THE LEIGH UTC
a school for 11-19 year olds

Post 16 at The Leigh UTC

Course Directory

For courses starting September 2025

Welcome to The Leigh UTC

Our outstanding Post 16 offers broad opportunities to study and develop skills and attributes desired by universities and companies alike. You can choose from a range of carefully designed pathways which will support the next stage of your education. These pathways provide various avenues all focussed to help you combine courses of your preference, ranging from the Technical Baccalaureate, Academic qualifications and the pioneering T levels.

Outside of the classroom you are invited to attend additional guided learning sessions that allow you to gain further knowledge, skills and expertise. Here at The Leigh UTC, we have exceptional facilities and state of the art study spaces which make becoming an expert in the field of STEM and international programmes easy.
Post 16 students are an integral part of the school demonstrating high standards and being seen as role models by all other year groups. The high expectations that are set for students provide life skills for the next stage in their education and beyond. Punctuality, attendance, positive attitude for learning and adherence to the uniform code can be observed by our Post 16 students.

Students are encouraged to take an active role in building the culture and philosophies of the year 12 and 13 cohorts including voting for representatives on the student council and leading extra-curricular activities and events.

Science	Technology	Engineering	Maths and Enterprise
A-LEVELS Choose 3 - 4 from: Biology Chemistry DT English Language & Literature Physics Psychology	**T-LEVELS** **Digital** Equivalent to 3 A Levels. Includes a placement with industry leaders	**T-LEVELS** **Engineering** Equivalent to 3 A Levels. Includes a placement with industry leaders	**T-LEVELS** **Marketing** Equivalent to 3 A Levels. Launching in 2025. Marketing and Business specialism-focused
	A-Level Computer science	**BTEC (Double)** Engineering	**BTEC (Double)** Business
Maths A-Level or L3 Core Maths			
EPQ Extended Project Qualification			

Making an Application

If you would like to make an application to Post 16 at The Leigh UTC you will need to complete an application on the Leigh UTC Applicaa site. https://theleighutc.applicaa.com/3

Following a completed application, you will be able to book a guidance meeting to discuss your application and your aspirations. During this meeting we will also look at all the pathways and your predicted grades and decide which is best for you.

T Level

Digital Production, Design and Development

T-LEVELS
THE NEXT LEVEL QUALIFICATION

THE LEIGH UTC
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Qualification Aims and Objectives

The Technical Qualification has been designed to help students gain the knowledge and skills for the global market. It allows hands-on experience using latest technologies including VR Headsets, fast PCs, dedicated server room and 3D printers.

Students will learn about the following topics:
● problem solving ● programming ● emerging issues and impact of digital ● legislation and regulatory requirements ● business context ● data ● digital environments ● security.

Course Outline

During your T Level Journey for Digital Production, Design and Development you will complete:

- 315-hour industry placement (approximately 45 days)
- A Technical Qualification – where you will specialise in a particular occupation.

Your Technical Qualification will be the largest part of your T Level it will be a total of 1200 hours which equates to 3 ½ A Levels.
It is split into two Components.
1. The Core Component, which has two exams and an Employer Set Project.
2. The Occupational Specialist Component, which has a large project.

T Levels are two-year, Level 3 study programmes that will follow the study of GCSEs and Technical Awards at Key Stage 4 and offer an attractive alternative to A Levels and Apprenticeships. T Levels will combine classroom theory, practical learning and a minimum 315 hours of industry placement with an employer to make sure students have real experience of the workplace.

