WASHTENAW COMMUNITY COLLEGE

PROGRAM ASSESSMENT REPORT

I. Background Information

1. Program Assessed

Program name: Computer Networking Academy I
Program code: CVCNA1
Division: BCT Department: ELED

Type of Award: ☐ A.A. ☐ A.S ☐ A.A.S.
☒ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):
☐ Fall 20_____
☒ Winter 2009
☐ Spring/Summer 20_____

3. Assessment tool(s) used (check all that apply):
☐ Portfolio
☐ Standardized test
☐ Other external certification/licensure exam (please describe):_____ _____
☐ Graduate Survey
☐ Employer Survey
☐ Advisory Committee Survey
☐ Transfer follow-up
☐ Externally evaluated performance or exhibit
☐ Externally evaluation of job performance (internship, co-op, placement, other)
☒ Capstone experience (please describe): Skills-based assessment developed by Cisco Systems
☐ Other (please describe):

4. Have any of these tools been used before?
☒ Yes (if yes, identify which tool)
☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.
No

5. Indicate the number of students assessed/total number of students enrolled in the course. 15/15

6. Describe how students were selected for the assessment.
   a. Describe your sampling method. All students in the CNT236 class, which is the capstone class for the program.
   b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? Graduating students

II. Results

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.
   This is the first assessment.

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.
   1. Connecting multiple computers, switches and routers, to simulate a corporate network connected to a service provider.
   2. Configure the switches with basic configurations.

3. Configure the routers with basic configurations including IP addresses (in a VLSM hierarchical scheme), a routing protocol (either EIGRP or OSPF), and static routes where stipulated.
4. Configure the host computers to communicate on the appropriate LANs.
5. Verify connectivity.
6. Configure Frame Relay.
7. Configure PPP with PAP and/or CHAP authentication.
8. Configure NAT.
9. Configure DHCP.
10. Configure VLANs on the switches.
11. Configure VLAN trunking, where necessary, to allow specific VLAN traffic to flow.
12. Configure the appropriate routers to route VLAN traffic.
13. Create and apply Access Control Lists (ACLs), to restrict traffic flow as specified.

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected.***

The majority of the outcomes were successfully achieved by more than 75% of the students. However, three of the outcomes were successfully achieved by less than the desired 75% of the students. In addition, three outcomes were not measured by this skills-based final exam. This was an oversight on behalf of the instructor.

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment.***

Outcomes 1 through 4, and 7 were successfully achieved by 100% of the students.
Outcome 5 was successfully achieved by 73.33% of the students.
Outcome 6 was successfully achieved by 86.67% of the students.
Outcome 8 was successfully achieved by 66.67% of the students.
Outcome 9 was successfully achieved by 93.33% of the students.
Outcomes 10 through 12 were not evaluated in this skills-based final exam.
Outcome 13 was successfully achieved by 80% of the students.

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: The majority (over 75%) of the students were able to successfully connect the network, perform basic switch and router configuration, configure Frame Relay, configure DHCP, configure PPP with CHAP authentication, and configure ACLs to restrict traffic flow as indicated.

Weaknesses: Students had difficulty configuring NAT and verifying connectivity after completion of the entire configuration of the network.

III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

Additional labs will be written for Network Address Translation (NAT), to help students learn how to configure NAT.

Perhaps the Skills-based final exam will be modified, to more clearly demonstrate the students' ability to verify network connectivity. Some of the students did not successfully complete this outcome, because part of their network, such as the Frame Relay configuration, was not functioning properly. In some cases students got frustrated by the length of time required to complete the exam, and left before demonstrating their network to the instructor; in which case the instructor was forced to grade the exam based on the submitted running configurations, and deduct points for not demonstrating the network and computer connectivity.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:
- ☐ course sequencing
- ☐ course deletion
- ☐ course addition
- ☐ changes to existing program courses (specify):
- ☐ other (specify):

c. ☐ Other (specify):

3. What is the timeline for implementing these actions? These changes should be completed within 1 year.

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.
   Overall, the assessment tool was effective in measuring student achievement of the learning outcomes, with the exception of the objectives related to Virtual LANs. It was an oversight on behalf of the instructor to not include VLAN and VTP configuration in this assessment tool.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.
   Future assessments will include the configuration of VLANs and VTP.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?
   All ____ Selected __X___
   If "All", provide the report date for the next full review: _____Winter 2010_____.
   If "Selected", provide the report date for remaining outcomes: _____.

PROGRAM ASSESSMENT REPORT

Submitted by:

Name: John Trame John Trame Date: ~~10~~ 9/30/2009
Print/Signature

Department Chair: GARY DOWHEN Gary Dowhen Date: 9/30/2009
Print/Signature

Dean: Rosemary Wilson Rosemary Wilson Date: 11/13/09
Print/Signature

Please return completed form to the Office of Curriculum & Assessment, SC 247.

logged 11/17/09 sjv