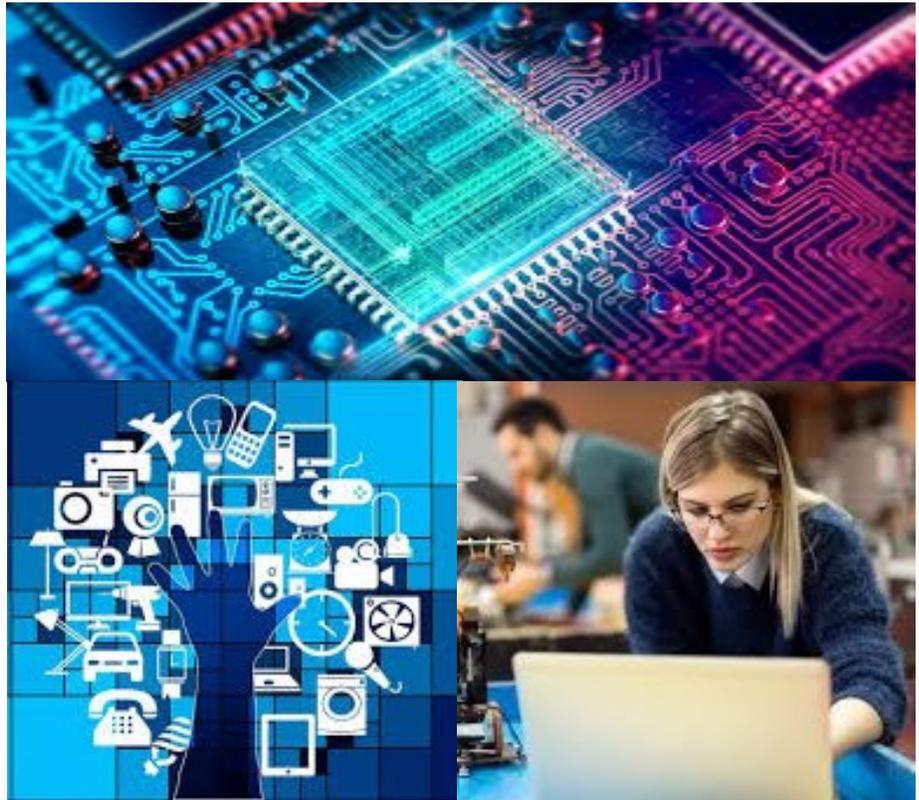


BTEC Level 3 Computing



BTEC Computing at Southborough Sixth Form

Welcome to BTEC

This course is designed to provide learners with knowledge and skills in computing, including programming, problem solving and logic techniques.

The course is designed for learners who are interested in learning about computing alongside other fields of study. It can be taken as part of a programme of study that includes other BTEC Nationals or A Levels.



Course Overview

Principles of Computer Science
Programming and Algorithms
Data Security and Encryption
Computer Game Development

It is a practical course in which you will develop skills like problems solving by using critical thinking, approach non-routine problems applying expert and creative solutions, use systems and technology. You will learn computer programming and other computing knowledge and apply your skills in building applications.

Studying BTEC Computing will help you developing your personal skills including communication, working collaboratively, self-management, adaptability and resilience, self-monitoring and development skills which are essential skills for any future employment.

www.southborough.kingston.sch.uk

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Outline of course

Unit 1: Principles of Computer Science

Problem solving is an essential skill in all areas of life. To be successful, professionals need to be able to analyse the needs of individuals and organisations, and to evaluate the suitability and effectiveness of current ways of working.

Unit 2: Fundamentals of Computer Systems

Knowing how and why computer components, and the data they use, perform in certain ways has a significant impact on the work of all computing professionals. In technical support roles, understanding how different parts of a system integrate facilitates accurate identification of problems and efficient solu-

Unit 7: IT Systems Security and Encryption

On a global scale, some conflicts reveal that IT systems are now a target. As IT system security defences become more robust, attack methods become more sophisticated. IT professionals require a good understanding of current security threats and of how to apply appropriate protection methods for any given situation.

Unit 14: Computer Games Development

The computer games industry has been growing year-on-year and has become a multi-billion pound industry. With the prevalence of computing devices, games consoles and mobile devices, this growth shows no sign of slowing. Many computer games are vast productions involving a range of people such as programmers, graphical artists, animators, level designers, actors and directors. As a games developer, you will analyse the needs of a client and understand the potential and limitations of different gaming solutions.

Entry Requirements

Due to the vast difference between GCSE and BTEC Computing we require that students wishing to do this course achieve a **grade 5 in both English and Maths at GCSE.**

What could this qualification lead to?

The requirements of the qualification will mean that learners develop the transferable and higher order skills which are valued by higher education providers and employers. The qualification carries UCAS points and is recognised by higher education providers as contributing to meeting admission requirements for many courses if taken alongside other qualifications as part of a two-year programme of learning, including, but not exclusively, those which are information technology and computing related.

How does the qualification provide transferable knowledge and skills for higher education?

All BTEC Nationals provide transferable knowledge and skills that prepare learners for progression to university. The transferable skills that universities value include:

- the ability to learn independently
- the ability to research actively and methodically
- being able to give presentations and being active group members.

BTEC learners can also benefit from opportunities for deep learning where they are able to make connections among units and select areas of interest for detailed study. BTEC Nationals provide a vocational context in which learners can develop the knowledge and skills required for particular degree courses, including:

- reading scientific and technical texts
- effective writing
- analytical skills