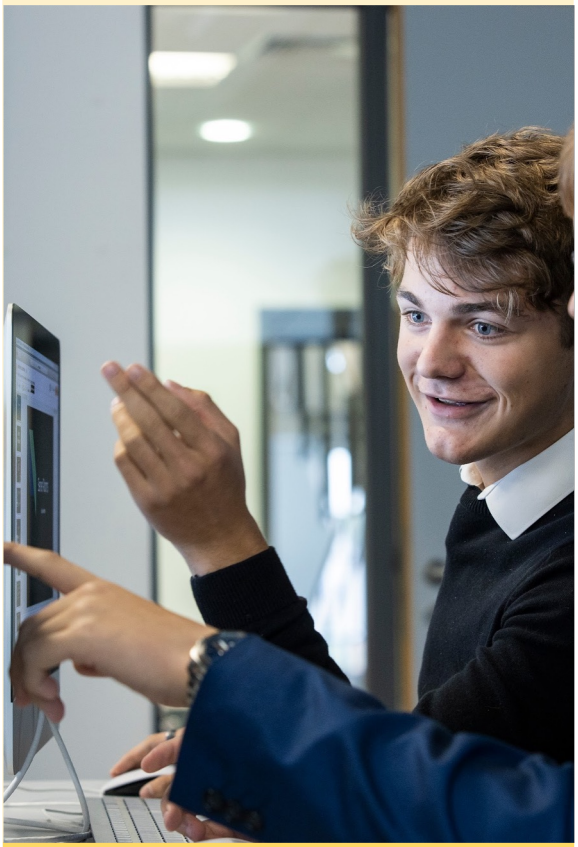
The T Level programmes have been developed in collaboration with employers and businesses so the content will meet the needs of industry and prepare students for work.

The T Level pathway is a two year programme that is studied at The Leigh UTC alongside the Extended Project Programme and a Level 3 maths qualification.

Depending on the applicants maths GCSE grade will determine which Level 3 qualification this is.

Useful website for further information:

T-LEVELS - The Next Level Qualification
https://www.tlevels.gov.uk/



Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including Computer Science English and Maths.

Vocational Tech Award qualification(s) at Level 2 at Merit and above in a relevant subject, e.g. BTEC Tech Award in Digital Information Technology.

Future courses and possible careers:

- Software Development Technician
- Junior Developer
- Junior Web Developer
- Junior Application Developer
- Junior Mobile App Developer
- Junior Games Developer
- Junior Software Developer
- Junior Application Support Analyst
- Junior Programmer
- Assistant Programmer
- Automated Test Developer

T Level

Engineering: Toolmaking and Manufacture

T-LEVELS
THE NEXT LEVEL QUALIFICATION

THE LEIGH UTC
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Qualification Aims and Objectives

This is a two-year course that offers an excellent progression from the BTEC Level 2 Engineering course. In Y12 the course consists of 17 engineering topics selected by employers which are externally assessed through 2 exams. Theory is also taught through project-based coursework assignments, including a range of practical tasks and presentations.

An employer led project is also completed in the first year along with 25 days work experience.

In Y13 students then specialise in manufacturing and complete a large manufacturing assignment and complete another 20 days work experience.

Course Outline

The T level course is a complete L3 qualification worth 3 A levels. In addition, students may be able to complete a Core Maths and EPQ qualification. If you want to gain an in-depth knowledge of engineering principles and how these are applied in the industry, the T Level in Engineering will develop your understanding of materials, mechanical principles, engineering processes, computer-aided manufacturing, modern manufacturing systems, additive manufacturing, machining and many other industry-based topics, learning about how engineering companies run, which student can see for themselves through work experience.

This course is suitable for anyone who has completed the BTEC Level 2 Engineering course, although not essential, and wants to develop their skills to a higher level, working in areas of specialism including Computer Aided Design, CNC Machining, electronics and manufacture.

Completion of the course will enable you to apply for a job as a CAD designer, materials engineer, manufacturing engineer, maintenance engineer, tool maker, fabricator, welder or machine operative, progress to an advanced engineering apprenticeship or study for a higher-level engineering qualification.

The T Level pathway is a two year programme that is studied at The Leigh UTC alongside the Extended Project Programme and a Level 3 maths qualification.

Depending on the applicants maths GCSE grade will determine which Level 3 qualification this is.

Useful website for further information:

T-LEVELS - The Next Level Qualification
https://www.tlevels.gov.uk/

Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths.

Vocational Tech Award qualification(s) at Level 2 at Merit and above in a relevant subject, e.g. BTEC Tech Award in Engineering.

Future courses and possible careers

- Engineering operative
- Manufacturing operative
- Semi-skilled operative
- Engineering technician
- Electronics technician
- Mechatronics technician
- BEng (Hons) in Engineering
- BEng (Hons) in Electronics Engineering
- BEng (Hons) in Aerospace Engineering
- BSc (Hons) in Computer Science
- BSc (Hons) in Mathematics.

T Level

Marketing

T-LEVELS
THE NEXT LEVEL QUALIFICATION

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Qualification Aims and Objectives

The Technical Qualification has been designed to help students gain the knowledge and skills for the global market and progress into the marketing sector.

