

Bridging work for BTEC Computing Level 3

Welcome to the Computing qualification. You will be studying the BTEC Level 3 National Extended Certificate in Computing. This qualification is designed to support learners who are interested in learning about the computing sector alongside other fields of study, with a view to progressing to a wide range of higher education courses, not necessarily in the computing sector. It is designed to be taken as part of a programme of study that includes other appropriate BTEC Nationals or A Levels.

This course consists of 4 units of study:

Unit 1: Principles of computer science (External written exam)

Unit 2: Fundamentals of computer systems (External written exam)

Unit 7: IT systems security and encryption (Coursework)

Unit 14: Computer games development (Coursework)

The work that is highlighted for you to complete in this bridging unit is designed to help you prepare for studying this course. You will need to complete each section and bring in evidence of this in September to show to your Computing teacher. **You must attempt all tasks.**

Task one

Carry out research on the topics below, the research must be in your own words and clearly demonstrate your own understanding.

In a PowerPoint presentation, you need to research and create a slide on all of the topics below: You should make sure that each topic is presented onto a single slide but more importantly, the work should be your own. Any work copied or reworded from the Internet is against the rules on a BTEC Course so you need to get into the habit of ensuring the work is always **100% originally yours**.

- 1) Explain the different types of Operating systems with examples:
 - Real time operating system
 - Single-user single task
 - Single-user multi-tasking
 - Multi-user

- 2) Explain the different types of networks:
 - PAN
 - LAN
 - WAN
 - VPN

- 3) Research the computer misuse act 1990:
 - Why was the law introduced?
 - What does the law state?
 - What can a company do to prepare its employee's for this law?

- 4) Research Data protection legislation (GDPR):
 - Why was this law introduced?
 - What are the six principles of this law?
 - What are the consequences of breaking this law?
 - What law has this replaced?
 - What are the main differences between this legislation and the previous one?

Expectation: around 15 to 20 slides, remember to use a variety of sources and to provide the sources of your information.

Task Two

Carry out research on **one** person that has been successful in the field of IT. You should fill out the worksheet below:

Possible examples of people you can research about: Steve Jobs, Mark Zuckerberg, Bill Gates, Alan Turing, Ada Lovelace or Corrine Yu. **BUT** even better if you can find one of your own.

Name of person being researched	
The reason I selected this person is..	
WRITE ABOUT WHAT YOU FIND INTERESTING ABOUT THIS PERSON Areas you might comment on are: What are their notable contributions to the subject? Why they are successful, what seemed to drive them, what skills do they have that stand out, has their life been one of constant development or has it been uneven or barriers they needed to overcome? How have they achieved this? What questions do you have of them? Try to answer them.	

Task Three

You will need to go to the following links, enrol and complete the following online courses:

Programming task – CodeCademy - Python

Visit the following URL: <https://www.codecademy.com/catalog/subject/all>

Sign up for a CodeCademy account

Complete the Python Course: <https://www.codecademy.com/learn/learn-python>

Aim to complete a minimum of 3 to 4 tasks a week. Try to spend at least twenty minutes per day on this.

Programming task 2 – CodeCademy - HTML, CSS and JavaScript

Visit the following URL: <https://www.codecademy.com/catalog/subject/all>

Complete the following courses:

HTML and CSS: <https://www.codecademy.com/learn/make-a-website>

JavaScript: <https://www.codecademy.com/learn/introduction-to-javascript>

Aim to complete a minimum of 3 to 4 tasks a week. Try to spend at least twenty minutes per day on this.

You will need to take print screens of all completed courses.

Task Four

Please choose a task from the list below and write about it, ensure that you relate this task to the field of IT.

Read a book or an article, watch a film, watch a YouTube video, visit a specific related website, join an association, do an online course, participate in a free online lecture.

Task – Which task I completed:

My thoughts about this task are....

What I thought of the activity, it has made me think/inspired me about....