



# A STEM-SPECIALIST SCHOOL WITH A STRONG ACADEMIC & TECHNICAL FOCUS

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**YEAR 9 & 10  
ENTRY**

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of UTC South Durham



# WELCOME TO UTC SOUTH DURHAM

**A very warm welcome to University Technical College South Durham, a state-funded, purpose-built school and Sixth Form for 13-19 year olds. Students can join UTC in Year 9, Year 10, or Sixth Form. We opened in September 2016 and our first Ofsted inspection was in January 2019, where we achieved 'Good' judgement across all categories. A 'Good' judgement is rare for new schools, and shows the strength of the core education that underpins the UTC.**

We specialise in STEM subjects (science, technology, engineering and maths), with a focus on engineering and advanced manufacturing. We exist to support young people to become career and life ready, providing them with an excellent academic and technical education alongside developing their professional skills. Our Student Leaver Profile on page 2 outlines the skills and qualities we aim to develop in our students, including communication, collaboration, organisation, perseverance, reflection, and respect.

There are three clear strands to our student experience:

- Academic qualifications: the Year 9 curriculum includes English, maths and science, in addition to such subjects as geography, computer science, and business studies. In Years 10 and 11, students study a full set of GCSEs, including maths, English and science (combined or triple award), alongside two subjects of their choice
- In Year 9, students will learn a variety of engineering skills giving them a foundation for their GCSE's in Year 10 and 11
- Professional learning: all students are allocated dedicated time, known as 'Crew', to help them develop their professional skills, in line with the Student Leaver Profile. Students also undertake a comprehensive programme of visits and placements in companies, including two weeks work experience, in addition to industry-led projects in the UTC and other career-focused enrichment

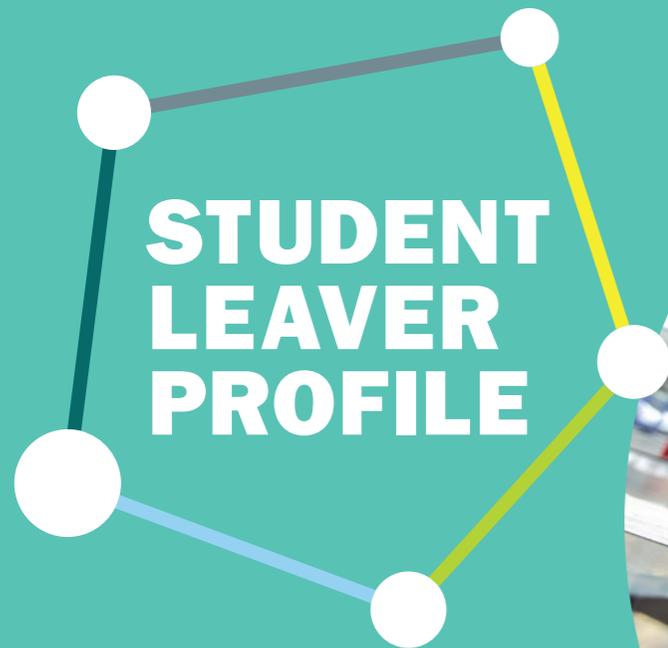
This approach to education is proving successful, with employers and parents stating that UTC students have strong core skills and a confidence that sets them up for future careers. Employers describe students as 'confident', 'capable' and 'very employable'. In the feedback to Ofsted inspectors, 94% of parents said they would recommend the UTC to other parents, 98% said that their child is happy, and 100% said that their child is well looked after at the UTC.

Our commitment to supporting our students' professional development means that they are highly successful in securing jobs, apprenticeships, and places for further study. In 2019, 100% of Year 11 leavers had a positive destination in education, employment or training. After Year 11, most UTC students progress on to our Sixth Form. For our recent Year 13 leavers, all those who applied to university were successful and all went on to study STEM degrees. Over half secured paid apprenticeships with local employers (higher or advanced) – over eight times the national average!

We would be delighted to welcome you to UTC. Please visit us to meet our students and staff, and to see our impressive facilities for yourself.

**Tom Dower, Principal**

The Student Leaver Profile represents what we want for our students. It was created by our wider community of staff, students, parents, business and community partners. Each student will have the opportunity to develop their academic and technical knowledge and understanding, professional career experiences and core skills. At UTC, students' personal, professional and technical development is just as important as the grades they achieve.



