UTC SOUTH DURHAM
LEARN DESIGN MAKE

Sixth Form Course Guide

A STEM-Specialist Sixth Form with a Strong Academic & Technical Focus

Welcome to UTC South Durham

> “One of the things I have been most impressed with is how the staff take the time to get to know their students. By doing this they untap their potential so they can be successful in the future.”
>
> Parent, 2023

A very warm welcome to University Technical College South Durham, a state-funded, purpose-built Sixth Form and school for 14-19 year olds.

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 you with an excellent academic and technical education alongside developing your professional skills. Our Student Leaver Profile on page 3 outlines the skills and qualities we will help you to develop at the UTC, ensuring that you are ready for the next steps in your education and career.

As laid out in the Student Leaver Profile, there are three clear strands to our student experience: STEM focused academic qualifications, Specialist technical skills and knowledge, Professional learning and experience.

Our commitment to supporting our students’ professional development means that they are highly successful in securing jobs, apprenticeships, and places for further study.

Our destinations are impressive. Over the 6 years since we opened:

- 100% of students who wanted to go to University did so – 98% to study a STEM related degree
- 42% of post-16 leavers landed a paid apprenticeship (many at higher or degree level) – 7x the national average for that age group
- 97% of students who left the UTC have gone on to a positive destination

In Sixth Form, students study one of three pathways:

- T-Levels in Engineering (These combine academic, practical and workplace education to ensure students are career and life ready)
- A two-year Level 3 route of three A-levels or equivalent qualifications, alongside professional and career experiences
- A one year Level 2 route of practical engineering skills, with the aim of securing an Apprenticeship

We meet with all applicants individually before enrolment to design a programme which meets their needs and career aspirations.

All students undertake a comprehensive programme of visits and placements in companies, including 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, 95% of parents said they would recommend the UTC to other parents and 96% said that their child is happy.

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

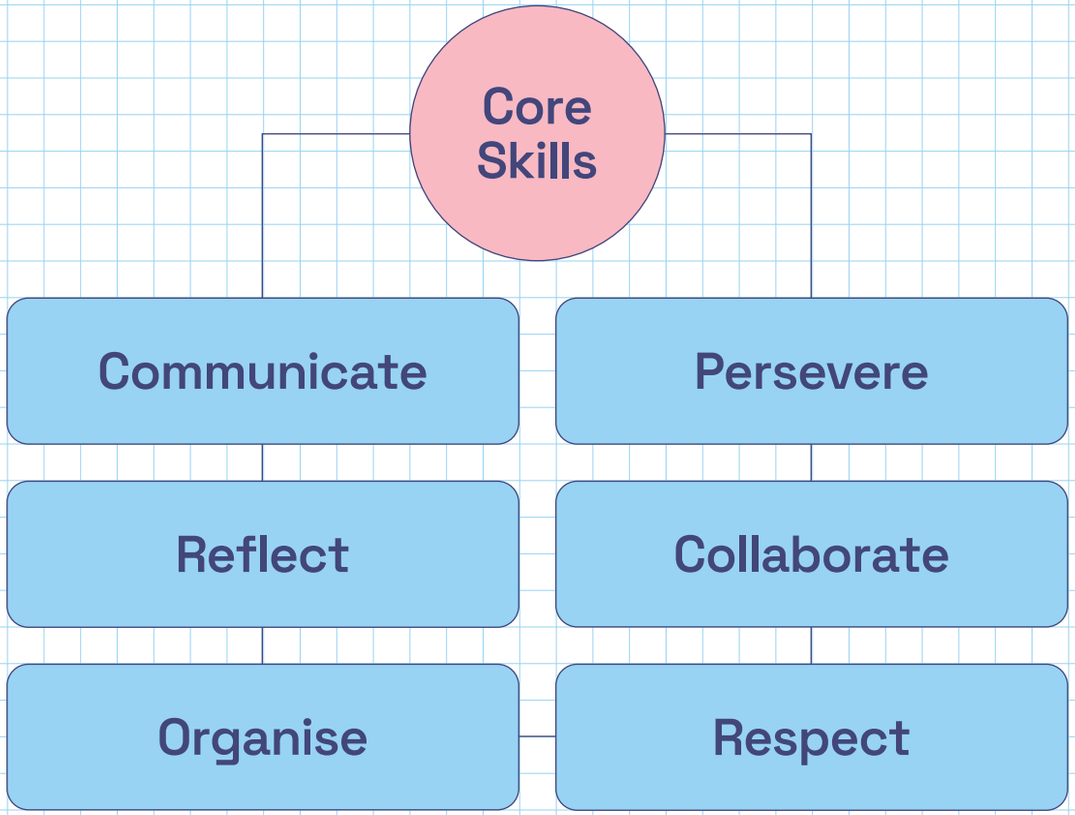
Tom Dower Principal

Student Leaver Profile

The SLP has been developed by the UTC community of industry partners, students, parents, community leaders, staff and trustees. It has students career and life ready at its core.

