

**Scheme of Learning****Curriculum area: BTEC DIT unit 3: Learning Aim A: Modern Technologies**

Key Stage: KS4

Unit/Topic Title: **Modern Technologies**

<b>Nº</b>	<b><u>Objectives</u></b>	<b><u>Lesson Content/Outcomes</u></b>	<b><u>Prior learning needed</u></b>	<b><u>Cross curricular</u></b>	<b><u>Assessment</u></b> <b>±</b> <b><u>Resources +Home Learning</u></b>
					<p>Pupils need access to following textbook to complete remote learning task (All Yr 11 pupils have a hard copy of the text book):</p> <p>Pearson BTEC Tech Award Digital information Technology Component 3. PM Heathcote and A Weidman</p>
		<p>Before beginning each Chapter Learning Aim A of the BTEC DIT core textbook, issue pupils with '<b>Starter for 10</b>' key terms. These should be assessed every fortnight. Pupils are advised to produce <b>revision material/cards</b> for each chapter as the year progresses. Homework sheets are also available in the 'Homework' folder to be used as the teacher requires.</p>			<p>Starter for 10 BTEC Unit 3 – LAA - Modern Technologies.doc</p> <p>(1 page per Chapter of the textbook)</p> <p>'Homework' folder contain 1 homework worksheet per chapter of the core textbook.</p>
1	To explore the function and purpose of ad hoc networks.	<ol style="list-style-type: none"> <li>To <b>explain</b> the process of setting up ad hoc networks.</li> <li>To <b>analyse</b> the performance of ad hoc networks.</li> <li>To <b>analyse</b> security issues with open networks.</li> </ol>	<p>Most pupils will have experience of using their own/parents' smartphones/devices. They should use this experience to share how ad hoc networks</p>	The drawbacks to open networks will have links to e-safety.	<p>Chapter 1_L1_Communication technologies.ppt</p> <p>Task 4:  <a href="https://www.bbc.co.uk/bitesize/guides/zh4whyc/revision/2">https://www.bbc.co.uk/bitesize/guides/zh4whyc/revision/2</a></p>

