6Network Fundamentals (U21262)
Group Coursework Specification 2017-18

The purpose of this coursework task is to consolidate the fundamental concepts of network infrastructures, as stated in the learning outcomes below, in a practical way. By providing the opportunity for students to evidence their knowledge and abilities in network systems analysis and design for a given scenario.

Group Coursework:

Groups **MUST** consist of no more than **four** people from within the same practical group; three will be acceptable but **NOT** individual (1), 2 or more than four.

Cross practical groups will NOT be permitted for this coursework.

Names of group members must be submitted to your practical tutor by **5pm 16th January 2018** . After this date students not named as part of a group will be automatically assigned to a group to complete the coursework.

Part of this task is the management of working as a group to emulate industrial working practices. Therefore it is the responsibility of the group members collectively to ensure they complete the task as stated.

Hand in Dates:

Full coursework hand in, by 17.00 on 02-03-18 Moodle submission

Group Confirmation deadline - 5pm 16th January 2018 **

****Names of group members must be submitted to your practical tutor by 16th January 2018. Failure to do this will result in you forfeiting your opportunity to choose who you work with and you will therefore be allocated to a group within your practical session.**

Formative peer feedback sessions will be provided during your normal timetabled practical sessions:

Week Commencing 29th January 2018 – Logical Design deliverable;
5th February 2018 – Physical Design deliverable;
12th February 2018 – Compare Logical and Physical.

Tender Pitch: these will be during your practical between sessions 12th – 23rd March 2018

These will take the form of a group presentation, where you are providing the details for your network design to the client. You will be promoting your design to the client as a contract tender.

Only those group members engaging in the presenting will gain the marks for this criteria

Duration: 15 minutes presentation 5 minutes questions

Formative Feedback Sessions (dates as stated above in **Hand in Dates** section):

These sessions will consist of one group reviewing another's part of the coursework (As stated above e.g. the logical or physical design). The allocation of the groups will be decided on the day by the tutor. One group will act as the client, to evaluate the work of the other group, acting as the

contractor, fits with the requirements of the set specification. Each group will act as both client and contractor within each session. The client will complete an evaluation form for their contractor during these sessions.

This will emulate an acceptance of the design accurately covering the coursework specification, again following industrial practices.

Marks and Feedback:

This will be available 20 **working** days from the submission date stated above. This does not include those days that the University is closed over holiday periods. (3rd April 2018)

This coursework covers the unit Learning Outcomes as stated below:

1. Recognize computer systems network terminology and use it appropriately,
2. Computer Networks: Topologies, and Components - The structure of networked PCs - architecture and basic layout, network servers, Networks Topologies - LAN, MAN and WAN
5. Application Support Protocols - protocol suites, end-to-end transport protocol. Application support services, Session and presentation services, e-mail, File transfer, Remote login directory services

Coursework Deliverables

Group Report

The submitted group coursework should be a single word-processed report not exceeding, 2000 words in length ±10%, sub-divided into the following sections indicated below corresponding approximately to the assessment headings. These should include diagrams of the designs and simulated examples evidencing the efficiencies of your design. The focus of the report is to present your groups understanding of network analysis as stated in the learning outcomes. Theoretically this is a tender put forward to gain a contract with POMPFEST who specialize in festival event management.

Together with the main report each group member must **individually** produce two short reflective accounts not exceeding, 1000 words ±10% in total length (these reports need to be handed in together with the main report).

Individual Report One

- By relating to the lab books that you have been developing over this year reflect on the lessons learnt in undertaking this coursework (approx. 500 Words).

Individual Report Two

- Reflect on the how the group managed the coursework and how well you all worked together. What roles within the group did member take on? Group work can be challenging and you need to all have good communication skills, but be honest in your reflection. Indicate the lessons you personally have learnt while working as a group (approx. 500 Words).

The section headings required are:-

- **Introduction**
- **Assumptions Made**
- **Issues influencing design**
- **Logical Design**
- **Physical Design**
- **Component and Costing List**
- **References**
- **Two Individual Reflective reports (Approx.1000 Words in total, split as discussed above)**

The submission of the work is via a link in from the Moodle page the time deadline is 5pm on 2nd March

Plagiarism

The main report must have proper citations and references throughout using the Harvard APA 6 referencing system see the University library Harvard APA FAQs. (http://referencing.port.ac.uk/)

The plagiarism disciplinary policy will be invoked if **ANY** part of this work is found to be directly copied from the Internet printed / published work or another student. It will result in marks being deducted for poor scholarship and possibly resulting in **NO** marks being be awarded for the entire assignment.

