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**Associate of Applied Science in Computer Systems & Network Technology (CSNT)**

**Academic Assessment Plan**

**Adopted by**

**The Computer Systems & Network Technology faculty: March 15, 2022**

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# Mission Statement

The Computer Systems & Network Technology (CSNT) program provides entry level skills and ongoing career education to meet the demand for well-trained technicians in computer systems and network operations.

# Student Learning Outcomes

Students graduating with a AAS in Computer Systems & Network Technology (CSNT) will be able to:

* Show an understanding of IT concepts and technical skills, installing and configuring operating systems, and using utility software.
* Show knowledge of computer hardware and peripherals.
* Demonstrate competence in IT workplace service skills through customer service, troubleshooting and implementation of security.
* Demonstrate competence in entry-level tasks of design, configuration, operation and troubleshooting Ethernet and TCP/IP networks using Cisco routers and switches.
* Show knowledge of network infrastructure, network workgroups, and domain administration.
* Demonstrate the ability to manage an IT-related project by professionally and ethically utilizing business principles, communication skills and teamwork.

# Assessment Measures

## Table 1: Association of Assessment Measures to Student Learning Outcomes

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcomes** | Projects/ Case Studies | Final Exams | Practical Exams | CSC | CCNA\* | CompTIA A+\* | CompTIA Net+\* | CompTIA Sec+\* | Frequency Assessed |
| Show an understanding of IT concepts and technical skills, installing and configuring operating systems, and using utility software. | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | At least every 3 years |
| Show knowledge of computer hardware and peripherals. | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | At least every 3 years |
| Demonstrate competence in IT workplace service skills through customer service, troubleshooting and implementation of security. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | At least every 3 years |
| Demonstrate competence in entry-level tasks of design, configuration, operation and troubleshooting Ethernet and TCP/IP networks using Cisco routers and switches. | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | At least every 3 years |
| Show knowledge of network infrastructure, network workgroups, and domain administration. | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | At least every 3 years |
| Demonstrate the ability to manage an IT-related project by professionally and ethically utilizing business principles, communication skills and teamwork. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | At least every 3 years |

0 = Measure is not used to measure the associated outcome.

1. = Measure is used to measure the associated outcome.

At least two outcomes, more if desired, are to be assessed each year with all outcomes being assessed within a 3-year period. For example: A new assessment coordinator could assess the first two outcomes in year one, the second two outcomes in year two, and the last two outcomes in year three. The assessment coordinator should also try to assess an outcome with a particular cohort in early courses such as CNT A170 (CCNA 1) and CNT A240 and then measure the same outcome when those students are in CNT A270 (CCNA 3) and CNT A243.

## Table 2: Assessment Measures and Administration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Measure** | **Description** | **Frequency/ Start Date** | **Collection Method** | **Administered by** |
| **Projects/ Case Studies** | Course Projects or Case Studies | As Scheduled | Instructor tabulates scores | Course instructor |
| **Final Exams** | Course Finals | As Scheduled | Instructor tabulates scores | Course instructor |
| **Practical****Exams** | Course Practical Exams | As Scheduled | Instructor tabulates scores | Course instructor |
| **CSC\*** | Customer Service Industry Certification Test | As Scheduled | SkillPath web portal | Course instructor |
| **CCNA\*** | CCNA Industry Certification Test | As available | Testing units  | Testing Units  |
| **CompTIA A+\*** | CompTIA A+ Industry Certification Test | As available | Testing units  | Testing Units  |
| **CompTIA Net+\*** | CompTIA Network+ Industry Certification Test | As available | Testing units  | Testing Units  |
| **CompTIA Sec+\*** | CompTIA Security+ Industry Certification Test | As available | Testing units  | Testing Units  |

\* The CSNT program is using industry certification tests as additional assessment measures when available because; a) they measure our students against an industry standard, b) they identify the strength of the student is the core components of the test, and c) for those who pass it allows them to enter the industry with an industry certification in addition to the CSNT AAS degree.

The CCNA and the CompTIA certifications cannot be reliably gathered and are not expected to be used as part of normal assessment. These certifications are included so that they can be used as an outside standard to compare regular assessment data with if it can be gathered on a particular cohort.

Projects / Case Studies

Measure Description:

Projects / case studies allow the students to complete a project or case study that applies skills gained in the course and the CSNT program.

Factors that affect the collected data:

Limited equipment and or time availability may reduce the efficiency of this tool.

How to interpret the data:

Each course will provide a list of requirements for the project or case study and a point scale for each area. The instructor will then tabulate the total points to provide a final score.

Any project or case study may be used in assessment, but the projects completed in CNT A275 will be used to assess the following objective:

* Demonstrate the ability to manage an IT-related project by professionally and ethically utilizing business principles, communication skills and teamwork.

Final Exams

Measure Description:

The final exams allow the students to demonstrate knowledge relating to the objectives of the course.

Factors that affect the collected data:

Limited time may reduce the overall scope of the exam.

How to interpret the data:

Each course will provide a list of requirements for the final exam, and a point scale for each area. The instructor will then tabulate the total points to provide a final score.

Any final exam may be used in assessment, but at the bare minimum the following final exams will be used to assess the outcomes of the program.

* CNT A170 CCNA 1
* CNT A243 Industry Application Infrastructure
* CNT A261 CCNA 2
* CNT A270 CCNA 3

Practical Exams

Measure Description:

The practical exams allow the students demonstrate the skills being presented in the course.

Factors that affect the collected data:

Limited time and equipment availability may reduce the overall scope of the exam.

