

# SIXTH FORM OPTIONS



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**ONE OF THE BEST THINGS ABOUT BEING A UTC STUDENT IS THE OPPORTUNITIES AVAILABLE. THERE ARE ALWAYS INTERESTING PROJECTS RUNNING AND WHAT WE DO IS SPECIFICALLY AIMED AT HELPING US TO SUCCEED”**

*FORMER ENERGY COAST UTC STUDENT, UK AND INTERNATIONAL YOUNG ENGINEER WINNER*

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# WELCOME TO OUR SIXTH FORM

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Welcome to our Sixth Form options booklet, which contains information about the A Level and other level 3 courses that we offer. Please do take the time to read through, reflect upon, and discuss with family and friends the course descriptors for each subject that we offer so that you make an informed, mature choice about your future education and career path.

When it comes to choosing your options, many people will tell you to choose the subjects you enjoy and that interest you –which is good advice. But, it is also important to think further ahead and to consider what you might like to do in the future. It is scary to realise that the choices you make now will influence the choices you are able to make at the end of your A Levels and in turn, which degree courses, jobs and apprenticeships are open to you at the end of your time with us. Having the right information to hand now will give you more options when the time comes. For some degrees/apprenticeships, you will need to have studied a particular subject or range of subjects beforehand. It is our job here at the Energy Coast UTC to help you make decisions that won't make things harder for you in the long term. We need to be sure that the subjects you take equip you for your chosen university course, apprenticeship or employment, or of course show off your skills in a particular subject area. And most importantly, if you haven't yet decided what you would like to do in the longer term, we can advise you on the subjects that help keep your options open until you do.

The west coast of Cumbria will see significant investment in the coming decades, with up to 80,000 new jobs being created as our region becomes synonymous with the production of energy and all things related to engineering and construction. Our 'Energy Coast' has a wealth of commercial organisations seeking to employ and train talented young people to meet this demand. Whatever you are interested in, there is sure to be some engineering involved. As an engineer there are a wide range of career pathways open to you including:

- architecture
- design
- military
- civil
- electrical
- nuclear
- chemical
- maintenance
- structural

There are many other career pathways that engineering skills are useful for including Project Management and Commercial Law. Sellafield, for example, remains the world's most complex nuclear facility with a range of operations continuing there such as decommissioning, reprocessing and nuclear waste management and work continues towards a nuclear new build in this part of the country. These opportunities mean that West Cumbria could enjoy £90billion of investment in energy related projects and nuclear decommissioning in the next 15 years.

**Almost all students who leave the school progress to an apprenticeship.**

*Ofsted 2019*

## EMPLOYER PROJECTS

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All students work directly with an employer for at least 2 lessons per week. In addition students complete work experience lasting from 1 week to 50 days depending on the course studied.

A large number of students who complete a project with an employer gain an apprenticeship.

## OPTION CHOICES

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Students study **three** A Level / Level 3 qualifications. Most students study engineering and/or civil engineering plus subjects from the academic or vocational pathway. Pathways can be mixed.

### Engineering

- Level 3 engineering (A Level equivalent)
- Level 3 civil engineering (A Level equivalent)
- Level 3 construction (A Level equivalent)
- DEC! (A Level equivalent)

### Academic Pathway

We offer a range of academic subjects for those students who achieve 5 or more GCSE grades 4-9 including English and maths plus a grade 6 in the subject they wish to study at A Level.

Subjects offered at A Level are:

- Maths
- Chemistry
- English literature
- Physics
- Computer science

### Vocational Pathway

We offer a range of vocational subjects for those students who achieve 5 or more GCSE grades 4-9 including English and maths but who may not have a grade 6 in a subject they wish to study further. Students can also follow this pathway whilst re-sitting GCSE English or maths.

Subjects offered at Level 3 (A Level equivalent) are either:

- Applied science
- Business
- Cyber security
- Digital media
- Health and social care
- IT
- Maths
- Sport

## GCSE Resit Programme

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We will also offer GCSE resits in English, maths and science to students who worked hard at their first attempt in the summer exams and who are committed to working even harder throughout year 12, and to securing grade 4 or above in these important qualifications. Students also study a science and engineering.

