

YEAR 10 OPTIONS



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**AROUND THE
SCHOOL IN
LESSONS THERE
IS A SENSE THAT
PUPILS ARE HAPPY.
THEY ARE MORE
MATURE AND
RESPECTFUL. ”**

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WELCOME TO OUR YEAR 10 OPTIONS

Welcome to our Year 10 options booklet, which contains information about the GCSE and BTEC subjects that we offer. It would be helpful if you would discuss these choices with your child, as choosing an engineering pathway as a career is a significant commitment but one which we believe we are in the very best position to encourage and nurture.

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. There has never been a better time to focus on engineering as a career and the Energy Coast UTC is perfectly placed to help young men and women to take full advantage of the opportunities that will be available to them when they chose to leave education.

What's changed with GCSEs?

- There's been a move away from modules towards exam assessment at the end of the two years for most subjects and less emphasis on coursework.
- Fewer subjects will be split into 'foundation' and 'higher' tiers.
- Almost all subjects will be awarded grades 9-1 rather than grades A*-G.
- Within exams, there will be an increase in longer form questions and essays, rather than those requiring short answers.

Compulsory subjects:

Some subjects are **compulsory** at GCSE level. These are:

- Engineering
- Digital engineering
- Practical engineering
- English language and English literature
- Maths
- Science (biology, chemistry and physics)
- Employability skills

Optional subjects:

The following subjects are **optional** but **one** from this list must be chosen:

- Computer science
- Business studies
- Geography
- History
- Sport

**Academic and emotional
support provided by the
school is outstanding.**

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Core Curriculum (Compulsory)	Engineer Your Future (Compulsory)	Options (Choose one subject from the list below.)
English literature	Engineering	Sport
English language	Digital engineering	Business studies
Maths	Practical engineering	Geography
Physics	Enrichment	Computer science
Chemistry		History
Biology		

Please be aware that some of these subjects may not run if there is insufficient interest in them or due to staffing constraints beyond our control.

How many GCSEs will my child leave the Energy Coast UTC with?

Your child will leave us with at least 8 GCSE or GCSE equivalent qualifications (9 if they take separate sciences). In the recent past, some schools were pressing students to take many more GCSEs. However, it is better to take fewer GCSE subjects and be assured of good grades 9-5 than take more and get a grade 4 or lower. Many universities and colleges look

for high GCSE grades so focus on that and laying the foundations for A levels, when grades are vitally important. This is also true for those students wishing to secure an apprenticeship at the end of their time with us. Apprenticeship providers require good GCSE grades.

How much should I influence my child's options?

Whilst this is clearly about your child's future not yours, at this age students will inevitably still need guidance and input from you and their teachers. Therefore, foisting your own preferences on your son or daughter is unwise. Students need to be motivated and happy to study the subjects concerned. Discuss the options, their pros and cons and the long term influence of subjects, but in the end it should be your child's choice, supported by the school and you.

You will find detailed information on each subject in this booklet to help inform your option choices.

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.

Pupils receive excellent support that helps them become confident healthy, happy, positive and responsible young adults.

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BIOLOGY

Subject:	Biology
Exam Board:	AQA
Tiered entry?	Yes – foundation and higher
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exams Practical assessments
Length of course:	2 years
No. of lessons per week:	3
Content of course:	GCSE biology gives students the chance to gain a good understanding of human biology, organisms, evolution and the environment. The course helps put biology in the context of students' everyday lives with topics ranging from 'Keeping healthy' to 'Humans and their environment'. The specification is based on a series of topics related to the living world and relevant to students. It is designed to help them understand how science can be used to explain the world in which they live and the impact humans have.
Why should a student choose this subject?	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.
Progression routes:	Biology is such a diverse qualification it can lead in many different directions. Students with GCSE biology can go on to Post 16 courses of study which can lead to university and several different kinds of apprenticeships including environmental engineering, ecology and environmental chemistry.
Who should parents contact for further information:	Ian Lindner ian.lindner@energycoastuttc.co.uk

Biology has helped me learn all about the natural world and how it works. It's really fascinating.