# STUDENT LEAVER PROFILE



CORE SKILLS

ACADEMIC AND TECHNICAL KNOWLEDGE AND UNDERSTANDING

CAREER AND LIFE READY

PROFESSIONAL AND CAREER EXPERIENCES



START YOUR JOURNEY

YEAR 9 DISCOVER

YEAR 10 EXPLORE

YEAR 11 ESTABLISH

YEAR 12 SPECIALISE

YEAR 13 LAUNCH

CAREER & LIFE READY



# WHY START UTC IN YEAR 9?

We recognise that starting a new school aged 13 is a challenge, but one that is worthwhile given the benefits to the student, including:

## A STEM focused curriculum

In Year 9, students are able to study a STEM focused curriculum which gives them more time to explore the different options available to them at GCSE. They will also have stronger knowledge of the subjects before selecting their GCSE choices. By specialising in STEM at 13, students are able to study subjects which support each other; developing skills and knowledge which are useful and applicable across all subjects.

## The opportunity to develop specialist technical skills earlier

Students have the opportunity to study engineering for longer, in industry-standard facilities, and with students, teaching staff and professionals who are excited about the high-tech world of engineering and technology. This allows them to build a core of key technical knowledge and skills, and to sample specialist areas before choosing subjects to study at GCSE.

## The chance to develop their core skills

Professionalism and core skills, such as communication, organisation and collaboration, are built into lessons. We have dedicated Crew time (see page 23) in which our students develop a portfolio to show the skills they have enhanced or developed in line with the Student Leaver Profile. This means that they are better informed and more focused when it comes to post-16 career routes.

## The promise of being treated as a young professional

We encourage students to behave like professionals, helping prepare them for the world of work. School hours are longer, everyone at UTC is on first-name terms, there are no bells so students are responsible for their own time-keeping, and students work closely with industry partners from across the region.

## Access to tailored academic and additional support

UTC is much smaller than other schools, meaning that we get to know the student as an individual and can provide tailored academic and additional support as and when required. Our Student Support team is also on hand to deal with any wellbeing issues which may arise.



TAKE THE FIRST STEP INTO YOUR FUTURE CAREER

**“I chose to attend the UTC because it shows young adults the way of the working world, including how products are built and the processes they go through. UTC South Durham has helped me realise my potential.”**

Kai, Year 11 student

# CURRICULUM

Students in Year 9 study a wide range of subjects which enables them to develop both transferable and specialist skills. All students in Years 10 and 11 study English, Maths, Science (Combined or Triple award), and two engineering qualifications, in addition to two subjects of their choice. The Year 9 curriculum is designed so that students can try the different subjects on offer and make an informed decision about what to study at GCSE.

## ENGLISH

English at the UTC aims to develop students skills of retrieval, interpretation, analysis, evaluation, comparison, the crafting of their language and their technical accuracy – all made relevant and transferable to the world of work.

## MATHS

Numeracy skills and mathematical methods are the cornerstone of science, technology and engineering. Students must be fluent and confident in their maths skills as they progress through the UTC and into future courses or employment. We teach in line with the national curriculum whilst linking mathematics to real-life and industry applications, particularly in the engineering sector. During visits to our industry partners, students are able to see how such topics as algebra, ratio, geometry, probability and statistics are applied in the workplace. We offer additional support for students who struggle with aspects of the maths curriculum.

## SCIENCE

Students in Year 9 will have lessons in separate sciences, enabling them to access specialist teaching. In Years 10 and 11, they study either Combined Science (worth two GCSEs) or Triple Award Science. Our state of the art equipment allows students to conduct industry standard practical work to support theoretical content. We are also able to utilise the facilities and expertise of our business partners and university links.

### Biology

Biology is the natural science that studies life and living organisms, including their physical structure, chemical composition, function, development and evolution. Understanding the natural world is important for scientific and technical innovation, and the study of plant and animal biology leads directly to a wide range of careers in medicine and scientific research.

## Physics

Physics is the study of the nature and properties of matter and energy, including electricity, atomic structures, forces, waves, magnetism and electromagnetism, and the physics of space. The principles of science, particularly physics, underpin engineering and advanced manufacturing. Our links with businesses at the cutting edge of the application of sciences show students why physics is so important.

## Chemistry

Chemistry concerns the properties of substances, their reactions and interactions with other substances, and the natural laws that describe these changes. Visits to our employer partners and practical chemistry projects and experiments enhance the study of such topics as: atomic structure and the periodic table, the properties of matter, quantitative chemistry, chemical and energy changes, chemical analysis, and chemistry of the atmosphere.

