Digital & Technology Solutions

Degree Apprenticeship

Data Communications and Network Security

Level 4

20 credits

Written by: Michal Sikora

Checked by: Checker

Programme Leader Approval: PL/DPL

UoR Approval:

Approved for

Review (Multiple Use): 12 months

# Assessment Brief

This assessment brief provides details of the overall assessment for your module. It will provide details of the coursework elements. Section 1 provides the detail of the assessment and Section 2 provides general assessment brief guidance.

Component: Coursework Assignment (100%)

Description: 2500-word report

A mark of at least 40% must be achieved to pass the module.

# Submission details

|  |  |  |
| --- | --- | --- |
| **Component** | **Date** | **Time** |
| Coursework | Friday of week 10 – details of VLE submission point | 2:00 pm |

# Module Learning Outcome Assessment Matrix

|  |  |
| --- | --- |
| **Learning Outcome** | **C/W** |
| Describe the fundamental components used in modern network infrastructures. | Yes |
| Identify common design principles of computer network infrastructures, including supporting services, to ensure organisational requirements are met | Yes |
| Select appropriate tools to manage/monitor computer networks to ensure current or planned capabilities meet organisational requirements. | Yes |
| Match network security risks to appropriate mitigation controls to protect enterprise level services within an organisation. | Yes |

Scenario

Reflecting on what you have learnt in this module and your observations of the networks you are familiar with (this could be in your workplace, previous workplace or an example of a school or college you attended), discuss the following points:

**Task 1:**

Explain the OSI model and its layers. Identify and briefly describe a protocol or a device for each layer of the OSI model.

**[20 marks].**

**Task 2:**

Discuss physical topologies and recommend one in context.

Discuss the types of connectivity between two remote offices and recommend one.

Technically describe one protocol and one network device.

**[30 marks]**

**Task 3:**

Discuss IP addressing scheme.

Recommend and explain a range and subnet mask for a new network segment to accommodate an appropriate number of devices.

**[20 marks].**

**Task 4:**

Identify and discuss what you consider to be an appropriate method of security in your working environment ensuring to make links to appropriate OSI layers it covers.

**[20 marks]**

**Academic Conventions**

Up to 10 Marks can be awarded for the entire task for overall structure, strength of argument, referencing and use of language including use of the Harvard Referencing Style. To be rated as excellent, your work will need to be based on a number of good qualities and utilise relevant resources. These resources need to be referenced from within your document using the Harvard Reference style.

