**UNIVERSITY CENTRE SOMERSET**

**Computing and Internet Technologies**  
Assignment Coversheet and Grading Criteria  
2019 / 2020

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| **Qualification** | | | **Module Code and Title** | |
| FD/BSc (Hons) Computing and Internet Technologies | | | SCGT43 Cyber Security and Internet Technologies | |
| **Student Name and Number** | | | **Module Tutor** | |
|  | | | Ben Pople | |
| **Date Issued** | | **Submission Date** | | **Return Date** |
| 10/03/2020 12:15 | | 21/04/2020 15:00 | | 19/05/2020 12:15 |
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| **Assignment Number** | 2 of 2. This assignment is worth 50% of the overall module. | | | |
| **Assignment Title** | Network Planning, Design and Implementation, Including a Cyber Risk Assessment | | | |

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| **Module Learning Outcomes**  *To achieve the outcomes the evidence must show that the learner is able to:* | |  | **Task no.** |
| C1 | Plan, design, build and test a simple network to a requirement specification and determine the minimum network capacity to meet these requirements. |  | 1 |
| C2 | Undertake a security assessment of for a simple IT system and propose resolution advice. |  | 2 |

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| **Word Count of Submission** | 2000 (+/-10%) |
| **Student Declaration** | |
| Through submitting this assignment through Turnitin you agree that the work was prepared entirely by yourself in accordance with Open University’s Prevention of Academic Dishonesty Code of Practice. | |

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| **Assignment Feedback** |
| All feedback for this assignment will be provided through Turnitin in accordance with the grading criteria below on the given return date. |

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| **Assignment Task(s)** | |
| **Task no.** | **Task details** |
| 1 | University Centre Somerset (UCS) are undergoing development works within the Technology Centre, to support Computing students with the new Technical Qualifications alongside the other study programmes. To ensure that all aspects of the Computing provision are up to date, the Cyber Security Lab must be redesigned to meet these new requirements. A simple room plan of the redesigned and organised room can be found below, alongside requirements for the new network setup.    **Requirements**   * A closed-off network for the entire lab, with no access to the College Local Area Network (LAN) * Networking capability for 20 high-speed client machines * High-speed wireless connectivity throughout the room * Any networking equipment, such as patch panels, switches, routers and servers must be contained within the server cabinet * The server must use the latest Windows Server 2019 and act as a full DHCP, DNS, File and Email server * Other tools such as Active Directory and Group Policy should be installed and configured to ensure a secure environment   **Task**   * Plan and design the new Cyber Security Lab network, analysing potential solutions and justifying your choices. * Model your justified design within Cisco Packet Tracer as a working prototype. * Physically build this network within the Cyber Security Lab. * Undertake a full cyber security risk assessment.   You need to produce technical documentation which includes the following sections:   * Network Plan and Design   + A topological design and layout plan   + Hardware costs   + Justification of chosen layout, topology and architecture * Prototype Model   + PacketTracer Screenshots   + Performance Testing * Build   + Build Evidence   + Performance Testing * Cyber Security Risk Assessment   + Analysis of information value   + Asset prioritisation   + Identification of potential threats and vulnerabilities   + Prioritisation of the likelihood and impact of identified risks   + Resolution/control advice for identified risks |

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| **Sources of Information** |
| |  |  |  | | --- | --- | --- | | **Author** | **Title** | **Publisher** | | Severance, C. | Introduction to Networking: How the Internet Works | CreateSpace | | Stallings, W. | Computer Organisation and Architecture (10th Edition) | Pearson | | Comer, D. | Computer Networks and Internets (6th Edition) | Pearson | | Kurose, J and Ross, K. | Computer Networking: A Top-Down Approach (7th Edition) | Pearson | |

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| **Submission Requirements** |
| 1. Check the grading criteria below to ensure your assignment document meets the demands of the above task(s). 2. If the assignment contains any practical work, place any relevant additional files (i.e. software) in to a folder and zip-up the entire folder into a single zip file. 3. Name the assignment document and any relevant ZIP file using the following format:  SCGT*43* \_CW*2*\_*StudentNumber\_FirstName\_LastName*.docx/zip  (replace the *placeholders* with module code, coursework number, your student number, first and last name respectively) 4. Go to the Turnitin and use the upload facility to submit your assignment and any required ZIP file to the relevant module. There is no need to submit this assignment brief. |

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| **IMPORTANT INFORMATION** | |
| * Please stay within the limits of the word count stated at the top of assignment brief. Any additional content over the word count limit (plus or minus 10%) will be disregarded and not be assessed at all.  All work should be submitted online via Turnitin.Please ensure that you submit your assignment on the right submission slot for each module.It is your responsibility to check that you can access Turnitin and Blackboard properly. If your college student account is locked, please contact ITU on 01823 366 354 or email them to ITHelpdesk@btc.ac.uk and request to have your account unlocked, but please ensure you allow plenty of time to do this, do not leave everything until the last day of your deadline.If there are circumstances where you need to submit your assignment other than online, please discuss your needs with the module tutor and alternative arrangements could be made so that you can submit your coursework within the set deadline.Regulations allow you to submit coursework up to 6 working days late. A penalty of deducting 10% will be applied for each day an assignment is late, with a maximum penalty of deducting 60% from your final mark for the late assignment. Any assignment submitted later than 6 days with be awarded a mark of zero. |