Student

BUSINESS STUDIES

Subject:	Business Studies
Exam Board:	OCR
Qualification gained upon successful completion of course:	Level 2 Cambridge national certificate
Graded:	Distinction* - Pass
Examined through:	Written exam and course work
Length of course:	2 years
No. of lessons per week:	3
Content of course:	Students will get to grips with key aspects of running small businesses with a focus on enterprise and marketing. The information will be split into 3 units. Unit 1 is business techniques, Unit 2 is a business research project and Unit 3 students will prepare and pitch their own business proposal.
Why should a student choose this subject?	An aspiration for many young people is to be self-employed and start their own business. The skills required for this, such as being able to work collaboratively and creatively, solve problems and have awareness of businesses and customers, are also those requested by employers and these are all within this qualification.
Progression routes:	Level 3 business & business apprenticeships.
Who should parents contact for further information:	Simon Richardson simon.richardson@energycoastutc.co.uk

Around the school and in lessons there is a sense that pupils are happy.

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CHEMISTRY

Subject:	Chemistry
Exam Board:	AQA
Tiered entry?	Yes - foundation and higher
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exams Practical assessments
Length of course:	2 years
No. of lessons per week:	3
Content of course:	The GCSE course is structured in a way that starts with the fundamental ideas in chemistry, putting the building blocks in place. This enables students to develop an understanding of topics such as chemical structures and their properties, chemical reactions and how to analyse substances. You will also learn the nature of substances and how they react together, how chemistry is used in business and industry and how our use of raw materials in fuels and manufacturing can affect the global and local environment.
Why should a student choose this subject?	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.
Progression routes:	Chemistry is such a diverse qualification it can lead in many different directions. Students with GCSE chemistry can go on to Post 16 courses of study which can lead to university and several different kinds of apprenticeships including chemical engineering, analytical chemistry and environmental chemistry.
Who should parents contact for further information:	Ian Lindner ian.lindner@energycoastutc.co.uk

At the UTC, Chemistry is easier to understand because it is clearly explained and hands on.

Student

COMPUTER SCIENCE

Subject:	Computer Science
Exam Board:	OCR
Tiered entry?	No
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	2 written exams (each worth 40%) and a Programming Project (worth 20%).
Length of course:	2 years
No. of lessons per week:	3
Content of course:	<p>COMPUTER SYSTEMS (COMPONENT 1)</p> <ul style="list-style-type: none">• Study how processors work• Investigate computer memory and storage• Explore modern network layouts and how they function• Build skills in the ever important realm of cyber security• Investigate how types of software are used within computer systems Stretch wider comprehension of how computers and computing affect ethical, legal, cultural and environmental issues <p>COMPUTATIONAL THINKING, ALGORITHMS AND PROGRAMMING (COMPONENT 2)</p> <ul style="list-style-type: none">• Study fundamental algorithms in computer science• Build a firm foundation in programming techniques• Produce programs through diagrams• Thoroughly test programs and make them resistant to misuse• Explore Boolean algebra (AND, OR, NOT)• Understand how we store data within computers in binary form <p>A PROGRAMMING PROJECT (COMPONENT 3)</p> <ul style="list-style-type: none">• Use new-found programming skills on an independent coding project by solving a real-world problem of their choice• The project is carried out under exam-like conditions.
Why should a student choose this subject?	Our computer science qualification will, above all else, be relevant to the modern and changing world of computer science. Computer science is a practical subject where learners can apply the knowledge and skills learned in the classroom to real-world problems.
Progression routes:	These skills will be the best preparation for learners who want to go on to study computer science at AS or A Level and beyond. The qualification will also provide a good grounding for other subject areas that require computational thinking and analytical skills.
Who should parents contact for further information:	Brian Swan brian.swan@energycoastutc.co.uk

DIGITAL ENGINEERING

Subject:	Digital Engineering (Design, Engineer, Construct!)
Exam Board:	TQUK
Tiered entry?	No
Qualification gained upon successful completion of course:	Level 2 certificate in Design, Engineer, Construct - the Digital Built Environment
Graded:	Distinction* - Pass
Examined through:	Coursework, E-assessment, Multiple Choice Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Written Examination
Length of course:	2 years
No. of lessons per week:	3
Content of course:	<ul style="list-style-type: none">• Professional roles and responsibilities within the Construction and Built Environment (CBE) sector• Procedures and protocols in preparing a planning submission• Constructing a Building Information Model to support a planning proposal• Research and preparation for a planning proposal• Sustainability issues and options for businesses in the CBE sector• Use of appropriate and specialist software• The value of community engagement, feedback and modification in any design/planning process• Numeracy and communication skills from contextualised practice and real time exercises.
Why should a student choose this subject?	Construction is at the heart of the Energy Coast UTC. We promote independent learning and thinking skills and the qualification links well to local apprenticeships and 6th form progression routes.
Progression routes:	A Level engineering or construction
Who should parents contact for further information:	Simon Richardson simon.richardson@energycoastutc.co.uk

Pupils, from a wide range of starting points, make excellent progress across all subjects.

