Assignment Brief: Comp1421 Foundations of Computing 2020-21

Assignment 003	Report and Individual Voice-Recording
Word Limit or equivalent (e.g. time)	1000 words and 10 minutes
Weighting	30%
Learning Outcomes Assessed	ILO3 Design, build and test a computer-based solution ILO4 Demonstrate knowledge of aspects of computer hardware
Submission date	Report and Voice-Recording Thursday 11th March 2021
Feedback date	All assignment feedback will be issued on the 20th working day following the submission deadline. Feedback will be released on: Friday 23rd April 2021
Module Leader	Colin Price
Verified by	Chris Bowers

Contents

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

You are expected to plan your time and work to manage your overall assessment workload.

1

Comp1421_Assignment_3.docx

What do I need to do?	This assignment consists of two parts: 1. A group assignment to design, build and test a 2-wheeled robot using the Webots simulator, or physical components (if possible). (70%) 2. An individual voice-recorded explanation of the functioning of a CPU (30%) **Part 1.** You will organize yourselves into groups of between 3 and 5 individuals. You will communicate on-line or face-to-face (if possible). The robot will have two wheels which can be individually driven, so it can move in straight lines and curved arcs. It will have a number of sensors. You will be given a problem to solve, either following a line, or obstacle avoidance. Then you will select sensors to effect a solution, and complete computer code (using a template provided) to solve the problem. You will then test your solution. The report will contain (i) details of your design (ii) fully annotated computer code, (iii) documentation of your test procedure and its results. Further details will be provided at the start of the activity w/c 18th January 2021. **Part 2.** You will produce a 10-minute voice-recorded explanation of the Fetch-Execute cycle based on the SAM-4AL simulator used in class. Details will be provided in class w/c 15th February 2021.

How should I present my work? **Report Template**	The title page of your report should contain (i) Module title and code, (ii) Your student number, (iii) submission You are not required to cite any references for this assignment You should save your work with the title **Comp1421-Ass03-Student Number**.

How can I obtain guidance?	This assignment will be introduced at the beginning of the second semster. Detailed guidance will be provided during the session, w/c 13th January 2021. You must demonstrate the assignment you submit is your own work and that it does not fall foul of plagiarism (copying someone else's work without an appropriate attribution). The library guide will provide more advice and support http://libguides.worc.ac.uk/guides/study-skills/plagiarism.

How and when do I hand my assessment in? (delete whole section if 100% exams)	Your work must be word-processed/typed and should clearly show your student number. You should submit your work by the 3pm deadline on Thursday 11th March 2021. You should submit your work to Blackboard which is available via your student portal **You are required to keep a copy of work handed in**. See the University's guide to uploading and submitting assessment items via Blackboard: https://help.blackboard.com/Learn/Student If you have issues with Blackboard you will need to contact tel@worc.ac.uk

How will my assignment be marked?	Specific marking criteria for your assignment is provided in the Grading Matrix, which can be found on page 5. You are strongly advised to check your completed work against the Grading Matrix to ensure have completed all areas required before you submit it. 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

How will I get feedback?	All assignment feedback will be issued on the 20th working day following the submission deadline. You will receive your feedback via SOLE by Friday 21st April 2021 You will receive formative feedback on the work you have completed so far during week commencing 22nd February 2021. In addition to formal assignment feedback, you will receive feedback during lectures, workshops and assignment briefing sessions to help you improve your learning. This feedback may be provided from a variety of activities e.g. tutor-to-student meetings, group and/or class discussions, group activities, etc.

What do I do if I have problems which prevent me from submitting my work?	**It is essential that you submit your work, in order to be able to pass the module. However, if you are unable to submit your work on time you must contact your Module Leader or Personal Academic Tutor.** Unless you have an application for mitigating circumstances accepted, if you submit your work late, but within 7 days of the due date, you will have your work marked but the grade will be capped at the minimum pass grade. For full details of submission regulations see Taught Courses Regulatory Framework at: http://www.worcester.ac.uk/registryservices/documents/TaughtCoursesRegulatoryFramework.pdf

What do I do if I am ill or have personal problems?	There may be occasions when you are unable to submit a piece of assessed work on time or attend an examination or presentation due to exceptional and unforeseen reasons that are outside of your control. If this occurs, you may be able to submit a claim for Mitigating Circumstances. This means that if your claim, which must be supported by independent evidence, is accepted your work will be marked or you will be allowed to resubmit the assessment or retake the examination. Full details of Procedures for Dealing with Exceptional Mitigating Circumstances are available at http://www.worcester.ac.uk/registryservices/679.htm

What will happen if I engage in academic misconduct (cheating)?	Academic Misconduct is defined by the University as any attempt to gain an unfair advantage in an assessment or helping another student to gain an unfair advantage. This can involve • Using material sources without acknowledging them using a recognised referencing system. • Copy another student's work. • Allowing another student to copy your work • Claiming that you have undertaken research that you have not e.g. surveys, interviews etc. If you are suspected of Academic Misconduct you will be referred to the School's Academic Integrity Tutor and may face further penalties. Penalties may extend beyond the single assignment, and may affect your module grade or even the classification of your final award. **Academic Misconduct will be included in any reference provided for you be the University.** Details in your Course Handbook accessible via SOLE and at https://www2.worc.ac.uk/registryservices/documents/Proceduresforinvestigation ofallegedacademicmisconduct.pdf

What if I don't pass my assignment at my first attempt?	DON'T PANIC. In the event you are required to take reassessment you will receive formal notification of this via a letter from Registry Services *posted on the SOLE page* after the meeting of the Board of Examiners. The letter will normally include a copy of the reassessment task(s). Deadlines for re-assessment can be found in the University Calendar at http://www.worcester.ac.uk/registryservices/655.htm

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

	Student Number:	Academic Year and Semester: 2020-21 S1-2	Learning Outcomes: ILO3 Design, build and test a computer-based solution ILO4 Demonstrate knowledge of aspects of computer hardware	
	Module Code/Title: Comp1421 Foundations of Computing	Assignment No/Weighting: Ass 3 30%		
	Occurrence: A and B	Assessment Title: Report with annotated code		

	Assessment Criteria			
GRADE	Robot Design	Robot Build (code)	Robot Test	Voice-Recorded presentation
A	A robot that successfully addresses the problem with elegance	Elegant functioning code clearly explained	Comprehensive testing strategy formulated. Test results presented and conclusions drawn.	Good explanation of the fetch-execute cycle with short discussion of the relevance to computers today.
B	A robot that successfully addresses the problem	Functional code clearly explained	Comprehensive testing strategy formulated. Test results presented.	Good explanation of the fetch-execute cycle.
C	A robot that successfully addresses most aspects of the problem	Code not quite fully functional, or explanations slightly unclear	Basic testing strategy formulated. Test results presented.	Good description of the fetch-execute cycle.
D	A robot that addresses some aspects of the problem	Code only partially functional; explanations unclear	Attempt at a testing strategy with some results presented.	Attempt at describing the fetch-execute cycle, though there may be lack of clarity or errors.
Fail (E-H)	A robot that only addresses a few aspects of the problem, or no robot produced at all	Code has major problems and/or explanations are missing	Little or no testing strategy with little or no results presented.	Poor or no attempt at describing the fetch-execute cycle, or incorrect description.
	General comment:			

	What you can do better in future assignments:				
	How successful completion of this assignment helps your employability:				
	Assignment Grade:	**Marker:** Colin Price	**Moderator*:** Chris Bowers		

* 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