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M1- Telecommunications and Networks
Fundamental Teaching Unit 1.1.1

Semester: 1, Teaching Unit: FTU 1.1.1, Credits: 4, Coefficient: 2

Chapter 1: LAN Switching (2 Weeks)

1. Interconnections
2. Operation of Bridges
3. Principle of Switching in LANs
4. Switching Techniques

Chapter 2: VLAN (2 Weeks)

1. VLAN Segmentation
2. DTP Protocol (Dynamic Trunking Protocol)
3. VLAN Security and Design
4. Inter-VLAN Routing

Chapter 3: Redundancy in Switched Links (2 Weeks)

1. Hierarchical Network Design: Fault Domains
2. Spanning Tree Protocol
3. Convergence
4. Rapid Spanning Tree Protocol (RSTP)

Chapter 4: Link Aggregation (Etherchannel) (2 Weeks)

1. Hierarchical Network Design: Increasing Bandwidth
2. LACP Protocol (Link Aggregation Control Protocol), IEEE Standard (IEEE 802.3ad, IEEE 802.1AX)
3. PAgP Protocol (Port Aggregation Protocol), Cisco Proprietary
4. Configuration

Chapter 5: Static Routing (4 Weeks)

1. Concept of Routes
2. Static Routing
3. Routing Table
4. Directly Connected Networks
5. Static Routes

Chapter 6: Dynamic Routing (3 Weeks)

1. Introduction
2. Distance Vector Routing
3. Link-State Routing