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ENGINEERING

Subject:	Engineering
Exam Board:	OCR
Tiered entry?	No
Qualification gained upon successful completion of course:	Level 2 OCR National
Graded:	Distinction* - Pass
Examined through:	Written exam On-line assessments throughout course Controlled / practical assessments
Length of course:	2 years
No. of lessons per week:	6
Content of course:	<p>Students will investigate engineering processes used to produce modern engineered products. They will also cover developments in engineering materials / technologies and how engineering contributes to a sustainable future.</p> <p>There will be three main aspects to the rest of the course and these are: mechanical, electrical and computer aided engineering. These aspects of the course will be assessed via coursework and practical assessments.</p>
Why should a student choose this subject?	<p>Engineering is at the heart of the Energy Coast UTC. We promote independent learning and thinking skills and the qualification links well to local apprenticeships and the Energy Coast UTC 6th form.</p>
Progression routes:	A Level engineering
Who should parents contact for further information:	Simon Richardson simon.richardson@energycoastutc.co.uk

This subject gave me the confidence to believe that I can be an engineer of the future. It has given me amazing opportunities and experiences which no other local school can offer.

Student

ENGLISH LANGUAGE

Subject:	English Language
Exam Board:	Edexcel
Tiered entry?	No
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exams
Length of course:	2 years
No. of lessons per week:	3 in year 10 and 4 in year 11
Content of course:	<p>The GCSE qualification is assessed at the end of the two year course through two external examinations.</p> <p>Paper 1 is 'Fictional and Imaginative Writing'; students will be presented with an unseen 19th century text and will have to respond to 4 comprehension style questions. Students must then write their own fictional piece on the second part of the exam paper.</p> <p>Paper 2 is 'Non-fiction and Transactional Writing'; students will be presented with two non-fiction extracts (one 20th and one 21st century). They must respond to comprehension style questions. Students must then write their own non-fiction piece on the second part of the exam paper.</p>
Why should a student choose to study this subject?	<p>Throughout the course students are exposed to contextualised learning while also embedding the necessary examination style skills. They will also be given opportunities to develop communication skills through group presentations and taking responsibility for a specific aspect of group research tasks.</p>
Progression routes:	<p>A Level English language or literature.</p> <p>Potential career pathways: project management, media and journalism, business, accounting and finance, teaching and training, advertising, and marketing.</p>
Who should parents contact for further information?	<p>Kerryann Wilson kerryann.wilson@energycoastutc.co.uk</p>

English Language 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

ENGLISH LITERATURE

Subject:	English Literature
Exam Board:	Edexcel
Tiered entry?	No
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exams
Length of course:	2 years
No. of lessons per week:	4 in year 10 and 3 in year 11
Content of course:	<p>The GCSE qualification is assessed at the end of the two year course through two external examinations.</p> <p>Paper 1 examines the students' response to Shakespeare's 'Macbeth' and Susan Hill's 'The Woman in Black'. The exam comprises of two questions for 'Macbeth' and one essay question on 'The Woman in Black' is one essay question.</p> <p>Paper 2 examines the students' response to Dickens' 'A Christmas Carol' and a range of poetry from the Conflict cluster, before turning to an unseen comparison.</p>
Why should a student choose to study this subject?	Throughout the course students are exposed to a variety of fiction which they are able to discuss and debate to develop their inter-personal communication skills in both the written and verbal sense.
Progression routes:	<p>A Level English language or literature.</p> <p>Potential career pathways: project management, media and journalism, business, accounting and finance, teaching and training, advertising and marketing.</p>
Who should parents contact for further information:	<p>Kerryann Wilson kerryann.wilson@energycoastutc.co.uk</p>

English literature helps me to explore themes that prominent in the past that still exist within society today. It makes me sensitive to the issues that evade society, while also provoking debate with my peers. Literature helps me to manage my thoughts and put them in the most succinct way to be an effective communicator and further to convey my perspective.