		<p><b>Starter:</b> Pupils to share how they would set up a temporary network for family and friends.</p> <p><b>Task 1 LO1</b> Pupils to develop a flow map to show how to set up an ad hoc network on a smartphone.</p> <p><b>Task 2: LO2</b> To analyse the performance of ad hoc networks using the images given, pupils should identify the disadvantages of setting up ad hoc networks for all those accessing the ad hoc network.</p> <p><b>Task 3: LO2</b> In pairs, discuss the advantages of using ad hoc networks.</p> <p><b>Task 4: LO3</b> To identify the security issues with open networks, go through the notes on 'Security issues' and then allow pupils to research the key terms associated with this sub-topic:</p> <ul style="list-style-type: none"><li>• LAN</li><li>• WAN</li><li>• VPN</li><li>• WPA2</li></ul> <p><b>Task 5</b> Pupils to consolidate their knowledge using Worksheet 1 – Tasks 1 and 2.</p>	<p>can be set up and the benefits and drawbacks they have encountered.</p>		<p>Topic 1 Worksheet 1 Topic 1 Worksheet 1 Answers</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 2 to 3. Answer questions on pg 2.</p>
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<p>2</p>	<p>To explore issues affecting network availability.</p>	<p>1. To <b>explain</b> how networks are created.</p> <p>2. To <b>describe</b> the impact of blackspots on network availability.</p> <p>3. To <b>investigate</b> network availability around the world.</p> <p><b>Starter:</b> Use 'Starter for 10 – Chapter 1' to assess pupils recall and knowledge of key words/terms used in Chapter 1: Communication technologies.</p> <p><b>LO1:</b> Teacher to deliver <b>basic content</b> on how networks are created. Pupils to make own, brief notes.</p> <p><b>Task 1 LO1</b> Case study: Music festivals Pupils to discuss with a peer how networks may be made accessible at large scale events.</p> <p>Deliver content on 'blackspots'. Pupils to note down a definition and examples of how where they might occur.</p> <p><b>Task 2 LO2</b> Pupils to complete 'Worksheet 1 – Task 3'.</p> <p><b>Task 3 LO3</b> Pupils to research and record what network availability is like in developing countries.</p>	<p>Pupils should be able to recall what ad hoc networks are from last lesson. This will allow them to identify the difference between a temporary network and one that is always available.</p>	<p>Pupils at home may have been affected by network availability</p>	<p>Chapter 1_L2_Communication technologies.ppt</p> <p>Topic 1 Worksheet 1</p> <p>Topic 1 Worksheet 1 Answers</p> <p>Topic 1 Homework 1</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 3 to 5. Answer questions on pg 6.</p>
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		<p>They could then compare connectivity differences between continents. What are their main findings/conclusions?</p> <p><b>Task 4</b></p> <p>Pupils to complete 'Worksheet 1 – Task 4'.</p> <p><b>Plenary LO1 and LO2</b></p> <p>In pairs, pupils to try and create a short story/limerick to recall the key words from the lesson. 1 or 2 pairs can share their stories.</p>			
3	To explore the features and uses of cloud storage.	<p>1. To <b>describe</b> the features of cloud storage.</p> <p>2. To <b>experience</b> collaborative working with a peer.</p> <p>3. To <b>analyse</b> the features of cloud storage.</p> <p><b>Starter</b></p> <p>Can pupils name the examples of cloud computing providers?</p> <p><b>Task 1 LO1</b></p> <p>Using no more than 15 words, pupils to describe 'What is the cloud?'. Ask a selection of pupils for their responses.</p> <p><b>Task 2 LO1 and LO2</b></p> <p>Teacher to read through the Dropbox information with the class.</p> <p>All pupils need to access their Office 365 accounts.</p> <p>In pairs, pupils need to complete their exploration of Dropbox and collaboratively work to produce 1</p>	<p>Pupils will have experience of using a range of cloud computing services.</p> <p>They should all be familiar with OneDrive having used it to move school work between school and home.</p>	<p>Pupils using the school one drive for cloud storage</p>	<p>Chapter 2_L1_Cloud storage and cloud computing.ppt</p> <p>Topic 2 Worksheet 2</p> <p>Topic 2 Worksheet 2 Answers</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 7 to 9. Answer questions on pg 8.</p> <p>Pupils to use:</p> <p><a href="https://aws.amazon.com/s3/faqs/">https://aws.amazon.com/s3/faqs/</a> to identify the basics that this service provides. They should summarise 3 features that it provides.</p>

		<p>document showing their responses to slides 9 and 10.</p> <p><b>Task 3 LO3</b> Individually, pupils should now be able to analyse the advantages of cloud computing services like Dropbox.</p> <p><b>Task 4</b> Pupils to consider what protections need to be in place to protect data in data centres?</p> <p><b>Task 5 LO3</b> Pupils to use: <a href="https://aws.amazon.com/s3/faqs/">https://aws.amazon.com/s3/faqs/</a> to identify the basics that this service provides. They should summarise 3 features that it provides.</p> <p><b>Task 6</b> Pupils to complete 'Worksheet 2 – Tasks 1 and 2'.</p>			
4	To explore the features and uses of cloud computing.	<ol style="list-style-type: none"> <li>1. To <b>describe</b> the features of cloud computing.</li> <li>2. To <b>describe</b> how the selection of platforms and services impacts on the use of cloud technologies.</li> <li>3. To <b>investigate</b> the differences between providers of cloud computing services.</li> </ol> <p><b>Starter</b></p>	<p>Pupils will have experience of using a range of cloud computing services, either at home or in school.</p> <p>For example, Office 365, iPlayer, Netflix etc. They will be able to use their knowledge</p>	Pupils using Office 365	<p>Chapter 2_L2_Cloud storage and cloud computing.ppt</p> <p>Topic 2 Worksheet 2</p> <p>Topic 2 Worksheet 2 Answers</p> <p>Topic 2 Homework 2</p>