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| Numeric Grade | Descriptor  (Class Band) | Undergraduate Grading Criteria | | | | |
| Network Planning and Design | Network Implementation and Testing | Cyber Security Risk Assessment | Cyber Security Resolution Advice | Presentation, Structure and Sources |
| 80-100 | Outstanding  (Upper Distinction) | Network plan and design is of industry-standard quality, with all requirements considered and an outstanding level of research used in order to fully justify documentation. | Network prototype model and testing is of industry-standard quality, with all requirements and aspects of planning considered to an outstanding standard. | Cyber Risk Assessment is of outstanding quality, with all of the required headings considered, creating an industry-standard assessment of the organisation. | Cyber risk resolution advice is of outstanding quality, with all threats or vulnerabilities considered, resolving many of the organisation’s risks with effective prioritisation, to an industry standard. | Presentation, Structure and Sources is of professional publication quality. |
| 70-79 | Excellent  (Lower Distinction) | Network plan and design is of excellent quality, with all requirements considered and an excellent level of research used in order to fully justify documentation. | Network prototype model and testing is of excellent quality, with all requirements and aspects of planning considered to an excellent standard. | Cyber Risk Assessment is of an excellent quality, with all of the required headings considered, creating a full and justified assessment of the organisation. | Cyber risk resolution advice is of an excellent quality, with all threats or vulnerabilities considered, resolving many of the organisation’s risks with effective prioritisation. | Structure of the report is in chronological order with excellent use of headings.  All citations have been incorporated properly into the text  All references listed properly in the reference list |
| 60-69 | Very Good (Commendation) | Network plan and design is of very good quality, with all requirements considered and a very good level of research used in order to justify documentation. | Network prototype model and testing is of very good quality, with all requirements and aspects of planning considered. | Cyber Risk Assessment is of very good quality, with all of the required headings considered, creating a robust and effective assessment of the organisation. | Cyber risk resolution advice is of very good quality, with all threats or vulnerabilities considered, resolving many of the organisation’s risks effectively. | Structure of the report is in chronological order with very good use of headings but not including all relevant subheadings, contents page and front cover.  Only minor errors in incorporating citations into the text  Only minor errors in incorporating references into the reference list |
| 50-59 | Good/Satisfactory  (Upper Pass) | Network plan and design is of good quality, with many requirements considered and a good level of research used in order to justify documentation. | Network prototype model and testing is of good quality, with many requirements and aspects of planning considered. | Cyber Risk Assessment is of good quality, with many of the required headings considered, creating a reliable assessment of the organisation. | Cyber risk resolution advice is of good quality, with many threats or vulnerabilities considered, resolving many of the organisation’s risks. | Structure of the report is in good order with good use of headings but not including all relevant subheadings, contents page and front cover.  A few errors in incorporating citations into the text  A few errors in incorporating references into the reference list |
| 40-49 | Marginal Pass / Satisfactory (Lower Pass) | Network plan and design is of fair quality, with some requirements considered and some research used in order to justify documentation. | Network prototype model and testing is of fair quality, with some requirements and aspects of planning considered. | Cyber Risk Assessment is of satisfactory quality, with some of the required headings considered, creating a satisfactory assessment of the organisation. | Cyber risk resolution advice is of satisfactory quality, with some threats or vulnerabilities considered, leaving the organisation with some unresolved risks. | Structure of the report is in poor order with poor use of headings and not including all relevant subheadings, contents page and front cover.  Some errors in incorporating citations into the text  Some errors in incorporating references into the reference list |
| 20-39 | Clear Fail  (Fail) | Network plan and design is of poor quality and shows little consideration given to the requirements. | Network prototype modelling and testing is of poor quality and shows little consideration given to planning or requirements. | Cyber Risk Assessment is of poor quality, with few of the required headings considered, creating an ineffective assessment of the organisation. | Cyber risk resolution advice is of poor quality, with few threats or vulnerabilities considered, leaving the organisation with many unresolved risks. | Structure of the report is non-existent with no use of headings.  Many errors in incorporating citations in text  Many errors in incorporating and reference list. |
|  | Nothing of Merit  (Fail) | Network is unplanned and the designed and does not meet the required assignment requirements. | Network prototype model has not been modelled or tested to the required assignment requirements. | Cyber Risk Assessment has not been completed to the required assessment standard. | Cyber risk resolution advice has not been given to the required assessment standard. | Structure and References have not been incorporated in accordance with University guidelines. |