**Assessment Plan**

**for Workforce and FOS Programs**

**Program/Track Name: \_Computer Networking /Infrastructure Track\_\_\_\_\_\_\_\_**

**Description of Program-Level Learning Outcomes**

Please indicate the Program Learning Outcomes for the degree, degree track, or certificate below:

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| --- |
| Program-Level Learning Outcomes |
| Program Learning Outcome 1: | **Configure and troubleshoot advanced routing and switching protocols** |
| Program Learning Outcome 2: | **Calculate and Configure Internet Protocol version 4 addresses and Configure Internet Protocol version 6 addresses.** |
| Program Learning Outcome 3: | **Configure Virtual Local Area Networks** |
| Program Learning Outcome 4: | **Configure Protocols related to Network Security**  |
| Program Learning Outcome 5: | **Demonstrate understanding of radio frequency principles by appropriate placement and configuration of wireless devices.** |

**Section I: Technical Courses**

For **all technical courses** in the program, indicate in the table on the following page whether and/or how the course will support the program learning outcomes. You should include courses outside your discipline area and work collaboratively with those disciplines to determine whether and/or how those course(s) will support the program learning outcomes. **Please note** that it is understandable if courses from outside the discipline do not assess the program-level learning outcomes and serve only to introduce, practice and/or emphasize the program outcomes. It is also possible that technical courses outside of your discipline may not directly support the specific program-level learning outcomes you have identified.

***How to complete the program map:***

For each technical course in your program, please indicate whether any program-level learning outcome is introduced to students (I), practiced by students (P), emphasized for students (E), or formally assessed (A).

For example, if course WXYZ 1234 introduces students to one of the program outcomes, then enter “I” for that specific program outcome in the appropriate column. Please note that a course can be “I”, “P”, “E” and/or “A” in any program outcome. The labels in the following table apply SOLELY to the program level learning outcomes defined above. (It is NOT necessary for every course to address a program level learning outcome, and it is NOT necessary that Assessment or program level learning outcomes occur in every course.)

**Program Map ▼**

I=Introduced P=Practiced E=Emphasized A=Assessed

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| --- | --- | --- | --- | --- | --- |
| Program Courses | Program Learning Outcome 1 | Program Learning Outcome 2 | Program Learning Outcome 3 | Program Learning Outcome 4 | Program Learning Outcome 5 |
| CPMT1305 |  | I, P |  |  |  |
| ITCC1314 |  | P, E, A |  | I, P |  |
| ITCC1344 |  | P, E | I, P, E, A | I, P |  |
| ITCC2320 |  | P, E | I, P, E | I, P, E, A |  |
| ITCC2377 | I, P, E, A |  | P, E, A | I, P, E, A |  |
| ITCC2379 | I, P, E, A |  |  | I, P,  |  |
| ITNW1354 |  |  |  | I, P |  |
| ITSC1316 |  |  |  | I, P |  |
| ITNW1309 |  |  |  |  |  |
| ITNW1351 |  |  |  | I, P | I,P,E,A |
| ITNW1358 |  | I, P, E |  | I, P |  |
| ITNW2375 |  |  |  |  |  |
| ITSE1359 |  |  |  |  |  |
| ITSY2300 |  |  |  | I, P, E |  |

**Assessment Plan for Program Learning Outcomes**

Review existing assessment methods and current practices for collecting/gathering student data to identify direct (and possibly indirect methods of assessment). Remember that the data will need to be gathered, analyzed, and used to support the program’s continuous improvement processes.

**Note:** Because courses from other disciplines already have assessment plans in place, they do not have to be included in this assessment plan. Nonetheless, proposers must work collaboratively with these other disciplines to stay current and up-to-date with the assessment plans in these courses.

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| --- | --- | --- |
| Program-Level Learning Outcome (e.g. Students will describe the impact of various cultures on American cuisine.) | Assessment Measure(s) and Where Implemented in Curriculum – Description of Instrument(s)/ process(es) used to measure results and indication of where the assessment will be collected in curriculum. (e.g. Essay on Cultural influences on American cuisine in CUIS 1300.) | Targets- Level of Success Expected(e.g. 80% of students score 2.5 or better on rubric for essay on cultures and cuisine.) |
| PLO #1Configure and troubleshoot advanced routing and switching protocols | Course Project Skills Based Assessment Scenario 1 Part 3 in ITCC 2377-Implementing Enterprise Network Core Technologies in which students are required to configure Routing Protocols. This part of the assessment requires the students to configure the IPv4 and IPv6 routing protocol OSPF (Open Shortest Path First).Course Project Skills Based Assessment Scenario 1 Part 4 in ITCC2377-Impelmenting Enterprise Network Core Technologies in which students are required to configure First Hop Redundancy. Students will configure the switches to support Hot Standby Routing Protocol version 2 to provide first-hop redundancy .Course Project Skills Based Assessment in ITCC 2379-Implementing Enterprise Advanced Routing and Services (Capstone) in which students are required to apply skills to troubleshoot network issues related to the configuration and operation of routing protocols. | 70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments |
| PLO #2Calculate and Configure Internet Protocol version 4 addresses and Configure Internet Protocol version 6 addresses. | Skills Based Assessment Part 1: Develop an IP Addressing Scheme and Part 3: Configure Device IP Address in ITCC 1314-CCNA 1: Introduction to Networks in which students are required to subnet an IP address to provide addresses for the required number of hosts and configure the network devices using the calculated addresses. | 70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments |
| PLO #3Configure Virtual Local Area Networks | Skills Based Assessment Part 2: Configure Network Infrastructure Settings (VLANs, Trunking, EtherChannel) in ITCC-1344-CCNA 2: Switching, Routing and Wireless Networks in which students are required to configure the switches to support host connectivity using trunking and Virtual Local Area network protocols. | 70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments |
| PLO #4Configure Protocols related to Network Security | Skills Based Assessment Part 4: Configure Access Control, NAT, and perform configuration backup in ITCC 2320-CCNA 3: Enterprise networking, Security and Automation in which students are required to create access control lists for traffic filtering, configure Network Address Translation, and backup device configurations to an external server.Course Project Skills Based Assessment Scenario 2 Part 4: Configure Security in ITCC 2377-Implementing Enterprise Network Core Technologies in which students are required to configure various security mechanisms such as usernames and passwords for Authentication, Authorization, and Accounting on the devices in the network topology. | 70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments70% of students score 70% or higher on specified parts of Course Project/Skills Based Assessments |
| PLO #5Demonstrate understanding of radio frequency principles by appropriate placement and configuration of wireless devices. | Skills-based assessment in ITNW 1351-Fundamentals of Wireless LANs in which students will demonstrate their ability to correctly configure and place access points based on their knowledge of radio frequency (RF) behaviors, signal strengths, antenna designs, and regulatory constraints. | 70% of students score 70% or higher on the specified skills-based assessment. |