Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

APPENDIX GA36b

LEVEL 4 ASSESSMENT SPECIFICATION

Student name:		**Student ID number:**	
Programme:	**CertHE Computing Skills for Workplace**		
Module:	Computer Architecture and Operating Systems		
Module code:	ACCA4022	**Contribution to Overall Module Assessment (%):**	50%
Lecturer:		**Internal Verifier:**	**Suresh Shanmugasundaram**
Assignment Title:	Operating Systems Assignment	**Word count (or equivalent):**	2000 words (2500-word equivalent)
Submission deadline:	Wednesday [Week 10]12/08/2026 by 2:00 pm	**Return date of provisional marks & written feedback:**	Friday, September 4, 2026
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) **Alternative submission method (if applicable):** **Late submission of the assessment will result in a late penalty mark:** Work which is submitted up to 1 week late will be capped at 40% for the first attempt and will be awarded a mark of 0% for re-assessment. Late submission penalties may be lifted only if there is an approved extenuating circumstances claim. Work submitted more than 1 week late will be considered as a non-submission and will not be marked. The work may be considered as a submission for reassessment if offered by an Examining Board or if there is an approved extenuating circumstances claim.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Module Learning Outcomes (from module syllabus)

- Demonstrate an understanding of general Operating Systems.

TASK DESCRIPTION

Use of Generative AI in Assessment
(Lecturer to indicate Yes or Not against each element)

RESEARCH	For this assessment, you can use Generative AI to support you in research and data analysis.	Yes ☒ No ☐
STRUCTURE	For this assessment, you can use Generative AI to support you in structuring your submission, including creating a draft argument structure, identifying parts and headings, etc.	Yes ☐ No ☒
PROOFREADING	For this assessment, you can use Generative AI to check your own text/creation for grammatical and syntactical mistakes, including getting suggestions to rephrase your work.	Yes ☒ No ☐
WRITING	For this assessment, you can use Generative AI to create text for submission. Cite and reference once per task. **Guidance below.**	Yes ☐ No ☐ **Guidance below.**
CREATIVE	For this assessment, you can use Generative AI to create creative materials, such as images.	Yes ☐ No ☒
PROGRAMING	For this assessment, you can use Generative AI to create and check code.	Yes ☐ No ☒
NONE	For this assessment, you are not allowed to use **any** type of Generative AI support. This includes research support, structure support, writing/proofreading support and creative support.	Yes ☐ No ☒

ACKNOWLEDGEMENT: You must clearly acknowledge and state how you have used AI in the assessment.

Guidance on using GAI in this assessment:

Use of Generative AI: For foundational learning purposes at L4/Yr1, it is very important to learn how to research & reference correctly and to learn the foundational knowledge and skills that will be applied in more specific L5 and L6 module assessment questions & scenarios, which Generative AI tools are not able to answer. Failure to learn the foundational skills at L4 will result in failing L5 and L6 modules and the HN/Degree programme. For this assessment, Generative AI (GAI) **can be used**:

- **As ONE reference source per question with a 2nd accompanying quality reference.** Included in the report as follows:
    - **AI Reference:** The content produced by GAI such as ChatGPT is classed as non-recoverable material and should be cited as a personal communication. In IEEE referencing, personal communications are included as numbered **in-text citations** that match the corresponding reference list entry.
    - **Accompanying reference:** If you use AI-generated text for assessments, it is important to know that AI generated text/output is not always accurate, AI can generate misinformation. As a result, it is important to check and **verify AI output** used in your assignment and cite/reference a 2nd additional quality source alongside the AI reference.
        - **In-text citation:** In the main body of the report, include a standard in-text citation number that matches the corresponding reference list entry.

- **Example:** GAI output from ChatGPT [1] and Jones [2] states that … **either paraphrase or direct quote** the information as you would normally when citing reference source information.
  - **Reference list entry:** Use the full name of the AI tool as the author.
    - **Example:**
      [1] OpenAI's ChatGPT, private communication, Feb. 2023
    - [2] Jones A., "AI Trends," 2nd ed. London: Journal of AI Research, 2024.
- **Appendix:** Include each Generative AI output as an appendix item. Use a separate Appendix for each Generative AI output (e.g. Appendix 1 – title, Appendix 2 – title etc…) and clearly title each Generative AI appendix.

For further information on referencing GAI output, please see the University's Library referencing guidance here: Referencing handbooks.