		<p>Use 'Starter for 10 – Chapter 2' to assess pupils recall and knowledge of key words/terms used in Chapter 2: Cloud storage and cloud computing.</p> <p><b>Task 1 LO1</b> Pupils to develop a bubble map drawing upon their experience of using Office 365 to share files and communicate with staff during the lockdown period.</p> <p><b>Task 2 LO2</b> Pupils to choose 1 or 2 examples of providers that offer cloud computing services. Consider the differences in:</p> <ul style="list-style-type: none"> <li>• number and complexity of features</li> <li>• paid for versus free</li> <li>• interface design (layout, accessibility, mobile vs desktop)</li> <li>• available devices</li> </ul> <p><b>Task 3</b> Pupils to complete 'Worksheet 2 – Task 3'.</p> <p>Teacher to deliver theory on 'Platforms'. Pupils to make own notes on the key concepts of platforms and the services they provide.</p> <p><b>Task 4 LO3</b> Pupils to complete 'Worksheet 2 – Task 4'.</p> <p><b>Plenary LO3</b> Pupils to complete Qs about 'Instagram'.</p>	<p>to contribute to discussions and educate peers using their experiences.</p>		<p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 10 to 11. Answer questions on pg 11.</p>
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5	Describe how cloud and traditional systems are used together	<p>Starter</p> <p>What is cloud computing?</p> <p>Main</p> <p>Create a table and comparing the different software providers for cloud storage. Adding the benefits and drawbacks of each.</p> <p>Plenary</p> <p>Questioning pupils on different cloud computing methods.</p>	Pupils will have experience of using a range of cloud computing services, either at home or in school.		<p>Chapter3_L1_Using_Cloud_Technologies.ppt</p> <p>Topic 3 Worksheet 3</p> <p>Topic 3 Worksheet 3 Answers</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 12 to 14. Answer questions on pg 14.</p>
6	Consider the implications for organisations when choosing cloud technologies	<p><b>Starter</b></p> <p>Create a circle map asking pupils to list the implications of using cloud technologies</p> <p><b>Main</b></p> <p>Pupils to explain why the following are implications of cloud technologies:</p> <p>Security of data</p> <p>Disaster recovery</p> <p>Compatibility</p> <p>Maintenance</p> <p><b>Plenary</b></p>	Pupils will have seen different types of cloud technologies used at home and school		<p>Chapter3_L2_Using_Cloud_Technologies.ppt</p> <p>Topic 3 Worksheet 3</p> <p>Topic 3 Worksheet 3 Answers</p> <p>Topic 3 Homework 3</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 14 to 16. Answer questions on pg 16.</p>

		Questioning pupils on the different implications of choosing cloud technologies.			
7	To explore how modern teams have evolved.	<p>1. To <b>explain</b> how modern teams work.</p> <p>2. To <b>identify</b> how modern technologies can be used to manage modern teams.</p> <p>3. To <b>describe</b> how organisations use modern technologies to communicate with stakeholders.</p> <p><b>Starter:</b> Pupils to shade in the given countries on a map. They may need to look up where these countries are online. Reveal that Amazon has operations in all of these countries, amongst others.</p> <p><b>Task 1 LO1</b> List the factors that affect organisations which operate across the world.</p> <p><b>Task 2 LO2</b> Develop a bubble map to describe the changes to modern teams facilitated by modern technology.</p> <p><b>Task 3 LO2</b> Use the images to identify the communication tools used by world teams.</p> <p><b>Task 4</b> Mind map-Who are the stakeholders of WGA?</p>	Pupils have experienced using Microsoft Teams to attend online tutorials during July 2020. They should therefore be aware of the tools that can be used to manage groups and their tasks.	Pupils using Microsoft Teams for live lessons and completing work	<p>Chapter 4_L1_Modern Team Working.ppt</p> <p>blank_world_map.pdf</p> <p>Pencil crayons</p> <p>Using social media to communicate with stakeholders.doc</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 17 to 19. Answer questions on pg 19.</p>



