COURSE ASSESSMENT REPORT

I. Background Information

1. Course assessed:

    Course Discipline Code and Number: CNT251
    Course Title: Designing Security for a Microsoft Network
    Division/Department Codes: BCT/CISD

2. Semester assessment was conducted (check one):
    - [ ] Fall 20__
    - [ ] Winter 20__
    - [x] Spring/Summer 2009

3. Assessment tool(s) used: check all that apply.
    - [ ] Portfolio
    - [ ] Standardized test
    - [ ] Other external certification/licensure exam (specify):
    - [ ] Survey
    - [ ] Prompt
    - [x] Departmental exam
    - [ ] Capstone experience (specify):
    - [ ] Other (specify):

4. Have these tools been used before?
    - [ ] Yes
    - [x] No

    If yes, have the tools been altered since its last administration? If so, briefly describe changes made.
    N/A

5. Indicate the number of students assessed/total number of students enrolled in the course.
    22 enrolled, 22 tested

6. Describe how students were selected for the assessment.
    All students taking the final exam took the separate assessment exam as well.

II. Results

1. Briefly describe the changes that were implemented in the course as a result of the previous assessment.
    This is the first assessment done on this course using the departmental exam.

2. List each outcome that was assessed for this report exactly as it is stated on the course master syllabus.

    Outcome #1: Identify the basic components of Windows Security mechanisms, including security principles, SIDS (Security Identifiers), authentication protocols, as well as password and account policies.

    Outcome #2: Identify the use of user rights as well as the object, folder/file security permission structure including shared and NTFS security permissions, Access Control Lists, Inheritance, and effective permission evaluation procedures.

    Outcome #3: Define the architecture of the new extensive two-way Windows Firewall, the workings of UAC (User Account Control) and the sophisticated Network Access Protection Policies scheme, including hardening of Windows services.

    Outcome #4: Distinguish between the different types of Windows group policy configurations and security settings, including the Local Policy as well as Active Directory Policies, and the use of auditing in all types of Windows security monitoring.

    Outcome #5: Identify the types of file system encryption, both at the folder level as well as the volume level, distinguish the various implementations of Windows Certificate Services, and define the various methods of implementing auditing for monitoring, particularly within an Active Directory forest.

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

   Overall Results: Average Score 19.4 out of 25 questions for a 77.6 % Average. This meets and exceeds my expectation of having a 70% overall average for the class.

   I am very pleased with the results, as this is my most advanced class, and to be honest, not all students had prerequisites for it. Having an overall average of approximately 78%, considering the difficulty and highly technical nature of the material, shows that there was a fairly high level of understanding, and retention by the students. The students were getting extra points just for taking the test (the test results had no effect on the grade), so the only "incentive" they had to do well was my urging them to do so as the results would help improve the course. In fact, I told them NOT to study for the test, as the test addressed key concepts which I hoped they would have retained without special memorization, etc. The average on this assessment test was about four percentage points higher than the test averages for the course which was 73.5% overall for all four tests in the course.
   Actually, since I included EVERYONE in the course in the assessment test, it is somewhat surprising that the test average for the course was lower to the assessment average, since much of the material being tested on was presented much earlier in the course – again this shows that retention of important concept material did take place.

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.***

   The standard of success used was a percentage of 70% correct answers for each of the outcomes. In all five outcomes, this was achieved with an overall average, as noted above, of 77.6 %.

   Looking at the success rate by student population, 16 of the 22 students taking the test scored at or above the 75% mark. Four of the remaining six scored 64%, and two were at 44%. (*It should be noted that the two at 44% did not have the proper prerequisites for the course which made already difficult material, that much more difficult).* This means that 72% (16/22) of the students scored over the 70% mark, *with an overall average for those students of 86%,* (344 points/400 possible points). This indicates that 72% of the students retained and understood 86% of the course material tested – extremely successful for such an advanced course.

   Breakdown by Outcome:

   Outcome #1

   Questions 1 through 5 represented Outcome #1. Total Questions: 5
   79 correct answers out of 110 questions for a 71.83**% Average.** This was above the expected 70% average for the students achieving this outcome. 14 of the 22 students taking the test exceeded 70% for this outcome.
   Individual questions not achieving a 50% Success Rate: None

   Outcome #2

   Questions 6 through 10 represented Outcome #2. Total Questions: 5
   78 correct answers out of 110 questions for a **70.9% Average.** This was above the expected 70% average for the students achieving this outcome. 13 of the 22 students taking the test exceeded 70%for this outcome.
   Individual questions not achieving a 50% Success Rate: One (discussed below)

   Outcome #3

   Questions 11 through 15 represented Outcome #3. Total Questions: 5
   88 correct answers out of 110 questions for an **80.0% Average.** This was considerably above the expected 70% average for the students achieving this outcome. 15 of the 22 students taking the test exceeded 70% for this outcome.
   Individual questions not achieving a 50% Success Rate: None

Outcome #4

Questions 16 through 20 represented Outcome #4. Total Questions: 5
100 correct answers out of 110 questions for a **90.9% Average.** This was considerably above the expected 70% average for the students achieving this outcome. 20 of 22 students taking the test exceeded 70% for this outcome.
Individual questions not achieving a 50% Success Rate: None

Outcome #5

Questions 30 through 38 represented Outcome #5. Total Questions: 9
82 correct answers out of 110 questions for a **74.5% Average.** This was above the expected 70% average for the students achieving this outcome. 14 of 21 students taking the test exceeded 70% for this outcome.
Individual questions not achieving a 50% Success Rate: None.

