

Progression to Post-16 Study in Information Technology

Course Outline

The business course has four units. They are:

- **Unit 1 - Information Technology Systems** – an externally assessed unit where you will learn about the theory relating to information technology use, such as hardware, software, networks, as well as considering the ethical and legal issues surrounding IT use
- **Unit 2 - Creating Systems to manage information** – an externally assessed unit that requires you to complete a practical task to create a database for a specific purpose
- **Unit 3 - Using social media in business** – this unit requires you to complete an internally assessed coursework unit where you will analyse and evaluate different social media platforms and how they can be used by businesses. You will also need to plan, create, test and evaluate a social media site for a local business of your choice
- **Unit 6 – Website development** – in this unit you will investigate website development principles. For the internal assessment you will also need to plan, create, test and evaluate a website using scripting languages for a specific purpose

Throughout the course you will need to use and improve upon a range of IT skills, including

- **Internet research** – being discerning and selective
- **Word processing** – the coursework will need to be presented, often as a business report
- **Presentation using PowerPoint** – some coursework tasks, require a presentation
- **Email** – using this in a professional manner to liaise with staff and clients
- **Spreadsheets** – to analyse and present numerical data, for example a bar chart
- **Referencing sources** – this must be done using the Harvard referencing system. Information on how to do this can be found here <https://www.ukessays.com/referencing/harvard/>

Recommended Resources

<https://www.bbc.co.uk/bitesize/levels/z98jmp3> - Whilst aimed at GCSE, this will also provide useful information on many areas, especially if you did not do GCSE Computing. You can use the information in the ICT, Computing and Digital Technology areas

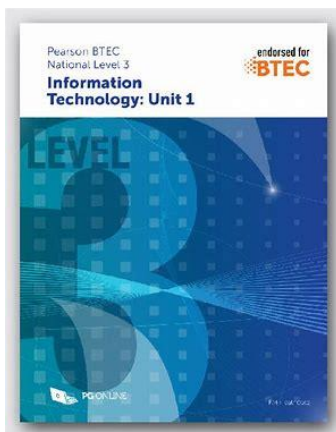
<https://www.bbc.co.uk/news/technology> - this area of the BBC news website will provide you with up-to-date information on technology development

www.teach-ict.com – a website totally devoted to IT and Computing. The username is and the password is

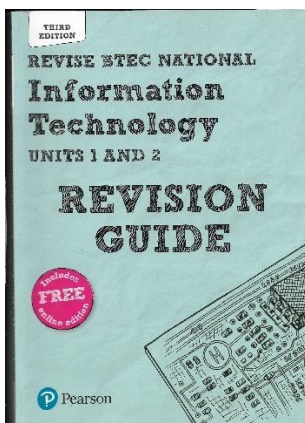
<https://www.knowitallninja.com/> - a website dedicated to L3 BTEC. Especially useful for Unit 1

<https://www.thinkuknow.co.uk/> - website for e-safety advice

PG Online textbook – excellent for Unit 1 theory



Pearson Revision Guide – invaluable for the externally assessed units



Preparatory Activities

Lesson	Activities
1	<p>Digital divide BTEC IT Introduction & Lesson 1 June 21</p> <p>The digital divide is one ethical, social and moral issue surrounding the use of IT.</p> <p>Complete the following questions:</p> <ol style="list-style-type: none">1. Define the term digital divide2. Explain causes of the digital divide3. Find evidence to prove that the digital divide exists, i.e. the % of people with internet connection across countries4. What are the impacts of the digital divide for individuals, businesses and society as a whole?5. What can businesses or other organisations do in order to minimise the digital divide and its consequences? <p>You can present this as either a PowerPoint presentation or a Microsoft Word document. Include a bibliography of the sources that you have used.</p> <p>Some of these links might be useful - https://www.bbc.co.uk/bitesize/guides/zkhykqt/revision/5 - https://simplicable.com/new/digital-divide - http://www.digitaldividecouncil.com/what-is-the-digital-divide/</p>
2	<p>A digital device Lesson 2 - A digital device - Year 12 June 21</p> <p>A digital device is a piece of physical equipment that uses digital data, such as by sending, receiving, storing or processing it.</p> <p>We rely on them in our personal and work lives for all sorts of reasons. This could be for getting directions, doing our shopping, entertaining ourselves, managing our business stock and finances, or a great many other reasons.</p> <p>Task: For 3 of the areas below, (1) Define, (2) Identify the functions, (3) Give product examples and (4) Uses for each</p> <ul style="list-style-type: none">• Personal Computers Data capture & collection systems• Servers Digital cameras – still & video• Mobile Devices Multifunctional devices• Entertainment Systems Navigation Systems• Communication devices and systems <p>Present your work as a Microsoft Publisher poster for each device to include text and images. Remember to include where you got your sources from.</p>