For this assessment, Generative AI (GAI) **cannot be used to**:

- GAI output MUST NOT be used to answer any assignment tasks verbatim i.e. using the same words/commands/code generated by the GAI tool. Doing so is deemed academic misconduct and students are penalised. It is important to always use academic writing, to reference and paraphrase, synthesise and/or summarise the information as you would normally when citing any reference source information.

ASSIGNMENT TASKS

Create a **report** that answers all tasks below and submit the assignment in a word document to **TURNITIN** in report format by the assessment submission date. The report should be approx. 2000 words (excluding title page, table of contents, direct quotes, visuals/images, and appendices).
It is essential to demonstrate your research activities. Each task should refer to multiple sources that have enhanced and contributed to your understanding of the topic. Include several citations in each task answer and a list of references at the end of the report using the **IEEE** format.

Report structure & tasks:

- **Title Page:** Your name, student no., course name and module name.
- **Table of Contents:** Include section headings, section numbers and page numbers.
- **Introduction page:** Brief introduction (e.g. 1 paragraph) to introduce the report.

1. Key functions of general Operating Systems
Briefly describe the key functions of popular general-purpose Operating Systems with several screenshots showing where some of the functions can be seen/monitored/managed. Approx. 500 words, cite several reference sources.
Note: If commands are used to create screenshots, the commands can be re-used in the tasks below.

2. Use of Windows OS CLI commands
Document the use of approx. 10-12 different Batch &/or PowerShell commands with the use of options/switches that cover the areas listed below. Use **screenshots** (showing code & output) and accompanying description. Approx. 350 words, cite several reference sources.
- Process management
- File & directory management
- Network testing/monitoring
- User management
- Task scheduling.

3. Use of Linux OS CLI commands
Document the use of approx. 10-12 different Bash commands with the use of options/switches that cover the areas listed below. Use **screenshots** (showing code & output) and accompanying description. Approx. 350 words, cite several reference sources.
- Process management
- File & directory management
- Network testing/monitoring

- User management
- Task scheduling.

4. Use of Windows OS scripts
Create and demonstrate at least two simple Batch scripts that show practical use of Windows command-line automation. Each script should include the use of variables, user input, mathematical operations, loops or conditional statements, supported by screenshots of both the code and its execution. The scripts should reflect how Batch programming can automate routine system tasks effectively.

5. Use of Linux OS scripts
Develop at least two simple Bash scripts demonstrating automation and control flow within the Linux terminal. Each script should incorporate variables, user input, arithmetic operations, loops or conditionals, with accompanying screenshots of the written code and its execution output.

- **Conclusion:** Brief conclusion documenting key findings (e.g. several paragraphs).
- **Reference list:** Append to your submission a 'Reference list' using IEEE standard.
- **Appendices**: Append to the report relevant supplementary information including:
  1. **Tutorial Activity:** On OS Types from OS Tutorial 1.
  2. **Lecture Activities**: Document some Lecture Activity answers / Activity log.
  3. **Evidence of engagement with 1 online certified course** (several screenshots) e.g.:
     - Cisco Network Academy**:** Linux Unhatched or Skillsforall.com OS Basics Course.
     - Labex.io: Linux for Beginners: Basics in 10 Quick Labs
     - Linkedin Learning course: Learning PowerShell or PowerShell Essential Training.
     - Microsoft Learn course: Automate administrative tasks by using PowerShell.
     - Google Shell Cloud: Getting Started with Cloud Shell and gcloud.
     - The Linux Foundation: Fundamentals of Quantum Computing. (Course link).
       or other course from these course providers relevant to Operating Systems & the use of a CLI.

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

NOTE: The guidance offered below is linked to the five generic assessment criteria overleaf.

1. Engagement with Literature Skills

Your work must be informed and supported by scholarly material that is *relevant* to and *focused* on the task(s) set. You should provide evidence that you have accessed an appropriate *range* of sources, which may be academic, governmental and industrial; these sources may include academic journal articles, textbooks, current news articles, organisational documents, and websites. You should consider the *credibility* of your sources; academic journals are normally highly credible sources while websites require careful consideration/selection and should be used sparingly. Any sources you use should be current and up-to-date, mostly published within the last five years or so, though seminal/important works in the field may be older. You must provide *evidence* of your research/own reading throughout your work, using a suitable referencing system, including in-text citations in the main body of your work and a reference list at the end of your work.

Guidance specific to this assessment: You should demonstrate clear use of relevant citations and a well-formatted and varied reference list.

