

Taflen Flaen i fynd ar Asesiad: 2023/24 / Assessment Front Sheet: 2023/24

Cyfarwyddiaeth a Rhaglen/ Directorate and Programme:	Computing and Media: FdSc Computing
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Cytunaf mai fy ngwaith i yw'r gwaith hwn ac nid oes unrhyw lôn lardrad, neu unrhyw ran arall wedi'i lunio'n annheg <i>I hereby agree that my work is my own and has not been plagiarised or otherwise unfairly produced.</i>			
Rhif ID Myfyriwr/ Student ID:		Llofnod y Myfyriwr/ Student Signature:	
Rhaglen / Programme	FdSc Computing	Amgylchiadau Esgusodol / Extenuating Circumstances	O/N Y / N
Teitl y Modiwl / Module title	Computer Systems	Cod y Modiwl / Module code	
Teitl a Rhif yr Asesiad / Assessment title & number	Assignment 1 of 2 Portfolio	Canlyniadau Dysgu / Learning outcome/s	LO1, LO2, LO3
Dyddiad ac amser Cyflwyno / Submission date and time	Stage 1 (Ex1 / Ex2) 9 Nov 2023 Stage 2 (Ex3 / Ex4) 14 Dec 2023 Stage 3 (Ex5 / Ex6) 25 Jan 2024	Dyddiad Dosbarthu / Date of issue	12 Oct 2023
Wedi ymgymryd â'r gwiriad cyn ei ddyrannu / Pre issue verification has been undertaken			
Dyddiad / IV Date	03/10/2023	Blaenlythrennau / IV Initials	GC

Marc Penodol a Gytunwyd arno / Agreed Categorical Mark	
<p>Noder: Fel cosb am gyflwyno gwaith yn hwyr, y radd rifiadol uchaf a gyflwynir am asesiad a gyflwynir ar ôl y dyddiad cau yw 40%. Mae cyflwyno gwaith cwrs yn hwyr yn golygu y byddwch yn derbyn gradd o 0%. Marciau dros dro ydynt nes bod Bwrdd yr Arholwyr Allanol yn cadarnhau'r marciau yn ystod mis Mehefin.</p> <p>Note: A late penalty of a maximum 40% as a numerical grade will be applied where an assessment is submitted after the deadline. More than one week late will result in a 0% grade being awarded. All marks remain provisional until ratified by the External Board of Examiners that meets every June.</p>	

Myfyriwr i Nodi / Student to Indicate:	
Tri Chryfder / Three Strengths	Tair peth a fu'n her i chi / Three things you found challenging
1.	1.
2.	2.
3.	3.

Sylwadau'r Marciwr Cyntaf / First Marker Comments

Targed Datblygu 1 / Developmental Target 1:			
Targed Datblygu 2 / Developmental Target 2:			
Targed Datblygu 3 / Developmental Target 3:			
Llofnod / Signature:		Dyddiad / Date:	

Sylwadau'r Ail Farcwr / Second Marker Comments

Llofnod / Signature:		Dyddiad / Date:	

Nodwch y drafodaeth rhwng y marciwr 1af a'r 2il farciwr os ydi'r Categori a Ddyfernir yn wahanol /
Note the discussion 1st and 2nd marker if the Category Awarded differs:

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Rhaglen a Rhif Aseiniad / <i>Programme & Assignment Number:</i>		FdSc Computing: CS Assignment 1 Portfolio
Nifer o eiriau a gwerth yr aseiniad / Word Count and Weighting		
<p><i>Mae'r aseiniad yn gyfartal i 80% o'r modiwl cyfan.</i></p> <p><i>The assignment is weighted at 80% of the complete module.</i></p>		
Mae'r aseiniad hon yn mynd i'r afael â'r y Canlyniadau Dysgu canlynol / This assignment addresses the following Learning Outcomes:		
Canlyniadau Dysgu 1 / <i>Learning Outcome 1</i>	Demonstrate knowledge and understanding of the principles and concepts of Computer Systems and hardware architecture.	
Canlyniadau Dysgu 2 / <i>Learning Outcome 2</i>	Analyse how elements of a system meet requirements	
Canlyniadau Dysgu 3 / <i>Learning Outcome 3</i>	Demonstrate an understanding of the functionality and architecture of an operating system.	
Briff yr Asesiad Assessment Brief		
<p>This portfolio consists of 6 equally weighted exercises to assess your understanding of material covered throughout the module.</p> <p>Each exercise consists of a scenario and associated task. You must carefully read each exercise brief to ensure you understand what is required.</p> <p>In order to give you feedback during the module, the portfolio is submitted in 3 stages, as follows:</p> <p style="text-align: center;"> Stage 1: Exercise 1 and Exercise 2 Stage 2: Exercise 3 and Exercise 4 Stage 3: Exercise 5 and Exercise 6 </p> <p>All stage must be submitted via Moodle no later than the deadline stated on the front page of this brief.</p>		

Exercise 1 (of 6) – Desktop PC hardware

For this exercise, you need to demonstrate a basic understanding of the key functional elements of a desktop computer.

