



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

**Wales Institute of Science and Art**

**Applied Computing**

**Enterprise Networking, Security, and Automation (ENSA) (ACCA6023)**

**MILESTONE - Academic Year 2020-21 (Jan 2021)**

**Lecturer: Nitheesh Murugan Kaliyamurthy**

**Contact: n.kaliyamurthy@uwtsd.ac.uk**

**To acquire detailed knowledge on advanced routing protocols, switching techniques and the fundamental technical principles underlying autonomous systems within network infrastructure**

| <b>Week</b>                   | <b>Unit(s) Covered</b>                                               | <b>Additional</b>                               | <b>Labs</b>                                     |
|-------------------------------|----------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| <b>Week 1<br/>(25-01-21)</b>  | <b>OSPF concepts and configurations. (Single Area and Multiarea)</b> | -                                               | Lab 1 - Configure Multi-Area OSPFv2             |
| <b>Week 2<br/>(01-02-21)</b>  | <b>Network Security Concepts</b>                                     | Research examples of Social Engineering         | Lab 2 - Explore DNS Traffic                     |
| <b>Week 3<br/>(08-02-21)</b>  | <b>Access Control Lists</b>                                          | -                                               | Lab 3 - Configure and Verify Extended IPv4 ACLs |
| <b>Week 4<br/>(15-02-21)</b>  | <b>NAT for IPv4</b>                                                  | -                                               | Lab 4 - Configure NAT for IPv4                  |
| <b>Week 5<br/>(22-02-21)</b>  | <b>WAN Concepts</b>                                                  | ACL Implementation Challenge                    | Lab 5 - WAN Concepts                            |
| <b>Week 6<br/>(01-03-21)</b>  | <b>VPN and IPSec Concepts</b>                                        | Research Broadband Internet Access Technologies | Lab 6 Troubleshoot Enterprise Network           |
| <b>Week 7<br/>(08-03-21)</b>  | <b>QoS Concepts</b>                                                  | Troubleshooting Challenge 1                     | -                                               |
| <b>Week 8<br/>(15-03-21)</b>  | <b>Network Management and Troubleshooting</b>                        | Research Network Monitoring Software            | Lab 7 Configure CDP, LLDP, and NTP              |
| <b>Week 9<br/>(22-03-21)</b>  | <b>Network Management and Troubleshooting</b>                        | Component 2: Online Exam                        | -                                               |
| <b>EASTER BREAK</b>           |                                                                      |                                                 |                                                 |
| <b>Week 10<br/>(19-04-21)</b> | <b>Network Virtualization and Automation</b>                         | Research Password Recovery Procedures           | Lab 8 Linux Virtual Machine                     |

|                                     |                                                                                                                                                                                                   |                                             |                             |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------|
| <b>Week 11</b><br><b>(26-04-21)</b> | <b>Network Virtualization and Automation</b>                                                                                                                                                      | <a href="#">Troubleshooting Challenge 2</a> | Revision for Practical Exam |
|                                     |                                                                                                                                                                                                   |                                             |                             |
| <b>Assessment</b>                   |                                                                                                                                                                                                   |                                             |                             |
|                                     | Outcome                                                                                                                                                                                           | Deadline                                    |                             |
| <b>Component 1 75%</b>              | An ability to design, deploy and troubleshoot enterprise networks, security measures and automation techniques                                                                                    | <b>26/04/2021</b>                           | <b>Practical Exam</b>       |
| <b>Component 2 25%</b>              | Demonstrate a conceptual understanding of WAN technologies and protocols used in enterprise networks                                                                                              | <b>22/03/2021</b>                           | <b>Online Exam</b>          |
| <b>Readings</b>                     |                                                                                                                                                                                                   |                                             |                             |
| <b>Book</b>                         | Scaling Networks v6 Companion Guide by Cisco Networking Academy, Cisco Press. Published Aug 3 2017                                                                                                |                                             |                             |
| <b>Book</b>                         | Routing and Switching Essentials v6 Companion Guide by Cisco Networking Academy, Cisco Press. Published Dec 7, 2016                                                                               |                                             |                             |
| <b>Book</b>                         | W Odom (2019) CCNA 200-301 Official Cert Guide Library, Cisco Press part of the Official Cert Guide series                                                                                        |                                             |                             |
| <b>Book</b>                         | Enterprise Networking, Security, and Automation Labs and Study Guide (CCNAv7) By Allan Johnson, Cisco Networking Academy Published Sep 17, 2020 by Cisco Press. Part of the Lab Companion series. |                                             |                             |
| <b>Resources</b>                    | ENSA Course (CCNA - 3 v7)                                                                                                                                                                         | 01-02-2021 to 31-05-2021                    |                             |
| <b>Resources</b>                    | www.netacad.com (User Login Required)                                                                                                                                                             |                                             |                             |