Students will learn about the following topics:
●purposes of marketing ● business environment ● types of marketing ● sales techniques● procurement● customer service● communications● project management

Course Outline

During your T Level Journey for Marketing you will complete:

- 315 hour industry placement (approximately 45 days)
- A Technical Qualification – where you will specialise in a particular occupation.

Your Technical Qualification will be the largest part of your T Level it will be a total of 1200 hours which equates to 3 ½ A Levels.
It is split into two Components.
1. The Core Component, which has two exams and an Employer Set Project.
2. The Occupational Specialist Component, which has a large project.

T Levels are two-year, Level 3 study programmes that will follow the study of GCSEs and Technical Awards at Key Stage 4 and offer an attractive alternative to A Levels and Apprenticeships. T Levels will combine classroom theory, practical learning and a minimum 315 hours of industry placement with an employer to make sure students have real experience of the workplace.

The T Level programmes have been developed in collaboration with employers and businesses so the content will meet the needs of industry and prepare students for work.

The T Level pathway is a two year programme that is studied at The Leigh UTC alongside the Extended Project Programme and a Level 3 maths qualification.

Depending on the applicants maths GCSE grade will determine which Level 3 qualification this is.

Useful website for further information:

T-LEVELS - The Next Level Qualification
https://www.tlevels.gov.uk/

Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths.

Vocational Tech Award qualification(s) at Level 2 at Merit and above in a relevant subject, e.g. BTEC Tech Award in Business

Future courses and possible careers:

- Marketing Assistant
- Account Executive
- Marketing Executive
- Public Relations
- Communications Assistant

Degrees

- Business and Marketing
- Marketing

A Level
Biology

Qualification Aims and Objectives

The study of life itself, A level Biology explores the theories and principles involved in living systems, in all their intricate beauty. Topics you will learn about include: lifestyle, transport, genes and health, development, plants and the environment, the natural environment and species survival, energy, exercise and coordination, as well as practical biology and research skills. By the end of the course, you will know about the principles of genetics, molecules, taxonomy, natural selection, evolutionary theory, global warming, bacteria and viruses, and more.

You will gain an understanding of how society makes decisions about scientific issues, as well some of the ways in which the scientific community contributes to the success of the economy and society.

Course Outline

Your A level grade is determined by your performance in three written papers at the end of the course, which include questions relating to both theory and practical skills.

Practical skills are assessed by your teacher during a minimum of 12 lab and field experiments, the results of which are sent to the exam board for moderation. Your practical skills result is reported alongside (but does not contribute to) your A level grade.

A level Biology is a highly respected academic A level, and it makes an excellent choice, offering you access to a wide range of university courses and careers. You'll need biology for most degrees in medicine, biology, biomedical sciences, dentistry, dietetics, physiotherapy, orthoptics and veterinary medicine. Biology is usually required or recommended for courses in biochemistry, environmental science, nursing, occupational therapy, optometry, pharmacy, sports science, physiology and speech therapy.

What might I study this alongside?

This could be studied alongside:

- Chemistry
- Computer Science
- DT
- English Language & Literature
- Maths
- Physics
- Psychology
- EPQ

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English, and 9-7 in Maths and Sciences

Future courses and possible careers

- Biochemistry
- Physiotherapy
- Environmental science
- Pharmacy
- Medicine

A Level
Chemistry

Qualification Aims and Objectives

Studying A-level Chemistry provides students with a deep understanding of the fundamental principles governing the natural world, making it a fascinating and intellectually stimulating subject. It develops critical thinking, problem-solving, and analytical skills, which are valuable in a wide range of fields. Chemistry is central to many scientific disciplines, opening the door to exciting careers in various sectors.

Additionally, careers in food science, cosmetics, and energy offer dynamic opportunities to apply chemistry in innovative ways, making it a versatile and rewarding subject to study. You will also gain an understanding of how society makes decisions about scientific issues, as well some of the ways in which the scientific community contributes to the success of the economy and society.

Course Outline

Your A level grade is determined by your performance in three written papers at the end of the course, which include questions relating to both theory and practical skills.

Practical skills are assessed by your teacher during a minimum of 12 lab and field experiments, the results of which are sent to the exam board for moderation. Your practical skills result is reported alongside (but does not contribute to) your A level grade.

