FAKULTI TEKNOLOGI DAN KEJURUTERAAN

PROGRAM	**Diploma In Information Technology (System Support)**
COURSE NAME	**Data Communication and Networking**
COURSE CODE	**DTC 3013**
CREDIT HOUR	**3**
SYNOPSIS	This course discusses the basic concepts of data communications and terminology used in computer networks, relationships and the differences between local area networks and network areas. This course introduces students to the physical transmission characteristics, network architecture, logical architecture control, and the elements of the relay between networks.
COURSE STRUCTURE	
TOPIC	**TITLE**
1	Topic 1: Introduction to Data Communications and Networking 1.1 Identify computer communications revolution 1.2 Describe network model 1.3 Identify Data Communication and architecture 1.4 Identify organization standard determinant
2	Topic 2: Media Transmision 2.1 Describe cconcepts and Terminology. 2.2 Identify transmission system &disturbance 2.3 Describe analog and digital
3	Topic 2: Media Transmision 2.4 Identify guided media 2.4.1 twisted-pair cable 2.4.2 Identify coaxial cable 2.4.3 Identify Microwave Satellite
4	Topic 3: OSI / RM (Open System Interconnection / Reference Model) 3.1 Describe a three- layer Model 3.2 Describe protocol TCP/IP
5	Topic 3: OSI / RM (Open System Interconnection / Reference Model) 3.3 Identify seven levels of the OSI model/RM 3.3.1 The application (application) 3.3.2 The presentation (presentation) 3.3.3 The session (session) 3.3.4 The transport (transport) 3.3.5 The network (network)

	3.3.6 The data link (data link) 3.3.7 The physical link (physical link)
6	Topic 4: Network architecture 4. 1 Describe network topology 4. 2 Identify Bus topology 4. 3 Identify Star topology 4. 4 Identify topography loop
7	Topic 4: Network architecture 4.5 Describe network centralized 4.6 Describe network decentralized 4.7 Describe network distributed
8	Topic 4: Network architecture 4.8 Describe network configuration 4.8.1 point to point 4.8.2 peer to peer 4.8.3 multipoint 4.9 Types of networks 4.9.1 LAN, MAN and WAN 4.9.2 PSTN 4.9.3 Integrated digital Network
9	Topic 5: Local Area Network (LAN) 5.1 Concepts and terminology 5.2 Describe Topology LAN 5.3 Identify LAN access technique 5.3.1 Token passing ring 5.3.2 Token passing Bus
10	Topic 5: Local Area Network(LAN) 5.4 Industrial Ethernet 5.4.1 CSMA & CSMA/CD 5.5 Wireless Network Bluetooth, WiFi, WiMax
11	Topic 6: Metropolitan Area Network (MAN) 6.1 Concepts 6.2 Terminology

12	Topic 7: Wide Area Network (WAN) 7.1 Concepts and terminology 7.2 Describe switching network 7.3 Identify circuit switching 7.3.1 Describe route selection 7.3.2 Describe routing parts 7.3.3 Describe adaptive routing 7.3.4 Describe signal control techniques
13	Topic 7: Wide Area Network (WAN) 7.4 Describe packet switching Network 7.4.1 Identify switching Techniques 7.4.2 Describe packet size 7.4.3 Identify types of routing
14	Topic 8: The Network Design 8.1 The Network Architecture bridge 8.2 Identify routers, hubs 8.3 Identify switches, gateways
References	1. Ramon Nastase, 2018. Computer Networking: An Introductory Guide for Complete Beginners, Prime 2. Curt White, 2016. Data Communications & Computer Network: A Business User's Approach. 5th Edition 3. William Stalling, 2014. Data and Computer Communication 10th ed. Prentice-Hall. 4. Behrouz A Frouzan, 2012. Data Communication and Networking, 5th ed. Mc Graw Hill.