If you have any questions or comments about any aspect of this options booklet or the education your child will receive should they choose to study at the Energy Coast UTC, please do not hesitate to contact the school at [enquiries@energycoastutc.co.uk](mailto:enquiries@energycoastutc.co.uk).

# APPLIED SCIENCE

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<b>Subject:</b>	Applied Science
<b>Exam Board:</b>	OCR
<b>Qualification gained upon successful completion of course:</b>	Level 3 Cambridge Technical Extended Certificate (1 x A Level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	Grade 4 GCSE science
<b>Examined through:</b>	Written exams Coursework assessments
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	Students will learn: <ol style="list-style-type: none"><li>1. Laboratory techniques</li><li>2. Scientific analysis and reporting</li><li>3. The control of hazards in a laboratory</li><li>4. Environmental surveying</li><li>5. Environmental management</li><li>6. Sustainable and renewable energy</li></ol>
<b>Why should a student choose to study this subject?</b>	All the sciences help students understand how to formulate a scientific approach to understanding and explaining the world and solving problems. Learners will be equipped with a wide range of transferrable skills which will help them become better prepared for whichever future pathway they choose.
<b>Progression routes:</b>	This course is designed to help students learn the fundamentals of working in a laboratory with a particular focus on environmental science. It is idea for students who want a career in either a laboratory setting or the environmental sector. You will also be able to develop a lot of transferrable skills which are sought after by a range of different employers.
<b>Who should parents contact for further information:</b>	Ian Lindner ian.lindner@energycoastuttc.co.uk

# BUSINESS

<b>Subject:</b>	Enterprise & Entrepreneurship
<b>Exam Board:</b>	Pearson
<b>Qualification gained upon successful completion of course:</b>	BTEC Level 3 National Extended Certificate (1 x A Level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	Grade 4 GCSE English and maths
<b>Examined through:</b>	Written exam Controlled assessments
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	Exploring business, developing a marketing campaign, personal and business finance and investigating customer service.
<b>Why should a student choose to study this subject?</b>	This qualification will give you an overview of the key ingredients of a successful business, how businesses are organised, how they operate and how this helps them and their activities. Business is any activity that provides goods or services; as an engineering student you are very much part of this process. Having an understanding of how businesses operates will put you in a stronger position once you are a qualified engineer/civil engineer.
<b>Progression routes:</b>	High level apprenticeship / university
<b>Who should parents contact for further information:</b>	Simon Richardson simon.richardson@energycoastutc.co.uk

**I came to the UTC to pursue a career in engineering but part of my option block was business. At first I wasn't sure what the benefit of this subject would be but the more units of work I completed, the more it became apparent that there is a direct link between engineering and business, especially at a management level. I am now completing a project management apprenticeship and my business A Level not only helped me to secure this apprenticeship but it is also helping me to complete it as there are many aspects of the course which I have already covered.**

*Student*

# CHEMISTRY

<b>Subject:</b>	Chemistry
<b>Exam Board:</b>	AQA
<b>Qualification gained upon successful completion of course:</b>	A Level
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 6 GCSE science/chemistry
<b>Examined through:</b>	Written exam Practical assessments (12 in total)
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	Physical chemistry – atomic structure, bonding, energetics, kinetics etc. Inorganic chemistry – periodicity, alkaline earth metals, halogens etc. Organic chemistry – alkanes, alkenes, alcohols etc.
<b>You need to be:</b>	Hard working and able to play an active role in problem solving activities. You must be willing to use time outside the classroom to practice methods and techniques you have learnt in the lesson. You will also require an active imagination with good mathematical skills and have top GCSE grades in sciences and mathematics.
<b>Why should a student choose to study this subject?</b>	All the sciences help students understand how to formulate a scientific approach to understanding and explaining the world and solving problems. Learners will be equipped with a wide range of transferrable skills which will help them become better prepared for whichever future pathway they choose.
<b>Progression routes:</b>	Chemistry is such a diverse qualification it can lead in many different directions. Students with A Level chemistry can go on to university and several different kinds of apprenticeships including chemical engineering, analytical chemistry and environmental chemistry. You will also develop a lot of transferrable skills which are sought after by a range of different employers.
<b>Who should parents contact for further information:</b>	Ian Lindner ian.lindner@energycoastutc.co.uk