You can use this link
<https://www.knowitallninja.com/lessons/digital-devices-1/>

Test yourself on [Week 1 Quiz](#).
Test yourself on [Week 2 Quiz](#).

3 & 4 **Social media usage in the United Kingdom (UK) - Statistics & Facts**
[Lesson 3 & 4 - Social Media session - Year 12 June 21](#)

Demographics is the term given to statistical data relating to the population and groups within it. We use demographics to group the people who use social media. This can be through: gender, age, ethnicity, location, etc.

The use of social media websites is a common part of life in the UK. At the beginning of 2020, the total number of social media users in the UK had reached over 45 million users. This = over 66% of the UK population.

Task 1

"Task 1 & task 2"

Using the data given place the social media sites in the correct place in the table!

Task 2

Using the data from the answers to Task 1, create your 2 graph/charts to display the information.

Task 3

"Percentage of adults who use each social media"

Using the data on "% of adults who use each social media" to create your 2 graph/charts of your own to display some of the information. You might choose location or ethnicity.

Task 4

Kirk's Cakes - Kirk wants to increase his follows and shares on social media to increase cupcake sales for his business. Create 3 new posts for him.

Task 5

Research and present the following:

The key features, structure and target audiences of at least 4 different social media sites. May sure you include:

- The names of a range of social media platforms with information about when, where, why they were launched.
- Relevant facts (e.g. usage, members etc) about the social media site (use images to support your presentation)

- How does that social media site appeal directly to its target audience (in terms of age, income and gender)? You need to be looking at the website features and structure of the site.
- Benefits and limitations of social media use for (a) individuals and (b) business organisations

Task 6

Find a recent story or two of public interest and through the use of various social media platforms you must present:

- Social media platforms used
- Its purpose
- The impact on said business
- The way it is used by businesses
- Its popularity or usefulness for the business

Make sure that you include relevant images and links to the information in your presentation.

5

Connectivity

[Lesson 5 - Connectivity - Year 12 June 21](#)

Task 1

Read this article from the BBC: Coronavirus: Coping with lockdown on poor broadband: <https://www.bbc.co.uk/news/technology-52414280>

Summarise what the article is saying and your thoughts on the implications that the coronavirus is having on our every technological life.

Create a diary entry of what you would normally do in a average day and then compare how it would be like to be without any technology for 24 hours.

Task 2

1. What is an ethernet cable?
2. What is bandwidth?
3. Why does more people using the internet affect the speed?
4. Why would gaming need a faster speed than general browsing?

Present your work as a Microsoft Word document. Remember to include where you got your sources from.

Task 3

Download and complete the table called '[Data Transmission Methods worksheet](#)'

Use the [B1 - Connectivity](#) PowerPoint to help

[Extension - Exam Question](#) – To answer

6

Emerging technology

[Lesson 6 - Emerging Technology - Year 12 June 21](#)

Discussion - Define what is Emerging Technology

https://en.wikipedia.org/wiki/List_of_emerging_technologies#IT_and_communications

Emerging technology is new technology. Select FOUR from the following:

- Artificial intelligence
- Biometrics
- Robotics
- Virtual reality
- Drones
- Augmented reality
- 3D printing
- Internet of things

For each one you select do the following

1. Explain what this technology is
2. Explain how it could be used by individuals at home
3. Explain how it could be used within the workplace
4. Implications of these emerging technologies -both positive and negative

Present the tasks as a word-processed document or presentation

Useful links

- [Top 15 Future Technology Trends in 2020 \(Updated\)](#)
- [Top 10 emerging technologies of 2020: Winners and losers ...](#)
- [50 Emerging Technology Themes to watch out for in 2020](#)
- [10 technology trends that will impact our lives in 2020 ...](#)
- [18 Best Technologies to Learn in 2021 \(And Where to Learn These Skills\) | Learn to Code With Me](#)
- [Top 10 Emerging Technologies to Learn Now to Thrive in 2021 \(octalsoftware.com\)](#)
- [What are the best Technologies to learn in IT Industry 2020? \(3ritechnologies.com\)](#)

Test yourself on [Week 3 Quiz](#).

