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South Wiltshire University Technical College is a partnership between education, industry and community bodies governed by:

- **The University of Southampton**
- **Defence Science & Technology Laboratory**
- **Chemring Countermeasures**
- **Chemring TS (Roke Manor Research)**
- **Public Health England**
- **QinetiQ**
- **Salisbury NHS Foundation Trust**
- **Tetricus Science Park**
- **Wiltshire College**
- **Wiltshire Council**

This document sets out our plans for the educational character and structure of the South Wiltshire University Technical College which opened in Salisbury in September 2015.

This version 3.1 of the Education Brief was submitted to the South Wiltshire UTC Board on 10 December 2015, updating version 2.1 that had been adopted on 16 June 2015.

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1. Our Vision and Ethos

1.1 Our vision

South Wiltshire UTC is a vibrant and professional learning environment that gives young people the technical skills, depth of understanding and personal strengths they need for successful careers. By directly linking ambitious young people with a unique partnership of the University of Southampton, the Royal Navy, the Army, Wiltshire Council, Wiltshire College and world class local employers South Wiltshire UTC aims to inspire the next generation of scientists and engineers.

From the moment young people enter South Wiltshire UTC they should feel that they are working in a professional business environment and that they have taken a major step towards their future careers. Regular contact with employers and a series of integrated business challenges will increase their confidence, maturity, social awareness and employability. They are co-creating, representing and benefitting from positive stakeholder perceptions of the special nature of South Wiltshire UTC students.

1.2 Our aim and values

The UTC aims to be:

- **Aspirational:** life changing and transformational for young people; stretching and stimulating for staff and partner organisations.
- **Inspirational:** enthusing the next generation of scientists, technicians and engineers by showing them clear pathways to future success.
- **Innovative:** harnessing best practice from education and industry and embedding professionalism and informed risk-taking in its culture.
- **Inclusive:** welcoming students of all abilities, serving the whole community and meeting the needs of employers of all sizes driven by the belief that everyone will benefit from involvement in the UTC.
- **Relevant:** using real world examples, active mentors and industry experts to build the skills and attributes young people need and employers value.
- **Challenging:** continuously improving everything it does and setting challenging targets for staff, students and partners.

For students and staff alike, these aims are reflected in core values that will run through our policies, culture and curriculum model. These key values, which we have mapped carefully against the Government's statement of British Values and the core values of the Royal Navy and British Army, are:

Respect / Integrity / Judgement / Courage / Resilience / Compassion

1.3 Our context

South Wiltshire UTC is a carefully thought-out solution to a long-standing gap in provision for young people in South Wiltshire. The economy of the area is rich in defence and Protective Science organisations and has a clearly-articulated strategy to become a world-recognised centre of Life Science expertise. It is home to a large and growing proportion of the British Army with strong tradition of expertise in defence Engineering and electronic applications. The employment base includes world class

organisations many of which offer extensive and high quality employment and Apprenticeship opportunities.

Yet many employers struggle to attract local applicants with the required skills and attitudes and many highly able young people leave the area in search of good career prospects. This dichotomy is ingrained. Educational aspirations and esteem have long been dominated by a narrowly-defined concept of academic success and a large volume of young people travel out the area in search of such success. South Wiltshire UTC aims to radically challenge this ingrained structural weakness by giving young people a high quality and highly-esteemed route to success in technical occupations. It meets the needs of local employers and crucially does so by harnessing their energy, expertise and resources to bring learning to life for the next generation of engineers, scientists and technicians.

1.4 Merging academic and technical excellence

We believe that the distinction between academic and technical learning is artificial and increasingly anachronistic. Employers have told us clearly that they want employees in all roles who can apply their learning and harness deep understanding of technical concepts to solve real problems. We get the most from our extended “business day” by allowing students time to reflect on and apply their learning to solve real challenges set by our employer and university partners. We also offer challenging combinations of subjects, grouped into clear progression pathways, that allow students to develop a flexible toolkit of knowledge and skills that they can combine effectively. Underpinning all the pathways is a strong business skills curriculum shaped by, and delivered in partnership with, employers. Personal tutors and industry mentors guide the development of students and help them become highly self-aware and motivated young people.

The Defence and Protective Science industries are a strong background context for students’ learning, providing clear case studies and real world challenges, and young people will be given the opportunity to understand career pathways in these sectors. However the UTC will equip students to apply their understanding flexibly and pursue a very wide range of occupations and careers.

