**Module Descriptor**

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| **Title** | CCNA1/2: Networks, Routing, Switching & WLANs | | |
| **Session** | 2025/26 | **Status** | Publiahws |
| **Code** | COMP09115 | **SCQF Level** | 9 |
| **Credit Points** | 30 | **ECTS (European Credit Transfer Scheme)** | 15 |
| **School** | **Computing, Engineering and Physical Sciences** | | |
| **Module Co-ordinator** | Raman Singh | | |

**Summary of Module**

This module covers the first two parts of the CCNAv7 curriculum. The module makes use of Cisco Networking Academy teaching materials and is designed to allow students to progress towards CCNA certification.

The Part 1 curriculum covers: Networking Today; Basic Switch and End Device Configuration; Protocols and Models; Physical Layer; Number Systems; Data Link Layer; Ethernet Switching; Network Layer; Address Resolution; Basic Router Configuration; IPv4 Addressing; IPv6 Addressing; ICMP; Transport Layer; Application Layer; Network Security Fundamentals; Build a Small Network.

The Part 2 curriculum covers: Basic Device Configuration; Switching Concepts; VLANs; Inter-VLAN Routing; STP; Ether channel DHCPv4; SLAAC and DHCPv6 Concepts; FHRP Concepts; LAN Security Concepts; Switch Security Concepts; WLAN Concepts; WLAN Configuration; Routing Concepts; IP Static Routing; Troubleshoot Static and Default Routes.

This module will normally be delivered as a long, thin module across T1 and T2. This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module:

- Universal: Critical Thinker, Ethically minded, Research-minded
- Work Ready: Problem-Solver, Effective Communicator, Ambitious
- Successful: Autonomous, Resilient, Driven

| Module Delivery Method | On-Campus[1] ☒ | Hybrid[2] ☐ | Online[3] ☐ | Work -Based Learning[4] ☐ |
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| **Campuses for Module Delivery** | ☐ Ayr<br>☐ Dumfries | ☒ Lanarkshire<br>☐ London<br>☐ Paisley | ☐ Online / Distance Learning<br>☐ Other (specify) | |

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| **Terms for Module Delivery** | Term 1 | ☒ | Term 2 | ☒ | Term 3 | ☐ |
| **Long-thin Delivery over more than one Term** | Term 1 – Term 2 | ☐ | Term 2 – Term 3 | ☐ | Term 3 – Term 1 | ☐ |

| **Learning Outcomes** | |
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| **L1** | Demonstrate a detailed knowledge of commonly used networking protocols, including IPv4 and IPv6 addressing/routing. |
| **L2** | Demonstrate an integrated knowledge of switched networks, and how these integrate with wireless and routed networks. |
| **L3** | Use network configuration skills to build networks from routers and switches to meet specified criteria. |
| **L4** | N/A |
| **L5** | N/A |

| **Employability Skills and Personal Development Planning (PDP) Skills** | |
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| **SCQF Headings** | **During completion of this module, there will be an opportunity to achieve core skills in:** |
| **Knowledge and Understanding (K and U)** | **SCQF 9**<br>Understanding common networking protocol operations understanding IPv4 and IPv6 addressing, including subnetting understanding the integration of switches, routers and wireless network components. |
| **Practice: Applied Knowledge and Understanding** | **SCQF 9**<br>Configuring network devices based on Cisco IOS configuring routers and switches to meet given criteria. |
| **Generic Cognitive skills** | **SCQF 9**<br>Troubleshooting network problems using a variety of tools. |

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

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| **Communication, ICT and Numeracy Skills** | **SCQF 9**<br>Performing subnetting calculations for IP addresses configuring devices using a CLI and/or GUI using a range of software tools to support building and maintaining a network. |
| **Autonomy, Accountability and Working with Others** | **SCQF 9**<br>Coordinating work on a number of network devices within a small group towards a common goal. |

| **Prerequisites** | **Module Code** | **Module Title** |
|---|---|---|
| | **Other** | |
| **Co-requisites** | **Module Code** | **Module Title** |

| **Learning and Teaching** | |
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| In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. | |
| **Learning Activities**<br>During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below: | **Student Learning Hours**<br>(Note: Learning hours include both contact hours and hours spent on other learning activities) |
| Lecture / Core Content Delivery | 20 |
| Laboratory / Practical Demonstration / Workshop | 52 |
| Independent Study | 228 |
| Please select | |
| Please select | |
| Please select | |
| **TOTAL** | 300 |

| **Indicative Resources** |
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| **The following materials form essential underpinning for the module content and ultimately for the learning outcomes:**<br>Cisco Networking Academy CCNA1: Introduction to Networks course materials.<br>Cisco Networking Academy CCNA2: Routing, Switching and Wireless Essentials course materials.<br>Access to a networking lab with equipment supporting the latest version of the CCNA curriculum Software: Packet tracer, VirtualBox, Wireshark, Putty.<br>Oracle Virtual Box along with guest additions and VirtualBox Extension Pack.. |
| **(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)** |

| Attendance and Engagement Requirements |
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| **In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.**<br><br>**For the purposes of this module, academic engagement equates to the following:**<br><br>The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies. |

| Equality and Diversity |
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| **The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.**<br><br>Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations. |
| **(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)** |

**Supplemental Information**

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| **Divisional Programme Board** | **Computing** |
| **Overall Assessment Results** | ☐ **Pass / Fail** ☐ **Graded** |
| **Module Eligible for Compensation** | ☒ **Yes** ☐ **No**<br>**If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.** |
| **School Assessment Board** | Business & Applied Computing |
| **Moderator** | Duncan Thomson |
| **External Examiner** | R Khusainov |
| **Accreditation Details** | |
| **Module Appears in CPD catalogue** | ☐ **Yes** ☐ **No** |
| **Changes / Version Number** | 1.05 |

| **Assessment (also refer to Assessment Outcomes Grids below)** |
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| **Assessment 1** |
| The first coursework category aligns with CCNA1: Introduction to Networks. It comprises tests (chapter tests with 10% weightage and one final test with 20% weightage) assessing mainly the theoretical outcomes (weighted as 30%) and an individual practical skills-based test assessing the practical skills gained by the students (weighted as 20%) combined in one category. |
| **Assessment 2** |
| The second coursework category aligns with CCNA2: Routing, Switching and Wireless Essentials. It comprises tests (chapter tests with 10% weightage and one final test with 20% weightage) assessing mainly the theoretical outcomes (weighted as 30%) and an individual practical skills-based test assessing the practical skills gained by the students (weighted as 20%) combined in one category. |
| **Assessment 3** |
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| (N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.<br>(ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.) |

| **Component 1** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Class Tests | ☒ | ☐ | ☒ | ☐ | ☐ | 50 | 4 |

| **Component 2** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Clas Tests | ☐ | ☒ | ☒ | ☐ | ☐ | 50 | 4 |

| **Component 3** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| **Combined total for all components** | | | | | | 100% | 8 hours |

**Change Control**

| **What** | **When** | **Who** |
|---|---|---|
| Attendance and Engagement and Equality and Diversity Statements | 20/01/25 | R Moffat |
| Gidance Note 23-24 Provided and General housekeeping to text across sections. | 12/12/23 | D Taylor |

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| Updated Student Attendance and Engagement Procedure & updated UWS Equality, Diversity and Human Rights Code | 19/10/23 | C Winter |
| Updated contact hours | 14/09/21 | H McLean |
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