Common Course Outline
DCOM 101
Introduction to Data Communications
3 Credits

Community College of Baltimore County

Description

DCOM 101 – Introduction to Data Communications is a course in which students explore an informational and theoretical foundation necessary for students to comprehend an overview of the concepts, theory, principles, and practices of data communications and computer networks. Students survey networking hardware including servers, switches, and routers. Students also investigate networking software including operating systems, protocols, and services, and network management, including server administration, virtualization, cloud computing, and security. The course is designed for a student pursuing a career in networking.

3 Credits

Prerequisite: ACLT 052 or ACLT 053 or (ESOL 052 and ESOL 054) and MATH 081

Overall Course Objectives

Upon completion of the course the student will be able to:
1. describe the purpose of networking;
2. identify the major hardware and software components of a network;
3. differentiate between the different types of networks, including wireless networks;
4. summarize types of network cabling topologies used to interconnect networking devices;
5. describe client and network operating systems;
6. perform common network administrative tasks;
7. configure networking protocols including TCP/IP (Transmission Control Protocol/Internet Protocol);
8. describe the uses of network services including DHCP (Dynamic Host Configuration Protocol) and DNS (Domain Name Service);
9. identify security threats and list methods of mitigating security threats;
10. configure security parameters including permissions and firewalls settings;
11. analyze network performance using network monitoring tools; and
12. identify uses of virtualization and cloud computing.

Major Topics
   I. The purpose and function of networks
  II. Networking hardware and software
 III. Network design, topology, and media

IV. The OSI Model
V. Network architectures
VI. Network operating systems
VII. Networking protocols including TCP/IP
VIII. Networking services including DNS and DHCP
IX. Network security including authentication, permissions, encryption, firewalls, and fault tolerance
X. Wireless networking
XI. Network administration
XII. Wide area networks
XIII. Internetworking using routers and switches
XIV. Network analysis, monitoring, and optimization
XV. Cloud computing and virtualization

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams:
- A minimum of two exams
- A minimum of one project

Written Assignments: Students are required to utilize appropriate academic resources. The individual faculty member may determine specific writing assignments.

Other Course Information
This course is a program requirement for the Associate's Degree in Network Technology, Cyber Security, and Digital Forensics

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