



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Wales Institute of Science and Art

Applied Computing

L4 - Network and Cybersecurity Essentials (NCE) (ACCA4024)

MILESTONE - Academic Year 2021-22 (May 2022) - Sem 3

Lecturer: Nitheesh Murugan Kaliyamurthy, Munyaradzi Murira

Contact: n.kaliyamurthy@uwtsd.ac.uk; m.murira@uwtsd.ac.uk

To provide with an understanding of the key concepts and fundamentals of data communications, computer networks and security of data and devices in a network

Week	Unit(s) Covered	Additional	Labs
Week 1 (16-05-22)	Introduction to Networks, Network Types, Components and its Applications	Task 1: Complete Introduction to Packet Tracer Course from Netacad.com and submit on or before 23rd May 2022	Cisco Networking Activity
Week 2 (23-05-22)	Principles of Communications, Network Models and Protocols, Ethernet Frames, Local Networks, Routing across Networks.		Cisco Networking Activity
Week 3 (30-05-22)	IP Addressing (v4 & v6)		Cisco Networking Activity
Week 4 (06-06-22)	Building and securing and Troubleshooting Home Networks		Cisco Networking Activity
Week 5 (13-06-22)	Blending Network and Cyber Essentials: Network Security, Protecting the Network, Cyber Security, Understand Network and Cyber Security.	COMPONENT 2 (Class Test) - Compulsory 1 Hour	Setting up Virtual Machines (Pre-configured Ubuntu VM)
Week 6 (20-06-22)	Cyber Security Cube, CIA Triad, Countermeasures and Security Management Framework		Linux/ Firewall (Palo Alto) Activity
Week 7 (27-06-22)	Cyber Threats, Vulnerabilities and Attacks		Linux/ Firewall (Palo Alto) Activity
Week 8 (4-07-22)	Cryptography, Access Control, Obscuring Data, Data Integrity, Digital Signatures.		Linux/ Firewall (Palo Alto) Activity

Week 9 (11-07-22)	Availability, Incident Response and Disaster Recovery.		Linux/ Firewall (Palo Alto) Activity
Week 10 (18-07-22)	Defending Systems, Server Hardening, Network Hardening, Physical Security		Linux/ Firewall (Palo Alto) Activity
Assessment			
	Outcome	Deadline	
Component 1 50%	Demonstrate systematic understanding of security policies and measures to mitigate internal and external attacks and threats in a network	22/07/2022* Tentative	Coursework
Component 2 50%	Develop fundamental understanding of network basics in terms of architecture, devices, application and protocols	13/06/2022* Tentative	Class Test
Readings			
Book	William Stallings (2014) Data and Computer Communications, 10th Edition, Pearson		
Book	William Stallings (2017) Network Security Essentials: Applications and Standards, 6th Edition, Pearson		
Book	J. S. Beasley & P. Nilkaew (2018) Networking Essentials: A CompTIA Network+ N10-007 Textbook, 5th Edition, Pearson IT Certification		
Resources	Network Essentials, Cybersecurity Essentials (Cisco), Network Security Fundamentals, Cybersecurity Foundation (Palo Alto)		Optional
Resources	(User Login Required) www.netacad.com https://paloaltonetworksacademy.net		*