



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 (Sep 2021) - Sem 1

Lecturer: Dr. Nitheesh Murugan Kaliyamurthy

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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 (27-09-21)	Introduction to Networks, Network Types, Components and its Applications	Task 1: Complete Introduction to Packet Tracer Course from Netacad.com and submit your Completion Certificate.	Lab 1: Packet Tracer Activity
Week 2 (04-10-21)	Principles of Communications, Network Models and Protocols, Ethernet Frames, Local Networks, Routing across Networks.		Lab 2: Packet Tracer Activity
Week 3 (11-10-21)	IP Addressing (v4 & v6)		Lab 3: Packet Tracer Activity
Week 4 (18-10-21)	Building and securing and Troubleshooting Home Networks		Lab 4: Packet Tracer Activity
Week 5 (25-10-21)	Blending Network and Cyber Essentials: Network Security, Protecting the Network, Cyber Security, Understand Network and Cyber Security.		Lab 5: Packet Tracer Activity
Week 6 (01-11-21)	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
Week 7 (08-11-21)	Cyber Security Cube, CIA Triad, Countermeasures and Security Management Framework		Lab 6: Virtual Environment (Ubuntu)

Week 8 (15-11-21)	Cyber Threats, Vulnerabilities and Attacks		Lab 7: Virtual Environment (Ubuntu)
Week 9 (22-11-21)	Cryptography, Access Control, Obscuring Data, Data Integrity, Digital Signatures.		Lab 8: Virtual Environment (Ubuntu)
Week 10 (29-11-21)	Availability, Incident Response and Disaster Recovery.		Lab 9: Virtual Environment (Ubuntu)
Week 11 (06-12-21)	Defending Systems, Server Hardening, Network Hardening, Physical Security		Complete all Labs
Week 12 (03-01-22)	Component 1 Coursework Submission Deadline 07th January 2022 (Friday) at 1500 HRS (03.00 PM) via Turnitin/ Moodle		
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	07/01/2022* Tentative	Coursework
Component 2 50%	Develop fundamental understanding of network basics in terms of architecture, devices, application and protocols	01/11/2021* Tentative	Online Exam
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 and Cybersecurity Essentials Course		Optional
Resources	www.netacad.com (User Login Required)		