UNIVERSITI TEKNOLOGI MARA

ASM551: NETWORKING AND TELECOMMUNICATION SYSTEMS

Course Name (English)	NETWORKING AND TELECOMMUNICATION SYSTEMS APPROVED
Course Code	ASM551
MQF Credit	4
Course Description	This course describes the role of telecommunications and networking in business offices and organizations. It deals with the components and procedures in the applications of telecommunications and networking. In addition, the course also examines a wide range of new and emerging telecommunications technologies and networking and use of modern telecommunications and networking for strategic advantage.
Transferable Skills	Demonstrate analytical skills using technology. Demonstrate resilience, perseverance and positivity in multi-tasking, dealing with change and meeting new challenges. Demonstrate ability to investigate problems and provide effective solutions.
Teaching Methodologies	Lectures, Blended Learning, Field Trip, Discussion
CLO	CLO1 To explain data communications, networks, telecommunication technology and their roles. CLO2 To determine the usage and importance of telecommunication systems in organizations. CLO3 To demonstrate the network and telecommunication system of an organization.
Pre-Requisite Courses	No course recommendations

Topics
1. INTRODUCTION TO DATA COMMUNICATIONS 1.1) Definition of Data Communications 1.2) Data Communications System Components 1.3) Data Communications system Effectiveness 1.4) Definition of Networks 1.5) Network Criteria 1.6) Analog and Digital Data
2. THE BASICS OF TELECOMMUNICATIONS 2.1) The Communications Model 2.2) Computers and Telecommunication 2.3) Business Telecommunications 2.4) Competitive Advantage 2.5) Management Information System (MIS)
3. THE TECHNOLOGY AND TRANSMISSION MEDIA 3.1) Introduction 3.2) Alternate Transmission Technologies and Media Guided/Wired Transmission Media 3.3) Unguided/Wireless Transmission Media
4. THE HISTORY OF TELEPHONE AND SWITCHING SYSTEM 4.1) Introduction The History of Telecommunications The Telegraph and Telephone System Modes of Transmission 4.2) The Technology of Voice Communications 4.3) The Telephone Channel Capacity Central Office and Switching Equipment Communication Circuits

5. DATA CONVERSION, MODULATION AND MULTIPLEXING 5.1) Introduction 5.2) Analog and Digital Signals 5.3) Signal Transmission and Channels 5.4) Binary Number Conversion
6. NETWORK TYPES, MODELS AND EQUIPMENTS 6.1) Introduction to Global Network 6.2) Network Types Wireless Network 6.3) Network Models 6.4) Connecting Devices
7. NETWORK TOPOLOGY AND PROTOCOLS 7.1) Introduction Connectivity Basics 7.2) Network Topology 7.3) Protocols Expanded 7.4) LAN and WAN Protocols Internet Protocol Addressing 7.5) Ethernet Implementation
8. BUSINESS APPLICATIONS OF TELECOMMUNICATIONS 8.1) Business Application 8.2) Service Bureau 8.3) Application Service Providers (ASP) 8.4) Teleconferencing 8.5) Telecommuting 8.6) Electronic Data Interchange (EDI) 8.7) Enterprise Applications Military Use of Telecommunications
9. MANAGING TELECOMMUNICATIONS AND DATA SECURITY 9.1) Introduction 9.2) Functional Areas in Telecommunications Business 9.3) Telecommunications Strategy 9.4) Telecommunication Management 9.5) The Organizational Side of Telecommunications The Technical Side of Telecommunications Security Issues 9.6) Risk Management and Disaster Planning
10. BANDWIDTH REQUIREMENTS: ISSUES IN NETWORKING AND TELECOMMUNICATIONS 10.1) Introduction for Office Bandwidth 10.2) Convergence and Compression 10.3) Transmission Technology 10.4) Broadband Technology 10.5) Wireless Technology Introduction for Home Bandwidth Digital Home SOHO Considerations Fiber-Based Broadband Wireless Considerations The Internet Implications

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Assignment 2	20%	CLO2
Assignment	Assignment 1	20%	CLO1
Group Project	Group Project	30%	CLO3
Test	Test	30%	CLO1

Reading List

Recommended Text

- **Carr, Houston H. and Charles A. Synder 2012, *The Management of Telecommunications***

Reference Book Resources

- **Shelly, G.B., Cashman, T.J. and Vermaat, M.E 2010, *Microsoft Office 2007-Introductory Concepts and Techniques. Windows Vista Edition***
- **Dean, Tamara 2003, *Guide to Telecommunications Technology*, 2nd Ed.**
- **Dodd, Annabel Z 2002, *The Essential Guide to Telecommunications***
- **Fitzgerald, Jerry and Alan Dennis 2002, *Business Data Communications and Networking***
- **Goleniewski, Lilian, *Telecommunications Essentials. Addison-Wesley*., 2002 Ed.**
- **White, Curt M., *Data Communications & Computer Networks: A Business User's Approach. Thompson Course Technology.***

Article/Paper List: This Course does not have any article/paper resources

Other References: This Course does not have any other resources