Marking Rubric – Student’s copy

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Criteria** | **80 - 100%** | **70 - 79%** | **60 - 69%** | **50 - 59%** | **40 - 49%** | **39 - 0%** |
| **Task 1:**  Describe the purpose of the OSI model and explain the role of each layer.  **(20 marks).** | The learner has provided an outstanding description and explanation of the OSI model and each layer.  **16-20 marks** | The learner has provided an excellent description and explanation of the OSI model and each layer.  **14-15 marks** | The learner has provided a very good description and explanation of the OSI model and each layer  **12-13 marks** | The learner has provided a good description and explanation of the OSI model and each layer.  **10-11 marks** | The learner has provided a basic description and explanation of the OSI model. Some minor errors have been documented or there are some missing elements.  **8-9 marks** | The learner has failed to or has provided very limited description and explanation of the OSI layers, with significant errors or omissions.  **0-7 marks** |
| Task 2:  Recommend a topology and provide a technical description of one network device and one protocol for the network which will connect the remote office to the head office.  **(30 marks)** | The learner has provided an outstanding recommendation of a topology and descriptions of one network device and one protocol.  **24-30 marks** | The learner has provided an excellent recommendation of a topology and descriptions of one network device and one protocol.  **21-23 marks** | The learner has provided a very good recommendation of a topology and descriptions of one network device and one protocol.  **18-20 marks** | The learner has provided a good recommendation of a topology and descriptions of one network device and one protocol or missed one of the sections.  **15-17 marks** | The learner has provided a basic recommendation of a topology and descriptions of one network device and one protocol, or missed one of the sections.    **12-14 marks** | The learner has failed to or has provided very limited recommendation of a topology and descriptions of one network device and one protocol.  **0-11 marks** |
| Task 3:  Recommend and explain IPv4 addressing scheme that offers the least wastage for the network.  **(20 marks)** | The learner has provided an outstanding recommendation and explanation of IPv4 addressing scheme that offers the least wastage for the network.  **16-20 marks** | The learner has provided an excellent recommendation and explanation of IPv4 addressing scheme that offers the least wastage for the network.  **14-15 marks** | The learner has provided a very good recommendation and explanation of IPv4 addressing scheme that offers the least wastage for the network  **12-13 marks** | The learner has provided a good recommendation and explanation of IPv4 addressing scheme that offers the least wastage for the network.  **10-11 marks** | The learner has provided a basic recommendation and explanation of IPv4 addressing scheme that offers the least wastage for the network  **8-9 marks** | The learner has failed to or has provided very limited recommendation and explanation of IPv4 addressing scheme that offers the least wastage for the network.  **0-7 marks** |
| Task 4:  For one of the OSI layers, identify and discuss what you consider to be an appropriate method of security and its impact with relevance to the scenario.  **(20 marks)** | The learner has provided outstanding detail identification and discussion what they consider to be an appropriate method of security and its impact in relevance to the scenario.  **16-20 marks** | The learner has provided excellent detail of identification and discussion what they consider to be an appropriate method of security and its impact in relevance to the scenario.  **14-15 marks** | The learner has provided a detailed explanation of identification and discussion what they consider to be an appropriate method of security and its impact in relevance to the scenario.  **12-13 marks** | The learner has provided some detail of identification and discussion what they consider to be an appropriate method of security and its impact in relevance to the scenario.  **10-11 marks** | The learner has provided an outline of identification and discussion what they consider to be an appropriate method of security and its impact in relevance to the scenario.  **8-9 marks** | The learner has provided little or no detail on identification and discussion what they consider to be an appropriate method of security and its impact in relevance to the scenario.  **0-7 marks** |
| Academic conventions  **(10 marks)** | Outstanding presentation and report that contains all key elements. Wide range of relevant literature used to inform work. Consistently accurate and assured use of academic conventions.  **8-10 marks** | Excellent presentation and report that contains all necessary key elements. Wide range of relevant literature used to inform work. Consistently accurate and assured use of academic conventions.  **7 marks** | Very good presentation and report that contains all of the key elements. Good range of relevant literature used to inform work. Accurate and assured use of academic conventions.  **6 marks** | Good presentation and report that contains key elements. Relevant literature used. Accurate and assured use of academic conventions.  **5 mark**s | Basic presentation and report with some use of literature and academic conventions with minor errors present in formatting and referencing.  **4 marks** | Poor presentation and report with little or no use of literature and academic conventions with significant errors present in formatting and referencing.  **0-3 marks** |

Section 2: General Assessment Brief Guidance

Supporting Assessment documentation, rules and regulations.

To view the academic rules and guidance documents for the topics listed below please follow this link to the Degree Apprenticeship Handbook (DAH) module in Canvas: <https://canvas.qa.com/courses/1041>

If you are unable to access this module please contact [qaadegreeadmin@qa.com](mailto:qaadegreeadmin@qa.com) who will be able to resolve this for you.

Guidance found in the DAH:

* University of Roehampton Academic Regulations
* Regulations & Quality Assurance Overview
* Key contacts
* Mitigating Circumstance documentation
* Academic misconduct Procedure
* Final degree award calculation
* Appeals guidance
* Examination regulations
* Student feedback committees
* External examiner reports

# Appendix A

**ASSIGNMENT COVER SHEET**

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| --- | --- | --- |
| **Student’s name** | (First name) | (Last name) |
| **Module name** |  | |
| **Title of assignment** |  | |
| **Complete Word Count in my assignment** |  | |
| **Date submitted** |  | |

All work must be submitted by the due date. If an extension of time to submit work is required, a [Mitigating Circumstances Extension Form](https://canvas.qa.com/courses/1041/files/660514?module_item_id=143660) must be submitted.

**Has an extension been approved? Yes No If yes, please give the new submission date ….…/..…./…….**

|  |
| --- |
| IMPORTANT: THIS STATEMENT MUST BE READ & SIGNED  **Academic Integrity Statement**  Academic integrity and honesty are fundamental to the academic work you produce at the University of Roehampton. You are expected to complete coursework which is your own and which is referenced appropriately. The university has in place measures to detect academic dishonesty in all its forms. If you are found to be cheating or attempting to gain an unfair advantage over other students in any way, this is considered academic misconduct and you will be penalised accordingly.   ​  **I declare that the work I am submitting is my own work, is properly referenced and has not been submitted elsewhere.** |
| **Student Signature (Full Name):**  **Date:** |