

Progression - Information Technology

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1. Thinking of studying Information Technology at Worcester Sixth Form College?

We teach the **BTEC National Certificate in Information Technology (Year 1)** and **BTEC National Extended Certificate in Information Technology (Year 2)** specifications.

Here is a brief summary of the topics we cover over the two-year course.

BTEC National Certificate in Information Technology

- Unit 2 – Creating Systems to Manage Information

Learners study the design, creation, testing and evaluation of a relational database system to manage information.

- Unit 3 – Using Social Media in Business

Learners explore how businesses use social media to promote their products and services. Learners also implement social media activities in a business to meet requirements.

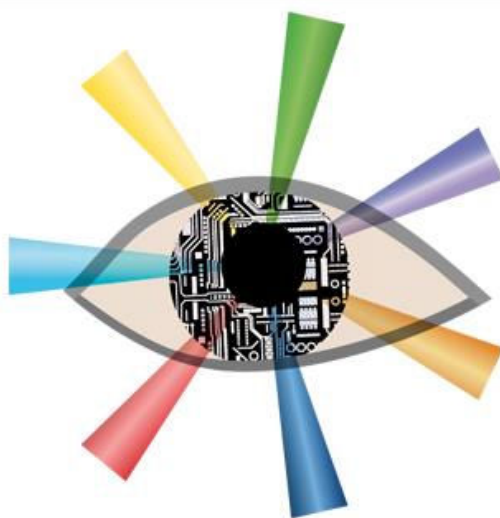
BTEC National Extended Certificate in Information Technology

- Unit 1 – Information Technology Systems

Learners study the role of computer systems and the implications of their use in personal and professional situations.

- Unit 5 – Data Modelling

Learners study how data modelling can be used to solve problems. They will design and implement a data model to meet client requirements.



2. Tasks to complete before September

In order to prepare for the course, you need to complete the tasks on pages 4 - 10.

Before you begin, find a folder to store this Booklet and all the notes that you make on the tasks. **You need to bring in this folder at the start of the course.** Make sure that your notes are neat and well-organised!



CHECKLIST

1. Specification Review ☐
2. Vocabulary Research ☐
3. Quiz ☐
4. Relational Databases ☐
5. Social Media Use in Business ☐

2. Tasks to complete before September

Specification Review

The exam board specification is a useful resource for helping you to understand the BTEC course you will be studying. Spend some time reading about the content of the course and how it will be assessed by using the links below:

Certificate

<https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Information-Technology/2016/specification-and-sample-assessments/specification-pearson-btec-level-3-national-certificate-in-information-technology.pdf>

Extended Certificate

<https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Information-Technology/2016/specification-and-sample-assessments/specification-pearson-btec-level-3-national-extended-certificate-in-information-technology.pdf>

Vocabulary Research

Now that you have reviewed the specification you can start to get to grips with some of the new terminology you will be using. On the specification each unit has a list of associated key terms which will be used throughout the assessment of that unit. One of the first units you will study as part of the IT course is Unit 2 – Creating Systems to Manage Information. Find out what the following key terms mean by reading through the definitions provided in the specification:

- Annotated screen shot
- Database Structure
- Data Dictionary
- Entity – Relationship Diagram
- Evaluate
- Normalisation
- Query
- Test Log
- Report
- User Interface

2. Tasks to complete before September

Quiz

1. Is Unit 1 internally or externally assessed?
 - a) Internally
 - b) Externally
2. In the essential content section of each unit the key learning aims are listed. For example, Unit 1 Learning Aim A is 'Digital Devices in IT Systems'. What are Unit 1 Learning Aims B - F ?

B. _____

C. _____

D. _____

E. _____

F. _____

3. Is Unit 2 a mandatory or optional unit?
 - a) Mandatory
 - b) Optional
4. In your own words can you describe what Unit 2 is about?