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

Strengths: The overall average for a great majority of the students show that, overall, most of the material was presented well in both the lecture and lab projects, and the retention rate was fairly high in a vast majority of the students.

Weaknesses: Looks like I need to enforce prerequisites. Three of the six (and in particular the two lowest ones) did not meet prerequisite requirements. This will be discussed in the changes needed below.

Looking at the most missed questions, only one exceeded the 50% mark established in the rubric (15 of 22 people missed it). This question, dealing with how different Windows group classifications are used, is not only covered in this class, but also was a key concept in CNT211, the course prerequisite for this class. However, the difference was that the lab project used in 211 to emphasize the difference *is not repeated in this class.* Therefore, with only having gone over it in lecture, I guess it is not too surprising that it was missed, especially as the relationships between the groups are relatively complex...

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.

Prerequisites: While the prerequisites for the class are adequate (shown by the average of 16/22 people in the course, enforcing those prerequisites needs to be improved. It seems that just letting people in because they say they will "study hard" and "work extra time" is not enough. I plan to enforce fully the prerequisites for this course in the future.

Outcome #2 This outcome has the lowest average, barely above the 70% that we set as our standard of success. It was largely influenced by the most missed question concerning the Windows groups. The concept differentiating Global, Domain Local, and Universal Groups is extremely important. Both the types of users that can be members of each, and where the groups can actually be located are key to understanding networking in Windows. While they are covered in CNT 251 in lecture, there is no lab project giving the students the "hands on" experience creating the different groups, adding users to them, and trying to move them from place to place in the Windows networks as I have them do in CNT211. Therefore, I plan to incorporate a portion of the extensive lab from 211 into an existing lab project in 251, which may remedy the situation.

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

    a. ☐ Outcomes/Assessments on the Master Syllabus
    Change/rationale:

    b. ☐ Objectives/Evaluation on the Master Syllabus
    Change/rationale:

    c. ☐ Course pre-requisites on the Master Syllabus
    Change/rationale:

    d. ☐ 1st Day Handouts
    Change/rationale:

    e. ☒ Course assignments
    Change/rationale: Will alter an existing lab project to include Windows group creation and use.

    f. ☒ Course materials (check all that apply)
    ☐ Textbook
    ☐ Handouts
    ☒ Other: Lab projects will be modified as outlined under improvement above.

    g. ☒ Instructional methods
    Change/rationale: In lecture, I will spend more time defining and contrasting the various Windows groups, their functions, their locations, and the types of Users that can be part of them.

    h. ☒ Individual lessons & activities
    Change/rationale: A portion of the lab project on groups from CNT 211 will be added.

    i. ☒ Review of the Most Missed Questions (less than 50% of the class had the correct answer).

    The question is well written – there should have been no problem with understanding it on the test, and I do not plan to make changes to the question itself. Again, a better review of groups is needed in lecture, but more importantly, I need to incorporate a portion of the lab project from CNT211 on Group Use into an existing 251 lab project.

3. What is the timeline for implementing these actions?

    These changes will be implemented in the Spring/Summer 2010 semester.

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this course.

    I feel my assessment tool and method of applying it, was effective in measuring whether the students had grasped and retained what I believe are the key concepts of the course expressed in my course outcomes. In particular, the instructions I gave to not study for the assessment, and that taking the test would only affect their grade positively, whether or not they did well on it, gave me an excellent indication of how much they had learned. Again, they had no reason to personally care about the results of this test, yet overall they did exceptionally well with the very complex material covered in this course and certainly exceeded my expectations. **None of the students "rushed through" this assessment test – they all took as much time with it as they took on their actual final exam, giving me the indication that they did care and what they had answered is actually what they had _retained_ from the course.** Since the test was designed and written around the concepts expressed in the course outcomes, I feel that it was this tool was a total success.

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2. If the assessment tools were not effective, describe the changes that will be made for future assessments.
    Not Applicable.

3. Which outcomes from the master syllabus have been addressed in this report?
    All _XXXXX_   Selected _____

    If "All", provide the report date for the next full review:

Every three years, which would be the Spring/Summer of 2012 – I would like to do these more often, however due to the *extremely complex Curriculum and Assessment Process* used at this school, and the number of courses that have to be processed by myself; it is an impossibility to do it at any greater frequency.

    If "Selected", provide the report date for remaining outcomes: Not Applicable.

Submitted by:

Print: R Reichert   Signature _____ Date: 8/19/09
Faculty/Preparer

Print: GARY DOWNEN   Signature _____ Date: 8/19/09
Department Chair

Print: Rosemary Wilson   Signature _____ Date: 8/20/09
Dean/Administrator

Logged 8/27/09 5/1
Approved by the Assessment Committee 11//08