**Each unit in chemistry is explained in a way that makes it easier to understand.**

*Student*

**Chemistry is linked in to real world situations so you can see the relevance of what you are learning.**

*Student*

# CIVIL ENGINEERING

<b>Subject:</b>	Construction and the Built Environment
<b>Exam Board:</b>	Pearson
<b>Qualification gained upon successful completion of course:</b>	BTEC Level 3 National Extended Certificate (1 x A Level equivalent)
<b>Construction 1</b>	
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirements:</b>	Grade 4 or above in English and maths
<b>Examined through:</b>	Internal assessments Written exam
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	There are four mandatory units, which cover the following aspects of construction: <ul style="list-style-type: none"><li>• construction principles</li><li>• construction design</li><li>• health and safety in construction</li><li>• construction technology.</li></ul>
<b>Why should a student choose to study this subject?</b>	As well as direct entry to employment, this qualification is ideal for post-16 learners wanting to gain the core skills and knowledge required to progress to an Apprenticeship or to a work-based training programme in the construction sector.
<b>Progression routes:</b>	<b>Employment:</b> Students can go into a number of professions within the construction industry and also within engineering. <b>Further education:</b> This is a suitable qualification for students looking to progress either to university, apprenticeships or the job market. The subject complements construction and architecture qualifications.
<b>Who should parents contact for further information:</b>	Helenlaura Bew helenlaura.bew@energycoastutc.co.uk

Civil engineering qualifications at the UTC gave me a variety of career pathways when I completed my course. These courses were not available in any other local sixth form so they gave me the best possible chance of getting on to advanced apprenticeships. Although I had the opportunity to go to university with my qualifications, I decided to accept an offer for a local advanced apprenticeship so that I could earn a salary while I continued to learn.

*Student*

# COMPUTER SCIENCE

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<b>Subject:</b>	Computer Science
<b>Exam Board:</b>	OCR
<b>Qualification gained upon successful completion of course:</b>	A Level
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 6 GCSE in computer science and/or grade 6s in maths and/or physics
<b>Examined through:</b>	20% of grade through project work and 80% in end of year 13 examinations
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<p>Students complete component 1: Computing Principles. This is assessed by an exam worth 40% and covers the characteristics of contemporary processors, input, output and storage devices; types of software and the different methodologies used to develop software; data exchange between different systems; data types, data structures and algorithms; legal, moral, cultural and ethical issues.</p> <p>Students also complete component 2: Algorithms and problem solving. This is also assessed by a 2hr 30min exam worth 40% and covers: what is meant by computational thinking (thinking abstractly, thinking ahead, thinking procedurally etc.); problem solving and programming – how computers and programs can be used to solve problems; algorithms and how they can be used to describe and solve problems.</p> <p>Students also complete component 3: Programming project. This is a non-exam assessment. Students will be expected to analyse a problem and design, develop, test and evaluate a program. The program must be to solve it written in a suitable programming language.</p>
<b>Why should a student choose to study this subject?</b>	The aims of this qualification are to enable learners to develop the ability to analyse problems in computational terms through practical experience of solving such problems as well as the capacity for thinking creatively, innovatively, analytically, logically and critically.
<b>Progression routes:</b>	<p><b>Employment:</b> Students can go into a number of professions within the IT industry and also Engineering. There is a strong focus on computer programming and software development within the course but the progression routes are by no means limited.</p> <p><b>Progression to further qualifications:</b> This is a suitable qualification for students looking to progress either to university, apprenticeships or the job market. The subject complements Maths and other Science qualifications.</p>
<b>Who should parents contact for further information:</b>	Brian Swan brian.swan@energycoastuttc.co.uk