1.5 Our vision of learning and the importance of technology

South Wiltshire UTC is an environment in which young people acquire professional, educational and social skills that will serve them well throughout their career. They learn eclectically from teachers, support staff, fellow students, professionals and a full range of information media and learn to evaluate and assimilate each of these. They search for and harness links between different learning disciplines and take an integrated approach to applying their learning to real-life challenges. Staff, individually and collectively, guide and facilitate students’ learning and welcome occasions when students’ knowledge surpasses their own.

The design of the UTC premises and ICT infrastructure supports this vision of learning. Learning spaces, equipment and ICT are designed to be flexible and quickly adaptable. We expect learners, as the learning context demands, to learn in small groups, classes and larger cohort groups and for the premises to be able to adapt quickly to support this. It will be quick and natural for students to discuss responses to a challenge and share them with the teacher and the rest of the group.

Learning takes place throughout the site (including informal study spaces, social areas, café and external areas). We enable students to gain quick and reliable access to outside expertise; sometimes live, sometimes stored and recorded and sometimes documented. Our 152-seat lecture theatre supports live and online discussions between students and experts and can also provide safe one-to-one links for students to mentors and STEM ambassadors from industry.

Students are encouraged by the lack of set homework to engage in their own exploratory and preparatory learning outside UTC hours. Our model centres on one portable ICT device for each student and each member of staff supported by a recognised educational group financing package.

The learning model includes reliable regular communication channels to the University of Southampton, supporting employers and will incorporate the planned Porton Science Park for both individual and group interaction. We envisage this as a combination of whole group visual interactions (in teaching rooms and lecture theatre) and one-to-one or small group online coaching. Access to learning resources, student registration and progress monitoring and administration is designed to be overwhelmingly paper-free.

1.6 Central role of employers and education partners

Our partner employers, the University of Southampton and Wiltshire College play a central role in our vision of the UTC and its distinctive culture. These partners guide and validate our curriculum offer and ensure that the UTC gives students access to high quality progression pathways and onward to strong, sustainable careers. The University and employers enrich the curriculum with real industrial challenges, which we will use to build technical, research and team working skills and to bring students' learning to life. Initial examples include:

- Public Health England's sponsorship of the Year 10 Health & Safety Project;
- Dstl's sponsorship of the Year 10 materials project;
- Mitutoyo's co-delivery of the Year 12 Measurement unit;
- MG Cannon's agreement to be the case study employer for the GCSE Applied Business group;
- GILLO industries' hosting of vehicle engineering sessions;
- Stannah Stairlifts agreement to be a focus for the A Level Economics group's study of costs of production; and
- Roke Manor's agreement to sponsor a Year 12 Electronics project.

South Wiltshire UTC students will not only master the content and understanding they need to succeed in public examinations but will also understand how to harness their skills and knowledge to solve real world problems and will be able to point to tangible examples of their achievements thus far.

Experts from employers and the University set challenges, coach students in the development of potential approaches and critically appraise their final solutions. Interaction with external experts is intended to be regular, natural and integral to other aspects of curriculum delivery. Supporters from partner organisations should feel ownership of the UTC, understand its aims and ethos and have a clear understanding of the contribution they make. They will also understand the long-term benefits of their involvement for their organisations and the wider community and will value the time they spend with students.

1.7 Personalised learning

South Wiltshire UTC welcomes students of all abilities into Year 10 and takes full account of the stage each learner has reached and their learning successes and preferences. We make use of all existing evidence of students' achievements and additionally use diagnostic tests to provide a common benchmark and objective evidence of students' potential. All Year 10 applicants sit the CAT4 cognitive abilities test on arrival and this will be used to set challenging progress targets (whichever is the higher of CAT4 stretch target or four levels of progress).

Wherever possible, we will work with other UTCs to develop a common approach to student assessment, target-setting and tracking in order to generate a robust and relevant set of national benchmarking data.

Personal tutors will be responsible for ensuring that all students:

- are on appropriate programmes;
- are set challenging targets (encompassing the accredited and non-accredited aspects of their development);
- understand what they will need to do to achieve those targets; and
- receive and discuss regular feedback on their progress.

We understand that many of the students who join the UTC, especially in Year 10, will be unhappy with the rate of progress they have been making in Key Stage 3 and/or exclusively academic approaches to learning. This presents a challenge in terms of the Government's new measures of institutional performance, since these are based on student progress between Key Stage 2 and the end of Key Stage 4, but we expect that all students will show accelerated progress in the learning environment we have created.