		<p><b>Task 5 LO3</b> In pairs, discuss examples of why <b>WGA</b> might communicate with your stakeholder using:</p> <ul style="list-style-type: none"> <li>• Personalised email</li> <li>• Phone</li> <li>• Social media</li> </ul> <p><b>Plenary</b> Each pair to share an idea they have discussed on how WGA might communicate with a stakeholder.</p>			
8	To explore how organisations use social media.	<p>1. To <b>identify</b> how organisations use social media platforms. 2. To <b>analyse</b> the benefits of using modern technologies in different situations. 3. To <b>evaluate</b> flexible working for the worker and the organisation.</p> <p><b>Starter LO1</b> Pupils to consider how the 3 organisations use social media to communicate with stakeholders? Specific examples and ideas relating to each are needed.</p> <p><b>Task 1 LO1</b> <b>How do WGA use social media?</b> Teacher may need to load WGA's Twitter feed and project to pupils using Impero, if pupils don't have permissions to access this.</p> <p><b>Task 2 LO2</b></p>	Most pupils will use a range of social media outlets on different platforms. They will need to apply this knowledge to business situations during this lesson.	Pupils use a range of social media platforms	<p>Chapter 4_L2_Modern Team Working.ppt</p> <p>There are many small tasks/examples within this lesson. Be selective with which tasks to use with your groups.</p> <p>Topic 4 Worksheet 4 Topic 4 Worksheet 4 Answers Topic 4 Homework 4</p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 20 to 21. Answer questions on pg 21.</p> <p>Task: Give <b>two</b> examples of how a company might use each of these channels for communication:</p>

		<p>Pupils to share ideas of the advantages of using shared documents, for this task. They should be able to recall the Dropbox task from Chapter 2 to identify the advantages.</p> <p><b>Task 3 LO2</b> What other <b>advantages</b> could systems like Push Doctor have for patients?</p> <p><b>Task 4 LO3</b> Pupils to complete 'Worksheet 4 – Tasks 1 and 2'.</p> <p><b>Task 5 LO2</b> Give <b>3</b> IT tools that can help all the employees at Automattic to work together.</p> <p><b>Task 6 LO3</b> Pupils to complete 'Worksheet 4 – Tasks 3 and 4'.</p> <p><b>Task 7</b> On whiteboards, pupils to decide which communication channel they would choose for the given scenarios. There could be more than 1 correct response.</p> <p><b>Task 8 LO2</b> Give <b>two</b> examples of how a company might use each of these channels for communication:</p> <ul style="list-style-type: none"> <li>• Websites</li> <li>• Social media</li> <li>• Email</li> <li>• Live chat</li> <li>• Voice communication (telephone)</li> </ul>			<ul style="list-style-type: none"> <li>• Websites</li> <li>• Social media</li> <li>• Email</li> <li>• Live chat</li> <li>• Voice communication (telephone)</li> </ul>
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		<p><b>Task 9</b> Pupils to complete 'Worksheet 4 – Task 5'.</p> <p><b>Plenary LO2</b> Write a paragraph explaining why you would like to remote work. Teacher to select a few pupils to read out their responses.</p>			
9	To research the importance of good interface design.	<p>1. To <b>state</b> the main types of user accessibility needs.</p> <p>2. To <b>analyse</b> interface design for a range of examples.</p> <p>3. To <b>explain</b> how modern technologies aid inclusivity and accessibility.</p> <p><b>Starter LO1</b> Name the 5 main types of user accessibility needs</p> <p><b>Task 1 LO2</b> For each of the items shown:</p> <ul style="list-style-type: none"> <li>• What is each used for?</li> <li>• Who is the audience?</li> <li>• What features have the designers included to make them more accessible?</li> </ul> <p><b>Task 2 LO2</b></p> <p>Using the guidance of 'Dos and Don'ts on slide 8, analyse how well the WGA website caters for those with accessibility needs.</p>	Pupils have studied different user accessibility needs in Unit 1 of this course. They should be able to analyse, in detail, any interface given to them.	Pupils use GUI on most of their devices	<p>Chapter 5_L1_Inclusivity and Accessibility.ppt</p> <p>Topic 4 Worksheet 5</p> <p>Topic 5 Worksheet 5 Answers</p> <p>Task 5: <a href="https://wordpress.org/plugins/browsaloud/">https://wordpress.org/plugins/browsaloud/</a></p> <p>Read, make notes from following pages from BTEC DIT text book- component 3. Pg 22 to 24. Answer questions on pg 22.</p>