# CYBER SECURITY

<b>Subject:</b>	Cyber Security
<b>Exam Board:</b>	AQA
<b>Qualification gained upon successful completion of course:</b>	Level 3 Foundation Technical Level (1 x A Level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	A minimum of 5 GCSEs grade 4 and above, including English and maths, with preferably a proven background in computer programming (minimum grade 6 computer science or computing at GCSE) and/or a strong aptitude for maths and/or physics (grade 6 in either)
<b>Examined through:</b>	2 pieces of coursework and 2 external examinations
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<p>Students will study a range of topics to build their understanding of computer networks; from the fundamental principles of computing, including how networks connect and communicate, to computer forensic investigation and the legalities of hacking.</p> <p>Through our varied and diverse employer sponsorships, students on the course will be able to gain industry relevant experience and receive advice from leading industry experts.</p>
<b>Why should a student choose to study this subject?</b>	The new Cybersecurity pathway is aimed at ambitious students who want to pursue a career in this ever-growing field of digital technology, it will give students the necessary skills and experience to pursue employment or higher education throughout the digital technology sector.
<b>Progression routes:</b>	With data breaches and headline-grabbing ransomware attacks becoming more common and increasingly sophisticated, cyber security professionals have never been in higher demand. Salaries across the sector are rising and by 2022 there will be 100,000 unfilled cyber security jobs in the UK alone. Right now, cyber security is a brilliant career path - whether you're technical or not. As well as progression to level 4-6 cyber security apprenticeships, some of the exciting careers available to cyber security experts are network security specialists, security managers and penetration testers (also known as ethical hackers).
<b>Who should parents contact for further information:</b>	Ian Lindner ian.lindner@energycoastutc.co.uk

# DEC!

<b>Subject:</b>	Civil engineering (design, engineer, construct!)
<b>Exam Board:</b>	TQUK
<b>Tiered entry?</b>	No
<b>Qualification gained upon successful completion of course:</b>	TQUK L3 Certificate (1 x A Level equivalent)
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 4 or above in English and maths
<b>Examined through:</b>	Internal portfolio Examination
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	Students will study various elements of design and architecture following RIBA protocols for a project from its inception to completion. The units consist of designing, developing and investigating a building project.
<b>Why should a student choose to study this subject?</b>	Supported by Jacobs, Morgan Sindall and Sellafield, the DEC course builds the knowledge and skills required to define, develop, deliver and evaluate a digital construction project from concept to handover. It encourages learners to focus on the impact on the end user, the wider community and the environment.
<b>Progression routes:</b>	This qualification will provide the best possible opportunity to progress into higher education or employment in the Digital Built Environment. It provides entry to a wide range of career pathways, for example in Architecture and Architectural Technology, Geospatial and Property Surveying, Quantity Surveying and Cost Management, Civil, Structural and Building Services Engineering and Construction Project Management.
<b>Who should parents contact for further information:</b>	Helenlaura Bew helenlaura.bew@energycoastutc.co.uk

**Their desire to benefit from this provision is reflected in their highly positive attitudes to learning.**

*Ofsted 2019*

# DIGITAL MEDIA

<b>Subject:</b>	Digital Media
<b>Exam Board:</b>	OCR
<b>Qualification gained upon successful completion of course:</b>	Level 3 Cambridge Technical Extended Certificate (1 x A Level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	Grade 5 GCSE in computer science and/or Merit or higher in Level 2 IT qualification
<b>Examined through:</b>	Three externally examined units and a choice of two further units which are centre-assessed and moderated by exam board.
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	Learners will take five units to achieve this qualification. There are three mandatory units that are externally assessed. These are the Fundamentals of IT, Global information and Cyber security. The first two mandatory units provide learners with an insight into the IT sector as you investigate the pace of technological change, IT infrastructure, the flow of information on a global scale and important legal and security considerations. The third mandatory unit reflects an important development in the sector around information security and requires learners to consider how data should be protected and the response of the IT sector to emerging threats such as cyber terrorism. Learners must then take two of the four optional units that are centre-assessed and moderated by OCR. The optional units include Project management, Product development, Systems analysis and design and the Internet of Everything.
<b>Why should a student choose to study this subject?</b>	All the sciences help students understand how to This qualification will assist in the development of transferrable skills such as communication and problem solving. The optional units encourage the development of time management, research and analytical skills as well as emphasising the need for good written and verbal communication skills.
<b>Progression routes and further qualifications</b>	Achievement of this qualification can support progression to go on and study relevant IT degrees in a Higher Education institution or apprenticeships in the IT industry such as, Computing and IT, Computing Science, Software Developments, Software Engineering, ICT and Computer Networks or Business Information Systems.
<b>Who should parents contact for further information:</b>	Brian Swan brian.swan@energycoastutc.co.uk