What does this lead to career-wise?

A level Chemistry is a highly respected academic A level, and it makes an excellent choice, offering you access to a wide range of university courses and careers. You'll need Chemistry for many degrees leading to professional qualifications like medicine and dentistry. Students can also pursue roles as pharmacists, chemical engineers, biochemists, environmental scientists, forensic scientists, toxicologists, and medical researchers.

What might I study this alongside?

This could be studied alongside:

- Biology
- Computer Science
- DT
- English Language & Literature
- Maths
- Physics
- Psychology
- EPQ

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English, and 9-7 in Maths and Sciences

Future courses and possible careers

- Biochemistry
- Chemical engineering
- Green chemistry
- Environmental science
- Pharmacy
- Medicine

A Level
Physics

Qualification Aims and Objectives

Physics involves looking at the rules of the natural world and attempting to describe and explain them, especially mathematically. It is a subject in its own right and is a cornerstone for most forms of engineering and other relevant disciplines. You will be learning about a wide array of natural phenomena, including energy, forces, gravity, waves, resonance and electronics. You will learn and apply definitions, diagrams and formulas. You will also learn algebraic, statistical and practical skills.

Course Outline

Year 1: Experimental methods and numerical methods for interpreting data, Waves, Mechanics, Electrical circuits, particle physics.

Year 2: Electric fields, Capacitors, Electromagnetism, Gravitational fields, Circular Motion, Gas laws. Optional Modules (to be decided by students): Astrophysics, Medical Physics, Engineering Physics , Turning points in Physics

Physics A-level leads directly into physics and engineering degrees and is also very well respected by employers and is required for these subjects. It is also a facilitating subject for university applications in many subjects, including Mathematics, Economics and Chemistry. Not having Physics will be a disadvantage at good universities if applying to these subjects. Additionally, Physics is often a facilitating subject for medicine. Due to its difficulty and the logical approach required when learning it, Physics A-level students tend not to have any trouble applying to non-related university courses, such as law or psychology, if mixed with subjects that are directly related.

What might I study this alongside?

This could be studied alongside:

- Biology
- Chemistry
- Computer Science
- DT
- English Language & Literature
- Maths
- Psychology
- EPQ

OR

- BTEC Engineering
- BTEC Business

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English, and 9-7 in Maths and Sciences

Future courses and possible careers

- Engineering
- Maths
- Medicine
- Psychology
- Sciences
- Physics

A Level

Psychology

Qualification Aims and Objectives

This qualification offers an engaging and effective introduction to Psychology. Students will learn the fundamentals of the subject and develop skills valued by Higher Education (HE) and employers, including critical analysis, independent thinking and research.

Course Outline

Paper 1 - Introductory topics

- 1 Social influence
- 2 Memory
- 3 Attachment
- 4 Psychopathology

Paper 2 - Psychology in Context

- 5 Approaches in Psychology
- 6 Biopsychology
- 7 Research methods
- 8 Issues and debates in Psychology

Paper 3 - Issues and Options in Psychology

The qualification is intended to carry 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, and it combines well with many subjects. It will support entry to HE courses in a very wide range of disciplines, depending on the subjects taken alongside. However, for learners wishing to study an aspect of Psychology in HE, opportunities include: BSc (Hons) in Psychology overall, or in specific areas of focus, including but not limited to: Applied Psychology, Educational Psychology, Clinical Psychology, and Forensic Psychology.

What might I study this alongside?

This could be studied as part of the A level options:

- Biology
- Chemistry
- Computer Science
- DT
- English Language & Literature
- Maths
- Physics

OR

- BTEC Engineering
- BTEC Business

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths

Future courses and possible careers

- Human health and social work
- Education
- Legal, social, and welfare professions
- Business, HR, and finance
- Marketing, PR, and sales
- Psychologist
- Psychotherapist
- Forensic Psychology
- Human Resources
- Psychotherapy

A Level

Computing

Qualification Aims and Objectives

A level Computer science is split into two complementary sections, programming and theory. On the programming side of the course, students can learn a programming language (chosen by your teachers from C#, Java, Pascal/Delphi, Python and VB.Net). You will cover the fundamentals of programming, data structures, algorithms, and object-:orientated programme design.

