School of Computing

| Module Coordinator Other lecturers | Amanda Peart

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| Date Issued | Jan 2024 |
| Code | M30231 |
| Title | NETWORKS |

Schedule and Deliverables

Item	Weighting %	Format	Deadline	Late/ECF deadline
Group Selection	5%	Moodle link	2nd Feb 2024 by 16:00	n/a
Task 1: Group Terms of Reference (Agreed)		**Electronic pdf Performa** (Via Moodle link)	**2nd Feb 2024 by 16:00**	**16th Feb 2024 by 16:00**
Peer Review – Logical Design		Formative feedback in Class	12th-16th February 2024	n/a
Peer Review – Physical Design		Formative feedback in Class	26th February– 1st March 2024	n/a
Peer Review – Compare designs		Formative feedback in Class	11th – 15th March 2024	n/a
Task 2: Final Submission	30%	**Presentation Slides Contribution agreement form, Moodle Submission**	**22nd March 2024 by 16:00**	**9th April 2024 by 16:00**
Task 3: Pitch Presentations	15%	In your timetabled practical session	15th April – 26th May 2023	
Exam	30%	Computer Based Exam	13th May – 7th June 2023	TBA

Notes and Advice

- The Extenuating Circumstances procedure is there to support you if you have had any circumstances (problems) that have been serious or significant enough to prevent you from attending, completing or submitting an assessment on time.
- ASDAC are available to any students who disclose a disability or require additional support for their academic studies with a good set of resources on the ASDAC moodle site
- The University takes plagiarism seriously. Please ensure you adhere to the plagiarism guidelines.
- Any material included in your coursework should be fully cited and referenced in APA format (seventh edition). Detailed advice on referencing is available from http://referencing.port.ac.uk/
- Any material submitted that does not meet format or submission guidelines, or falls outside of the submission deadline could be subject to a cap on your overall result or disqualification entirely.

- If you need additional assistance, you can ask your personal tutor, Student Engagement officer Ana.baker@port.ac.uk and Learning Support Tutor Simon.Jones@port.ac.uk or your module lecturers.
- If you are concerned about your mental well-being, please contact our Well-being service.

Network (M30231)

Group Coursework Specification 2023-24

The purpose of this coursework task is to consolidate the fundamental concepts of computer network infrastructures, as stated in the learning outcomes of the module. This coursework will provide the opportunity for students to evidence their knowledge and abilities in computer network systems analysis and design for a given scenario.

This coursework covers the unit Learning Outcomes as stated below:
1. Recognize computer systems network terminology and use it appropriately,
2. Define the fundamental principles of computer networking topologies, security and professional standards.
5. Examine the fundamental requirements of systems management and security.
6. Identify network security and the impact of network vulnerabilities.

Overview

The premise of this coursework

This is a **group** coursework that emulates industrial practices, within the computer network industry. You will work in a group to act as a contractor with the aim to prepare a tender for a given scenario.

During the coursework there will be peer review opportunities to act as a client and feedback on other group network designs.

These sessions will emulate a staged signoff approach similar to that in industry, for example the client provides feedback to enhance the presented design for acceptance during each feedback session.

ALL feedback sessions (peer review sessions) **must** be attended by **ALL** group members. The feedback sessions will be during your normal timetabled sessions. Attendance at these sessions will form part of the evidence of your individual group contribution.

This document provides the guidelines for the coursework requirements. The client scenario is in a separate document

Group Management:

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

NOTE: - Cross practical groups will **NOT** be permitted for this coursework, under any circumstances.

TASK 1 Group Selection and Contract Performa – 5% (Submission 2nd Feb 2024 by 16:00)

Once you have decided on who is in your group, record your group in Moodle via the 'Select your group link'.

Things to do for Task 1

Group naming convention:
Please complete the group file description as: **practical time_day_tutor name**, e.g. **9_Mon_Taiwo**

- Complete the **'Group Contract Performa'**. You will find this on Moodle in the coursework section.

- The **Group Contract Performa'** is a **'terms of reference' (criteria)** that the group agree to adhere to while working together on this coursework.

- The '**Group Contract Performa**' consists of the names of all the group members, together with 4 key criteria you all agreed to adhere too, for the duration of this coursework while working as a group. For example, the group rules on communication or sharing of responsibilities etc.

- Double check that those recorded as being in your group in Moodle are the same students noted on your submitted Group Performa.

- Only one member of the group needs to upload the submission, as all other group members can than see the document in their own submission link.

. It is **your responsibility to be part of a group. **You will not** be able to complete this coursework as an individual!

NOTE: - Part of this task is the management of working together as a group to emulate industrial working practices. Therefore, it is the responsibility of all group members collectively to ensure they complete the task as agreed in your **'Group contract Performa'**.