# ENGINEERING

<b>Subject:</b>	Engineering
<b>Exam Board:</b>	AQA
<b>Syllabus code:</b>	
<b>Engineering 1</b>	Engineering
<b>Engineering 2</b>	Mechatronic engineering
<b>There are 3 engineering courses available:</b>	Foundation Technical Level (1 x A Level equivalent) Technical Level (2 x A Level equivalent)
<b>Engineering 1</b>	
<b>Engineering 2</b>	
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirements:</b>	1 x A Level equivalent - Grade 4 maths 2 x A Level equivalent - Grade 6 maths
<b>Examined through:</b>	End of course written exam Controlled assessments
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Engineering 1</b>	12 lessons
<b>Engineering 2</b>	
<b>Content of course:</b>	<b>Foundation technical level engineering:</b> Materials technology and science, mechanical systems, engineering design and production / manufacturing.
<b>Engineering 1</b>	
<b>Engineering 2</b>	<b>Technical level engineering: mechatronic engineering:</b> Materials technology and science, mechanical systems, mathematics for engineers, engineering design, production and manufacturing, mechatronic project management, mechatronic control systems and programming for engineers
<b>Why should a student choose to study this subject?</b>	Engineering is at the heart of the Energy Coast UTC. If you want to be able to access university or a high level apprenticeship, this new engineering qualification is the ideal pathway.
<b>Progression routes:</b>	High level apprenticeship / university
<b>Who should parents contact for further information:</b>	Helenlaura Bew helenlaura.bew@energycoastutc.co.uk

**My engineering A Levels allowed me to be spoiled for choice when I finished year 13 at the UTC. I successfully applied for a high level apprenticeship as I wanted to get hands on straight away but I could easily have chosen to go to a top university as I had a number of conditional and unconditional offers available to me.**

*Student*

# ENGLISH LITERATURE

<b>Subject:</b>	English Literature
<b>Exam Board:</b>	Edexcel
<b>Tiered entry?</b>	No
<b>Qualification gained upon successful completion of course:</b>	A level
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 6 GCSE English literature
<b>Examined through:</b>	End of course written exam
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<p>Exploration of the 'Science and Society' texts - 'Never Let Me Go' and 'Frankenstein' to analyse the ways that society and science quite often contradict each other, further exploring the division in opinion between a science perspective and the social implications as a result of these perspectives.</p> <p>Exam based upon the Oscar Wilde play 'The Importance of Being Earnest' developing a response to the hypocrisy which evaded Victorian society, and further the influence of the stage craft upon audience response.</p>
<b>Why should a student choose to study this subject?</b>	<p>Literature students will scrutinise and debate a variety of texts throughout the course, as well as acquiring knowledge of literary movements, periods and critical approaches that have shaped the way we view literature- and indeed the world- today. This course will also facilitate the opportunity to develop communication skills- both written and verbal, which are key transferable skills in the workplace. Through close analysis of sensitive 'real world' problems students will further be able to develop comprehensive written and spoken communication skills, teaching you to be adept at arguing a point, framing a narrative and analysing various levels of meaning.</p>
<b>Progression routes:</b>	<p>Potential career pathways: project management, media and journalism, business, accounting and finance, teaching and training, advertising, marketing and PR.</p>
<b>Who should parents contact for further information:</b>	<p>Hope Redmond hope.redmond@energycoastuttc.co.uk</p>

English Literature helps me develop my communication skills for life that I can use and adapt in the future to pursue a career within the engineering field.