**£46,712**

was the average wage for Biochemists in 2020

**MATHS BROUGHT TO LIFE THROUGH REAL ENGINEERING EXAMPLES**





utcsouthdurham.org

**ENGINEERING**

Here at UTC South Durham our engineering hall is the heart of our building, and students learn through practical application; building their skills from using entry-level equipment to industry standard machinery. Students will have the opportunity to study the following engineering disciplines:

**Engineering Manufacture**

Engineering Manufacture enables students to study and experience the different manufacturing practices and processes using the machines, tools and equipment that turn raw materials into new products. Following a design specification, students apply their knowledge and skills by operating manufacturing equipment, including using programmes such as CAD/CAM and CNC equipment.

**Engineering Design**

Engineering Design is a process used to develop and enhance new products as a response to market opportunities and need. Students are encouraged to consult with real industry and individual clients, to use practical equipment, computer aided design (CAD), and to develop modelling skills to evaluate and make prototype products.

**Systems Control**

Systems Control introduces students to the fundamentals of electronic circuits and how microprocessor control systems are used in a variety of domestic and commercial engineering contexts. Students develop practical skills by designing, constructing and testing electronic circuits using appropriate techniques, procedures and equipment, including fault-finding and identifying potential electrical hazards.

**£47,896**  
was the average salary  
for engineering  
professionals in 2020



UTC South Durham

**DESIGN AND TECHNOLOGY**

Every product made by humans has been designed and manufactured. Product designers have a responsibility to design useful products which work effectively, and are efficient and environmentally friendly. In Design and Technology, students are encouraged to consider new and emerging technologies, energy generation and storage, material properties and developments in new materials, ecological and social footprint, how to create and communicate design ideas, and how to develop a prototype. Understanding the design process and being able to communicate ideas are important skills for designers, engineers and manufacturers.

**GEOGRAPHY**

Geography encourages students to investigate the links between the human and physical, addressing such topics as energy resources, sustainability and climate change. Geography enables students to develop a strong understanding of populations and demographics, markets and regions, economic development and globalisation; knowledge and skills which are valued by employers.