The SLP ensures that our students are ready for their careers. It cements our commitment to a balanced education which goes well beyond that delivered by most sixth forms. It drives everything we do for our students.

Students undertake a range of academic and technical qualifications which gives them the knowledge for the next stage of their career. They work on their core skills so that they are ready for work, highly employable and increasing in confidence. Students undertake a range of activities which give them first-hand experience of the workplace and a variety of options so they can make meaningful choices for their career direction.



Developing core skills are vital for UTC South Durham students as they prepare for the world of work. These skills, encompassing communication, problem-solving, teamwork, and critical thinking, form the foundation of professional success.

In today's competitive job market, academic understanding alone is insufficient in being successful at an interview. Our industry partners tell us they seek well-rounded individuals capable of adapting to evolving industries and collaborating effectively. Core skills enable our students to excel not only in their chosen fields but also in diverse work environments.

Why choose UTC South Durham?

Sixth Form at UTC South Durham provides students with unique opportunities to develop their professional skills alongside gaining academic and technical qualifications. Sixth Form students are treated like young professionals and benefit from:

Small class sizes, ensuring that students are able to access 1:1 support as and when required

Unique extracurricular opportunities, such as The Lord Baker Award for Technical Education

Opportunity to focus on STEM and technical subjects including our T Level

Future Leaders Programme

Bespoke 1:1 careers advice and action plan

The chance to develop professional skills, including those detailed in the Student Leaver Profile, and work with local employers through industry projects and work experience placements

Free, on-site gym access

Sixth Form only areas, including the common room and balcony study space

A 16-19 Sixth Form bursary (available to students whose household income is below a certain threshold)

Careers

UTC South Durham provides a planned careers programme which is embedded into curriculum learning. The impartial careers advice we offer is tailored to meet the needs of each individual student.

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 and access to PaCE curriculum
- University open days
- Mock interviews
- Access to bespoke careers information, advice and guidance

For more information about our careers programme please visit
utcsouthdurham.org

“ 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. We hope that we continue to strengthen our relationship over the future years and really support the UTC and their students into a career in engineering.”

Costain Group

COSTAIN

Supporting The Next Generation

Our reputation for impressive student support is designed to treat each individual student need. We understand that relevant and focused support should be delivered and tailored to every young person.

We have created an environment where each student is valued and feels comfortable being themselves. Staff at the UTC listen to student voices and implement positive changes with them. **Some examples of this include:**

- Making our building more diverse, we now have inclusive changing facilities
- Opportunities to meet professional health practitioners
- A zero tolerance approach to bullying
- Most importantly, a space where students feel cared for and are happy

96%

of parents say their child is happy at UTC South Durham

Industry Projects & 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. As well as these projects, students are invited to complete one or two weeks work experience.

All students in Year 12 take part in a 12 week industry project creating a solution to a real life industry problem. Some examples of past projects include; considering the well-being of highway workers with the North Yorkshire, North East Highways Community and designing a new STEM toy with Sunderland University.

150

businesses and organisations are keen to support our students

Companies we work with include:

SchlegelGiesse · Meldrum Group · University of Sunderland · Hitachi Inspire the Next · Costain · Husqvarna · Jacobs · BignallGroup · Gestamp

> "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

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.

In recent years we've developed a strong partnership with Kaya Travel, allowing our students to take part in once in a life time travel opportunities. So far, students have visited Eswatini, Ecuador and Zambia to take part in activities that build facilities in local communities and teach young people.

These fortnight visits are government funded with students covering the small cost of vaccinations and travel insurance.

Hand tools sponsored by:

DEWALT

Your Facilities

The location deliberately reflects our specialism and places us next to some of the most advanced manufacturing and engineering facilities in the county, enabling students to access fantastic real-world work experiences on our doorstep.

Students have access to science labs, classrooms, computer suites, a gym, and a Sixth Form area.