Student

GEOGRAPHY

Subject:	Geography
Exam Board:	OCR
Tiered entry?	No
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exam
Length of course:	2 years
No. of lessons per week:	3
Content of course:	<p>The course introduces and extends learners' insight into and exploration of both the geography of the UK and the wider world. There are three main themes:</p> <ul style="list-style-type: none">• Living in the UK Today• The World Around Us• Geographical Skills <p>Learners study in depth the diverse and dynamic geography of the UK. They will gain an appreciation of the changes to the UK's geography and the processes which drive them. This includes the study of the natural landscapes which define the UK, the people of the UK and the environmental challenges facing the UK.</p> <p>Learners explore the complexities of the planet and the interconnections that take place in the wider world. Learners explore key ecosystems, people of the planet and environmental threats to the world.</p>
Why should a student choose this subject?	<p>Geography encourages learners to develop a sense of wonder about the world, instils an interest in different places, the people who live there, and the environments they live in, whilst giving learners an opportunity to explore the ever-changing face of geography in the UK. Learners will be equipped with a wide range of geographical skills which will help them become both adaptable and resilient no matter which future pathway they choose.</p>
Progression routes:	<p>After studying geography GCSE, students can decide to following subjects such as land based sciences, environmental science, geology, health and social sciences, civil engineering, archaeology, horticulture and agriculture. Popular careers for people with geography qualifications include: town or transport planning, surveying, conservation, sustainability, waste and water management, environmental planning, tourism, and weather forecasting. The army, police, government, research organisations, law and business world also love the practical research skills that geographers develop.</p>
Who should parents contact for further information:	Ian Russell ian.russell@energycoastutc.co.uk

HISTORY

Subject:	History
Exam Board:	Edexcel
Tiered entry?	No
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	3 written exams – 1 x 1 hour 15 minute and 1 x 1 hour 20 minute exams (each worth 30% of your final grade) and 1 x 1 hour 45 minute exam (worth 40% of your final grade)
Length of course:	2 years
No. of lessons per week:	3
Content of course:	<p>Paper 1: A British thematic study of medicine in Britain across time, from c1250 to the present day with a particular emphasis on the British sector of the Western Front (injuries, treatment and the trenches).</p> <p>Paper 2: A period study on the American West c1835 to c1895 plus a British depth study of early Elizabethan England 1558-1588.</p> <p>Paper 3: A modern depth study of the Weimar republic and Nazi Germany, 1918-39.</p>
Why should a student choose this subject?	History is an exciting course that will fire learners' enthusiasm for studying history. It encourages learners to become curious, to develop their own opinions based on a respect for evidence, and to build a deeper understanding of the present by engaging with and questioning the past. The specification is based on content which helps learners to address fundamental issues in human history. It brings together people, events and issues that learners will find fascinating and that will stimulate a desire to explore the similarities and differences between people's lives in the past and their own lives now.
Progression routes:	These skills will be the best preparation for learners who want to go on to study history at AS or A Level and beyond. The qualification will also provide a good grounding for other subject areas that require analytical thinking skills.
Who should parents contact for further information:	Ian Russell ian.russell@energycoastutc.co.uk

If you don't know history, then you don't know anything. You are a leaf that doesn't know it is part of a tree.

Michael Crichton (author).

MATHS

Subject:	Maths
Exam Board:	AQA
Tiered entry?	Yes – foundation and higher
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exams: Paper 1 (1h30m) non-calculator, worth 33.3% of final grade; Paper 2 (1h30m) calculator, worth 33.3% of final grade; Paper 3 (1h30m) calculator, worth 33.3% of final grade.
Length of course:	2 years
No. of lessons per week:	5
Content of course:	Number, algebra, data, probability, ratio, geometry and measures
Why should a student choose this subject?	Our expectation is that all students will develop confidence and competence with the content identified so that it can be said that they have confidence and competence with mathematical content and apply it flexibly to solve problems.
Progression routes:	Level 3 core maths, A Level maths, engineering apprenticeships, accountancy, degree level maths.
Who should parents contact for further information:	Kerryann Wilson kerryann.wilson@energycoastuttc.co.uk

We study maths because it teaches us a way of thinking. It provides us with a method of solving a whole host of life's problems away from the classroom.