7

Legal issues

[Lesson 7 & 8 - Legal issues - Year 12 June 21](#)

The Computer Misuse Act is one of the laws that relate to ICT use.

Research the following and present in a word-processed document:

- The main role of the law, i.e. what does it say is illegal
- The impact on organisations of the law
- The impact on individuals of the law
- The consequences of not following the law on (a) an individual and (b) a business

- A news story where an organisation has failed to comply with this law, and the outcome of the incident

Present this as a word-processed document.

Use "[Legal Issues Link](#)" to support your work

8 **Understanding the legal framework for using computers**

[Lesson 7 & 8 - Legal issues - Year 12 June 21](#)

Produce a PowerPoint presentation describing the UK legal framework for ICT.

You should discuss the following: -

- The need for legislation.
- What legislation exists - The Data Protection Act 1998 (DPA), Copyright, Designs and Patents Act 1988 (CDPA), Consumer Rights Act 2015 (CRA), The Health and Safety (Display Screen Equipment) Regulations 1992, Equality Act 2010 etc.
- The offences covered by the current legislation
- The challenges faced by legislators.
- Include a bibliography showing your references.

The following website will be of help: -

<https://www.bbc.co.uk/bitesize/guides/zhx26yc/revision/1>

BBC iPlayer

<https://www.bbc.co.uk/iplayer/episodes/b006m9ry/click>

EXTENSION WORK

9 **Database key terms**

1. Use the suggested resources to define the following terms which are used in databases

- Database
- Table
- Field
- Record
- Entity
- Attribute
- Data type
- Validation
- Verification
- Flat file database
- Relational database
- Primary key
- Entity relationship
- Query

	<ul style="list-style-type: none"> • Form <p>2. Explain who might use a database and what for</p> <p>3. Analyse the benefits and limitations of using a database rather than paper records</p> <p>Present this as a word-processed document with images if you think this will help.</p> <p>Extension</p> <p>Explain what is meant by the following entity relationships and give an example of entities they can be used with:</p> <ul style="list-style-type: none"> • one to one, • one to many, • many to many. <p>Example (one to many: one teacher can have students)</p>
<p>10</p>	<p><u>E-safety / PowerPoint practical task</u></p> <p>Imagine you have been asked to lead an assembly for the new Year 7s on e-safety. Create a Microsoft PowerPoint for this purpose. You will need to include:</p> <ul style="list-style-type: none"> • A suitable title page • Several clearly laid out slides that include images as well as text • Speakers notes for each slide that go into more detail about what would be said • An embedded video • A final slide with links to place for extra help / information <p>A bibliography in the speaker's notes are of the final slide.</p>
<p>11</p>	<p><u>Computer Systems</u></p> <p>This task is all about understanding what is meant by a computer system. The following sources will be useful:</p> <p>LINK 1</p> <p>LINK 2</p> <p>VIDEOS</p> <ul style="list-style-type: none"> • Make a collage or mind map of examples of computer systems • Explain what is meant by the input-process-output cycle • Explain the use, advantages and disadvantages of at least FOUR input devices • Explain the use, advantages and disadvantages of at least FOUR output devices • Explain the use, advantages and disadvantages of at least FOUR storage devices • Cloud storage is a method where storage is not on a physical device, but on a remote server. Analyse the pros and cons of using cloud storage on (a) an individual and (b) on organisations • A bibliography <p>Present the work as a word-processed report</p>

12	<u>Spreadsheet practical task 1</u> You will need to use Microsoft Excel for this task (available through your Office 365 login) Download the files provided and the Spreadsheet Tasks Work through the tasks and submit your finished spreadsheet.
13	<u>Spreadsheet practical task 2</u> You will need to use Microsoft Excel again for this task (available through your Office 365 login) Download the files provided and the More Spreadsheet Tasks Work through the tasks and submit your finished spreadsheet.