The PaCE curriculum aims to equip UTC students with the tools they need to become career and life ready.

By integrating skills delivery with experiences of real life projects and work alongside industry and community partners, the PaCE curriculum will provide students with a solid understanding of the world around them. As well as the careers available and deliver the skills they need to be healthy, happy and successful.

(PaCE) Professional & Career Experience

Pathways

Students have the option to select three different pathways at Sixth Form. Level 3 courses allow students to progress onto University as well as an apprenticeship or employment. Our level 2 course leads students either into an apprenticeship or employment.

All of our pathways are full time with students required to complete work during allocated independent study hours on their timetable.

Upon enrolment, students will receive advice and guidance on each of the pathways to make an informed choice as to which pathway best suits their future career.

Performing Engineering Operations (PEO)
Level 2

T Levels
Level 3

A Level / BTECs
Level 3

“ On a weekly basis I would be working directly with employers at UTC. This experience allowed me to network with employers and gave me a head start in getting an apprenticeship.”

Alex Lidster, Degree level apprentice at Jacobs Engineering

Performing Engineering Operations (PEO)

The Performing Engineering Operations course is designed to prepare students for an engineering apprenticeship or to follow on with a Level 3 course in Engineering. It is recognised by apprenticeship providers and employers as a national benchmark for competency in the engineering industry. The qualification provider is EAL (part of the Enginuity Group).

The course will enable learners to:

- Learn practical skills and gain a relevant industry standard qualification
- Access workplace experience with companies in the form of visits, projects and placements where appropriate
- Experience development sessions and careers advice as part of our wider Sixth Form offer
- Re-sit English and/or Maths GCSEs where needed, taught by specialist GCSE teachers

Fabrication & Welding

The Fabrication and Welding pathway is based on producing sheet metal components and assemblies, as well as using manual welding equipment. This pathway covers three assessment units in the following practices:

- Producing sheet metal components and assemblies (<3mm)
- Preparing and using manual TIG welding equipment
- Preparing and using manual MIG welding equipment

Entry requirements: minimum of grade 4 in GCSE Maths and grade 4 in GCSE English Language

PROFAB ENGINEERING LTD

"Tridonic and ProFab Engineering have committed to working closely with our students to ensure they get experiences in industry specific to their chosen course and future career."

Robotics

The robotics pathway is focused on using industrial robots and rapid prototyping and exploring computer aided design. The pathway covers three assessment units in the following practices:

- Producing components by rapid prototyping techniques
- Producing mechanical engineering drawings using a CAD system
- Preparing and using industrial robots.

Entry requirements: minimum of grade 5 in GCSE Maths and grade 5 in GCSE in English

TRIDONIC

Engineering Practices

The Engineering Practices pathway is based on producing components using hand fitting techniques, preparing and using lathes for turning operations and using CNC machines to manufacture high quality components using advanced manufacturing techniques. This pathway covers three assessment units in the following practices:

- Producing components using hand fitting techniques
- Preparing and using lathes for turning operations
- Preparing and using CNC machines

Entry requirements: minimum of grade 4 in GCSE Maths and grade 4 in GCSE English Language

Sixth Form Entry

T Level

T Level Engineering & Manufacturing

T Levels are a new two-year qualification designed to give students a head start towards the career they want. They're an alternative option to A Levels and combine classroom learning with an extended industry placement.

Students spend 80% of the course in the classroom and 20% on a 45-day placement with an employer to give them the skills and experience companies look for. One T Level takes two years of full-time study and is equivalent to three A levels.

We will be offering the T Level in two pathways within the Engineering and Manufacturing route.

In the first year, all students will study the same Core Engineering content (knowledge and skills relevant to all Occupational Specialisms below) worth 50% of the course. In the second year, students will be able to choose one of the specialisms below to study:

Pathway 1: Engineering and Manufacturing; Manufacturing process and control (Machining and tool making specialism)

Pathway 2: Occupational Specialism of Mechanical Engineering (Mechanical Specialism)

Industry placement

Working with our industry partner's students will apply for their industry placement and be expected to manage their placement like a job. This includes being the main point of contact for the placement and negotiating working days and hours.

A number of local companies have committed to taking our students for their placement with the potential of employment or an apprenticeship upon completion of the course.