2. Knowledge and Understanding Skills

At level 4, you should be able to demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study. *Knowledge* relates to the facts, information and skills you have acquired through your learning. You demonstrate your *understanding* by interpreting the meaning of the facts and information (knowledge). This means that you need to select and include in your work the concepts, techniques, models, theories, etc. appropriate to the task(s) set. You should be able to explain the theories, concepts, etc. to show your understanding. Your mark/grade will also depend upon the *extent* to which you demonstrate your knowledge and understanding.

Guidance specific to this assessment: You should demonstrate clear evidence of new knowledge and skills learned.

3. Cognitive and Intellectual Skills

You should be able to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study. You should be able to evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work. Your work must contain evidence of logical, analytical thinking. For example, to examine and break information down into parts, make inferences, compile, compare and contrast information. This means not just describing what! But also justifying: Why? How? When? Who? Where? At what cost? You should provide justification for your arguments and judgements using evidence that you have reflected upon the ideas of others within the subject area and that you are able to make sound judgements and arguments using data and concepts. Where relevant, alternative solutions and recommendations may be proposed.

Guidance specific to this assessment: You should demonstrate evidence of analysis and understanding gained from several sources.

4. Practical Skills

At level 4, you should be able to apply the basic underlying concepts and principles to evaluate and interpret these within the context of your area of study. You should be able to demonstrate how the subject-related concepts and ideas relate to real world situations and/or a particular context. How do they work in practice? You will deploy models, methods, techniques, and/or theories, in that context, to assess current situations, perhaps to formulate plans or solutions to solve problems, or to create artefacts. This is likely to involve, for instance, the use of real world artefacts, examples and cases, the application of a model within an organisation and/or benchmarking one theory or organisation against others based on stated criteria.

Guidance specific to this assessment: You should demonstrate clear evidence of practical work.

5. Transferable Skills for Life and Professional Practice

Your work must provide evidence of the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility. This includes demonstrating: that you can communicate the results of your study/work accurately and reliably, and with structured and coherent arguments; that you can initiate and complete tasks and procedures, whether individually and/or collaboratively; fluency of expression; clarity and effectiveness in presentation and organisation. Work should be coherent and well-structured in presentation and organisation.

Guidance specific to this assessment: The creation of a well-structured and clearly formatted Professional report.

STUDENT FEEDBACK FORM

This section details the *extent* to which the assessment criteria are demonstrated by you, which in turn determines your mark. The marks available for each category of skill are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement. The form below also includes the assignment tasks to show students how the tasks link with the GAC marking and feedback form.

Generic Assessment Criteria	**Marks available**	**Marks awarded**
1. Engagement with Literature Skills:		
• Each task should refer to multiple sources that have enhanced and contributed to your understanding of the topic. Include several citations in each task answer and a list of references at the end of the report using the **IEEE** format.	10	
2. Knowledge and Understanding Skills:		
• Description of key OS functions. • Description of approx. 10-12 different Batch &/or PowerShell commands with the use of options/switches. • Description of approx. 10-12 different Bash commands with the use of options/switches. • Description of Batch &/or PowerShell key syntax areas. • Description of Bash key syntax areas.	20	
3. Cognitive and Intellectual Skills:		
• Analysis of key OS functions including use of multiple citations & screenshots. • Conclusion that identifies & highlights key findings from all report section.	10	
4. Practical Application Skills:		
• Use of approx. 10-12 different Batch &/or PowerShell commands with some options/switches. • Use of approx. 10-12 different Bash commands with the use of some options/switches. • Use of Batch &/or PowerShell key syntax areas. • Use of Bash key syntax areas.	40	
5. Transferable Skills for Life and Professional Practice:		
• Report format, structure, and presentation. • Tutorial Activity 1 on OS Types. • Evidence of engagement with a relevant CPD course. • Lecture activity evidence documented.	20	

Assessment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)	**Late Submission Penalties (tick if appropriate)**		
	Up to 1 week late (40% Max)		**%**
	Over 1 week late (0%)		

GENERIC ASSESSMENT CRITERIA

Level 4

In accordance with the Framework for Higher Education Qualifications, at the end of Level 4 students will be expected to have demonstrated knowledge of the basic underlying concepts and principles of a subject, and an ability to evaluate and interpret these within the context of that area of study. They should be able to present, evaluate and interpret qualitative and quantitative data in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of their subject(s) of study. They will have learned how to evaluate different approaches to solving problems, and will be able to communicate the results of their study/work accurately and reliably, and with structured and coherent arguments. They will be able to undertake further training and develop new skills within a structured and managed environment and will have the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.

