CSC 424: Data Communication and Network Applications (3 Units) (L35: T10: P0)

Department of Computer and Information Sciences

Covenant University
1. CSC424

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Introduction to Data Communications: The Development of Data Communications; Types and sources of data, simple data communications network, transmission definitions, one way transmission, half duplex transmission, transmission codes, transmission modes, parallel transmission, serial transmission, bit synchronization, character synchronization, synchronous transmission, asynchronous transmission, efficiency of transmission. error detection methods and data compression. Protocols: Introduction to network protocol. Seven Layer ISO-OSI standard protocols and network architecture. Transport protocols, session services protocols, and other protocols. Institute of Electrical and Electronics Engineers 802 standards. Error Control and Data Compression: Forward Error Control; error detection methods; parity checking; linear block codes, cyclic redundancy checking; feedback error control, data compression, huffman coding and dynamic huffman coding. Local Area Networks: Medium access control techniques - Ethernet, token bus and token ring; LAN performance, broadband operation on LAN, repeaters, bridges and routers; LAN standards; fibre distributed data interface, metropolitan area network. Peer-to-peer, Client Server. Client-Server Requirements: GUI design standards, interface independence, platform independence, transaction processing, connectivity, reliability, backup and recovery mechanisms. Information Network Software: Features and benefits of major Network Operating Systems. Network OS: (e.g. Novell NetWare, UNIX/LINUX, OS/2 & WindowsNT). TCP/IP and Network OS. INTERNET: Definition, architecture, services, Internet addressing. Internet protocol, IPv4, IPv6. Internet programming, Intranet. System administration, and security issues.