The theory side of computer science teaches about the internal workings of a computer, right down the basics of how all data is stored using binary, whether that data consists of numbers, text, pictures or even music. It goes on from there to cover aspects of computer architecture, showing exactly how data is accessed from main memory using assembly language instructions and the fetch-execute cycle.

Course Outline

Topics include:

- Software development
- Algorithms
- Exchanging data
- Programming

Most businesses rely on computers to function effectively, so whether you want to work for an IT consultancy, a major organisation in retail, aerospace or healthcare for example, or even set up your own web design business, you'll have a great start to your career with a sought-after computer science qualification.

Computer science is a practical subject that enables you to apply the academic principles learned in the classroom to real world systems. It is a creative subject that helps you to develop the skills to solve problems, design systems and understand the power and limits of human and machine intelligence. There is an emphasis on learning computer programming and the mathematical skills used to express computational laws and processes.

What might I study this alongside?

This could be studied as part of the A level options:

- Biology
- Chemistry
- DT
- English Language & Literature
- Maths
- Physics
- Psychology

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English, and 9-7 in Maths and Computer Science

Future courses and possible careers

- Computer Science
- Computer programming
- Games designer/developer
- Cyber security analyst
- Data analyst
- Database administrator
- Software engineer
- Applications developer

BTEC

Engineering Manufacturing

Qualification Aims and Objectives

This is a two year course that offers an excellent progression from the BTEC Level 2 Engineering course. The full Diploma course consists of 10 units of work completed over two years. It is assessed internally and externally through project-based coursework assignments, including a range of practical tasks and presentations.

If you want to gain an in-depth knowledge of engineering principles and how these are applied in the industry, the BTEC Level 3 Diploma in Manufacturing Engineering will develop your understanding of materials, mechanical principles, engineering processes, computer-aided manufacturing, modern manufacturing systems, additive manufacturing and machining.

Course Outline

The full course consists of 10 units of work completed over two years with each unit building towards the final grade at the end of Year 13. Engineering principles and Engineering Product Design and Manufacture are the externally assessed units and will be taught over the 2 years of study. All other units have been designed to complement each other. Health and safety, teamwork and interpreting and creating computer-aided engineering drawings are integral to every unit and are assessed throughout the course. A specialist engineering project allows you to design, develop and manufacture a product using skills and knowledge obtained in other machining units.

This course is suitable for anyone who has completed the BTEC Level 2 Engineering course, although not essential, and wants to develop their skills to a higher level, working in areas of specialism including Computer Aided Design, electronics and manufacture.

Completion of the course will enable you to apply for a job as a CAD designer, materials engineer, manufacturing engineer, maintenance engineer, tool maker, fabricator, welder or machine operative, progress to an advanced engineering apprenticeship or study for a higher-level engineering qualification.

What might I study this alongside?

This could be studied on the Engineering Pathway alongside:

- A Level Physics or Computing
- A Level Maths
- EPQ

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths

Future courses and possible careers

- Engineering operative
- Manufacturing operative
- Semi-skilled operative
- Engineering technician
- Electronics technician
- IT support technician
- Mechatronics technician
- BEng (Hons) in Engineering
- BEng (Hons) in Electronics Engineering
- BEng (Hons) in Aerospace Engineering
- BSc (Hons) in Computer Science
- BSc (Hons) in Mathematics.

A Level

Design Technology

Qualification Aims and Objectives

Design is a process that links innovation and creativity, providing a structured process based on well-established design principles to resolve real-life problems. Design involves generating ideas, exploring the possibilities and constraints to find solutions.

Design is human-centred and focuses on the needs, wants and limitations of the end user. Students will develop an understanding of design through theory and practical work. Students will have the opportunity to undertake a range of practical projects to demonstrate their understanding and deepen their knowledge.

Course Outline

Students study the following:
- Identify, investigate and outline design possibilities to address needs and wants
- Design and make prototypes that are fit for purpose
- Analyse and evaluate design decisions and outcomes, including for prototypes made by themselves and others. Also, wider issues in design and technology
- Demonstrate and apply knowledge and understanding of technical principles and the design and making principles

External Assessments -
Unit 1 - 2-hour paper (20%),
Unit 3 – 2-hour 30-minute paper (30%)
Non-Exam Assessment
Unit 2 - Design and Make Project (20%)
Unit 4 -Design and Make Project (30%)

Industrial visits, as well as guest speakers, will allow students to gain real insight into how their subjects relate to the world of work. This qualification aims to prepare students for the workplace by incorporating skills such as effective researching, creating and designing, manufacturing, analysing, and evaluating. This shows potential employers that students are well rounded and a focus on industrial visits helps to give them experiences to talk about in potential interviews.

