EST 1892 LSBU

Coursework Specification

CW3_Specification_CSI4-FCS_21-22

Read this coursework specification carefully, it tells you how you are going to be assessed, how to submit your coursework on-time and how (and when) you'll receive your marks and feedback.

Module Code	CSI-4-FCS
Module Title	Fundamentals of Computer Science
Lecturer	Mike Child
% of Module Mark	20%
Distributed	02/12/21
Submission Method	Submit online via this Module's Moodle site
Submission Deadline	Wednesday 26/01/22 at 16:00
Release of Feedback & Marks	Feedback and provisional marks will be available in the Gradebook on Moodle from [16/02/22]

Coursework Aim:

Write a reflective report on the activities we carried out using the Raspberry Pi with reference to specific topics related to the module content (see *Assignment Task*, below).

Coursework Details:

Type:	Report
Word Count:	As a guide, aim for 500 words. The maximum word limit is 750 words. Footnotes will not count towards word count totals but must only be used for referencing, not for the provision of additional text. The bibliography will not count towards the word total. If the word limit is exceeded no automatic penalty will be incurred but the standards criteria may be affected as you have not followed the specification.
Presentation:	▪ Work must be submitted as a word processor document (odt/doc/docx) or a PDF ▪ Your student number must appear at the front of the coursework. Your name must **not** be on your coursework.
Referencing:	Harvard Referencing should be used, see your Library Subject Guide for guides and tips on referencing.
Regulations:	Make sure you understand the University Regulations on expected academic practice and academic misconduct. Note in particular: ▪ Your work must be your own. Markers will be attentive to both the plausibility of the sources provided as well as the consistency and approach to writing of the work. Simply, if you do the research and reading, and then write it up on your own, giving the reference to sources, you will approach the work in the appropriate way and will cause not give markers reason to question the authenticity of the work. ▪ All quotations must be credited and properly referenced. Paraphrasing is still regarded as plagiarism if you fail to acknowledge the source for the ideas being expressed. **TURNITIN:** When you upload your work to the Moodle site it will be checked by anti-plagiarism software.

Learning Outcomes

This coursework will fully or partially assess the following learning outcomes for this module.

- Describe the historical foundations and contemporary development of computing theory and computer hardware.
- Describe what theoretical computing is and how it has been mechanically implemented in physical computers.
- Work with binary numbers and Boolean logic and identify the principle functionalities of the components of computer hardware.
- Reason about the underlying functional mechanisms at work in all kinds of computer systems.

Assignment Task

You are required to write a brief reflective report on your experience with the Raspberry Pi computer in this module focusing on the following topics and relating it to the module subject matter.

System Bus

The Raspberry Pi uses a system on a chip architecture. Using what you have learned about the role and function of the system bus in a computer system, discuss where the bus must be in the Pi and how this differs from computers such as laptop or desktop PCs. You are intended to primarily speculate about these things using your own reasoning rather than attempting to research the question (as the true answers are often much more complicated than the notional understanding we are looking for).

The Unix file system

Explain your understanding of the Unix file system being a conceptual part of the operating system rather than just the mechanism used to organize files on a storage device.

Assembly language

Having seen examples of the same program compiled into x86 assembly language and ARM assembly language, comment on the differences between the code that is produced in each case. Discuss the use of registers and memory and the way in which the arithmetic operation is accomplished in each case. These things differ because of the architecture of the CPU in question and the instructions that are available in each of them.

Please note that this assignment has been made very light due to the little time we had to work with the Raspberry Pi computers for practical reasons. The word count of 500 is around one side of typed text. You are asked to speculate on the basis of what you have learned in the module rather than to seek answers by research, and to include personal reflection on anything that interests you.

Assessment Criteria and Weighting

LSBU marking criteria have been developed to help tutors give you clear and helpful feedback on your work. They will be applied to your work to help you understand what you have accomplished, how any mark given was arrived at, and how you can improve your work in future.

For this assignment the following criteria will be applied (also see rubric following).

