

Module Outline: Nature of Computing Comp3302 2020-21

1. Things I need to know to achieve a successful module outcome
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3. What will I be able to do when I have attended and actively participated in this module?
4. How does my module fit into my course?
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6. How will my module help me enhance my academic skills and employment skills?
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9. What is my responsibility in Comp3302?
10. How do I get help if I have a disability or a particular learning need?
11. What is my assessment / are my assessment(s)?
12. My Module Timetable

1. Things I need to know to achieve a successful module outcome:

Occurrence A	Date/time	Room:
	Face-to-face or Online Workshops	
	Wednesday 11:15 – 12:45	CH1001
	Friday 14:15 - 15:45	CH1007
	Friday 15:45 – 17:15	CH1007
	Online Presentations	
	Thursday 17:18 – 1815 (online support during this time)	Available any time

2. Who are my teaching team?	Dr. Colin Price, c.price@worc.ac.uk , Room CHLG020, Phone 542024	MA in Natural Sciences majoring in Experimental Physics (Cambridge), PhD Electronic Engineering (University of Leuven – Belgium), Fellow of the Higher Education Academy, National Teaching Fellow. Over 70 research publications in areas of Theoretical Physics, Literacy, Computer Science and Computer Science Education.
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3. What will I be able to do when I have attended and actively participated in this module?	<p>Attendance is essential to your successful module outcome and your degree classification. Active participation in all sessions whether online or face-to-face will help you to:</p> <ol style="list-style-type: none"> 1. Critically reflect on the historical development of the notion of computing, culminating in an abstract “computing machine” leading to contemporary hardware and software technologies 2. Demonstrate a critical understanding of a range of programming paradigms and languages, and appreciate the nature and limitations of computer programs 3. Reflect critically on the nature of abstraction, as applied to networks, computer programs, data and hardware 4. Critically analyse important contemporary applications of computing and future promises.
4. How does my module fit into my course?	<p>Each module and each level of your course progressively builds towards higher order skills and capabilities that you need to achieve the best results in your life. If you do not understand how this module fits into your overall course please discuss this with your module tutor/course leader.</p> <p>This module builds on your experiences on your course so far and aims to extend and challenge these. You will learn the fundamental origins of the computer and computer programming including “Founding Fathers” from Leibnitz, Boole, Shannon to Alan Turing and Ada Lovelace.</p> <p>You will also learn an important application of Computing such as image processing. In addition you will learn about more technical applications, such as optimization, and Natural Language Processing.</p>
5. How does my module engage with the real-world environment?	<p>This module contains some theoretical material such as the Turing Machine, and is also driven by the academic research interests of your module tutor, which will be introduced from time to time. There are some real-world applications such as image processing and optimization.</p>

<p>6. How will my module help me enhance my academic skills and employment skills?</p>	<p>As businesses now frequently ask for details of your module attendance in your reference, we recommend that you attend all lectures and workshops whether they are online or face-to-face.</p> <p>By attending and participating in lectures and workshops you will get to work in groups, collaborate, share ideas, negotiate and influence others. These are all key employment skills that your future employers will expect from you.</p> <ul style="list-style-type: none"> • You will develop your critical thinking skills helping analyse particular problems • You will develop abstract thinking to help you “step out of a problem” to understand it • You will develop numerical skills, especially in data analysis • You will develop inter-personal skills through working in informal groups <p>The UW Careers & Employability Service is your online portal that contains tools to support students and graduates plan and manage their careers and develop employability skills. This includes ‘myCareer’, our new online platform for students to search for placements, internships and graduate roles, book onto careers fairs, workshops and events, access eGuidance, and complete the Worcester Award.</p> <p>Your WBS Employability Enhancement Hub is your online self-assessment portal that contains tools that allows you to map your employment skills and personal qualities against what employers want from graduates. By using it you will discover what you have learned from your academic study, work experience and extra-curricular activities and be shown how to demonstrate them in your CV.</p>
<p>7. What do I need to know before I attend and participate in my lectures?</p>	<p>Face-to-face sessions will run in the labs with an on-line session at the same time. You are expected to attend either face-to-face or online.</p> <p>Learning will be centred around set tasks where students carry out a number of activities, following input from the Tutor. Tasks will involve the use of simulation and professional software. Tutor input will consist of working together with the class to explore concepts; there will be no powerpoint presentations. You will be encouraged to photograph materials presented in class.</p> <p>Feedback from the previous year shows that most students liked the assessment structure split over four position papers. They said this helped them focus on the topics more easily. Students also enjoyed the subject matter and the way it was taught, involving the whole class.</p>

