Assessment Tool: A Departmental Task List will be used to assess proficiency (pass/fail) in applying the concepts and in performing hands-on tasks.

    o Assessment Date: Winter 2017

    o Course section(s)/other population: all

    o Number students to be assessed: all

    o How the assessment will be scored: Departmentally-developed rubric

    o Standard of success to be used for this assessment: 75% of the students will complete all of the tasks.

    o Who will score and analyze the data: Departmental faculty will score and analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
7	7

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All students enrolled in this course for this term were assessed (7/7).

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

This section was F2F.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Students performed hands-on exercises for building, testing, debugging and demonstrating successful configuration and use of a local area network utilizing classroom equipment. Pass / Fail was the criteria for this exercise.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

Student exercises as identified in Cisco curriculum Module 2, switch STP configuration and troubleshooting, Module 5 OSPF single area, Module 6, OSPF multi-area, Module 7, EIGRP configuration and troubleshooting, and Module 8, EIGRP configuration and troubleshooting, were used as the rubric for this SLO. All students successfully met all SLO exercises. Additionally, all students successfully built a component of an enterprise capstone network.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Successful completion by all students of hands-on modules 2, 5, 6, 7, 8 and a capstone project demonstrated student understanding and strength of skill for this objective.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Continuous improvement will be based on continual exposure to the hands-on modules that provide experience with the relevant objectives.

Outcome 3: Implement a WLAN in a small-to-medium network

- Assessment Plan

    o Assessment Tool: The Cisco Systems online final exam (blind-scored)

    o Assessment Date: Winter 2017

    o Course section(s)/other population: all

    o Number students to be assessed: all

    o How the assessment will be scored: Answer Key

    o Standard of success to be used for this assessment: 75% of the students will score 70% or higher on the exam.

- o   Who will score and analyze the data: Departmental faculty will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
7	7

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All students enrolled in this course this term were assessed (7/7).

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All offerings in this course for this term were F2F.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

This SLO as written cannot be assessed in an online environment. To effectively assess student skill in relation to the SLO objective, students were presented with equipment to build, test, troubleshoot and demonstrate operation of a wireless local area network (WLAN). Pass / Fail was the criteria for this exercise.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: <u>Yes</u>
All students successfully performed the objective for this SLO.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

All students were successful in building a small WLAN without instructor assistance. This demonstrates understanding and skill in the outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Continue exposure to the hands-on exercises that require students to build a wireless network.

II. Course Summary and Action Plans Based on Assessment Results

1. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

No surprises based on this assessment. Their ability to architect, build, configure and maintain a small local area network was demonstrated as exceptional.

2. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

The results of this assessment will be presented in a Fall 2017 department meeting.

3.
Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
No changes intended.			

4. Is there anything that you would like to mention that was not already captured?

5.

III. Attached Files

CNT 226 SLO Assessment Tallys

Faculty/Preparer:	James Lewis	**Date:** 06/22/2017	
Department Chair:	Philip Geyer	**Date:** 06/22/2017	
Dean:	Kristin Good	**Date:** 06/26/2017	
Assessment Committee Chair:	Michelle Garey	**Date:** 09/28/2017	