1.8 Underpinning business and social skills curriculum

South Wiltshire UTC has worked closely with its education, community and employer partners to develop an underpinning business skills curriculum that will increase students' chances of success in their long-term careers. This integrates with Personal, Health and Social Education (PHSE). We develop these skills alongside students' academic and technical achievements and through a combination of activities that include (but are not restricted to):

- work placements and employer contacts;
- mentoring;
- sports and enrichment activities;

- our formal student involvement strategy featuring the Student Board;
- volunteering;
- pastoral support; and
- the PHSE curriculum (which will encompass morals, ethics, religious education and health and social education).

We welcome opportunities to accredit the development of students' business and social skills, for example through the (voluntary) Combined Cadet Force, Duke of Edinburgh's Award and elements of the Duke of York's award. Business Studies is also a GCSE option in Key Stage 4. However, development of business and social skills is seen as a valid goal in its own right and we are wary of distorting or constraining the curriculum in pursuit of accreditation.

We asked employer, education and community partners at a specially-convened curriculum conference in April 2014 what characteristics young people would need to succeed in their organisations or in their careers in general. The box below summarises what the participants felt to be especially valuable skills for students to acquire.

**Personal skills and attributes young people need to do well in employment
(South Wiltshire UTC Curriculum Conference April 2014)**

- Good written and oral communication (appropriate and relevant to the occasion)
- Able to explain complex things in clear language
- Strong interpersonal skills, demonstrating value and respect for others
- Diplomatic and tactful; understanding the perceptions of others
- Demonstrating professionalism and understanding of standards
- Keen, tenacious and resilient, showing a positive work ethic
- Flexible and adaptable, using skills from multiple disciplines
- A problem-solver; creative and not put off by set-backs
- Organised, reliable and punctual; a good team player
- Able to self-motivate and work independently
- Willing to show leadership and take responsibility
- Good decision-maker, understanding controlled risk-taking
- Able to source and evaluate the evidence needed to make good choices
- Demonstrating integrity and honesty in all matters
- Willing to be responsible and accountable for actions and decisions
- Able to be strategic; seeing the big picture
- Always looking to learn and expand skills and understanding
- Interested in the outside world and the context in which organisations operate

Employers, education partners and community stakeholders were confident that the vision and ethos of the South Wiltshire UTC would support the acquisition of these skills and attributes and were able to map them against the contribution their own organisations will make to the UTC.

The Curriculum Conference also considered strategies the UTC could use to ensure that the underpinning social and business skills curriculum successfully developed these attributes. Their conclusions are reproduced below.

**How the UTC can build these skills and attributes
(South Wiltshire UTC Curriculum Conference April 2014)**

- Ensure applicants and parents understand the demanding nature of the UTC
- Ensure staff demonstrate these skills and attributes in everything they do
- Ensure regular and purposeful interaction between students and employers
- Give students regular access to young professionals as mentors
- Embed examples and case studies from the world of work
- Base the rules and culture of the UTC on best practice from employers
- Have high expectations of students, based on their long-term best interests
- Use live briefs and business challenges to link to the world of work
- Set projects and challenges with no “right answer”
- Develop students as all round individuals, with purposeful pastoral care
- Give students opportunities to develop wide-ranging interests
- Set clear and stretching targets and show how they can be achieved
- Track and regularly discuss students’ development of these attributes
- Communicate clearly with parents & ensure they understand the UTC’s goals
- Make sure students can harness technology wisely, safely and expertly
- Challenge received wisdom and easy options

1.9 Curriculum drivers

A specialist Curriculum Task Group met on six occasions between spring 2013 and spring 2014 in order to develop the curriculum structure set out in this document. The Group, which took evidence from a wide range of education specialists and awarding organisations included representatives from:

- The University of Southampton Faculty of Engineering and the Environment
- The University of Southampton School of Education
- Wiltshire Council
- Wiltshire College
- Partner secondary schools
- Science employers
- Engineering employers

The aim of the Group was to develop an innovative curriculum that would excite and stretch young people regardless of their initial attainment levels and that would support their pursuit of a wide range of relevant progression pathways. In particular, the Group was charged with identifying a combination of subjects and under-pinning skill development that would support deep learning and innovative teaching and learning strategies. In doing so, they were asked to consider how the extended UTC day could be used to link accredited learning, enrichment activities, employer input and an active role for the University and other partners.