Level 4	**FAIL**	**MARGINAL FAIL**	**SATISFACTORY (3rd / Pass)**	**GOOD (2.2 / Pass)**	**VERY GOOD (2.1 / Merit)**	**EXCELLENT (1st / Distinction)**	**EXCEPTIONAL (1st / Distinction)**
Category	**0-29%**	**30-39%**	**40-49%**	**50-59%**	**60-69%**	**70-84%**	**85-100%**
Engagement with literature (including reading, referencing, academic conventions and academic honesty)	Little or no evidence of reading and/or reliance on inappropriate sources. Views and findings mostly unsupported and non-authoritative. Referencing conventions used incoherently or largely absent.	Poor engagement with essential reading. No evidence of wider reading. Reliance on inappropriate sources, and/or indiscriminate use of sources. Heavily reliant on information gained through class contact. Inconsistent and weak use of referencing.	Engagement with a limited range of mostly relevant and credible sources but with some reliance on information gained through class contact. Some omissions and minor errors. Referencing conventions evident though not always applied accurately or consistently.	Engagement with an appropriate range of literature, including sources retrieved independently. Some over-reliance on texts rather than other sources. Referencing may show minor inaccuracies or inconsistencies.	Engagement with a wide range of literature, including sources retrieved independently. Selection of relevant and credible sources. Generally sound referencing, with no/very few inaccuracies or inconsistencies.	Engagement with an extensive range of relevant and credible literature. Consistently accurate application of referencing.	Exceptional engagement with an extensive range of relevant and credible literature. High-level referencing skills consistently applied.
Knowledge and understanding (Knowledge of the basic underlying concepts and principles of a subject.)	Major gaps in knowledge and understanding of the basic underlying concepts and principles of the subject matter. Inclusion of	Gaps in knowledge of the basic underlying concepts and principles, with flawed or superficial understanding. Some significant	Limited knowledge and understanding of the basic underlying concepts and principles within the subject area.	Knowledge of the basic underlying concepts and principles is accurate with a good understanding of the field of study	Competent knowledge of the basic underlying concepts and principles. Exhibits very good understanding.	Excellent knowledge and understanding of the basic underlying concepts and principles of the subject.	Exceptional, detailed knowledge and understanding of the basic underlying concepts and principles

Level 4	FAIL	MARGINAL FAIL	SATISFACTORY (3rd / Pass)	GOOD (2.2 / Pass)	VERY GOOD (2.1 / Merit)	EXCELLENT (1st / Distinction)	EXCEPTIONAL (1st / Distinction)
Category	**0-29%**	**30-39%**	**40-49%**	**50-59%**	**60-69%**	**70-84%**	**85-100%**
	irrelevant material. Substantial inaccuracies.	inaccuracies and/or irrelevant material.	Some elements may be missing.	but lacks depth and/or breadth.			
Cognitive and intellectual skills (Evaluate underlying concepts and principles of a subject and interpret qualitative and quantitative data in order to develop lines of argument and make sound judgements.)	Wholly or almost wholly descriptive work. Little or no evaluation of the underlying concepts and principles. Failure to develop arguments, leading to illogical or invalid judgements. Minimal or no use of evidence to back up views.	Largely descriptive work, with superficial evaluation of the underlying concepts and principles. Weak interpretation of data, flawed development of arguments and judgements. Information accepted uncritically, uses generalised statements made with scant evidence and unsubstantiated opinions. Ideas sometimes illogical and contradictory.	Limited attempt at evaluation of the underlying concepts and principles, tending towards description. Can interpret qualitative and quantitative data but with some errors. Some evidence to support emerging arguments and judgements but these may be underdeveloped or with a little inconsistency / mis-interpretation.	Good evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data, with minor errors. An emerging ability to use evidence to support the argument. Mostly valid arguments and logical judgements.	Sound evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data accurately. Ability to devise arguments using evidence to make mostly appropriate and valid judgements.	Excellent evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data accurately and with some insight. Excellent ability to devise arguments using evidence and make appropriate and valid judgements.	Exceptional evaluation of the underlying concepts and principles based evidence. Outstanding interpretation of qualitative and quantitative data. Exceptional ability to devise arguments using evidence and make wholly appropriate and valid judgements.
Practical skills (Different approaches to solving problems in particular contexts.)	Limited or no use of taught, basic methods, materials, tools and/or techniques. Little or no appreciation of the context of the application.	Rudimentary application of taught, basic methods, materials, tools and/or techniques but without consideration and competence.	An adequate awareness and mostly appropriate application of basic methods, materials, tools and/or techniques.	A good and appropriate application of basic methods, materials, tools and/or techniques. Clear appreciation of the context of the application.	A very good application of a range of basic methods, materials, tools and/or techniques. Very good consideration of the context of the	An advanced application of a range of taught, basic methods, materials, tools and/or techniques. The context of the application is well	Exceptional levels of application and deployment skills in particular practical contexts. Outstanding identification of problems in particular contexts