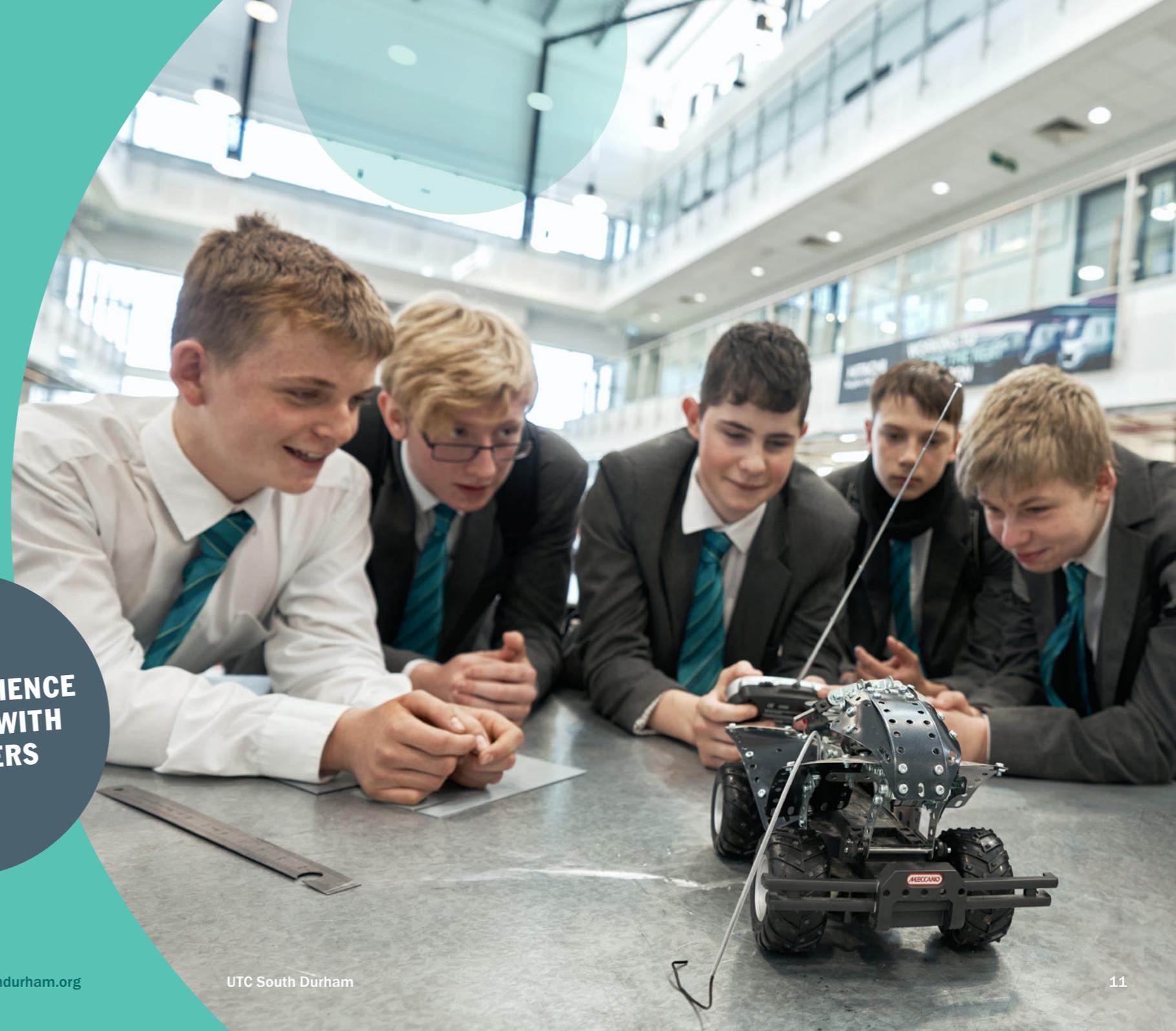
**BUSINESS STUDIES**

Understanding business and how it works is essential in today's changing economic landscape. Students learn to understand and apply the fundamental principles of Business Studies including business start-up and development, finance and marketing, promoting a brand, and recruitment and employability. Business Studies uses real-life context, including visits to and from our employer partners, to make the content as real and relevant as possible.

**COMPUTER SCIENCE**

Computer Science is about understanding the fundamental mathematical and scientific building blocks of computers, including: programming, algorithms, data representation, computer hardware, and cyber security. Students are encouraged to reflect on how digital technology is having an impact on wider society, and develop important skills such as problem-solving. Students also learn programming languages, including Python and SQL.

**YOUR EXPERIENCE  
DESIGNED WITH  
EMPLOYERS**



**“Students are now able to describe which direction they believe they want to go in terms of a potential future career.”**

Laura, teacher

# WHY CHOOSE UTC SOUTH DURHAM IN YEAR 10?

UTC South Durham is ideal for young people if they are:

## WANTING TO FOCUS ON STEM AND TECHNICAL SUBJECTS

UTC students study engineering qualifications in Years 10 and 11, alongside maths, English and science. They are typically excited about the high-tech world of engineering and technology, and want to work with students, teachers, and professionals who share their enthusiasm.

## WANTING A GREAT DESTINATION

Our students gain substantial experience of the workplace to build their skills and find out what they want to do. Our students' destinations are important to us and we have a dedicated careers programme which helps students take the first step into their future career. Our dedication to supporting our students in finding the right destination for them is highly successful.

## WANTING TO GAIN PROFESSIONAL SKILLS

We exist to help young people prepare for the world of work. Professionalism and core skills are built into lessons, and we have dedicated Crew time (see page 23) in which our students develop a portfolio to show the skills they have enhanced or developed in line with the Student Leaver Profile.

## WANTING TO BE TREATED LIKE YOUNG PROFESSIONALS

UTC students are treated like young adults and we encourage students to behave like professionals, helping prepare them for the world of work. School hours are longer, everyone at UTC is on first-name terms, there are no bells so students are responsible for their own time-keeping, and students work closely with industry partners from across the region.



**DEVELOPING CORE SKILLS THROUGH ENRICHMENT**

**“UTC South Durham is a brilliant school. Staff show the students respect and the students appreciate that and show it back.”**

Year 11 parent

# CORE SUBJECTS

Students study nine or ten GCSE subjects. All students study core subjects of English Language and Literature, Maths, Science and Engineering, in addition two optional subjects of their choice. Students also have one hour of directed study time a week, in which they can revise or consolidate their knowledge, two hours of Crew (professional development time), and two hours of PE.

## ENGLISH

All students at UTC study two English GCSE qualifications: English Language and English Literature.

In English Language, students have the opportunity to recognise and empathise with the viewpoints and perspectives of others, as well as being challenged to think and work creatively whilst reading a variety of 19th and 20th century fiction and non-fiction texts. They also learn how to present their own viewpoints and perspectives on a variety of topics in both spoken and written forms.