Anonymity

All coursework should be anonymous; therefore you must ensure that students do NOT put their name on their work. Work should only be identified by putting the Student ID number in the document. Please see the Assessment and Examination Regulations for further information at:
http://www.port.ac.uk/accesstoinformation/policies/academicregistry/filetodownload,163708,en.pdf

Coursework Marking Scheme

Your coursework for this unit is the production of the above specified report based on the detailed case study. The format is indicated in the 'Coursework Deliverable' section above. The emphasis is on the clarity of the ideas contained, so you can make use of bullet points and include any helpful graphics and diagrams as necessary. You should use evidence of the efficiencies of your design. Where there is insufficient detail in the case study you may make assumptions but you must include these in your report as a list of any assumptions you make.

Introduction	5 marks
Statement of assumptions made	10 marks
Discussion of issues influencing design (the rationale behind your design decisions)	10 marks

Draft Logical design of Network (connectivity) to include evidence of efficiencies in your design 15 marks (5 marks will be awarded for the simulated evidence that the network functions)	
Draft Physical design of Network (location of components and cabling)	15 marks
Component Specification (this should reflect the requirements of your actual design)	10 marks
Individual reflective report • Group reflection • Learning reflection	20 marks
Quality of the Report Presentation (e.g. layout, language, diagrams) Breadth of Information Resources used and correctness of citations	5 marks
Contract Pitch – all group members need to attend this to gain the marks	10 marks

Notes:

Logical Design: is a conceptual, abstract design. You do not need to deal with the physical implementation details yet. This section will incorporate the topology and how the technology connects to make the whole communication system. Throughout this aspect of the design you need only ensure that you adhere to the network infrastructure specification as detailed by the company and any physical constraints imposed that will affect this stage of the design. This can be accomplished by using MS Visio or similar software.

Within this part of the design you are required to test the loading and the throughput of the design to ensure that you have not inadvertently created any bottlenecks within your network. This will prove to your client that your design is robust and the one to choose.

Physical Design: Physical design is incorporating the logical design into the physical space. This has the focus of taking your logical design and then showing how it will fit into the actual physical location. This is where you consider the actual location of the components and the cable plans. Also consider the actual building constraints etc.

Tender Specification for: POMPFEST

POMPFEST is a festival events management company that has been tasked to manage a local music festival that happens in August. The company is looking for a contractor to deliver a temporary computer network to the site to facilitate all the connectivity requirement for all users of the site during the festival. The actual festival duration is for 3 days. It has a festival capacity of 65, 000 festival goers plus those working on the site per day. There are a number of permanent buildings on the site that do have internet access.

The space that the festival site is on is public space. The expected plan of the site is in Appendix 1. This is a temporary network that needs to be deployed and cleared away after the event.

All market stalls, bars and food outlets will need network access for their own point of sales devices that is secure. Some will require wireless access for key devices such as tablets for marketing etc. All stage areas need network access, both wired and wireless.

A wireless network is required both for the ticket holders (including VIP tickets) and those working on the site.

The site will also have networked information points. In the form of a touch screen devices. Positions of these are not confirmed 20 are required. There will be 30 Festival Makers who will require handheld devices with network access.

This is only for the networking element of the system and does not require specialist software for the ender users.

This year it is anticipated that entry to the site by festival goers will be via electronic tickets. On entry festival goesr will be given a chipped wristband that is linked to the individual figure print. This need to be a fast and efficient process.

All staff working on the site will be using the same method of entry.

The space has a number of power and telecommunication cabinets installed across the site, as indicated on the plans.

Not all the panel who will be judging the tender are fully IT literate, therefore your tender must be written in such a way that the whole panel can understand the content.

Assumptions can be made where the specification is vague.

Appendix 1

Blue line: is the perimeter boundary – these are fences

Red line: section boundaries – these are for planning only these are not fenced sections

Yellow line: indicates a row of stall

Section Requirements for Site plan 2018

Section	Contains
A	1 Small Stage 20 general market stalls 1 food outlet 1 Bar multiple payment points
B	1 Small Stage 1 Band Stand 20 general market stalls 1 food outlet 1 Bar multiple payment points
C	Silent disco
D	1 medium sized Stage 25 general market stalls 1 food outlets 1 large Bar multiple payment points
E	4 small sized Stages 10 general market stalls 1 food court containing 10 small food stalls 1 Bar multiple payment points
F (VIP area)	1 Bar 1 food outlets
G	Main Stage 10 general market stalls 2 large food outlets 1 large Bar multiple payment points
H	35 general market stalls
J	Small Stage 2 small food outlets Chill out zone 20 general market stalls 1 Bar multiple payment points
	First aid tent

	Entrance – electronic tickets
	Electric Cabinets
	Telecommunication Cabinets