A Level design technology achieves a high level of design literacy by enabling students to develop critical-thinking and design skills, which they can apply in a practical context. While designing may take various forms, it will involve the selective application of knowledge within an ethical framework.

This could be studied as part of the A level options:
- Biology
- Chemistry
- Computer Science
- English Language & Literature
- Maths
- Physics
- Psychology

OR
- BTEC Engineering
- BTEC Business

THE LEIGH UTC
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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths

Future courses and possible careers

- Product Design
- Computer Aided Design
- Architecture
- Engineering

BTEC

Business Studies

Qualification Aims and Objectives

This course is designed to engage learners with the basics of business. Concepts covered include personal finance, marketing and the business environment. This full course is designed to engage and challenge learners further within the field of business theory. Over the two-year programme, students will build on the content from the certificate as well as developing their understanding of the themes of 'strategy' and 'managing change'.

This course can be taken as a Certificate (equivalent to 1 A Level) or a Diploma (equivalent to 2 A levels) and can be studied within our Technical, Academic and Professional pathways.

Course Outline

Year 12:

- Unit 1: Exploring Business
- Unit 2: Developing a Marketing Campaign

Year 13:

- Unit 3: Personal and Business Finance
- Unit 8: Recruitment and Selection Process

Assessment consists of both internally and externally assessed components.

The broad base of this qualification makes it suitable for a wide range of future opportunities. It gives students a wide choice of progression options into further study such as degrees, training and apprenticeships or other relevant employment in the business sector.

BTEC Nationals use a combination of assessment styles to give you the confidence you can apply your knowledge to succeed in the workplace – and have the study skills to continue learning on higher education courses and throughout their career. With input from over 5,000 teachers, employers and higher education institutions, this new BTEC National in Business combines up-to-date industry knowledge with the right balance of the practical, research and behavioural skills you need to succeed in higher education and in your careers.

What might I study this alongside?

This could be studied on the Maths and Enterprise Pathway alongside:

- A Level Computing
- A Level Maths
- EPQ

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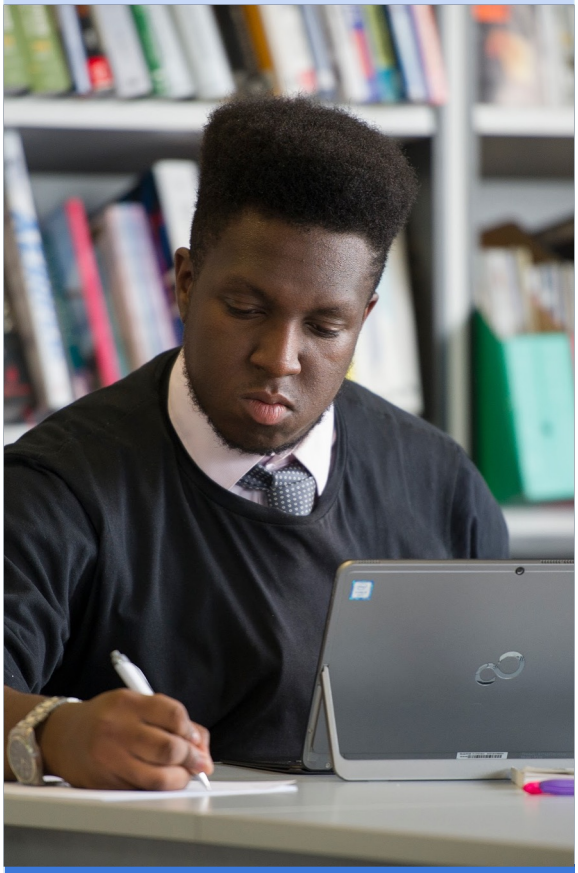

Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths

Future courses and possible careers

- Banking
- Business Management
- Insurance
- Retail Management
- Public Sector Administration

A Level

English Literature and Language

Qualification Aims and Objectives

Regardless of what you want to study after Sixth Form, English provides you with the skills to critically read, respond to, and produce texts. Studying English improves open-mindedness, intercultural understanding and communication, all crucial in our modern world.