1. Subject Knowledge WEIGHT 50%

This criteria will be assessed by the degree to which you demonstrate knowledge about the topics required.

2. Critical Analysis WEIGHT: 40%

This criteria will be assessed by the degree to which you demonstrate reasoning about the topics required and your ability to relate the topics required to the module subject matter.

3. Communication and Presentation WEIGHT: 10%

This criteria will be assessed by how well you are able to express your ideas, structure your writing and format your report

	Criteria	Feedforward comments 100-80%	79-70%	69-60%	59-50%	49-40%	39-30%	29-0%
	1. Subject Knowledge Understanding and application of subject knowledge. Contribution to subject debate. **WEIGHT 50%**	Shows sustained breadth, accuracy and detail in understanding key aspects of subject. Contributes to subject debate. Awareness of ambiguities and limitations of knowledge.	Shows breadth, accuracy and detail in understanding key aspects of subject. Contributes to subject debate. Some awareness of ambiguities and limitations of knowledge.	Accurate and extensive understanding of key aspects of subject. Evidence of coherent knowledge.	Accurate understanding of key aspects of subject. Evidence of coherent knowledge.	Understanding of key aspects of subject. Some evidence of coherent knowledge.	Some evidence of superficial understanding of subject. Inaccuracies.	Little or no evidence of understanding of subject. Inaccuracies.
	2. Critical Analysis Analysis and interpretation of sources, literature and/or results. Structuring of issues/debates. **WEIGHT: 40%**	Very high-quality analysis developed independently. Sustained evaluation and synthesis of resources. Use of evidence-based arguments. Thoroughly identifies trends, inconsistency, congruence, and states the implications.	Sustained evaluation and synthesis of resources. Use of evidence-based arguments. Thoroughly identifies trends, inconsistency, congruence, and states the implications.	Evaluation and synthesis of resources. Use of evidence-based arguments. Identifies trends, inconsistency, congruence, and states the implications.	Evaluation and synthesis of resources. Use of evidence-based arguments.	Some attempt at evaluation and synthesis of resources. Some use of evidence-based arguments.	Limited evaluation of resources. Limited use of evidence-based arguments	Little or no evaluation of resources. Very little use of evidence-based arguments.
	4. Communication and Presentation Clear intention in communication. Audience needs are predicted and met. Presentation format is used skilfully. Work is well structured. **WEIGHT: 10%**	Communication is entirely clear, persuasive and compelling with very skilful use of the presentation format. Presentation addresses fully the needs of the audience.	Communication is clear, persuasive and compelling with very skilful use of the presentation format. Presentation addresses fully the needs of the audience.	Communication is clear, mostly persuasive and compelling with skilful use of the presentation format. Presentation addresses the needs of the audience.	Communication is clear, with skilful use of the presentation format. Presentation takes into account the needs of the audience.	Communication is mostly clear and presentation format is adequate. Presentation may sometimes not take into account the needs of the audience.	Communication is unclear because presentation format is not used adequately and/or the needs of the audience are not taken into account.	Communication is very unclear because presentation format is not used adequately, and the needs of the audience are not taken into account.

How to get help

We will discuss this Coursework Specification in class. However, if you have related questions, please contact me Mike Child, childm@lsbu.ac.uk as soon as possible.

Resources

The main resources are the tutorial documents that you used with the Raspberry Pi activities and the activities themselves.

Quality assurance of coursework specifications

Coursework specifications within CSI division go through internal (for new modules with 100% coursework also through external) moderation. This is to ensure high quality, consistency and appropriateness of the coursework as well as to share best practice within the CSI division.

Details of the moderators for this coursework specification are below:

Moderated (internal)	[Name, date]
Moderated (CSI lead)	[Name, date]
Signed off by (HoD/DHoD)	[Name, date]

----------For Internal use by CSI lead only----------

Changes required to CW?	Yes, No *
Examples of good practice	

*** if changes are required, moderator to complete the below:**

List of changes required	[These needs to be met before signoff can be achieved]
ML Response	[ML response, date]
Moderator Response	[ML response, date]