



The
Appleton
School

KS5 COMPUTING

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REVISION CENTRE

	PLC	Revision Guide	Other Revision Resources
Paper 1 – Computer Systems	<u>Personal Learning Checklist</u>	My Revision Notes: OCR A level Computer Science: Second Edition Paperback ISBN13: 978- 1398325470	<u>Physics and Maths Tutor</u> <u>The Muslim Computer Science Blog</u> <u>Teach All About It</u> <u>Learn It With Davo</u> _____
Paper 2 – Algorithms and programming			

Video linked resources:

Topic included in Exam	Links to resources to aid revision/learning
1.1.1 Structure and function of the processor	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraignDave Registers: https://www.youtube.com/watch?v=dVi2B7fGVm4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=1 FDE: https://www.youtube.com/watch?v=Y4O2-ilSw-o&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=2 Performance of a CPU: https://www.youtube.com/watch?v=QtQBj-SOLkE&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=3 Pipelining: https://www.youtube.com/watch?v=RuenPZT1PyM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=4 Von Neumen: https://www.youtube.com/watch?v=gVOtmMS17tI&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=5
1.1.2 Types of processor	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraignDave CISC and RISC: https://www.youtube.com/watch?v=PaeXsm5HGJs&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=6 GPUS: https://www.youtube.com/watch?v=1pKvXJlx_i4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=7 Multicore: https://www.youtube.com/watch?v=stQ4mLrQPMw&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=8
1.2.1 Systems Software	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraignDave Need for OS: https://www.youtube.com/watch?v=8aFByIR_CYw&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=13 Paging: https://www.youtube.com/watch?v=O4nwUqQodAg&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=14 Interrupts:

	https://www.youtube.com/watch?v=iKlAWiKEyuw&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=15 Scheduling: https://www.youtube.com/watch?v=8krglDppRhM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=16 Types of OS: https://www.youtube.com/watch?v=YjwXNUpsByE&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=17 BIOS: https://www.youtube.com/watch?v=xpqtruZAE_0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=18 Device Drivers: https://www.youtube.com/watch?v=26vjzQEtwwk&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=19 Virtual Machines: https://www.youtube.com/watch?v=Jesf4WJJ30w&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=20
1.2.2 Applications Generation	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraigDave The nature of Applications: https://www.youtube.com/watch?v=cKAlc3X9Tj8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=21 Utilities: https://www.youtube.com/watch?v=AG6Sux3zvpM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=22 Open Vs Close: https://www.youtube.com/watch?v=BpPXFwWyFho&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=23 Translators: https://www.youtube.com/watch?v=GAHQ0bdrYTY&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=24 Stages of compilation: https://www.youtube.com/watch?v=CTUDhrsY6f0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=25 Linkers, loaders and libraries: https://www.youtube.com/watch?v=8MW1naDeIDU&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=26
1.2.4 Types of Programming Language	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraigDave Programming paradigms: https://www.youtube.com/watch?v=Wt4FPjkCNaU&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=32 Procedural programming: https://www.youtube.com/watch?v=we8Iz2_S8X0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=33 Assembly programming: https://www.youtube.com/watch?v=nAbLDiytl2M&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=34

	fNZsnwjyZQj97da&index=34 Addressing: https://www.youtube.com/watch?v=p3RzuDeT6IM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=35 OOPs part 1: https://www.youtube.com/watch?v=9u2XQ1G5DVY&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=36 OOPs part 2: https://www.youtube.com/watch?v=HmVLvdgbVGE&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=37 OOPs part 3: https://www.youtube.com/watch?v=K9XaTFIb5Gw&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=38 OOPs part 4: https://www.youtube.com/watch?v=BhNifklf6a0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=39
1.3.2 Databases	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraignDave Intro to Databases: https://www.youtube.com/watch?v=PZVIV8wC4gM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=50 Methods of Capture: https://www.youtube.com/watch?v=V41rwfi-VhA&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=51 Normalisation to 3NF: https://www.youtube.com/watch?v=UY3zc9G_YZo&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=52 SQL: https://www.youtube.com/watch?v=thM9e8Cd2QI&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=54 Referential integrity: https://www.youtube.com/watch?v=oAc6_3CpeRo&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=55 Transaction processing: https://www.youtube.com/watch?v=lhSVTsRLEDm&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=56
1.3.3 Networks	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.multiwingspan.co.uk/comp.php CraignDave Network characteristics and protocols: https://www.youtube.com/watch?v=Ix_uKqI0sxx&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=57 TCP-IP, DNS and protocol layering: https://www.youtube.com/watch?v=H5jGQingnWI&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=58 LANs and WANS: https://www.youtube.com/watch?v=_gr_DMoROY8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=59