<p>8. How can I help myself to achieve a successful outcome?</p>	<p>You need to do a lot of reading to obtain your degree. This means you must get used to conducting independent study and using the library resources such as journal articles, books, data bases, etc. to source credible information. These are available from the Library website: (https://library.worc.ac.uk).</p> <p>To ensure you can achieve a successful outcome of this module, you must prepare for each lecture through independent study. Your preparation for each lecture is shown in the Module Programme in this document; the sources identified for each week's preparation are provided in the module's Talis Aspire Resource List which is available via a link in your module's Blackboard site or via: https://worc.rl.talis.com/index.html.</p> <p>To obtain your best module outcome you must attend and fully participate in all sessions. If you cannot attend any of your online or face-to-face sessions for any reason you must notify the module leader as soon as possible before the session. Continued non-attendance / disengagement may lead to you being removed from the course.</p> <p>If you need help with your academic skills such as academic writing, referencing, critical analysis, independent study, time management, etc. please contact Firstpoint in the Peirson Study and Guidance Centre on St John's Campus, call them on 01905 542551, or email firstpoint@worc.ac.uk. Further information is available on the Firstpoint website: https://www.worcester.ac.uk/life/help-and-support/services-for-students/firstpoint.aspx and the Library website: https://library.worc.ac.uk.</p> <p>The Academic Liaison Librarian for the Business School is available by email: askalibrarian@worc.ac.uk.</p> <p>If there is anything which is unclear, or you do not understand, please ask a member of the module team.</p>
<p>9. What is my responsibility in Comp3302</p>	<p>It has been proven that your lecture attendance is strongly linked to your module success. As we want you to do well, we recommend you attend all of your online or face-to-face lectures and workshops, undertake all of your lecture preparation, participate with in-class activities and ask for help if you need it.</p> <p>If you cannot attend for any reason you must notify the module leader as soon as possible before the session. If the module leader knows you are unable to attend, they will be able to help you catch back what you have missed. Your non-attendance / disengagement in the lectures may lead to you being removed from the module.</p> <p>If there is anything which is unclear, or you do not understand, please ask a member of the module team.</p>
<p>10. How do I get help if I have a disability or a particular learning need?</p>	<p>The University of Worcester is committed to ensuring diversity and equality within our learning, teaching and assessment practice. If you have a registered disability or particular learning need and you wish this to be taken into account, please speak to your Personal Academic Tutor or let the module leader know. You will find additional useful information on the Disability and Dyslexia webpages at https://www2.worc.ac.uk/disabilityanddyslexia/</p>

11. What is my assessment / are my assessment(s) ?	<p>There is formally a single item of assessment, however this is split into four “position papers” each carrying equal weight (33 1/3 %). The final grade is based on the best 3 of the papers you submit. The first three position papers will be submitted to Blackboard at regular intervals during the semester (see below). These will be marked within one week of submission giving you detailed feedback. The fourth paper will be submitted after the Christmas vacation (see below).</p> <p>You may opt to hand in all four position papers together after the Christmas vacation (see below).</p> <p>Guidance about each position paper will be given during the session starting the material for the paper, and also during the session prior to hand in.</p> <p>Submission Dates:</p> <p>Position Paper 1 – Blackboard 15:00 23rd October 2020 Position Paper 2 – Blackboard 15:00 20th November 2020 Position Paper 3 – Blackboard 15:00 11th December 2020 Position Paper 4 – Blackboard 15:00 8th January 2021</p> <p>You will be given detailed guidance to the requirements of each position paper in the first session related to each paper. Papers 1-3 will be graded within one week of submission giving you both formative and summative feedback.</p>
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Assignment 001	Position Papers
Word Limit or equivalent (e.g. time)	3000 Words
Weighting	100%
Learning Outcomes Assessed	ILO 1,2,3,4
Submission date	Staged submissions: Position Paper 1 – Blackboard 15:00 23 rd October 2020 Position Paper 2 – Blackboard 15:00 20 th November 2020 Position Paper 3 – Blackboard 15:00 11 th December 2020 Position Paper 4 – Blackboard 15:00 8 th January 2021
Feedback date	All assignment feedback will be issued on the 20 th working day following the submission deadline. Feedback will be released on: Friday 5 th February 2021
Module Leader	Colin Price
Verified by	Pete Moody

12. My Module Timetable

W/C date	TWN		Topic	Assessment link.
14 Sept	Induction Week / Review Week <i>Computing PAT meetings level 4, 5 & 6 (Groups)</i>			
21 Sept	1	Teaching Commences Semester 01	Image Processing	ILO 4
28 Sept	2		Image Processing	ILO 4
5 Oct	3		Image Processing	ILO 4
12 Oct	4		Image Processing	ILO 4
19 Oct	5		Founding Fathers <i>Position Paper 1 Hand-in</i>	ILO 1
26 Oct	6		Founding Fathers	ILO 1
2 Nov	Progress Week and Award Ceremonies			
9 Nov	7	<i>Computing PAT meetings level 4, 5 & 6 (Individual)</i>	Founding Fathers	ILO 1
16 Nov	8	<i>Computing PAT meetings level 4, 5 & 6 (Individual)</i>	Robot Navigation <i>Position Paper 2 Hand-in</i>	ILO 2
23 Nov	9		Robot Navigation	ILO 2
30 Nov	10		Robot Navigation	ILO 2
7 Dec	11		Optimization – Curve Fitting <i>Position Paper 3 Hand-in</i>	ILO 3
14 Dec	12		Optimization – Curve Fitting	ILO 3
21 Dec	Christmas Break			
28 Dec	Christmas Break			
4 Jan	Revision week and Personal mid-year review <i>Position Paper 4 Hand-in</i>			
11 Jan	Assessment Week			

Reassessment Week: 5 July 2021 – 16 July 2021