Task 2 - Group Task – The NETWORK Contract

As a **group** you are expected to act as a **contractor** pitching a tender for a project based on a client scenario. The client has put together a specification of requirements for you, the contractor, to **design, deploy, maintain** and **dismantle** a computer network for an outside event they are running. The specification can be found in Moodle, in the coursework section.

The specification may be incomplete and lack detail, as the client is not a network specialist (hence why they need a network contractor). Therefore, as a group, you may need to agree assumptions for any gaps in the specification. (This is not unusual in industry.)

So what do I need to do for Task 2?

As a group you are expected to pitch (present) your tender for this contract in your practical classes (for dates see Schedule of Deliverables on page 1).

The tender is a set of slides that you submit to Moodle on 22nd March 2024 by 16:00

The tender must contain as a minimum:
- Any assumptions made with a rationale to why this is an assumption
  - This should include any issues that may influence your design
- Security – State how you will secure the whole network (cover both physical and digital security)
- A complete design of the network you plan to deploy for the event specification.
  - There are two key design aspects to this
    - **Logical Design** – what components will be used, showing the interconnection between them. This is similar to the type of design you have previously develop in Packet Tracer (See general notes for a clear definition);
      - **You will develop the logical design in Cisco Packet Tracer checking all connections are working.**
    - **Physical Design** – exactly where on the physical site, the components will be placed including all cable runs etc. This plan needs to be detailed enough that the network can be deployed directly using this design. You will need to use the site plan for this task (See general notes for a clear definition)
- A formal Invoice containing all the required costings for your company to fulfil the contract (Components and **ALL** Costings). An example is provided in Moodle in the coursework section.
- References (exceptionally a reference slide at the end is acceptable for this work)

PASS/FAIL Requirement
You are required to submit a group contribution form along with your presentation slides. On this form, you will list all group members and as a group agree if each individual member contributed to the coursework or not. This will include the attendance of groups members at the peer review sessions.

For any group member deemed to not have contributed, you need to add an explanation as to 'why' and with evidence as applicable.

Peer Review - Group Task – Design Feedback (for dates see Schedule and Deliverables on page 1)

These sessions will consist of one group peer reviewing another groups design (As stated above e.g. the logical or physical design). The allocation of the groups will be decided on the day by the practical tutor. One group will act as the client, to evaluate the work of another group, acting as the contractor, ensuring the designs fit with the requirements of the client 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, with the aim to judge whether the reviewed design accurately covers the coursework specification, again following industrial practices.
Each group can then use this feedback to improve their designs before they submit their final work

Task 3 - Group Task - The Pitch (presentation)

ALL group members need to attend this session

You will pitch (present) your tender (slides) during your timetabled practical session. (For dates see Schedule and Deliverables). The aim of the pitch is that it's a professional pitch to a client that you wish to win a contract from.

These will take the form of a group presentation during your timetabled practical sessions. All group members are expected to be part of the presentation. As a group you will be promoting your design to the client (the class) as a contract tender. You will present the actual slides that you have submitted previously to Moodle in task 2.

A professional approach is expected for the Pitch.

All students that are not currently presenting will be acting as clients and will be expected to engage in the questioning at the end of each presentation.

Students who do **not** present without a valid ECF will forfeit those marks awarded to the group for task 3.

Duration: 15 minute presentation (strict time limit); 5 minutes (approximately) for questions

Marks and Feedback:

Verbal feedback will be provided during the 3 feedback sessions during practical's from both students and staff. Some feedback will also be provided during the pitches.

Formal end of coursework marks and feedback will be available 20 **working** days from the submission date stated above. This does not include those days that the University are closed over holiday periods.

Plagiarism

The final slide must have proper references using the Harvard APA 7 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. **Using any AI tool to pass output as your own work is also deemed as being plagiarism**. Which will result in marks being deducted for poor scholarship and possibly resulting in **NO** marks being be awarded for the entire assignment.

Coursework Marking Scheme Overview

Group Contract Performa	5 marks
Statement of assumptions made and influences of design	10 marks
Security considerations	10 marks
Logical design of Network (interconnectivity) to include evidence of efficiencies in your design, design to be developed in Packet Tracer, showing links are active.	25 marks
Physical design of Network (location of components and cabling on site), Consideration of the whole site logistics	25 marks
Full Invoice; (this should reflect the requirements of your actual design, considering all your costs)	10 marks
Contract Pitch – All group members need to attend this to gain the marks – This will be directly from your submitted work – Quality of the Presentation (e.g. Slide layout, language use (network terminology, clarity of the diagrams and how you work together as a group during the presentation) will be considered	15 marks

General 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 Packet Tracer.

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.