5. Which Learning Aim covers Design Documentation?

6. What is meant by the term 'Normalisation'?

7. What is meant by the term 'Query'?

2. Tasks to complete before September

Relational Databases

Task 1

In Unit 2 you will learn about how organisations use databases to organise and manage information. To get started you need to understand the difference between a 'Flat File Database' and a 'Relational Database'. Some videos you may find helpful are linked below:

- Database Tutorial for Beginners - <https://youtu.be/wR0ig0eQsZA>
- Relational Database Concepts - <https://youtu.be/NvrpuBAMddw>
- Introduction to Relational Databases - <https://youtu.be/z2kbsG8zsLM>

Explain the disadvantages of using a flat file database

How does a relational database avoid these problems?



Task 2

When you begin creating relational databases you need to use DBMS (Database Management System) software. In college you will be using Microsoft Access.

Find 3 other examples of DBMS:

1. _____
2. _____
3. _____



When you store pieces of data in a database you must identify their 'data type'. For example, a customer's surname would be stored as 'Short Text' in Microsoft Access.

Use the following link to research the various data types that can be used in Microsoft Access:

https://support.microsoft.com/en-us/office/tables-0d51ea2b-c8ae-45c4-a4ab-789c0f608b97?ui=en-US&rs=en-US&ad=US#id0eaabaaa=data_types

In the table below list 5 different data types and give an example of the data that might be stored using each:

Data Type	Example
Short Text	A customer's surname

Task 3

A cinema would have asked you to create a database to manage their booking information. The database needs to hold information about the films that are shown and the cinema's customers. The database will have a third table called 'Bookings' which will act as a bridge between the Film table and the Customer table.

Think about what data will need to be held in the database and identify the data types that should be used.

Film	
Field Name	DataType

Customer	
Field Name	DataType

Bookings	
Field Name	DataType

For each table identify which field you would use as a unique identifier (known as a Primary Key).

Film _____

Customer _____

Bookings _____

2. Tasks to complete before September

Social Media Use in Business

Task 1

As part of your course you will be studying how businesses use social media to attract customers, inform them about their products and services and to communicate with them.

Using your choice of social media platform (e.g. Instagram, Facebook, Twitter), choose three businesses that appeal to you and review their recent social media postings. Think about the following points:

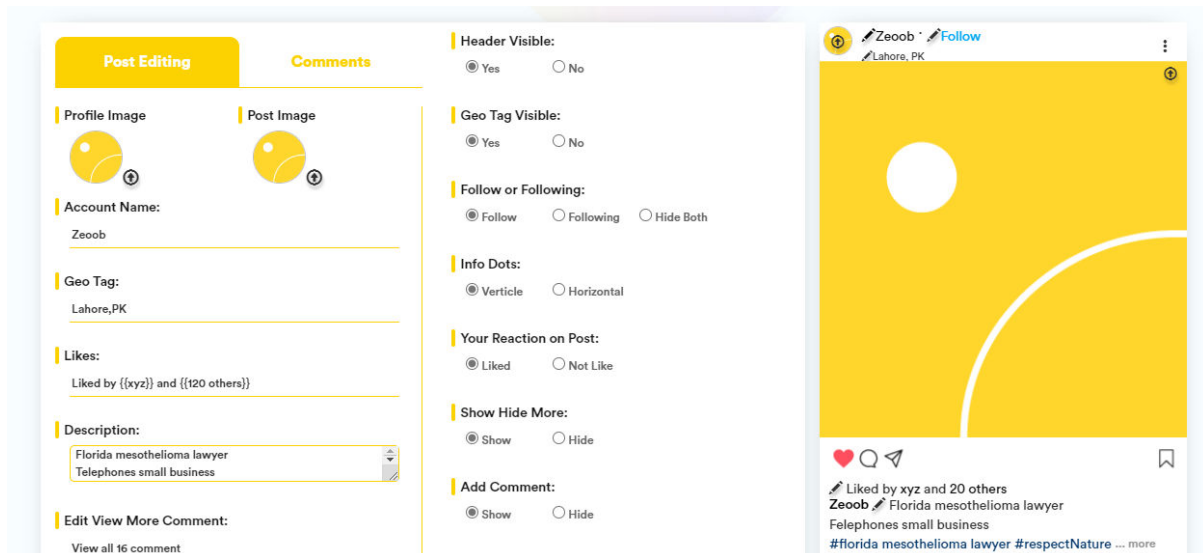
- Have they run a specific campaign advertising a particular product or offer?
- Are there any consistent factors used in their postings? E.g. hashtags, logos, time of posting
- Can you identify ways in which they have tried to appeal to you as a potential customer?
- How successful do you feel they have been in appealing to you as a potential customer? Why?
- Is there anything about their use of social media that you think is a negative feature?
- Are there any ways in which you think they could have improved their use of social media?