How to interpret the data:

Each course will provide a list of requirements for the practical exam, and a point scale for each area. The instructor will then tabulate the total points to provide a final score.

Any practical exam may be used in assessment, but at a bare minimum the following practical finals will be used to assess the outcomes of the program.

* CNT A170 CCNA 1
* CNT A261 CCNA 2
* CNT A270 CCNA 3

CSC

Measure Description:

The International Customer Service Association’s (ICSA) Customer Service Certified (CSC) certification is an international benchmark for customer service representatives.

Factors that affect the collected data:

Testing for the ICSA CSC certification is part of the CNT A165 course using the ondemand.skillpath.com web portal. The exams are set up by the instructor and the scores are preserved in and collected from the web portal.

How to interpret the data:

The ICSA certification provides an external objective validation of the learning outcomes.

ICSA certification tests the following learning objectives:

1. Define the parameters of customer service and the attitudes, knowledge and skills needed to create and maintain a customer service orientation.
2. Describe how a customer service focus is influenced by the organization’s mission, vision, resource management and services.
3. Assess personal attitude, knowledge and skills in relationship to customer service.
4. Describe ways to measure and analyze customer satisfaction internally and externally.
5. Develop management skills for influencing, correcting and leading a customer-driven organization.
6. Develop a personal plan for implementing customer service fundamentals in the workplace.

CCNA

Measure Description:

The Cisco Certified Network Associate (CCNA) certification is a worldwide industry benchmark in entry level capabilities in networking.

Factors that affect the collected data:

Testing for the CCNA certification is voluntary on the student’s part as is the reporting of the results of test. The CCNA cannot be reliably gathered and is not expected to be used as part of normal assessment. The CCNA is included so that it can be used as an outside standard to compare regular assessment data with if it can be gathered on a particular cohort.

How to interpret the data:

The CCNA certification provides an external objective validation of the learning outcomes.

The CCNA certification (Cisco Certified Network Associate) tests an examinee’s knowledge and skills related to network fundamentals, LAN switching technologies, IPv4 and IPv6 routing technologies, WAN technologies, infrastructure services, infrastructure security, and infrastructure management.

Comptia A+

Measure Description:

The CompTIA A+ certification is the industry standard validating the vendor-neutral skills expected of an entry-level desktop technician.

Factors that affect the collected data:

Testing for the CompTIA A+ certification is voluntary on the student’s part as is the reporting of the results of test. The CompTIA A+ cannot be reliably gathered and is not expected to be used as part of normal assessment. The CompTIA A+ is included so that it can be used as an outside standard to compare regular assessment data with if it can be gathered on a particular cohort.

How to interpret the data:

These industry certifications provide an external objective validation of the learning outcomes.

The CompTIA A+ examinee must demonstrate basic knowledge of installing, configuring, upgrading, troubleshooting, and repairing desktop computer systems as well knowledge of how to provide documentation and appropriate customer support.

Comptia Net+

Measure Description:

The CompTIA Net+ certification is the industry standard validating the vendor-neutral skills expected of an entry-level network technician.

Factors that affect the collected data:

Testing for the CompTIA Net+ certification is voluntary on the student’s part as is the reporting of the results of test. The CompTIA Net+ cannot be reliably gathered and is not expected to be used as part of normal assessment. The CompTIA Net+ is included so that it can be used as an outside standard to compare regular assessment data with if it can be gathered on a particular cohort.

How to interpret the data:

This industry certification provides an external objective validation of the learning outcomes.

The CompTIA Net+ examinee must demonstrate the skills needed to troubleshoot, configure, and manage both wired and wireless networks.

Comptia Sec+

Measure Description:

The CompTIA Sec+ certification is the industry standard validating the vendor-neutral skills and core knowledge required of any cybersecurity role.

Factors that affect the collected data:

Testing for the CompTIA Sec+ certification is voluntary on the student’s part as is the reporting of the results of test. The CompTIA Sec+ cannot be reliably gathered and is not expected to be used as part of normal assessment. The CompTIA Sec+ is included so that it can be used as an outside standard to compare regular assessment data with if it can be gathered on a particular cohort.

How to interpret the data:

This industry certification provides an external objective validation of the learning outcomes.

The CompTIA Sec+ examinee must demonstrate the ability to:

* **Assess** the security posture of an enterprise environment and recommend and implement appropriate security solutions
* **Monitor and secure** hybrid environments, including cloud, mobile, and IoT
* **Operate** with an awareness of applicable laws and policies, including principles of governance, risk, and compliance
* **Identify, analyze, and respond** to security events and incidents

# Assessment Process

The program assessment coordinator (faculty service assignment) will inform all faculty teaching courses that incorporate assessment measures of the requirement to submit data as appropriate to the measure. The data will be collected at the end of the fall and spring semesters. The data will be collated and analyzed after the spring semester and before the next fall semester.

The program faculty members are responsible for the content of and the implementation of the specific course case studies and final exams.

Faculty will work with the students to setup, log and keep track of the students taking certification exams and their pass rates.

Program faculty will meet at least once a year to review the data collected using the assessment measures. This meeting could result in recommendations for program changes that are designed to enhance performance relative to the program’s outcomes. The results of the data collection, an interpretation of the results, and the recommended programmatic changes will be submitted to the Office of Academic Affairs (in the required format) each year.

The faculty, after reviewing the collected data and the processes used to collect it, may decide to alter the Assessment Plan. Changes may be made to any component of the plan, including the outcomes, assessment measures, or any other aspect of the plan. The changes will be approved by the faculty of the program. The modified assessment plan will be forwarded to the dean’s office and the Office of Academic Affairs.