

Assignment Brief: Comp3402 Nature of Computing 2022-23

Assignment 3 (Part2)	Position Paper 3 (Part 2)
Word Limit or equivalent (e.g. time)	No word limit. Indicative time 14 hours
Weighting	15%
Learning Outcomes Assessed	(6) Critically appraise the principles of a modern operating system.
Submission date	24 th April 2023 15:00
Feedback date	20 days following the respective submission date
Module Leader	Dr. Colin Price c.price@worc.ac.uk
Verified by	Dr. Marc Price

If anything about this assignment is not clear to you, please contact your module leader.

What do I need to do to make a success of this assignment?	<p>You should write a position paper stating your position on the following statement</p> <p>“The operating system is the most vital software that a computer system executes”</p> <p>You draw on your worksheet material and focus on explaining how features of the operating system work, supported by a range of examples.</p>
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How should I present my work?	<p>Your paper should contain three sections: (1) A short introduction / abstract where you tell the reader what to expect reading your paper, (2) The main body of your paper, (3) A conclusion where you state your position.</p> <p>The main body of your paper should contain two sections. The first section is based on investigations using Arduino with a RTOS and parallel processing using OpenMP. The second section has two options, either application of RTOS or OpenMP to a significant problem, or a research-based option. The research option requires citation of journal articles.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%; text-align: center;">Section 1</th> <th colspan="2" style="text-align: center;">Section 2</th> </tr> <tr> <td></td> <th style="width: 33%; text-align: center;">Option 1</th> <th style="width: 33%; text-align: center;">Option 2</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <p>You will investigate some features of FreeRTOS on an Arduino.</p> <p style="text-align: center;">AND</p> <p>You will investigate some features of OpenMP running in Visual Studio C.</p> </td> <td style="vertical-align: top;"> <p>You will apply FreeRTOS to create a sophisticated robot control architecture running on the Parallax Robot.</p> <p style="text-align: center;">OR</p> <p>You will apply OpenMP to a challenging computational problem</p> </td> <td style="vertical-align: top;"> <p>Review the literature related to Super Computers and discuss either their <i>architectures</i> OR their <i>applications</i>.</p> </td> </tr> </tbody> </table> <p>You do not need to cite any journal articles for this paper (except for the research option)</p>	Section 1	Section 2			Option 1	Option 2	<p>You will investigate some features of FreeRTOS on an Arduino.</p> <p style="text-align: center;">AND</p> <p>You will investigate some features of OpenMP running in Visual Studio C.</p>	<p>You will apply FreeRTOS to create a sophisticated robot control architecture running on the Parallax Robot.</p> <p style="text-align: center;">OR</p> <p>You will apply OpenMP to a challenging computational problem</p>	<p>Review the literature related to Super Computers and discuss either their <i>architectures</i> OR their <i>applications</i>.</p>
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<p>How can I obtain guidance on my assignment?</p>	<p>You can show your tutor your work in progress at any time no later than one week before the submission deadline to enable you to review and address feedback provided to develop your work.</p> <p>The assignment briefing will be given on 20th March 2023. You may ask for any additional support or guidance in class or via email c.price@worc.ac.uk</p>
<p>How and when do I hand my assignment in?</p>	<p>Your work must be word-processed/typed and should clearly show your student number. You should submit your work by the 3pm deadlines indicated above. You should submit your work to Blackboard which is available via <u>MyDay</u>. You are required to keep a copy of work handed in.</p> <p>See the separate Assignment Support Information document on Blackboard for help on how to submit or what to do if you are having trouble submitting your assignment.</p>
<p>How will my assignment be marked?</p>	<p>Specific marking criteria for your assignment is provided in the Grading Matrix within this document.</p> <p>You are strongly advised to check your completed work against the Grading Matrix to ensure have completed all areas required before you submit it.</p> <p>You should also ensure you adhere to the word limit / word count stated in your assessment brief document, details of which can be found in the University's Assessment Policy http://www.worc.ac.uk/aqu/documents/AssessmentPolicy.pdf</p>

L6 Grading Matrix for Comp3402 Position Paper 3 (Part 2)

This matrix captures the assessment criteria for this part of the coursework.

Student Number/Name:	Academic Year and Semester: 2022-23 AS	<i>(6) Critically appraise the principles of a modern operating system.</i>
Module Code / Title: Comp3402 Nature of Computing	Assignment No/Weighting: Ass 3 (part 2). Weighting 15%	
	Assessment Title: Position Paper 3 (Part 2)	

To best understand this matrix, start by reading the 'baseline' grade C

Knowledge and understanding		Autonomy in Learning		Communication
		Option 1	Option 2	
Investigations into FreeRTOS and OpenMP		Application of either FreeRTOS OR OpenMP to a sophisticated application	Research into the architectures OR applications of Supercomputers	Well-written Paper
45		45		10
A	Investigation and evaluation are both comprehensive AND detailed.	Detailed presentation AND critical evaluation	Detailed material AND critical evaluation.	Position is coherent and persuasive.
B	Comprehensive OR detailed investigation and evaluation.	Presentation is detailed	Material is detailed	Position is coherent.
C	Investigation and evaluation of one feature of FreeRTOS and one feature of OpenMP.	Correct solution to problem is presented.	Material presented has been carefully selected.	Statement of position in clear language.
D	Investigation and evaluation, does not include both FreeRTOS and OpenMP	Attempt at a solution, though there may be errors	Some material presented, though may be arbitrary	Statement of position is too short or unclear.
F	Little or no attempt, or work contains errors.	Little or no attempt at a solution.	Little or no attempt to present material.	Little or no statement of position.

My approach to supporting and assessing SPaG on this assignment will appear on the Module Webpage and will be explained during the introductory session 19th September 2022.

Feedback on your assignment.

Please review this feedback and use it to develop your work in your next assignment in this and your other modules. If anything is unclear, please ask the marker.

Aspects done well and why:		
Aspects for improvement and why:		
How successful completion of this assignment helps your employability and achievement of graduate attributes:		
See module outline for details of: (i) Reflective and resilient lifelong learning, (ii) Problem solving, (iii) Teamwork and effective communication, (iv) Digital citizenship.		
Grade awarded:		Marker: Colin Price
		Moderator*: Marc Price

** This person is responsible for moderating a sample of student work for this module. Your work may, or may not, have been included in this sample.*

I do not want my work to be used anonymously to help future students

RESULTS ARE PROVISIONAL UNTIL AGREED BY THE BOARD OF EXAMINERS

