

A LEVEL ELECTRONICS

Why choose A level Electronics?

The study of Electronics will enable you to develop an understanding of electronic components, systems, processes and methods. The contents of the course will help you answer questions about practical circuits and solve practical engineering tasks.

The theory covered will be reinforced by practical investigations, including design and make tasks, throughout the course.

What will I study?

You will study a course with 20 topics areas divided between a common core and two components. Each topic you will study the theory and put the theory into practice by carrying out practical investigations wherever possible.

The common core consists of the following topics:

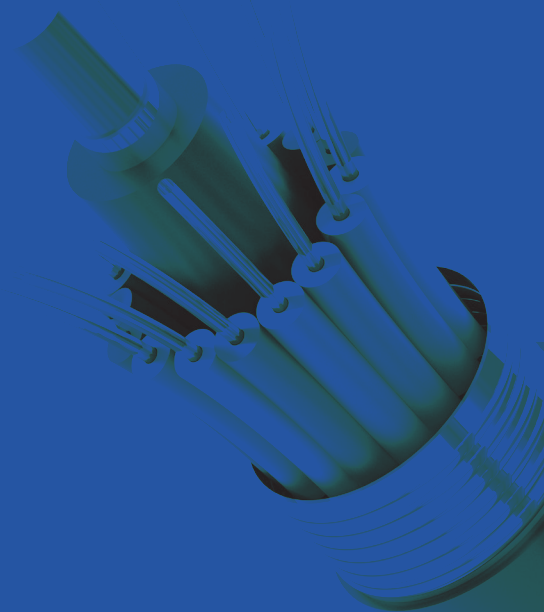
1. System synthesis
2. DC Electrical circuits
3. Input and output sub-systems
4. Energy and power

Component 1 consists of the following topics:

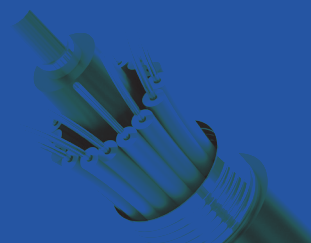
1. Semiconductor components
2. Logic systems
3. Operational amplifiers
4. Signal conversion
5. AC circuits and passive filters
6. Communications systems
7. Wireless transmission
8. Instrumentation systems

Component 2 consists of the following topics:

1. Timing circuits
2. Sequential logic systems
3. Microcontrollers
4. Digital communications
5. Optical communication
6. Mains power supply systems
7. High power switching systems
8. Audio systems



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What skills will I develop?

You will develop the scientific and engineering skills to analyse and design electronic systems for a range of practical situations. You will learn about and work with a wide range digital and analogue electrical and electronic systems. For instance, you will be involved in:

- design logic circuits to perform a set task;
- testing amplifier circuits for their suitability;
- studying digital communication systems including fibre optical systems;
- programming a microcontroller (a computer on a single chip) through assembly code and wiring the microcontroller into a circuit to control processes in the real world.

How will I be assessed?

The qualification is assessed in 3 components.

Component 1	Assessed by exam A mix of short answer and extended answer questions with some set in a practical context	40% of the final mark
Component 2	Assessed by exam A mix of short answer and extended answer questions with some set in a practical context	40% of the final mark
Component 3 Non-exam Assessment	Assessed by an extended system design and realisation tasks Two extended system design and realisation tasks to assess electronics skills	20% of the final mark

Careers with Electronics

The knowledge and skills you will learn and practice throughout the course will help you to progress to Level 4 courses, apprenticeships or careers in electronics or wider engineering areas, such as process control, systems design, manufacturing,

robotics/automation and medical services. The transferrable skills developed by studying electronics are actively sought out by universities and employers.