In English Literature, students study a variety of poems, plays and prose. They dip into politics and consider socialism versus capitalism; they debate the attributes of good and bad leadership and citizenship; they compare the different perspectives that authors write from. All whilst reading texts from authors such as Shakespeare, Dickens, Owen, Tennyson, Agard, Armitage, Weir, Rumens, and many more!

English at the UTC aims to develop students' skills of retrieval, interpretation, analysis, evaluation, comparison, the crafting of their language and their technical accuracy – all made relevant and transferable to the world of work.

## MATHS

Numeracy skills and mathematical methods are the cornerstone of science, technology and engineering. Students must be fluent and confident in their maths skills as they progress through the UTC and into future courses or employment. We teach in line with the national curriculum whilst linking mathematics to real-life and industry applications, particularly in the engineering sector. During visits to our industry partners, students are able to see how such topics as algebra, ratio, geometry, probability and statistics are applied in the workplace. We offer additional support for students who struggle with aspects of the maths curriculum.

SCIENCE BROUGHT TO LIFE THROUGH INDUSTRY EXAMPLES AND PRACTICAL APPLICATION

## SCIENCE

All Year 10 and Year 11 students at UTC South Durham study either Combined Science or a Triple Award Science course at GCSE. Combined Science is worth two GCSE qualifications and comprises separate units in biology, chemistry and physics. Triple Award Science offers students the opportunity to gain three distinct GCSEs in biology, chemistry and physics.

### Biology

Biology is the natural science that studies life and living organisms, including their physical structure, chemical composition, function, development and evolution. Understanding the natural world is important for scientific and technical innovation, and the study of plant and animal biology leads directly to a wide range of careers in medicine and scientific research.

### Physics

Physics is the study of the nature and properties of matter and energy, including electricity, atomic structures, forces, waves, magnetism and electromagnetism, and the physics of space. The principles of science, particularly physics, underpin engineering and advanced manufacturing. Our links with businesses at the cutting edge of the application of sciences show students why physics is so important.

### Chemistry

Chemistry concerns the properties of substances, their reactions and interactions with other substances, and the natural laws that describe these changes. Visits to our employer partners and practical chemistry projects and experiments enhance the study of such topics as: atomic structure and the periodic table, the properties of matter, quantitative chemistry, chemical and energy changes, chemical analysis, and chemistry of the atmosphere.



**ENGINEERING**

Here at UTC South Durham our engineering hall is the heart of our building, and we offer courses which have been chosen by our employer partners to reflect the needs of their future workforce. These courses are delivered through practical application; building students' skills from using entry-level equipment to industry standard machinery.

All UTC South Durham students study two engineering qualifications (equivalent to two GCSEs) through the OCR Cambridge Nationals course. All students study Engineering Manufacturing, and some have a choice between studying Engineering Design or Systems Control.

**Engineering Manufacture**

Engineering Manufacture enables students to study and experience the different manufacturing practices and processes using the machines, tools and equipment that turn raw materials into new products. Following a design specification, students apply their knowledge and skills by operating manufacturing equipment, including using programmes such as CAD/CAM and CNC equipment.

**£45,000**

was the average salary for Civil Engineer in 2020



**Engineering Design**  
Engineering Design is a process used to develop and enhance new products as a response to market opportunities and need. Students are encouraged to consult with real industry and individual clients, to use practical equipment, computer aided design (CAD), and to develop modelling skills to evaluate and make prototype products.

**Systems Control**  
Systems Control introduces students to the fundamentals of electronic circuits and how microprocessor control systems are used in a variety of domestic and commercial engineering contexts. Students develop practical skills by designing, constructing and testing electronic circuits using appropriate techniques, procedures and equipment, including fault-finding and identifying potential electrical hazards.



# OPTIONS SUBJECTS

Students can choose two options subjects.

## DESIGN AND TECHNOLOGY

Every product made by humans has been designed and manufactured. Product designers have a responsibility to design useful products which work effectively, and are efficient and environmentally friendly. This GCSE course enables students to consider new and emerging technologies, energy generation and storage, material properties and developments in new materials, ecological and social footprint, how to create and communicate design ideas, and how to develop a prototype. Understanding the design process and being able to communicate ideas are important skills for designers, engineers and manufacturers.

## GEOGRAPHY

Geography encourages students to investigate the links between the human and physical, addressing such topics as energy resources, sustainability and climate change. During the course, students will undertake two field trips examining areas of both the natural and man-made world, whilst evaluating the impact one has upon the other. Geography GCSE enables students to develop a strong understanding of populations and demographics, markets and regions, economic development and globalisation; knowledge and skills which are valued by employers.

