

NETW: Networking: Switching and VLAN Concepts

| Module Title: | | | Networking: Switching and VLAN Concepts | | | |
|--|---|---|---|--|--|--|
| Language of Instruction: | | n: | English | | | |
| Credits: | | 5 | | | | |
| | | | | | | |
| NFQ Level: | | 8 | | | | |
| Module Delivered In | | | 5 programme(s) | | | |
| Teaching & Learning Strategies: | | | A combination of traditional lectures and laboratory sessions will be employed. The laboratory sessions will allow for regular formative assessment and feedback. | | | |
| Module Aim: | | | To provide learners with an appreciation of the characteristics, functionality and management of switches and Virtual Local Area Networks (VLANs) | | | |
| Learning Ou | itcomes | | | | | |
| On successf | ul completior | n of th | nis module the learner should be able to: | | | |
| LO1 | Demonstrate skills in configuring and troubleshooting loop-free, fault tolerant LANs. | | | | | |
| LO2 | Appraise n | Appraise network requirements to design and implement suitable VLAN topologies. | | | | |
| LO3 | Create suitable DHCPv4 and DHCPv6 implementations to automate the process of configuring devices on distinct VLANs. | | | | | |
| Pre-requisit | e learning | | | | | |
| Module Recommendations This is prior learning (or a practical skill) that is recommended before enrolment in this module. | | | | | | |
| No recommendations listed | | | | | | |
| Incompatible Modules These are modules which have learning outcomes that are too similar to the learning outcomes of this module. | | | | | | |
| No incompatible modules listed | | | | | | |
| Co-requisite Modules | | | | | | |
| No Co-requisite modules listed | | | | | | |
| Requirements This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. | | | | | | |
| No requirements listed | | | | | | |



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Module Content & Assessment

| Indicative Content | | | | | | | |
|--|--------------------------------------|--|----------------------|--------|---------------|--------------------|--|
| LAN Switching: Ethernet, Switching Concepts, CAM table operation, Layer 2 switching methods | | | | | | | |
| VLANs: VLAN operation, IEE | E 802.1Q, trunkin | ig, Inter-VLAN routing | | | | | |
| Layer 2 link manager Path redundancy (S | ement: TP), Fault-tolerand | ce (Etherchannel) | | | | | |
| Layer 3 address ma DHCPv4, DHCPv6 | anagement: | | | | | | |
| Accessment Breck | dauna | | | 0/ | | | |
| Assessment Breakdown | | | | | % | | |
| Continuous Assessment | | | | | 50.00% | | |
| Project | | | | 40.00% | | | |
| Practical | | | 10.00% | |)0% | | |
| Continuous Assess | sment | | | | | | |
| Assessment Type | | Assessment Description | Outcome addressed | | % of total | Assessment Date | |
| Examination | | n/a | 1,2 | | 20.00 | Week 6 | |
| Examination | | n/a | 1,2 | | 30.00 | Week 9 | |
| | | 1 | - | | | 1 | |
| Project | | | | | | | |
| Assessment Type | | Assessment Description | Outcome addressed | | % of total | Assessment Date | |
| Project | | n/a | 1,2,3 | | 40.00 | Week 12 | |
| - | | • | • | | | • | |
| Practical | 1 | | | | | 1 | |
| Assessment Type | Assessment De | scription | Outcome addressed | | % of total | Assessment Date | |
| Practical/Skills Weekly practical demonstrate the | | Il/laboratory work is designed to allow students to a chievement of all the learning outcomes. | | | 10.00 | n/a | |
| | | | | | • | | |
| No End of Module Fo | ormal Examination | 1 | | | | | |

SETU Carlow Campus reserves the right to alter the nature and timings of assessment



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Module Workload

| Workload: Full Time | | | | | |
|-------------------------|-----------------------|---------------------------------------|--|--|--|
| Workload Type | Frequency | Average Weekly Learner Workload | | | |
| Lecture | 12 Weeks per Stage | 2.00 | | | |
| Laboratory | 12 Weeks per Stage | 2.00 | | | |
| Estimated Learner Hours | 15 Weeks per Stage | 5.13 | | | |
| | Total Hours | 125.00 | | | |

Module Delivered In

| Programme Code | Programme | Semester | Delivery |
|----------------|--|----------|-----------|
| CW_KWCCD_B | Bachelor of Science (Honours) in Creative Computing and Digital Innovation | 3 | Mandatory |
| CW_KCCYB_B | Bachelor of Science (Honours) in Cyber Crime and IT Security | 3 | Mandatory |
| CW_KCCIT_B | Bachelor of Science (Honours) in Information Technology Management | 3 | Mandatory |
| CW_KCCYB_D | Bachelor of Science in Cybercrime and IT Security | 3 | Mandatory |
| CW_KCCSY_D | Bachelor of Science in Information Technology Management | 3 | Mandatory |