Designed with a focus on the integration of language and literature, this specification enables students to see how linguistic and literary methods are related and to explore these links in their work.

Offering clear skills progression from GCSE, this course allows students to build on the skills and knowledge already gained and prepare for their next steps. The variety of assessment styles used, such as re-creative writing, commentary writing, discursive essays and research-based investigative writing, allows students to develop a wide range of skills. These include the ability to read critically, analyse, evaluate and undertake independent research, which are invaluable for both further study and future employment.

Course Outline

The course consists of seven components, each focusing on a different theme. These themes include imagined worlds, poetic voices and dramatic encounters. The course offers the study of a range of exciting texts, including literary classics (*Frankenstein*, *The Handmaid's Tale*), renowned poets (*Carol Ann Duffy*, *Robert Browning*) and exciting dramatic texts (*A Streetcar Named Desire*, *Othello*).

The course is assessed with two written exams, and a non-exam assessment which is marked 'coursework style' by the teacher. The course is linear, meaning all exams are sat at the end of the course.

As English creates skilled communicators, critical thinkers, and empathic team workers, the skills and habits developed in this course are relevant across a huge variety of sectors. English is a perfect complementary subject for any career path.

Our English Language and Literature A-Level course is designed in a way that allows students to think about the world around them and how this is explored through literary and non-literary works that cross time and space.

What might I study this alongside?

This could be studied as part of the A level options:

- Biology
- Chemistry
- Computer Science
- DT
- Maths
- Physics
- Psychology

OR

- BTEC Engineering
- BTEC Business

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Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English Literature and Language, and Maths

Future courses and possible careers

- Journalism
- Law
- Publishing
- Media
- Teaching
- Advertising
- Public relations
- Authorial writing

A Level
Mathematics

Qualification Aims and Objectives

The exciting linear Maths A Level specification is centred on problem solving, proof, reasoning and mathematical modelling. The Maths A Level course is fast-paced and it is necessary for young mathematicians to work independently to hone their skills. Students will be assessed after every topic and at the end of each half term. One of the overarching themes in the new specification is making concrete links between the different areas of Maths - pure, statistics and mechanics - and developing an understanding of how to model real-life problems using mathematical concepts. The huge impact Mathematics has on your daily life cannot be overestimated. This is what makes Mathematics such an interesting and varied subject.

Course Outline

The topics of study are:

Calculus, polynomials, binomial theorem, series, trigonometry, trigonometric identities, differentiation and integration, differential equations, numerical methods, exponentials and logarithms, vectors, kinematics, forces, Newton's laws, motion in 2D, data collection, representation of data, probability, discrete random variables, continuous random variables and hypothesis testing, big data sets.

A level Mathematics gives you the opportunity to study topics such as geometry, calculus and trigonometry (pure mathematics) and to use these ideas within the 'applied' topics such as mechanics and statistics.

Mechanics is strongly linked to physics and builds on ideas of motion and forces to work out how and why objects move. Statistics allows us to make sense of the complex and variable world around us via analytical methods to draw reliable conclusions from 'sets' of information.

What might I study this alongside?

It is our ambition that all students at The UTC study level three maths alongside their other qualifications.

A Level maths could be studies alongside:

- T Level Digital IT
- T Level Engineering
- A Level Physics/Biology/Computing

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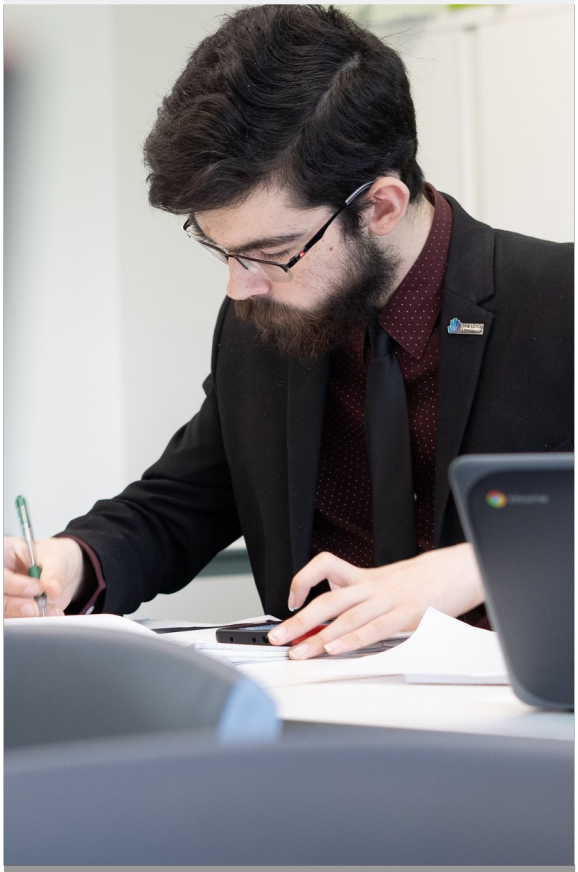

Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English, and 9-7 in Maths and Science

Future courses and possible careers

- Business sector and engineering
- Careers in the financial sector
- ICT
- Teaching & education
- Business sector and engineering
- Maths based university courses

AS Level (Equivalent)
Mathematical Studies

Qualification Aims and Objectives

During this course students will develop:

- an understanding of how mathematics can be applied in a real-world context
- critical analysis skills and reasoning
- their mathematical knowledge and how to make logical and reasoned decisions in solving problems both within pure mathematics and in a variety of contexts, and communicate the mathematical rationale for these decisions clearly

Course Outline

Over the two years students develop knowledge and understanding of mathematics in real life scenarios.

It will support the other Level 3 subjects the students are studying including Engineering.

Students will sit two exams at the end of the course.

Core maths will help you understand and apply clear mathematical reasoning to real-life problems, analyse and interpret data in various contexts, and confidently deal with everyday financial maths.

All students will study all the following topics:

- **Analysis of data** - data, collecting and sampling data & representing data numerically.
- **Personal finance** - numerical calculations, percentages, interest rates, repayments and the cost of credit, graphical representation, taxation & solutions to financial problems.
- **Estimation** - the modelling cycle & Fermi estimation.
- **Critical analysis** - presenting logical and reasoned arguments in context, communicating mathematical approaches & analytical criticism.

What might I study this alongside?

It is our ambition that all students at The UTC study level three maths alongside their other qualifications.

Core maths would be studied alongside T Level Digital or Engineering or as an alternative to A Level Maths.

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a school for 11-19 year olds

Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including English and Maths.

Future courses and possible careers

- Business sector and engineering
- Careers in the financial sector
- ICT
- Teaching & education
- Business sector and engineering
- Maths based university courses

AS Level (Equivalent)

Extended Project Qualification

Qualification Aims and Objectives

The EPQ is an independent research project on a topic of your choice which must be an extension of your A-level study. You will produce either a 5000 word essay or an artefact supported by a 1500 word report.

You will be taught research skills and provided with supervision to guide you through the research process. The EPQ attracts UCAS points up to A* and is highly regarded by Russell Group Universities and providers of Higher Level Apprenticeships.

Course Outline

The main content of the course is as follows

- You will be taught a range of research and report writing skills to enable you to independently carry out your own project.
- Carry out initial research to propose a project with clear aims & objectives which is an extension of your existing studies
- Research and realise the project, providing evidence of evaluation at each stage
- Present your findings and experience of the research process

There are several types of EPQ – students can write a research-based report, put on an event like a charity fundraiser, make something such as a piece of art or model or put on a performance such as a musical. Other options include producing a piece of creative writing or multimedia. But although the choices are wide and varied, students must show that it is academically useful, either relating to their current course of study or future career.

A research-based project involves writing a 5000-word dissertation; alternatives are backed up with a 1,000-word report. The final stage is a 10–15-minute presentation to a group of non-specialists about your topic. Students are expected to spend around 120 hours on their EPQ - although some take more time, others less. Students can expect support and guidance from a supervisor and most do their research in the summer holidays following year 12 and complete the project in the first term of year 13.

What might I study this alongside?

All students study either EPQ or Reflective project depending on the other courses they have chosen.

The EPQ complements the study of T Level and BTEC pathways. It is also a really useful qualification to add further diversity to your selection of qualifications.

THE LEIGH UTC

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Entry Requirements

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Future courses and possible careers

The completion of the EPQ is highly respected by business and university. We find that all students who complete the EPQ to a high standard get selected for interviews for apprenticeships and degree courses as it often shows a passion for their area of study.