## BUSINESS STUDIES

Understanding business and how it works is essential in today's changing economic landscape. Students learn to understand and apply the fundamental principles of Business Studies including business start-up and development, finance and marketing, promoting a brand, and recruitment and employability. Business Studies GCSE uses real-life context, including visits to and from our employer partners, to make the content as real and relevant as possible.

## INFORMATION AND CREATIVE TECHNOLOGY

How do websites work? How do emails reach your computer? How does the use of computer applications affect your daily life? These are just some of the questions students will be able to answer by the time they complete the Information and Creative Technology BTEC. This course, equivalent to one GCSE, introduces students to some of the key themes within the IT industry, drawing upon students' own experiences to develop their understanding of online services and the technology that supports them. During this course, students will study web development and create a Digital Portfolio, in which they can showcase the projects they have created and developed over the two years.

## COMPUTER SCIENCE

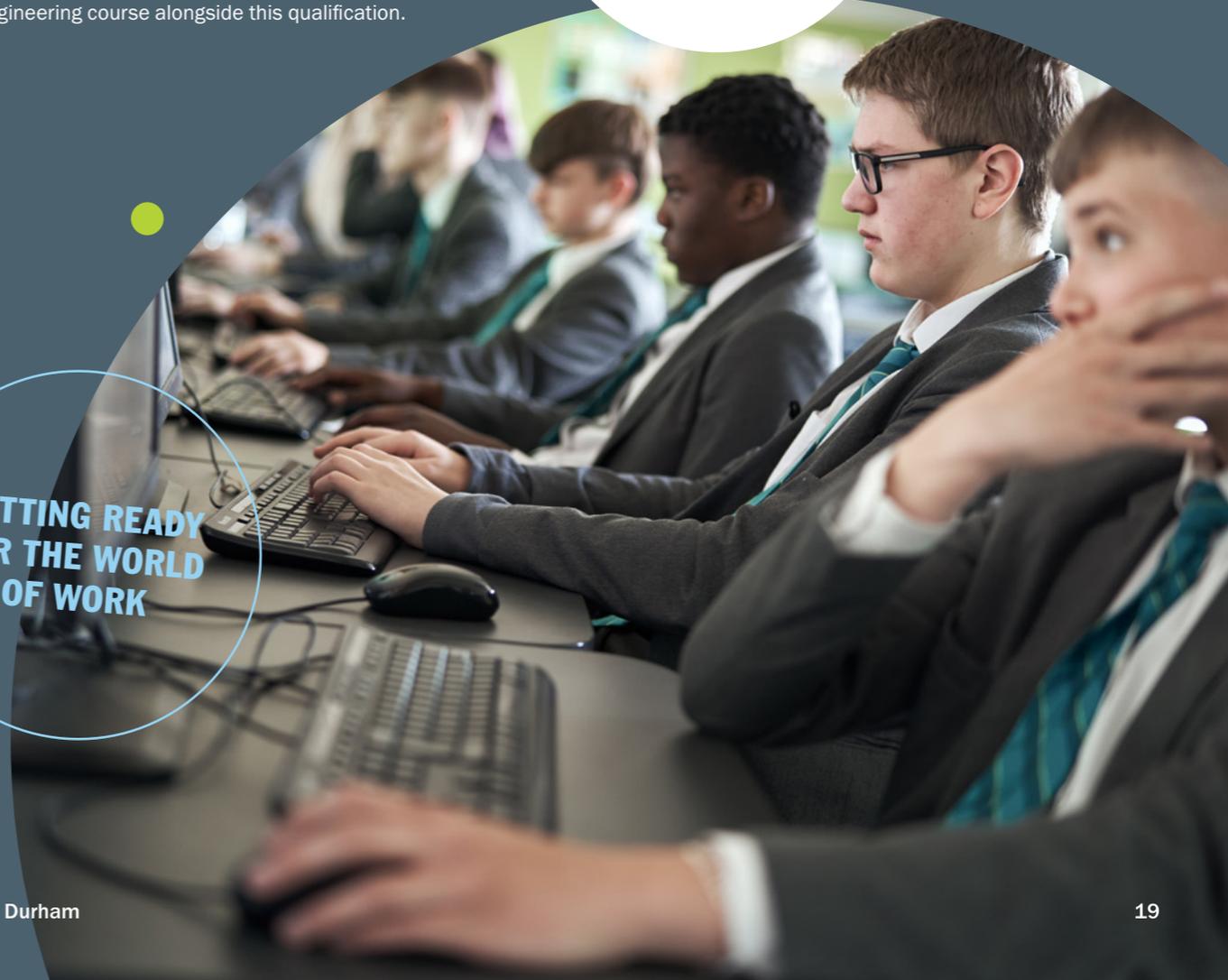
Computer Science at UTC South Durham focuses on preparing our students for the modern digital world and workplace. GCSE Computer Science is about understanding the fundamental mathematical and scientific building blocks of computers, including: programming, algorithms, data representation, computer hardware, and cyber security. Students also learn programming languages, including Python and SQL. Throughout this course, students are able to reflect on how digital technology is having an impact on wider society, and develop important skills such as problem-solving.

