Lecture Contact Hours: 16-18; Homework Hours: 32-36; Total Student Learning Hours: 48-54
Laboratory Contact Hours: 48-54; Homework Hours: 0; Total Student Learning Hours: 48-54

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

COMPUTER AND INFORMATION SCIENCE 290 – WINDOWS SERVER–INSTALLING AND CONFIGURING

1 hour lecture, 3 hours laboratory, 2 units

Catalog Description
Comprehensive hands-on system administration course focusing on the installation, initial implementation, and configuration of Windows server software core services, including: Active Directory (AD) Domain Services, local storage, file and print services, group policy and server virtualization technologies.

Prerequisite
"C" grade or higher or "Pass" in CIS 190 or equivalent or current Microsoft Certified Technology Specialist (MCTS) 70-680 certification

Entrance Skills
Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed:
1) Working knowledge of advanced Windows operating system terminology (i.e., permissions, shares, partitioning, RAID, etc.) and advanced computer network terminology (i.e., domain, sub-netting, DNS, DHCP, etc.).
2) Working knowledge of command line interpreter command syntax.
3) Complete complex computer client setup and configuration procedures without supervision.

Course Content
1) Windows server operating system software installation and initial configuration using both graphical user interface and command line tools
2) Configuration of server roles
3) Configuration of Hyper-V virtualization software and deployment virtual machines
4) Deploy and configure core network services
5) Install and administer Active Directory (AD)
6) Create and manage AD Group Policy objects

Course Objectives
Students will be able to:
1) Define server and network operating system functions, roles and properties; tools and utilities; directory services; security considerations and utilities; and the major elements of the Windows server operating system architecture.
2) Install and configure server software, core server functions, local storage, file and share access, printing services and remote management.
3) Install and configure Hyper-V virtualization software and deploy virtual machines across a network.
4) Configure and manage core server networking services including: Internet Protocol versions 4 and 6 (IPv4 and IPv6), Dynamic Host Configuration Protocol (DHCP), and Domain Naming Service (DNS).
5) Configure AD objects, including user, group and computer accounts; group policy; and group policy templates.

Method of Evaluation
A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.
1) Written quizzes and exams that measure students' ability to describe computer operating system functions and characteristics analyze a scenario and choose the alternatives and troubleshooting options.
2) Scenario-based lab activities that measure students' ability to configure specific operating system functions or subsystems, troubleshoot/analyze imposed system problems, investigate potential alternatives, and implement corrective action to achieve a determined result.
3) Practical application-based examinations that measure students' ability to evaluate scenario-based computer configuration requirements/problems, analyze/troubleshoot the operating system configuration, and apply the correct configuration changes to achieve the correct results.

Special Materials Required of Student
USB flash drive

Minimum Instructional Facilities
1) Current version of the Windows Server Operating System
2) Computer lab with configurable hard drives installed with appropriate software, or a virtualized lab environment using a virtualization PC/Server software that is accessible via the campus network or the Internet
3) Instructional domain server capable of student client computer connection (real or virtual)
4) Course management system

Method of Instruction
1) Lecture and demonstration
2) Hands-on practice
3) Topical discussion of current operating system trends and issues

Out-of-Class Assignments
May include the following:
1) Reading assignments
2) Virtualized labs
3) Tests and quizzes
4) Discussion item research and responses

Texts and References
1) Required (representative examples): Panek, William. *MCSA Windows Server 2016 Complete Study Guide: Exams 70-740, 70-741, 70-742 and Composite Upgrade Exam 70-743*. Sybex. 2018.
2) Supplemental: None

Exit Skills
Students having successfully completed this course exit with the following skills, competencies and/or knowledge:
1) Ability to configure, manage and troubleshoot server networking issues.
2) Ability to configure, manage and troubleshoot server access and authentication issues.
3) Ability to configure, manage and troubleshoot drive partitions.
4) Ability to configure, manage and troubleshoot server security

Student Learning Outcomes
Upon successful completion of this course and given a computer troubleshooting or configuration scenario, students will be able to:
1) Install, deploy, configure and manage a Windows server project using current industry software and standards.