Our vision is that the UTC should be a virtual workplace that links seamlessly to real and virtual inputs from our wide partnership of supporting organisations. Curriculum leaders have clear responsibilities to develop and harness the inputs of employers, education partners and community stakeholders and our ICT and learning infrastructure is designed to facilitate this.

Over their programme of study students have access to:

- work placements;
- live briefs and challenges introduced by guests from partner organisations;
- expert witnesses (live, online and in recordings accessible through the learning network);
- teaching staff with recent relevant industrial experience, including regular professional updating links with our external partners;
- industry standard equipment and processes;
- case studies that demonstrate the application of their learning to the real world and also illustrate potential career progression routes; and
- mentors and role models from the University and Employers.

2. Information and Communications Technology

2.1 ICT vision

Good information and communications technology (ICT) is not a sufficient condition to ensure an effective learning environment but we do believe it is increasingly a necessary condition and ICT is at the centre of our learning vision. We attract and appoint staff, regardless of their background, who show passion for learning and who are comfortable working in partnership with learners and employers supported by pervasive learning technology. ICT cannot guarantee effective learning, nor can it ensure stimulating teaching, but effective investment in ICT infrastructure, equipment and training will free up teachers and students to create a highly innovative learning environment.

2.2 Learning culture

The culture we are establishing has been described as a new pedagogy (Fullan and Langworthy 2014)¹ based on the deep learning that results when teachers see their main role as ensuring that students master the process of learning. We recognise and strive to achieve Fullan and Langworthy's description of "teachers and students teaming up to make learning irresistibly engaging and steeped in real-life problem-solving".

We are seeking to recruit staff (across all roles) who understand and thrive in this new context and who will also contribute to a learning organisation in which innovation and controlled risk-taking are the norm. Effective leadership and supportive technology facilitate this, with genuine distributed leadership among staff who have bought into a culture of continuous improvement.

2.3 ICT to support specialisms

The UTC will specialise in Science and Engineering with particular reference to the Defence and Protective Science industries. For Engineering, ICT needs to support design, rapid prototyping, testing, control systems and performance monitoring. We have invested in dedicated devices of a sufficiently high specification to operate relevant software and learning activities easily. Our facilities include a dedicated Computer Aid Design suite linked to industry standard 3D printing, laser cutting and finishing equipment and a fully equipped milling and machining workshop. Students work on integrated projects some of which will require external testing and data capture (using reliable Wi-Fi across the site).

Our Science specialism features microbiology and Life Sciences alongside advanced Physics and Chemistry. Our innovative ICT solutions will support groups of varying sizes to share the results of scientific experiments and microscopy. We have five Science labs and two linked studio spaces and use ICT to capture, stream and analyse the work of students, staff and expert witnesses.

¹ Fullan, M. and Langworthy, M., [A Rich Seam. How New Pedagogies Find Deep Learning](#), Pearson, 2014.

Teaching and learning in our specialist areas set the tone throughout the UTC. A linked set of display monitors in the social (and public café) areas have the capacity to switch from “announcement” content to live streamed displays from the labs or lecture theatre. Learning spaces, equipment and ICT infrastructure are flexible and quickly adaptable in order to support this vision. Learners, as the learning context demands, learn in small groups, classes and larger cohort groups and the premises are able to adapt quickly to support this.

2.4 Role of Wi-Fi in freeing up learning

ICT supports, facilitates and frees up learning, making it quick and natural for students to investigate problems and explore learning resources within and outside formal lessons. A small number of learning areas have dedicated desktop machines (e.g. CAD Suite, Computing Room and Learning Resource Centre) but learning can take place throughout the site (including social areas and, for sixth formers, the public café just outside the secure line). We have accessible and reliable Wi-Fi throughout the building and the external areas of the site and staff and students have personal devices to support teaching and learning.

The learning model includes reliable regular communication channels to the University, supporting employers and the planned Porton Science Park for both individual and group interaction. ICT can enable students to gain quick and reliable access to outside mentors, expert witnesses and learning sessions stored in a virtual environment.

Our 152-seat lecture theatre can host live and online discussions between students and experts and has allowed employers to brief whole year groups at the start of major projects. ICT supports access to learning resources, records student attendance and supports progress monitoring and administration. It also supports safeguarding and onsite catering (e.g. printing credits and cashless catering systems that protect the confidentiality of free school meal recipients).