*Student*

# HEALTH AND SOCIAL CARE

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<b>Subject:</b>	Health and Social Care
<b>Exam Board:</b>	Pearson
<b>Qualification gained upon successful completion of course:</b>	BTEC Level 3 National Extended Certificate (1 x A level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	Grade 4 GCSE English and maths
<b>Examined through:</b>	Written exams Controlled assessments
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	This course will look at human lifestyle development, the realities of work in a health and social care environment, anatomy, physiology and current research in the health and social care sphere.
<b>Why should a student choose to study this subject?</b>	This qualification is designed as a first step for those considering a career in the social care (social work, nursing, care worker) or health sectors. Students will learn all about different health and care settings; for example hospitals, surgeries, mental health units, care homes etc and how to keep people well and safe in these settings. They will also learn how the human body works.
<b>Progression routes:</b>	This course is ideal for students who may wish to complete further health and social care study at university or through an apprenticeship or employment. Students who take this subject frequently move on to degrees, apprenticeships or employment, in nursing or other health care settings.
<b>Who should parents contact for further information:</b>	Andrew Davidson andrew.davidson@energycoastuttc.co.uk

# INFORMATION TECHNOLOGY (IT)

<b>Subject:</b>	Information Technology (IT)
<b>Exam Board:</b>	Pearson
<b>Qualification gained upon successful completion of course:</b>	BTEC Level 3 National Extended Certificate (1 x A level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	Grade 4 GCSE English and maths
<b>Examined through:</b>	Written exams Controlled assessments
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<p>The objective of this qualification is to give learners the opportunity to develop their knowledge and skills in IT systems, systems management and social media in business. Learners will study:</p> <ul style="list-style-type: none"><li>• Information technology systems,</li><li>• Creating systems to manage information,</li><li>• Social media in business,</li><li>• Website development OR data modelling.</li></ul>
<b>Why should a student choose to study this subject?</b>	<p>This qualification will assist in the development of considering transferrable skills such as communication and problem solving. The optional units encourage the development of time management, research and analytical skills as well as emphasising the need for good written and verbal communication skills.</p>
<b>Progression routes:</b>	<p>This qualification is designed for learners who are interested in an introduction to the study of creating IT systems to manage and share information, alongside other fields of study, with a view to progressing to a wide range of higher education courses, including but not necessarily in IT. It could also lead to apprenticeships in the IT industry.</p>
<b>Who should parents contact for further information:</b>	Brian Swan brian.swan@energycoastutc.co.uk

# MATHS

<b>Subject:</b>	Maths
<b>Exam Board:</b>	AQA
<b>Qualification gained upon successful completion of course:</b>	A Level
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 6 GCSE maths
<b>Examined through:</b>	3 end of course written exams: each paper lasts for 2 hours and each is worth 33.3% of final grade.
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<ul style="list-style-type: none"><li>• Component 1: mathematical argument, language and proof</li><li>• Component 2: Mathematical problem solving</li><li>• Component 3: Mathematical modelling</li><li>• Various sub-components include: proof, algebra and functions, coordinate geometry in the (x,y) plane, sequences and series, trigonometry, exponentials and logarithms, differentiation, integration, numerical methods, vectors, statistical sampling, data presentation and interpretation, probability, statistical distributions, statistical hypothesis testing, quantities and units in mechanics, kinematics, forces and newton's laws, moments.</li></ul>
<b>Why should a student choose to study this subject?</b>	It provides a good introduction to many technical university courses and is a highly valued qualification in employment and higher level apprenticeships.
<b>Progression routes:</b>	Apprenticeships, employment, university.
<b>Who should parents contact for further information:</b>	Mark Higginson mark.higginson@energycoastutc.co.uk

**Those with Maths A-level  
earn on average 10%  
more than those without.**  
*Office for National Statistics*

# MATHS

<b>Subject:</b>	Maths
<b>Exam Board:</b>	AQA
<b>Qualification gained upon successful completion of course:</b>	Level 3 Certificate (0.5 x A Level equivalent)
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 5 GCSE maths
<b>Examined through:</b>	End of course written exam: Paper 1 (1h30m) worth 50% of final grade plus Paper 2 (1h30m), also worth 50% of final grade.
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<p><b>Core Units:</b> Analysis of data, maths for personal finance, estimation, critical analysis of data and models</p> <p><b>Optional Content:</b> Statistical analysis, cost benefit analysis, graphical methods, functions.</p>
<b>Why should a student choose to study this subject?</b>	<p>Level 3 mathematical studies (core maths) is a relatively new qualification designed for students who have achieved a grade 4 or above at GCSE. It helps to develop students' mathematical skills and thinking and supports courses such as A Level psychology, sciences and geography as well as technical and vocational qualifications</p> <p>It is a good alternative to A Level maths, with the same UCAS points for university. The course also complements key parts of the engineering course.</p>
<b>Progression routes:</b>	Apprenticeships, employment, university.
<b>Who should parents contact for further information:</b>	Mark Higginson mark.higginson@energycoastutc.co.uk