Level 4	FAIL	MARGINAL FAIL	SATISFACTORY (3rd / Pass)	GOOD (2.2 / Pass)	VERY GOOD (2.1 / Merit)	EXCELLENT (1st / Distinction)	EXCEPTIONAL (1st / Distinction)
Category	**0-29%**	**30-39%**	**40-49%**	**50-59%**	**60-69%**	**70-84%**	**85-100%**
	Very weak evidence of different approaches to problem-solving in particular contexts.	Flawed appreciation of the context of the application. Weak evidence of different approaches to problem-solving in particular contexts.	Basic appreciation of the context of the application. Can identify problems in particular contexts and propose basic alternative approaches or solutions though there may be errors.	Good evidence of different approaches to problem-solving in particular contexts and proposes mostly appropriate solutions.	application. Very good evidence of different approaches to problem-solving in particular contexts and proposes appropriate solutions.	considered, and insightful. Excellent evidence of different approaches to problem-solving in particular contexts and proposes appropriate solutions.	and formulation of wholly appropriate, thoughtful solutions / different approaches.
Transferable skills for life and professional practice (Communicate the results of their study/work accurately and reliably, and with structured and coherent arguments; the qualities needed for employment requiring the exercise of some personal responsibility within a structured and managed environment.)	Work is poorly structured, disorganised, inaccurate and/or confusingly expressed. Very weak use of language and/or very inappropriate style. Failure to work effectively individual or as part of a group. Little or no evidence of the skills for employment requiring the exercise of some personal responsibility.	Work is poorly presented in a disjointed manner. It is loosely, and at times incoherently, structured, with information and ideas often poorly expressed. Weak use of language and/or inappropriate style. Flawed approach to individual or group work, meeting only partial obligations to others. Limited evidence of the skills for employment requiring the exercise of some	Mostly ordered presentation and structure in which relevant ideas / concepts are reasonably expressed. Work may lack coherence and/or accuracy in places. Can work as part of a group, meeting most obligations to others but perhaps with limited involvement in group activities. Demonstrates the basic skills for employment requiring the exercise of some personal responsibility,	Mostly coherent, organised and accurate work, in a suitable structure and is for the most part clearly expressed. Can work effectively independently and/or as part of a team, with clear contribution to group activities. Demonstrates the skills for employment requiring the exercise of some personal responsibility, with some areas of strength and some of minor weakness.	Work is accurate, coherent, fluent, well-structured and organised. Can work effectively independently and/or as part of a team, with very good contribution to group activities. Demonstrates very good skills for employment requiring the exercise of some personal responsibility, with just occasional minor weakness.	Work is coherent, very fluent and is presented professionally. Can work effectively independently and/or as part of a team, with an excellent contribution to group activities. Demonstrates excellent skills for employment requiring the exercise of some personal responsibility with an appetite for further development.	Work is accurate, exceptionally coherent, very fluent and presented well. Can work effectively independently and/or as part of a team, with an exceptional contribution to group activities. Demonstrates exceptional skills for employment requiring the exercise of some personal responsibility with an appetite for further development.

Level 4	FAIL	MARGINAL FAIL	SATISFACTORY (3rd / Pass)	GOOD (2.2 / Pass)	VERY GOOD (2.1 / Merit)	EXCELLENT (1st / Distinction)	EXCEPTIONAL (1st / Distinction)
Category	**0-29%**	**30-39%**	**40-49%**	**50-59%**	**60-69%**	**70-84%**	**85-100%**
		personal responsibility.	with some areas of minor weakness.				

THIS DOCUMENT IS ALSO AVAILABLE IN WELSH