Miami Dade College

Course Competencies Template - Form 112

GENERAL INFORMATION	
Name: Diane King	Phone #: 7-7021
Course Prefix/Number: CTS2300	Course Title: Designing a Networking Infrastructure
Number of Credits: 4	
Degree Type	☐ B.A. ☐ B.S. ☐ B.A.S ☐ A.A. ☒ A.S. ☐ A.A.S. ☐ C.C.C. ☐ A.T.C. ☐ V.C.C
Date Submitted/Revised: March 27, 2001	Effective Year/Term:
☐ New Course Competency ☒ Revised Course Competency	
Course to be designated as a General Education course (part of the 36 hours of A.A. Gen. Ed. coursework): ☐ Yes ☐ No	
The above course links to the following Learning Outcomes: ☐ Communication ☐ Numbers / Data ☒ Critical thinking ☐ Information Literacy ☐ Cultural / Global Perspective ☐ Social Responsibility ☐ Ethical Issues ☒ Computer / Technology Usage ☐ Aesthetic / Creative Activities ☐ Environmental Responsibility	
Course Description (limit to 50 words or less, must correspond with course description on Form 102): This course provides the information and skills necessary to successfully plan and maintain a Microsoft server operating system network infrastructure. The course focuses on: planning a TCP/IP physical and logical network; planning and troubleshooting a routing strategy; planning a Dynamic Host Configuration Protocol (DHCP) strategy; optimizing and troubleshooting DHCP; planning a Domain Name System (DNS) strategy; optimizing and troubleshooting DNS; planning and optimizing WINS; planning, optimizing, and troubleshooting IPSec network access; and troubleshooting network access. Prerequisite: CTS 2303. Laboratory fee. (3 hr. lecture; 2 hr. lab).	
Prerequisite(s): CTS2303	Corequisite(s):

Course Competencies: (for further instruction/guidelines go to: http://www.mdc.edu/asa/curriculum.asp)

Competency 1: The student will demonstrate an understanding of the process of planning a network by:

1. Discussing the design of a network.
2. Planning a Microsoft server operating system network infrastructure project.

Competency 2: The student will demonstrate an understanding of planning a TCP/IP physical and logical network by:

1. Planning a functional TCP/IP solution.
2. Evaluating network performance.

Competency 3: The student will exhibit an understanding of planning a routing and switching strategy by:

1. Selecting intermediate devices.

Revision Date: 11-6-2009

Approved By Academic Dean Date: _____ Reviewed By Director of Academic Programs Date: _____

2. Planning an Internet connectivity strategy.
3. Planning routing communications.
4. Troubleshooting TCP/IP routing.

Competency 4: The student will demonstrate an understanding of a planning a DHCP strategy by:

1. Describing the planning process for a DHCP strategy.
2. Securing a DHCP solution.
3. Optimizing DHCP.
4. Troubleshooting DHCP.

Competency 5: The student will demonstrate an understanding of planning a DNS strategy an enterprise by:

1. Planning DNS Servers.
2. Planning a Namespace.
3. Planning Zones.
4. Planning Zone Replication and Delegation.
5. Integrating DNS and WINS.

Competency 6: The student will demonstrate an understanding of optimizing a DNS server by:

1. Discussing the process of optimization.
2. Optimizing DNS servers.
3. Troubleshooting host name resolution.

Competency 7: The student will demonstrate an understanding of planning and optimization of WINS by:

1. Planning a WINS Solution.
2. Identifying WINS Optimization Requirements.
3. Optimizing WINS Traffic.

Competency 8: The student will demonstrate an understanding of planning an Internet Protocol Security (IPSec) deployment by:

1. Understanding default policy rules.
2. Planning an IPSec deployment.
3. Troubleshooting IPSec communications.

Competency 9: The student will demonstrate an understanding of planning network access by:

1. Describing the processes involved with network access.
2. Selecting network access connection methods.
3. Selecting a remote access policy strategy.
4. Selecting a network access authentication method.
5. Planning a network access strategy.

Competency 10: The student will demonstrate an understanding of troubleshooting network access by:

1. Discussing network access resources for troubleshooting.
2. Troubleshooting LAN authentication.
3. Troubleshooting remote access.

Competency 9: The student will demonstrate an understanding of planning, implementing, and troubleshooting the network infrastructure for branch office by:

1. Discussing the processes involved and the documentation required for planning a network infrastructure.
2. Preparing development and test environments.
3. Managing and maintaining the environment.
4. Selecting appropriate strategies to enhance remote access availability.
5. Selecting appropriate strategies to improve remote access performance.

Competency 10: The student will demonstrate an understanding of RADIUS as a solution for remote access by:

1. Selecting solutions for remote access using RADIUS.
2. Evaluating and creating a functional design for remote access using RADIUS.
3. Selecting appropriate strategies to secure a RADIUS solution.
4. Selecting appropriate strategies to enhance the availability of RADIUS solutions.
5. Selecting appropriate strategies to improve RADIUS performance.

Competency 11: The student will demonstrate an understanding of creating an integrated network services infrastructure design using appropriate network management strategies by:

1. Defining a services management strategy.
2. Identifying the processes of a management strategy.
3. Selecting appropriate methods of analyzing collected data.
4. Selecting the appropriate response type.

Competency 12: The student will demonstrate an understanding of strategies for combining services by:

1. Identifying the benefits of combining services.
2. Describing the design considerations of combining services.
3. Analyzing service combinations that affect security.
4. Analyzing service combinations that affect availability.
5. Analyzing service combinations that affect performance.

Competency 13: The student will demonstrate an understanding of networking service designs by:

1. Identifying the characteristics of a scenario that influence the design decisions.
2. Describing the essential design decisions required to provide networking services.
3. Describing the design decisions for securing the networking services.
4. Describing the design decisions for improving the availability and performance of the networking services.