We would recommend that students study the Systems Control engineering course alongside this qualification.

**£46,280**

is the average salary for Computer Science/IT professionals

GETTING READY FOR THE WORLD OF WORK



# PE AND ENRICHMENT

Alongside their studies, students get several opportunities to develop skills, increase their understanding of the world they live in, pursue their interests, and in some cases acquire additional qualifications.

Students in Year 9, 10 and 11 have two hours of PE every week which comprises of a range of sporting activities to build on and embed physical development and transferable, core skills, such as: communication, problem-solving, teamwork and leadership, and the application and understanding of information. Our on-site gym is available for students to use before and after school, and there are gym and sports clubs which run throughout the week.

There are also a number of optional clubs and activities which students can get involved in, including:

- Land Rover 4x4 Challenge
- Science Magnets
- Enriching Drop Down Days
- First Aid Training
- Code Clubs
- National Citizenship Service



# CAREERS

UTC South Durham provides a planned careers programme which is delivered across all year groups and is embedded into curriculum learning. The impartial careers advice we offer is tailored to meet the needs of each individual student. In line with the Student Leaver Profile, students leave UTC with the skills and knowledge required to support their entry to further education, training, or employment.

We offer students a wide variety of opportunities that support them to develop their career aspirations, including:

- Industry projects and work experience placements
- Visits to and from industry and business partners
- Careers fairs, drop down days and workshops
- Higher Education taster days
- Mock interviews
- Access to 1-2-1 careers information, advice and guidance

For more information about our careers programme please visit [utcsouthdurham.org](https://utcsouthdurham.org).



**“As an engineering business we are aware of the urgent need to get as many people engaged with engineering as early as possible in their education, and the UTC obviously plays a major part of that. We have been involved in a number of initiatives, from career events, mock interviews, developing digital skills, industry projects to site visits. We have always been extremely impressed by the enthusiasm and capability of the students.”**

Costain Group



# INDUSTRY PROJECTS AND WORK EXPERIENCE PLACEMENTS

Over 150 businesses and organisations are keen to support our students because they know we are developing their future employees. Our students experience a broad selection of industrial sectors and companies from small, local enterprises to multinational corporations. These experiences will support students in making career decisions which are right for them.

Our students in Years 10 and 12 take part in an industry project which runs throughout the academic year. Working in small teams, students must develop their project with the support of mentors from industry. They are then invited to present their solutions back to industry partners.

Previous projects include: designing a train compartment with Hitachi, considering the wellbeing of highway workers with the North Yorkshire, North East Highways Community, and developing a rowing boat with a world ocean rower.



**“UTC students have come up with innovative solutions for real life situations during their industry projects. We look forward to working further with the UTC and their students.”**