Entry requirements: You will have achieved a grade 5 in GCSE Maths, English and grade 5 in GCSE Physics or grade 5 in GCSE Combined Science. You will also need to commit to an industry placement of at least 45 days

T-LEVELS
THE NEXT LEVEL QUALIFICATION

80%
CLASSROOM

20%
WORKPLACE

Engineering

We specialise in Engineering with students having direct access to our large network of committed industry partners, world class facilities and highly trained staff. At Level 3, our BTEC Engineering course allows students to take advantage of these benefits whilst studying other STEM subjects.

Students learn skills, including:

- Health and safety
- Interpreting engineering information
- Practical engineering operations

Our BTEC Engineering course is delivered through practical application enabling students to build up their technical skills alongside their academic knowledge. During the course, students will have the opportunity to plan and manufacture a product of their choice.

Engineering BTEC

Engineering BTEC provides a broad basis of study for the engineering sector, and is suitable for students applying for apprenticeships or, when combined with A-level courses such as maths and physics. Topics covered include:

- Mechanical engineering systems and components
- The process of engineering design
- The relevance and role that manufacturing processes and systems have in the production of multiple components

This BTEC Level 3 National Extended Certificate course is worth the equivalent of one A-level and can be studied alongside two other A-level or Level 3 courses.

Entry requirements: minimum of grade 5 in GCSE Maths, grade 4 in GCSE English and grade 5 in GCSE Physics or Combined Science

Maths

Mathematics aims to improve confidence and skills in problem solving, logical and analytical thinking, and calculation. At UTC, the relevance of maths is brought to life through projects, visits to and from employers, and work experience placements in business and industry. It is advised that any student studying engineering, science, or computer science continues with maths at A-level or Level 3.

A-Level Maths

A-level Mathematics extends the skills covered at GCSE, particularly those in algebra and trigonometry. This course focuses on pure mathematics, with some applications of mechanics and statistics.

Entry requirements: minimum of grade 7 in GCSE Maths

Core Maths

Core Maths focuses on the application of maths, including in personal finance, and the estimation and analysis of data. Core Maths is a Level 3 course (the equivalent of an AS qualification) for those students who are interested in developing their mathematical skills beyond GCSE.

Entry requirements: minimum of grade 4 in GCSE Maths

Further Maths

Further Maths takes a much deeper look at some of the areas covered in A-level Maths, as well as exploring other areas of mathematics such as graph theory, complex numbers and matrices.

Students can opt to study A-level Further Mathematics alongside their A-level Maths course.

Entry requirements: minimum of grade 7 in GCSE Maths

Computer Science

Computer Science at UTC South Durham focuses on preparing our students for the modern digital world and workplace. A-level 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.

Entry requirements: minimum of grade 6 in GCSE Maths, grade 6 in ICT or computing, and grade 4 in GCSE English Language

Content includes:

- Computer systems, organisation and architecture
- Theory of computation
- Communication and networking
- Databases and big data
- Algorithms and programming

£46,280 is the average salary for Computer Science/ IT professionals

Business

Business at UTC South Durham focuses on preparing students for the modern business world. The course is made relevant through case studies and projects as well as regular visits to industry. During this course, students will understand and apply the fundamental principles of business studies including:

- How businesses are structured and how finances work
- The wide range of careers within business
- How to develop a marketing campaign
- Personal finance
- How to promote customer service

This BTEC Level 3 Extended Certificate in Business is worth the equivalent of one A Level and can be studied alongside another two Level 3 qualifications.

Entry requirements: minimum of grade 4/5 in GCSE English and Maths

Science

Biology

A-level Biology is a strong pathway to university and apprenticeships, as this course equips students with valuable transferable skills. Through practical projects and experiments, students develop excellent analytical and communication, team building, and leadership skills.

Topics covered include:

- Biological molecules (proteins, lipids, carbohydrates)
- Cells (Eukaryotic and prokaryotic cell structure)
- Exchange (diffusion, osmosis, active transport)
- Genetics (meiosis, mitosis, DNA structure, protein synthesis, adaptations, evolution)

Entry requirements: minimum of grade 6 in GCSE Maths and grade 6 in GCSE Biology

Chemistry

Studying A-level Chemistry at UTC South Durham gives students not only the in-depth knowledge they need to continue in further study, but develops vital practical and problem solving skills which will be essential in whatever career path students choose to take. The subject content is made relevant to real world experiences through experiments, and trips to our industry partners.