Student

PHYSICS

Subject:	Physics
Exam Board:	AQA
Tiered entry?	Yes – foundation and higher
Qualification gained upon successful completion of course:	GCSE
Graded:	9-1
Examined through:	Written exams Practical assessments
Length of course:	2 years
No. of lessons per week:	3
Content of course:	GCSE physics is designed to give students the tools and concepts they need to be able to construct a scientific approach to solving problems. Students will learn to ask and answer questions about the fundamental laws that govern natural phenomena. Students are likely to be engaged by the aspects of the specification that they can relate to their everyday life such as the efficiency of electrical appliances and braking distances as well as larger concepts like nuclear fission and fusion and evidence of the Big Bang.
Why should a student choose this subject?	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.
Progression routes:	Physics is such a diverse qualification it can lead in many different directions. Students with GCSE physics can go on to post 16 courses of study which can lead to university and several different kinds of apprenticeships including nuclear and electrical engineering.
Who should parents contact for further information:	Ian Lindner ian.lindner@energycoastutc.co.uk

My teacher uses different ways to teach allowing everyone to understand the subject.

Student

PRACTICAL ENGINEERING

Subject:	Practical Engineering
Exam Board:	To be confirmed
Tiered entry?	No
Qualification gained upon successful completion of course:	
Graded:	Distinction* - Pass
Examined through:	Practical assesment, written coursework and exam
Length of course:	2 years
No. of lessons per week:	3
Content of course:	<p>Practical mechanical and engineering units which mirror apprenticeship units.</p> <p>Students will learn how to use a range of practical engineering equipment including lathes, CNC machines, laser cutters, 3D printers, etc.</p> <p>Assessment will be through a range of practical activities, written coursework and some units are also assessed by exam.</p>
Why should a student choose this subject?	<p>Throughout this course, students will experience a wide range of practical engineering techniques and use state-of-the-art engineering equipment. These skills are essential for a career in engineering, whether through the apprenticeship or university route.</p>
Progression routes:	A Level engineering or construction
Who should parents contact for further information:	Simon Richardson simon.richardson@energycoastuttc.co.uk

The behaviour of pupils is outstanding.

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SPORT

Subject:	Sport
Exam Board:	Edexcel
Tiered entry?	No
Qualification gained upon successful completion of course:	BTEC Level 2 First Award
Graded:	Distinction* - Pass
Examined through:	Core Unit 1 is externally assessed via a 1 hour online exam. All other units are internally assessed and externally moderated. The assignments will include, for example, investigations, written reports, presentations and diary evidence. There will also be practical lessons including fitness testing, fitness training as well as specific sports e.g. basketball.
Length of course:	2 years
No. of lessons per week:	3
Content of course:	<p>You will study the following 2 core units:</p> <ol style="list-style-type: none">1. Fitness for Sport and Exercise - online exam2. Practical Sports performance - for the 2 selected sports, understand the rules, regulations and scoring systems, practically demonstrate skills, techniques and tactics involved and review own performance. <p>2 extra units from:</p> <ol style="list-style-type: none">3. The Mind and Sports Performance - This unit looks at the concepts that influence the mind in sporting situations and, most importantly, explores the effects that they can have on sports performance.4. The Sports Performer in Action - This unit will look at the training effects that occur when a person regularly participates in sport and physical activity over a given period of time.5. Training for Personal Fitness - design, carry out and review a fitness training programme.6. Leading Sports Activities - know the attributes of a successful sports leader and plan, lead and review sports activities. <p>(A decision will be made by Mr Richardson which Units will best suit the class)</p>
Why should a student choose this subject?	Students will have the opportunity to gain a wider understanding of health-related fitness, sports and exercise through both theory and practical lessons. Students will be encouraged to develop their skills and knowledge through participation and performance in a range of sports and exercise activities and develop personal skills and attributes such as communication and teamwork.
Progression routes:	Progression to further qualifications such as the OCR Level 3 Cambridge Technical in Sport, available in our sixth form, or direct entry into the workplace via apprenticeships as leisure attendants or sport centre based assistants.
Who should parents contact for further information:	Simon Richardson simon.richardson@energycoastutc.co.uk

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**LEADERS PROMOTE A
CONSISTENT CULTURE
OF HIGH ASPIRATION,
HIGH QUALITY TEACHING
AND SUPPORT AND VERY
POSITIVE ATTITUDES
THROUGHOUT THE UTC. ”**

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www.energycoastutc.co.uk

Call 01900 606446 or

email enquiries@energycoastutc.co.uk

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