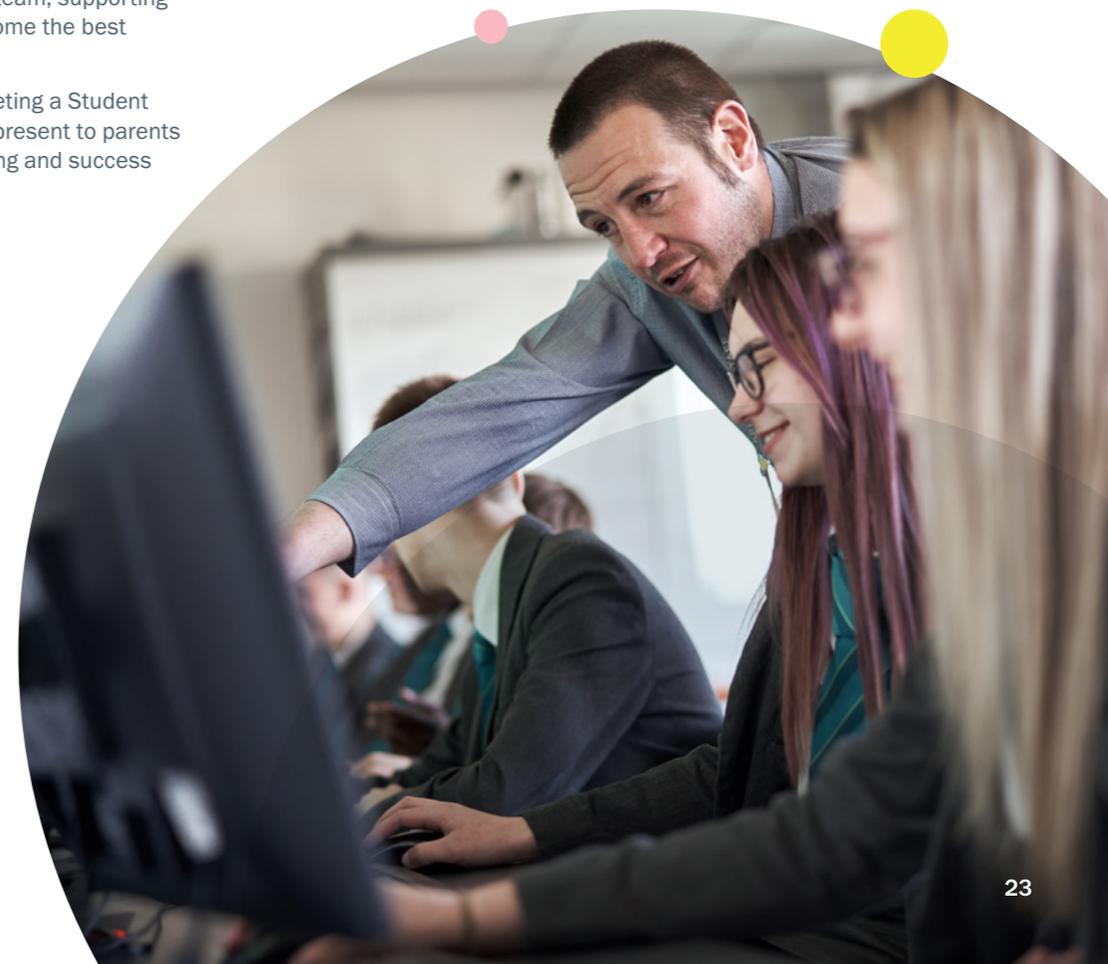
North Yorkshire, North East Highways Community working with Highways England

# CREW

At UTC, we aim to raise aspirations by helping students to develop the professional skills they need to be successful in the workplace. Dedicated time, known as Crew, is needed to support students to develop the skills and attributes outlined in the Student Leaver Profile. Crew time gives students the opportunity to work alongside a member of staff and a small group of fellow students to complete a portfolio of work that demonstrates and evidences how they have met the Student Leaver Profile.

Each crew will work together to reflect on their own learning; allowing them to take responsibility to achieve. They will peer assess one another, reflect on their class behaviours, develop their student portfolio, identify gaps in their skills and development and, most importantly, create an action of how they are going to fulfil them. The crew will become a team, supporting and developing one another to become the best person that they can be.

The year ends with students completing a Student Led Conference. An opportunity to present to parents and crew leaders about their learning and success from the year.



# HOW TO APPLY

Admissions for Year 9 and 10 are made direct to UTC South Durham. Applications for the following academic year open on 1 September.

Applications can be made online at [utcsouthdurham.org](http://utcsouthdurham.org). You will need to create an account on our online system, and verify your email address before completing the application.

Once families have applied, students will receive an offer in principle and an invitation to attend a meeting with one of our Senior Leadership Team. In this meeting, which parents/carers are welcome to attend, we will answer any questions they may have and understand the student's career aspirations so we can create the right programme for them.

Please read our admissions policy before submitting an application. The policy can be found at [utcsouthdurham.org](http://utcsouthdurham.org)



[utcsouthdurham.org](http://utcsouthdurham.org)

# VISIT US

## TRAVELLING TO UTC

Our aim is to make travel as easy as it can be in order to make the UTC accessible for students.

Students travel from across County Durham, North Yorkshire, Tees Valley and Tyne and Wear. Students use a combination of public transport such as Northern Rail, Arriva, Scarlet, Stagecoach, Dales and District, dedicated UTC minibuses and external coach hire organised by the UTC. We have discounted deals with public transport companies for student cards and offer support for those that meet household income criteria.

Please contact us directly and refer to our website for further details or please call on 01325 430 250 for more information.



We hold a number of open events throughout the year, please visit [UTCSOUTHDURHAM.ORG](http://UTCSOUTHDURHAM.ORG) for more information