		<p>A starting point example is available for pupils on slide 9.</p> <p><b>Task 3 LO3</b> Discuss how the following aid accessibility:</p> <ul style="list-style-type: none"> <li>• Text to speech</li> <li>• Magnifier</li> <li>• Adjustable font size</li> <li>• Bold Text</li> </ul> <p><b>Task 4 LO3</b> Pupils to explain what the following features do:</p> <ul style="list-style-type: none"> <li>• Switch control</li> <li>• Assistive touch</li> </ul> <p>Allow pupils to <b>research</b> these terms and feedback if they don't know.</p> <p><b>Task 5 LO3</b> Pupils to use <a href="https://wordpress.org/plugins/browsealoud/">https://wordpress.org/plugins/browsealoud/</a> to discover what the software allows users to do and consider who it might help.</p> <p><b>Task 6 LO2</b> Pupils to complete 'Worksheet 5 – Tasks 1 and 2'.</p> <p><b>Plenary</b> Going around the room, ask pupils to give <b>1 example</b> of how designers can make their interfaces more accessible.</p>				
1	0	To explore the impact of colour blindness and flexible working.	<p>1. To <b>identify</b> the main problems faced by those with colour blindness.</p> <p>2. To <b>devise</b> strategies to overcome visual needs.</p>	Pupils have designed their own user interface in Unit 1 of this course. They have studied the use of	Pupils have designed their own user interface in Unit 1 of this course.	<p>Chapter 5_L1_Inclusivity and Accessibility.ppt</p> <p>Topic 4 Worksheet 5</p> <p>Topic 5 Worksheet 5 Answers</p> <p>Topic 5 Homework 5</p>

		<p>3. To <b>explain</b> how technology can help flexible working.</p> <p><b>Starter LO1</b> Pupils to study the different circles and numbers within them. Consider what might make these easier to see for those who are colour blind.</p> <p><b>Task 1 LO2</b> Pupils to look at the image of a user interface and consider 2 accessible features that have been used, and how it could be further improved.</p> <p><b>Task 2 LO1 and LO2</b> Pupils to jot down whether they think each font is serif or sans serif. They should be able to explain which are better to use to aid visual impairments and why.</p> <p><b>Task 3 LO2</b> Pupils to carry out their own research into the use of colour and what each colour represents to the user. Pupils to devise their own method of presentation for their findings.</p> <p><b>Task 4 LO2</b> Pupils to complete 'Worksheet 5 – Task 3'.</p> <p><b>Task 5 LO3</b> Pupils to complete 'Worksheet 5 – Task 4'.</p> <p><b>Plenary</b> Hot seat Pupils write down 1 question to be answered by a peer.</p>	<p>colour in user interface design and user accessibility needs during Unit 1.</p>		<p>Homework</p> <ul style="list-style-type: none"> <li>• Most smartphones record your 'Screen time' usage.</li> <li>• Record your usage (in hours/minutes and by the type of application used) each day before next lesson.</li> </ul> <p>Read, make notes from following pages from BTEC DIT text book- component 3. Pg 25 to 26. Answer questions on pg 26.</p>
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1	1 To explore how technology affects organisations and individuals.	<p>1. To <b>describe</b> positive and negative impacts of modern technologies on organisations.</p> <p>2. To <b>describe</b> positive and negative impacts of modern technologies on individuals.</p> <p><b>Starter LO2</b> Show pupils the video about the impact technology is having on people's mental health. Pupils to identify the impacts on using a circle map. <a href="https://www.youtube.com/watch?v=bOxs867wy6g">https://www.youtube.com/watch?v=bOxs867wy6g</a></p> <p><b>Task 1 LO1 and LO2</b> Pupils to plan the 'Exam Q' as directed before being given 10 minutes to complete it (Pupils will have 1.5 mins per mark in the examination)</p> <p><b>Task 2 LO2</b> Pupils to discuss what the negative impacts of using video streaming services on a hotel's infrastructure are.</p> <p><b>Task 3 LO1 and LO2</b> The class can be split into 2 parts; half considering the positive impacts and</p>	Pupils will be able to draw upon their own experiences at several points during this lesson. They will be able to consider the impact of having technology available during unprecedented circumstances.	Pupils have covered this in business studies	<p>Chapter 6_L1_Impacts of Modern Technologies.ppt</p> <p>Topic 5 Worksheet 5 Topic 5 Worksheet 5 Answers Topic 5 Homework 5</p> <p><a href="https://www.youtube.com/watch?v=bOxs867wy6g">https://www.youtube.com/watch?v=bOxs867wy6g</a></p> <p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 27 to 29. Answer questions on pg 29.</p>