# PHYSICS

<b>Subject:</b>	Physics
<b>Exam Board:</b>	AQA
<b>Qualification gained upon successful completion of course:</b>	A Level
<b>Graded:</b>	A* - E
<b>Minimum entry requirement:</b>	Grade 6 GCSE science/physics
<b>Examined through:</b>	Written exam Practical assessments (12 in total)
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	1 Measurements and their errors 2 Particles and radiation 3 Waves 4 Mechanics and materials 5 Electricity 6 Further mechanics and thermal physics 7 Fields and their consequences 8 Nuclear physics
<b>You need to be:</b>	Hard working and able to play an active role in problem solving activities. You must be willing to use time outside the classroom to practice methods and techniques you have learnt in the lesson. You will also require an active imagination with good mathematical skills and have top GCSE grades in sciences and mathematics.
<b>Why should a student choose to study this subject?</b>	All the sciences help students understand how to formulate a scientific approach to understanding and explaining the world and solving problems. Learners will be equipped with a wide range of transferrable skills which will help them become better prepared for whichever future pathway they choose.
<b>Progression routes:</b>	Physics is such a diverse qualification it can lead in many different directions. Students with A level physics can go on to university and several different kinds of apprenticeships including civil engineering, architect and electrical engineering. You will also develop a lot of transferrable skills which are sought after by a range of different employers.
<b>Who should parents contact for further information:</b>	Ian Lindner ian.lindner@energycoastuttc.co.uk

**This is a very interesting subject with strong links to mathematics and real world applications.**  
*Student*

# SPORT

<b>Subject:</b>	Sport
<b>Exam Board:</b>	Pearson
<b>Qualification gained upon successful completion of course:</b>	BTEC Level 3 National Extended Certificate (1 x A Level equivalent)
<b>Graded:</b>	Distinction* - Pass
<b>Minimum entry requirement:</b>	Grade 4 GCSE English and maths
<b>Examined through:</b>	The current specification is all internally assessed through coursework and externally moderated by the exam board.
<b>Length of course:</b>	2 years
<b>No. of lessons per week:</b>	6 lessons
<b>Content of course:</b>	<p>YEAR 12 COURSE CONTENT</p> <p>In year 12 students complete 2 units.</p> <p>Unit 1 - Anatomy and physiology in sport</p> <p>Unit 6 - Sports psychology</p> <p>YEAR 13 COURSE CONTENT</p> <p>In year 13 students complete a further 3 units:</p> <p>Unit 1: Fitness testing for sport and exercise</p> <p>Unit 2: Instructing physical activity and exercise</p> <p>Unit 3: Sport development</p>
<b>Why should a student choose to study this subject?</b>	Those thinking about or have a passion for a career in sport or wanting to consider a degree in sport science, sport coaching or sport management will develop a strong base of learning which will help them progress on to their future career goals.
<b>Progression routes:</b>	Employment: Within the sport sector at an operative or supervisory level e.g. sports assistant, leisure attendant, pool lifeguard, swimming teacher, fitness instructor, sports coach, personal trainer, sports development officer.
<b>Progression to further qualifications</b>	A popular progression route is to a degree in sports science or into apprenticeships as leisure attendants or sports centre based assistants.
<b>Who should parents contact for further information:</b>	Simon Richardson simon.richardson@energycoastutc.co.uk

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**STUDENTS MAKE  
OUTSTANDING  
PROGRESS IN  
THEIR STUDIES  
WITH ALMOST ALL  
PROGRESSING TO  
APPRENTICESHIPS IN  
STEM DISCIPLINES**”

*OFSTED 2019*

“  
**THE SCHOOL IS HIGHLY SUCCESSFUL  
IN FULLY PREPARING YOUNG PEOPLE  
FOR THEIR FUTURE LIVES.**”

*OFSTED 2019*

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