Imagine you have been recruited by the companies as a social media consultant. Create a presentation explaining your findings, including explaining which company you feel has been the most successful in their use of social media and your reasons why.



Task 2

Choose one of the businesses you have reviewed and design a post to advertise a new special offer they could run. The post should be in keeping with the company's style and brand. You may wish to use a post generator website such as www.zeoob.com to help you.



Task 3

Find a recent news story on each of the following topics:

- A legal issue in business use of social media, such as a breach of the Data Protection Act
- An ethical issue in business use of social media, such as a controversial marketing campaign

Summarise each story (max. 250 words each), exploring the issues raised and the actions taken by the business to respond to them. Explain how the story might affect a customer of the business.

You may find the social media section of the BBC website useful for this task:

<https://www.bbc.co.uk/news/topics/c207p54m4pdt/social-media>



3. Optional Tasks

i. Research Topics

These questions require you to develop your ability to **evaluate**. Being able to write evaluatively is a key skill for success on the BTEC IT course across all units. You will need to do some research to extend your knowledge and provide relevant examples. Reference any sources that you use to help you – there is a guide to referencing at the bottom of the page.

Use the links below to learn about common software and applications. You may already have experience of using some of these programs but you may need to investigate others using the internet.

Use the following points to evaluate each of the six applications linked below in no more than 200 words each:

- What is the purpose of the software? What problem does it solve?
- What is the target audience? (who will use it and why?)
- What are the key features of the software?
- How well does the finished product meet its purpose or objectives?
- How could the application be improved? Are there other applications on the market that do it's task better? How are they better?

You should then summarise your findings in a final conclusion where you compare the success of the various programs against each other (200 words).

- Spotify - <https://www.pocket-lint.com/apps/news/spotify/139236-what-is-spotify-and-how-does-it-work>
- Netflix - <https://www.dailydot.com/upstream/what-is-netflix/>
- Steam - <https://uk.pcmag.com/pc-games-2/70940/steam-for-pc>
- Ebay - <https://computer.howstuffworks.com/internet/basics/ebay.htm>
- Instagram - <https://www.webwise.ie/parents/explained-image-sharing-app-instagram/>
- LinkedIn - <https://www.linkedin.com/help/linkedin/answer/111663/what-is-linkedin-and-how-can-i-use-it-?lang=en>

A guide to the Harvard referencing style can be found here:

<https://www2.le.ac.uk/library/help/referencing/author-date>

There are also many free tools online to help you create references. Make sure that you reference each source carefully and try to use a wide range of sources.

3. Optional Tasks

ii. Mini Project

Part 1

Mrs Roberts has recently retired and is thinking of setting up a dessert delivery company (cupcakes, doughnuts, brownies etc). She is fairly confident with the use of IT but is concerned about possible health problems that she might develop from working with IT at home. Research and explain 5 IT related health problems that Mrs Roberts should be aware of and for each problem give an appropriate, different solution.

Your research should cover all aspects of the different possible health problems and preventions, government agencies / organisations involved, relevant examples and your own experience.

Part 2

Mrs Roberts would like to launch her new business on Facebook using a social media campaign. You need to identify and describe an appropriate target audience for her to aim the campaign towards (think about age, gender, income etc.) Plan and design 6 Facebook posts to be posted on consecutive days during the launch week of her business. Try to include a range of different content across your posts e.g. photos, videos, surveys etc.

Part 3

If her business launch is successful, Mrs Roberts would like to consider using a website and mobile app to sell directly to her customers. Design a website homepage for the business and a homescreen for the mobile app. What differences will you need to think about when designing for desktop vs. mobile devices? You may find it helpful to explore the approaches used by similar existing businesses.





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