Our accommodation features a combination of formal teaching spaces (each with flexible seating and an interactive video screens), informal learning spaces and social areas in which students can learn in a relaxed environment. Areas are zoned according to the atmosphere learners are expected to maintain.

3. Curriculum Principles

3.1 Accessible and relevant Key Stage 4 curriculum

South Wiltshire UTC welcomes learners of all abilities who wish to benefit from a curriculum that combines academic and technical skills and harnesses employer and university expertise to bring the learning to life. We are working to establish close partnership working with students' previous schools to ease transition and secure detailed and comprehensive information on their level of achievement and potential.

In Key Stage 4 we offer a broad curriculum that balances academic study, the acquisition of technical skills and the development of employability skills, social skills and resilience of character. This curriculum places a strong emphasis on students' English, mathematical and computing skills and understanding, since these will form the bedrock of their future employability.

All students in Key Stage 4 initially study: English Language, English Literature, Mathematics, Biology, Chemistry, Physics, Computer Science and Design Engineering.² This will give them 8 subjects which, for those who are able, will lead to GCSE or recognised GCSE-equivalent qualifications. Students' progress is closely monitored during Year 10 and adjustments will be made to learning programmes for those who are struggling to make sufficient progress, for example dropping back to Double Science.

They also choose two options from: Geography, French, Spanish, Psychology, Business Studies, Motor Vehicle Studies and Engineering Manufacturing (the latter two being Level 1/2). The core subjects and options would enable the achievement of the English Baccalaureate cluster of qualifications, although no student is required to aim for this if it is not appropriate. We will ensure that all students have a full understanding of their post-16 options, both inside and outside the UTC, and how these might support their future ambitions. The level at which students study these subject areas will be determined by assessments of their past attainment and potential, including CAT4 tests during induction.

Where students are likely to need longer than Key Stage 4 to achieve an adequate group of Level 2 qualifications their programme of study are tailored accordingly, with the option of post-16 consolidation at the UTC or progression to further learning elsewhere. Where students are capable of studying beyond Level 2, paving the way for more rapid progress in Key Stage 5, we plan individual study programmes incorporating Level 3 infill sessions and extensions during enrichment time.

We work closely with our employer, education and community partners to ensure that students' qualification achievements are supported by a strong pastoral, enrichment and personal development structure. Students experience a significant work-related component to their learning throughout Key Stage 4, featuring business challenge projects, contact with expert witnesses and industrial mentors and formal work placements.

² OCR Level 1/2 Cambridge Technical Certificate.

We recognise that the best post-16 progression route for some students may take them outside the UTC, for example to Apprenticeships, vocational study programmes or less specialised academic programmes. Where it is the choice of a student to leave the UTC at the end of Year 11 we will respect their choice and will work closely with progression institutions to support and ease transition.

3.2 Specialised and professional post-16 curriculum

Where students choose to progress to the sixth form within the UTC, or to join the institution at the start of Year 12, they have opted to undertake specialised learning. We are aiming to identify clear progression pathways that allow students to assemble qualifications, skills and knowledge to take them to relevant employment and higher level study. Progression may be based on immediate entry into employment with training, the taking up of Advanced and Higher Apprenticeships or entry to full-time higher education.

Guided by employers and the University of Southampton, our progression pathways will be oriented towards successful and sustainable careers in Physical Sciences, Life Sciences, Mechanical Engineering, Design Engineering, Electrical Engineering or Computing or, as will be increasingly common, multi-skilled combinations of these disciplines.

Most students' sixth form programmes involve spending two years of post-16 study at the UTC, achieving Level 3 qualifications and, where appropriate, modules of relevant Level 4 qualifications. Entry to a Level 3 programme of study requires at least the equivalent of 5 A*-C at GCSE and these must normally include English and Mathematics. Additional subject-based thresholds have been set in order to ensure that students will be able to cope with specific Level 3 qualifications.

Where students complete Year 11 with the potential to progress to Level 3 but with achievements make immediate progression unwise (especially where the shortfall involves English or Mathematics) we will offer a Year 12 consolidation programme. Entry to this programme requires a case by case judgement that this is the correct option for the student and that progression to Level 3 in Year 13 is achievable. This will also be an option for students who clearly need a full year of Level 2 consolidation in Engineering before accessing the Extended Diploma.

