ITEM	DETAILS	
1. Title of subject	INTRODUCTION TO NETWORKING	
2. Subject code	CSS101	
3. Status of subject	Major	
4. Stage	Year 1	
5. Credit Hour	4	
6. Pre-Requisite	None	
7. Assessment	**Coursework : 50%** **Final Examination : 50%**	
8. Semester	Semester 1	
9. Objective of subject	To enable students to: Understand the basics of computer networks, covering computer basics, OSI network model, network media, structured cabling and networking protocol in each of the OSI network layers.	
10. Synopsis of subject	Computing Basics, The OSI Model, Local area network, Layer I, Layer 2 – Concepts, Layer 2 – Technologies, Design Documentations, Structured Cabling Project, Routing and Addressing, Layer 3 – Protocols, Layer 4 - The Transport Layer, Session Layer and Presentation Layer and Application Layer.	
11. Details of subject	**Contents**	**Hours**
Week 1 and 2	**Topic:** 1. **COMPUTING BASICS** • Preface and Introduction To Computer Systems • Binary Number **2. THE OSI MODEL** • Layers in Computer Communications • OSI Model and TCP/IP Model	8

Week 3 and 4	**Learning Outcomes:** At the end of the lesson, students will be able to: • Identify the OSI model layer associated with various network functions. • Describe the reasons for using the layered model.	8
	3. Local Area Netowork • Basic LAN devices • Building LANs **4. OSI – Layer 1** • Electricity, Signals and Encoding • Media, Making cables, topology	
	Learning Outcomes: At th e end of the lessons, students will be able to: • Design a simple LAN using Cisco technology. • Describe network communications using layered models.	
Week 5 and Week 6	**5. OSI - Layer 2 Cencepts** • LAN standards, MAC addressing **6. OSI - Layer 2 Technologies** • Token Ring, FDDI, Ethernet	8
	Learning Outcomes: At the end of the leassons, students will be able to : • Design IP addressing scheme to meet design requirements. • Troubleshoot IP addressing and host configuration.	
Week 7 and Week 8	**7. Design and Documentation** • Basic Network Design and Documentation **8. Design and Documentation** • Basic Network Design and Documentation	8
	Learning Outcomes: At the end of the leassons, students will be able to : • Make a working patch cable per EIA/TIA 568B specifications. • Understand how and why bandwidth determines topology.	

Week 9 and Week 10	**9. Routing and Addressing** • Netowork Layers, path determination **10. OSI – Layer 3 Protocols** • Layer 3 devices • Network to network communications • Routable and routing protocols	8
	Learning Outcomes: At the end of the leassons, students will be able to : • Understand router startup • Describe and use the Cisco Discovery Protocol	
Week 11 and Week 12	**11. OSI – Layer 4** • Transport Layer: TCP and UDP **12. OSI – Layer 5** • Basic of Session Layer	8
	Learning Outcomes: At the end of the leassons, students will be able to : • Understand end to end error free transmission and delivery. • Data segmentation into maximum transmission unit size. • Control for data exchange.	
Week 13 and Week 14	**13. OSI – Layer 6** • Presentation Layer **14. OSI – Layer 7** • Application Layer	8
	Learning Outcomes: • Understanding of Data translation, Data formatting, Data Syntax restructuring, Data Encryption, and Data compression • Understanding Application Layer providing network services to applications such as e-mail and Web browsers.	
	Total	56

12. Text	**Compulsory**	Cisco Network Academy Program, CCNA Semester 1 Course material.
	Reference	Caudle, K., & Cannon, K. (2004). *CCNA Guide to Cisco Networking*. (3rd ed.). Thomson Course Technology