BTEC National Extended Certificate in Computing: Computer Games Development & Cyber Security

This course provides you with an opportunity to study in the field of Computer Science focussing on *Games Development & Cyber Security*. Cyber Security is often in the news and there is a recognised need for specialists to be trained to enter this industry. Games Development is an exciting area of Computer Science.

This qualification is a two-year vocational course and is equivalent to one A Level (e.g. the Distinction* is worth the same UCAS tariff points as the A* grade at A Level).

There are four units studied over two years, which include; *Computer Systems Fundamentals (examined unit year 1), IT Systems Security and Encryption (internally assessed, year 1)*, *Computer Science Principle (examined unit year 2)* and *Games Development (internally assessed, year 2)*.

- 42% of the work is assessed through internal assessment involving both written and practical tasks.
- 58% is assessed through external assessment involving two written examinations.
- Final grades of Pass, Merit, Distinction or Distinction* are awarded.

Preparing for written assessment

Task 1: In your assessments, you will be asked to **describe, explain, justify, evaluate** (among others)**.** These are referred to as **Command Verbs** and it is **essential** that you have a very clear understanding of the differences to maximise your grade potential.

1. Research BTEC assessment verbs and give definitions of the 4 verbs listed above.
2. Do the same for another assessment verb (from the BTEC list) of your own choosing.

Fundamentals of Computer Systems– Unit 2 (assessed by external exam) and Unit 7 Security

Task 2: We'll be covering a lot about computer security. As a starter, please work through the 10 Worst Computer Viruses of all time.

https://tinyurl.com/y88q8u3x **10 Worst Computer Viruses of All Time**

Make brief notes on these (a paragraph on each) to demonstrate to your teacher your ability at note taking.

(**Important** – so where are you making notes? Where will you make your notes next year?)

Your teachers will not say "Please notes on this", but they will expect you to do so. You will not be able to remember everything that is said so please, please get in the habit of making notes!

Think about each of these cases. What common factor(s) occur to you (if any)?

Write a short paragraph on advice that you may pass on to someone to help them avoid being a victim of an attack. How could you extend this advice to the college or a company to help them be secure?

N.B. Please make a note of any website/article or publication that you use for research.

Please turn over.

Learning to program

Task 3: There is no expectations for you to have programmed before, but any experience helps. We focus on Python 3 with introductions to C# (C sharp).

There are lots of free tutorials on **Python** available. If you have not programmed before, do investigate these so that it's not so unfamiliar when you start the course.

I suggest you listen to the first hour or so of https://www.youtube.com/watch?v=rfscVS0vtbw

Don't be put off; I'll start from the beginning when we meet. You'll enjoy it 😊

(We will be using Python 3, and the IDLE environment but again, that can wait!)

Games Development – Unit 14 (assessed by coursework)

Task 4: To get a flavour for this, then look at Construct 3 https://www.construct.net/en

Try playing some of their games; that's what we will be doing next summer.

In case you need to know, the textbook that supports the course is:

'BTEC National Computing Student Book - 2016 specification' Pearson ISBN 978-1-292-16692-6

A class set will be available for you to use in the classroom and the College library have a number that you can take out on loan. I'll also give you access to the online version once you start at college.

These tasks will all help to prepare you for the subject and what is required from you on the course.