For each of the elements listed below, you must provide a relevant graphic and a brief explanation of the function of that element. If you have pictures taken during the PC hardware practical exercise, you may use these. Otherwise you will source pictures from the internet.

The elements to be covered are:

- Motherboard
- Processor (CPU)
- Power supply
- Memory (RAM)
- Permanent storage (HDD or SSD)
- Network interface
- Graphics interface

The source of all information and images used must be acknowledged using the Harvard Referencing system.

The exercise is to be presented in report format.

The **grade** for this assignment will depend on:

- Evidence of reading
- Application of Theory
- Knowledge and Understanding
- Content
- Referencing and Bibliography
- Quality of presentation of the report (e.g. spelling, grammar, formatting, layout)

The report must be uploaded to Moodle by the submission deadline.

Exercise 2 (of 6) – Computer System Architecture

For this exercise, you will create a presentation using PowerPoint (or equivalent) to explain how key computing functions are implemented in the hardware of two different devices:

- Desktop Computer
- Smartphone

For example, the display on a desktop PC would typically be a separate monitor but this is integrated into a smartphone. A desktop PC is generally controlled differently to a smartphone.

You will decide the exact content and format of the presentation but you must cover:

- Input / Output
- Memory
- Storage
- Processor

The presentation should contain no more than 10 slides (excluding a title screen).

To avoid overloading slides with text, the Notes feature should be used to provide additional explanation of the content of each slide.

Research sources are to be listed in a separate Bibliography using the Harvard Referencing system.

The **grade** for this assignment will depend on:

- Evidence of reading
- Application of Theory
- Knowledge and Understanding
- Content
- Referencing and Bibliography
- Quality of presentation of the report (e.g. spelling, grammar, formatting, layout)

The presentation and the separate bibliography must be uploaded to Moodle by the submission deadline.

Exercise 3 (of 6) – Data Representation

For this exercise, you will create a handout (no more than 2 sides of A4) aimed at students starting a course at college to explain about data management.

In particular, you need to explain how storage at college with the H: drive differs from the computer that the student may have at home.

The areas to be covered are:

- What is the H: drive and why is data stored there and not on the PC's C: drive?
- Why students need to ensure their work is backed up
- Options for backing up data (e.g. USB, cloud)
- How to correctly use USB storage devices
- Guidance on naming of files and folders including any characters that cannot be used.
- Overview of file types that students will encounter on their course and the file extensions associated with them.
- Explanation of how storage is measured e.g. bits, bytes, Megabytes, Gigabytes etc.

You may find it useful to include images /diagrams in your handout.

To avoid overloading the handout, research sources and sources of images are to be listed in a separate Bibliography using the Harvard Referencing system.

The **grade** for this assignment will depend on:

- Evidence of reading
- Application of Theory
- Knowledge and Understanding
- Content
- Referencing and Bibliography
- Quality of presentation of the handout (e.g. spelling, grammar, formatting, layout)

The handout and the bibliography must be uploaded to Moodle by the submission deadline.

Exercise 4 (of 6) – Specify a computer to meet a requirement

For a Pass grade on this exercise, you will select a currently available computer system and demonstrate its suitability for running Battlefield 1.

It is important that you clearly identify the minimum hardware and software requirements for the game. You should also identify if there are higher recommended specifications.

You must then provide evidence that your chosen computer system meets or exceeds each of the minimum requirements. If there are higher recommended specifications, you should also comment on the extent to which the system meets these.

For higher grades, select two computer systems; one lower cost / lower specification system which meets the minimum requirements for playing the game and another higher cost / higher specification system which meets the recommended game specifications. Compare the systems and explain the differences between them.

You may find it useful to include images such as screenshots in your evidence. The source of any images that you do not create must be cited correctly.

Your findings are to be presented in report format. All research is to be cited using the Harvard Referencing system.

The **grade** for this assignment will depend on:

- Evidence of reading
- Application of Theory
- Knowledge and Understanding
- Content
- Referencing and Bibliography
- Quality of presentation of the report (e.g. spelling, grammar, formatting, layout)

The report must be uploaded to Moodle by the submission deadline.

Exercise 5 (of 6) - Operating System Generic Functionality

In an earlier exercise, you explained various hardware aspects of a computer system, namely:

- Input / Output
- Memory
- Storage
- Processor

For this exercise, you must explain how an operating system controls each of these areas of hardware.

While you can and should use specific examples and screenshots, you should not focus on a single operating system but instead look at generic functions present in any operating system.

Be sure to identify clearly the part of an operating system that controls each area of hardware.

Also explain the difference between the following software types:

- applications
- operating systems
- device drivers

You may find it useful to include diagrams. The source of any diagrams that you do not create must be cited correctly.

Your findings are to be presented in report format. All research is to be cited using the Harvard Referencing system.