Topics covered include:

- Physical chemistry (atomic structure, bonding, kinetics, equilibrium, energetics, thermodynamics, acids and bases in alkenes and alcohols)
- Analytical techniques (optical isomerism and reactions for a range of organic substances, nuclear magnetic resonance (NMR) and chromatography)

Entry requirements: minimum of grade 6 in GCSE Maths and grade 6 in GCSE Chemistry/Combined Science

Physics

A-level Physics is a highly valued qualification, particularly for students who are looking for a career in engineering or plan to study maths or a science at degree level.

Students will already be familiar with many of the topics covered at A-level, including forces, waves, radioactivity, electricity and magnetism. Throughout the A-level course, students look at these areas in greater detail and find out how they are interconnected. Students also learn how to apply maths to real-world problems and explore new areas such as particle physics, astrophysics,and medical physics.

Perhaps more importantly, students develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. While studying A-level Physics students will develop practical skills, including: making observations, collecting data, analysing experimental results and formulating conclusions.

Entry requirements: minimum of grade 6 in GCSE Maths and grade 6 in GCSE Physics/ Combined Science

Applied Science

The Extended Certificate in Applied Science gives a broad overview of all three science subjects. Practical scientists are responsible for developments in industries which provide both services and products, such as pharmaceuticals, automotive, construction, food production, radiology and countless others.

Content includes:

- Key concepts in science and how they are applied
- Applied experimental techniques to gain knowledge and understanding through practical work
- How science is used in the modern world to develop analytical, evaluative and critical thinking skills
- Studying the human body to develop knowledge and understanding of anatomy and physiology
- Investigating science to enable learners to use their knowledge and skills in carrying out a scientific investigation
- This BTEC qualification is equivalent to one A-level

Entry requirements: minimum of grade 4 in GCSE Maths, grade 4 in GCSE English and grade 4 in GCSE Combined Science or grade 4 in all sciences.

At UTC South Durham, we offer A-levels in Biology, Chemistry and Physics, and a Level 3 BTEC qualification in Applied 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.

English

At UTC South Durham, A Level English Language focuses on encouraging students to become independent, creative thinkers who are able to engage fully with the world around them both in the work place and beyond.

A Level is very different to GCSE in terms of content, though several of the skills do overlap. Students will study a range of texts – both written and spoken – to explore how language works through the scientific study of 'English'. Students will come to understand how language contributes to individual and societal identity.

Entry requirement grade 6 in GCSE English

During the course, students will:

- Explore language as a continually evolving and changing entity
- Come to understand language acquisition and have the opportunity to research and analyse language in action through a language investigation of their choice
- Original writing also features on the course offering students the opportunity to enhance their skills in written English as well as develop their creative flair

"What makes UTC stand out is the care and support they have for every single student."

Parent 2023

English at UTC is made relevant and transferable to the world of work

Sports

Sports Tech Level is delivered in a way that makes it relevant to real world experiences. Students develop and learn new practical skills, including leadership, teamwork, and organisation. After completing this qualification, students will be able to start working in the sports and fitness sector or progress further on to university.

Topics covered include:

- Body systems and the effects of physical activity
- Sports coaching and activity leadership
- Sport organisation and development
- Nutrition and diet for sports and exercise
- Physical activity for specific groups
- Organisation of a sports event

Entry requirements: minimum of a grade 4 in GCSE Maths and grade 4 in GCSE English Language

This Cambridge Tech Level course is worth the equivalent of one A-level and can be studied alongside other A-level or Level 3 courses.

Product Design

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. Throughout A-Level Product Design students are able to:

- Engage in both practical and theoretical study to develop design and practical skills
- Develop their understanding of technical design and make principles
- Focus on graphics or 3D design
- Create practical project work
- Build a coursework portfolio

Entry requirements: minimum of grade 4 in GCSE Maths and grade 4 in GCSE in English Language

Visit Us & Apply

Admissions for Sixth Form 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. 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 you 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

Open Evenings

Our open evenings are a fantastic opportunity for you to tour our state of the art facilities whilst speaking to staff and current students about our technical education.

Find out more

Transport

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 or email transport@utcsouthdurham.org for more information.

Find out more

Ofsted
Good
Provider

admissions@utcsouthdurham.org
01325 430 250

UTC South Durham
Long Tens Way
Aycliffe Business Park
County Durham
DL5 6AP

utcsouthdurham.org

Founding members
of UTC South Durham

University of Sunderland

Gestamp

HITACHI
Inspire the Next