	Packet and circuit switching: https://www.youtube.com/watch?v=OEo3Ufsv2k&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=60 Network security: https://www.youtube.com/watch?v=oEzPM0AEmUY&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=61 Network Hardware: https://www.youtube.com/watch?v=niZyF7Zw4rg&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=62 Client server to P2P: https://www.youtube.com/watch?v=ViiflbmWoIo&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=63
1.4.1 Data Types	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ https://www.learnitwithdavo.co.uk/ http://www.mutiwingspan.co.uk/comp.php CraignDave Primitive data types: https://www.youtube.com/watch?v=A_R49e7su28&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=72 Binary positive integers: https://www.youtube.com/watch?v=y8mo6u7kF9E&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=73 Sign and magnitude: https://www.youtube.com/watch?v=hJe5xqjiAFA&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=74 Two's complement: https://www.youtube.com/watch?v=LS8ZANp1Yp8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=75 Binary addition and subtraction: https://www.youtube.com/watch?v=Lpx0R-G7p2w&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=76 Hex: https://www.youtube.com/watch?v=jCE-Hw3Gj08&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=77 Converting between binary, hexadecimal and denary: https://www.youtube.com/watch?v=sGs6sz5YR4M&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=78 Floating-point binary Part 1: https://www.youtube.com/watch?v=mGfOJQgdI_U&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=79 Floating-point binary Part 2 – Normalisation: https://www.youtube.com/watch?v=IGQ9YOnhWxA&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=80 Floating-point arithmetic: https://www.youtube.com/watch?v=AcePXaxDkS8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=82 Bitwise manipulation and masks: https://www.youtube.com/watch?v=zFTM44hYalg&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=83 Character sets: https://www.youtube.com/watch?v=YPD_Y3f5A-s&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=84
2.1.1 Thinking abstractly	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html

	https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ http://www.multiwingspan.co.uk/comp.php CraignDave The nature of abstraction: https://www.youtube.com/watch?v=QljmB72LnI&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=116 The need for abstraction: https://www.youtube.com/watch?v=2N2NcwaHhb4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=117 The difference between abstraction and reality: https://www.youtube.com/watch?v=pJz5ifCi7cI&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=118 Devise an abstract model: https://www.youtube.com/watch?v=ZPzSgWbdg3k&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=119
2.1.2 Thinking ahead	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ http://www.multiwingspan.co.uk/comp.php CraignDave Identify inputs and outputs: https://www.youtube.com/watch?v=6HsUQbPDxv4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=120 Determining preconditions: https://www.youtube.com/watch?v=b6hjp5CCezg&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=121 Caching: https://www.youtube.com/watch?v=gPTNXsL-lcA&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=122 Reusable program components: https://www.youtube.com/watch?v=92Gtflxxm3Q&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=123
2.2.1 Programming techniques	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ http://www.multiwingspan.co.uk/comp.php CraignDave Programming constructs: https://www.youtube.com/watch?v=9hxCspfuviE&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=133 Recursion: https://www.youtube.com/watch?v=N61yojktcH8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=134 Global and local variables: https://www.youtube.com/watch?v=E5US2n_EWcI&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=135 Functions and procedures: https://www.youtube.com/watch?v=qs5SZRjd_4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=136 IDEs: https://www.youtube.com/watch?v=O_GiVzDS2k0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=137 OOPs: https://www.youtube.com/watch?v=GX6HJ_115w0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=138

2.2.2 Computational methods	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ http://www.multiwingspan.co.uk/comp.php CraignDave Features of a problem: https://www.youtube.com/watch?v=r2c_SfdEQ84&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=139 Use of divide and conquer: https://www.youtube.com/watch?v=CPrG77GOXAM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=140 Problem recognition: https://www.youtube.com/watch?v=2zNqU7bC3V8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=141 Problem decomposition: https://www.youtube.com/watch?v=RUusIWfNCak&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=142 Use of abstraction: https://www.youtube.com/watch?v=xNHqa5oGCnM&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=143 Backtracking, data mining and heuristics: https://www.youtube.com/watch?v=VgQGPn-2dG8&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=144 Performance modelling, pipelining and visualisation: https://www.youtube.com/watch?v=37P9f3QTP58&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=145
2.3.1 Algorithms	IssacComputing Revision Site: https://www.physicsandmathstutor.com/computer-science-revision/a-level-ocr/ http://themuslimcompsciblog.blogspot.com/2018/03/the-big-list-of-ocr-level-computer.html https://teachallaboutit.school/ocr-a-level-computer-science-h406-h446/ http://www.multiwingspan.co.uk/comp.php CraignDave Analysis and design of algorithms: https://www.youtube.com/watch?v=gqvfkYQCuk&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=146 Overview of standard algorithms: https://www.youtube.com/watch?v=adXe5wFaq3I&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=147 Overview of algorithms for main data structures: https://www.youtube.com/watch?v=Z3Z5KCyArKQ&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=148 Implementing a linear search: https://www.youtube.com/watch?v=BdjaHVIvJGs&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=149 Implementing a binary search: https://www.youtube.com/watch?v=eme0m1ABz5M&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=150 Implementing a bubble sort: https://www.youtube.com/watch?v=ih-gRQYc_84&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=151 Implementing an insertion sort: https://www.youtube.com/watch?v=SpnnvFhSD8w&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=152 Representing adding and removing from queues and stacks: https://www.youtube.com/watch?v=fB9cKSXoR0Y&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=153 Comparing the suitability of algorithms: https://www.youtube.com/watch?v=YccgdNJpjN4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=154

	fNZsnwjyZQj97da&index=154 Implementing a merge sort: https://www.youtube.com/watch?v=EbpMZIVqCl4&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=155 Implementing a quicksort: https://www.youtube.com/watch?v=hXDG9OdA9LY&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=156 Implementing Dijkstra's shortest path: https://www.youtube.com/watch?v=YHDmA7ZlwqU&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=157 Implementing the A-star pathfinding algorithm: https://www.youtube.com/watch?v=Q6t-TwOGlec&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=158 Comparing the complexity of algorithms: https://www.youtube.com/watch?v=dU37Dtb6Ig&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=161 Big O notation in practice: https://www.youtube.com/watch?v=IILaLg98xW0&list=PLCiOXwirraUBj7HtVHfNZsnwjyZQj97da&index=162 Big O (Best and most detailed) https://www.youtube.com/watch?v=Mo4vesaut8g&t=5755s
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