The **grade** for this assignment will depend on:

- Evidence of reading
- Knowledge and Understanding
- Content
- Referencing and Bibliography
- Quality of presentation of the report (e.g. spelling, grammar, formatting, layout)

The report must be uploaded to Moodle by the submission deadline.

Exercise 6 (of 6) – Operating System Comparison

In Exercise 5 you identified the specific parts of an operating system that control aspects of computer hardware.

For this exercise, you will look in more detail at how these have been implemented in two specific operating systems. Choose **ONE** column from this table and compare those two systems:

A	B	C	D	E
Android	Android	iOS	Mac OS X	Android
iOS	Windows	Windows	Windows	Mac OS X

You may find it useful to include images such as screenshots. The source of any images that you do not create must be cited correctly.

Your findings are to be presented in report format. All research is to be cited using the Harvard Referencing system.

The **grade** for this assignment will depend on:

- Evidence of reading
- Application of Theory
- Knowledge and Understanding
- Content
- Referencing and Bibliography
- Quality of presentation of the report (e.g. spelling, grammar, formatting, layout)

The report must be uploaded to Moodle by the submission deadline.

FdSc	Distinction	Merit	Pass	Pass	Fail				
Categorical mark	A** A* A+ A A-	B+ B B-	C+ C C-	D+ D D-	E+ E E-	F1 F2 F3 F4			
Evidence of Reading	Evidence of broad and/or independent reading from a wide range of appropriate sources. Clear, accurate, systematic application of material, with effective critical appraisal.	Evidence of independent reading from a range of appropriate sources. Literature well applied, and shows some critical insight.	Evidence of some independent reading from appropriate sources. Sound application of literature.	Evidence of reading from appropriate sources. Literature is presented in a descriptive way.	Very limited evidence of reading and/or inappropriate sources used and/or engagement with the literature very superficial.	Little or no relevant engagement with the literature.			
Application of theory	Demonstrates a detailed, accurate, systematic theoretical understanding. Appropriately selected theoretical knowledge integrated into the overall assignment.	Shows an accurate understanding of key theories, which are appropriately applied within the context of the assignment task.	Sound descriptive knowledge of key theories with some appropriate application.	Selection of theory is satisfactory but application and/or understanding limited.	Knowledge of theory inaccurate and/or incomplete. Choice of theory inappropriate. Application and/or understanding very limited.	Absence of relevant theoretical content and/or use of theory.			
Knowledge & Understanding	Thorough understanding of relevant material, insightful discussion, evidence of independent and critical judgment.	Good understanding of important facts and concepts, substantive analysis of key issues.	Generally sound understanding of relevant material but limited range or depth. More descriptive than analytical.	Some general knowledge but little detail. Minimal demonstration of analytical thought.	Some knowledge but poor understanding. Meaning often unclear and poor analysis	Little or no knowledge demonstrated. Generally inaccurate and/or unclear. Little or no analysis.			

Content	Demonstrates a detailed, systematic knowledge base, both theoretical and/or substantive.	Demonstrates a good factual and/or conceptual knowledge base and appropriate terminology.	Demonstrates a sound factual and/or conceptual knowledge base and uses appropriate terminology.	Evidence of some knowledge of topic and use of appropriate terminology. May contain some errors and/or omissions.	Significant gaps in knowledge and/or misuse of terminology.	Little or no relevant knowledge included.
Reference and Bibliography	Sources used are acknowledged in the text and reference list and used effectively to support discussion. Referencing follows a systematic approach, appropriate to the discipline. All elements of individual references are present.	Sources used are acknowledged in the text and reference list. Referencing follows a systematic approach, appropriate to the discipline. Entries in the bibliography/reference list are accurate/appropriate.	Attempts to follow systematic approach to the citation of sources, appropriate to the discipline. Entries in the bibliography/reference list are generally accurate/appropriate.	Some attempt to cite sources in the text but contains inaccuracies, inconsistencies and/or omissions. Integration between text and reference list is inconsistent. Entries in the bibliography/reference list contain some errors.	Citations of sources in the text are inconsistent, inaccurate and/or incomplete. Entries in the bibliography/reference list are incomplete and/or absent.	Little or no acknowledgment of sources of information in text and/or reference list.
Presentation, grammar and spelling	Strong logical organisation and coherence enhances fulfilment of the assignment objectives. Fluent writing style appropriate to the assignment. Grammar and spelling accurate.	Demonstrates sound, thoughtful organisation. Language generally fluent. Grammar and spelling mainly accurate.	Demonstrates generally sound, conventional organisation. The meaning is clear, but language not always fluent. Grammar and/or spelling contain errors.	Shows limited organisation. Generally understandable, but language contains errors which detract from the argument.	Poorly presented and structured but partially understandable. Meaning is sometimes unclear and there are errors in grammar and/or spelling.	Disorganised and/or incoherent. Meaning unclear. Poor spelling grammar and punctuation.