		<p>the other half considering the negative impacts of technology on schools. Use a circle map to show what positive and negative impacts have occurred due to <b>technology</b>.</p> <p><b>Task 4 LO1</b> Pupils to discuss in pairs the questions with regards to online shopping.</p> <p><b>Task 5 LO1</b> Pupils to complete 'Worksheet 6 – Tasks 1 and 2'.</p> <p><b>Task 6 LO2</b> Split the class into 2 halves to discuss the positive and negative impacts on an organisation of:</p> <ul style="list-style-type: none"> <li>• Inclusivity</li> <li>• Accessibility</li> </ul>			
1	2	<p>To consider the positive and negative effects of modern technology.</p> <p>1. To <b>explain</b> the positive effects of flexible working.</p> <p>2. To <b>explain</b> the negative effects of flexible working.</p> <p><b>Starter</b> Complete 'Starter for 10' using key terms for the unit.</p> <p><b>Task 1 LO1 and LO2</b> Play the radio clip to pupils to set the scene. Pupils should then explore the online article and answer the Qs.</p> <p><b>Task 2 LO1</b></p>	<p>Some pupils will have experience of family/friends/relatives working flexibly, and will be able to draw upon this experience during this lesson.</p>	<p>Flexible working patterns will be studied by those pupils who have opted for a Business course as well.</p>	<p>Chapter 6_L2_Impacts of Modern Technologies.ppt</p> <p>Task 1: Article and radio clip <a href="https://www.bbc.co.uk/programmes/articles/2Mky6fvrChwCRd7fWQW8h9l/the-highs-and-lows-of-working-from-home">https://www.bbc.co.uk/programmes/articles/2Mky6fvrChwCRd7fWQW8h9l/the-highs-and-lows-of-working-from-home</a></p> <p>Topic 6 Worksheet 6 Topic 6 Worksheet 6 Answers Topic 6 Homework 6</p>

		<p>Pupils to complete 'Worksheet 6 – Task 3'.</p> <p><b>Task 3 LO2</b></p> <p>Pupils to research and write a very brief sentence about each word</p> <p><b>Task 4 LO1 and LO2</b></p> <p>Pupils to study the graphs and draw conclusions about whether they show healthy screen time usage. They then need to draw up a 'Top 5' set of guidelines for screen time. The teacher may want to allocate pupils a different target group to consider when writing up the guidelines.</p> <p><b>Task 5 LO2</b></p> <p>Pupils to complete 'Worksheet 6 – Task 4'.</p>			<p>Read, make notes from following pages from BTEC DIT text book-component 3. Pg 30 to 31. Answer questions on pg 31.</p>
					<p>Go back and create revision material for chapters 1 to 5</p>