3.3 Institutional target-setting

While recognising the value and importance of external measures of effective institutional performance, the UTC will stay true to its mission to inspire the next generation of scientists, technicians and engineers. We will set progression targets that reflect the ambitions of students and the skill needs of employers by focusing on students' entry into relevant and sustainable careers. This will include working with other UTCs to develop robust measures of post-learning progression outcomes.

All students will be assessed on entry to the UTC using available past measures (such as Key Stage 2 assessment results) and common entry assessments using the fourth edition Cognitive Abilities Test (CAT4). This includes attitudinal aspects of the CAT4 suite (Pupil Attitudes to Self and School or PASS).

We use this evidence to set minimum and aspiration progress targets for each student, with particularly stretching targets being set for progress in our specialist areas. The attitudinal elements will support personalised intervention and support strategies and support rich dialogue with students and their parents.

We view baseline testing in Maths and English on arrival as key to ensuring accurate progress measures in these subjects and this is used to ensure appropriate setting. We work closely with previous institutions and our special educational needs partners to ensure that both diagnosed and previously undiagnosed barriers to progression are identified and suitable strategies put in place.

For students entering Key Stage 5, we use a variety of well-established measures of potential progress such as ALPS and the DfE's online ready reckoner but will also work closely with other UTCs to develop new robust measures of the rate of progress that can be expected in a specialist institution.

Finally, we are working with other UTC partners to develop a common (and therefore benchmarked) approach to the progress students make in attaining employability and social skills. We expect the information to inform target-setting in this aspect to be drawn from a wide range of sources, for example the New Engineering Foundation's t-shaped technologist concept.

3.4 Curriculum context and business environment

Students at the UTC will gain deep understanding of the subjects they study and will be able to harness skills and knowledge from a wide range of subjects to solve real world problems. They will understand the skills, knowledge and character traits that employers value and will be able to demonstrate their understanding in a wide range of contexts. This includes an option for accreditation under the Extended Project Qualification.

The UTC is a business-like environment where professionalism and the search for continuous improvement are valued. This is embedded in the physical environment, culture and rules of the UTC and learners are encouraged to co-create these aspects with staff, employers and external education partners (especially through the Student Board). The UTC's rules, behavioural expectations, dress and social interaction reflect the expectations of our supporting employers and students are helped to understand why these aspects are important for their long-term success.

The UTC operates to traditional business hours and (for students) for 39 weeks a year. Students are encouraged to make effective use of the remaining 13 weeks of each year including, especially as they get older, by applying for work placements and being assisted to plan individual extension study programmes.

Students will be given access to impartial careers advice and guidance through formal arrangements, but are also helped to recognise the continuous opportunities they have to gain understanding of careers options from interaction with employers, university staff and mentors.

3.5 Individual learning plans

As their programme of study progresses, all students will have individual learning plans (ILPs), developed by their personal tutors following informed dialogue with the students and their parents. The development of robust ILPs for students with statements of Special Education Needs (SEN) will be given particular priority, supervised by the SEN Co-ordinator (SENCo). For other students this approach will develop during Year 10.

ILPs will include:

- specific, measured and time-defined targets for improvement;
- a clearly-stated structure for review and reporting;
- an explanation of the contributions of the academic, technical and pastoral aspects of the learning programme;
- regular examination of opportunities to accredit wider achievements, for example through the Combined Cadet Force or Duke of Edinburgh's Award programmes;
- agreed provision of support and mentoring; and
- independent advice and guidance including a focus on long-term progression to a successful career.

Personal tutors have specific responsibility for ensuring that each young person's individualised learning plan will deliver timely attainment of the qualifications they need for their planned progression route and that they have real opportunities to build and enrich the personal skills they will need for success in their chosen route. The curriculum will promote diversity, aspiration, opportunity and fulfilment for all students at the UTC.

4. Curriculum Detail

4.1 The overall curriculum model

The overall curriculum model was approved by a conference of the UTC's employer, education and community partners in April 2014.

In Key Stage 4, all young people pursue a broad curriculum, retaining the ability to progress at 16 to the vocational (or academic) provision of partner institutions or to follow any of the UTC's post-16 pathways. A core of English (Language & Literature), Mathematics, Biology, Chemistry, Physics, Design Engineering and Computing is complemented by optional subjects that will allow an English Baccalaureate set of qualifications, or will enable some early specialisation in Engineering.

On entering the sixth form, students are guided towards subject combinations that reflect progression pathways to careers in Engineering (via a higher education or Apprenticeship route), Science or Computing. Students typically take the equivalent of three A Levels in their pathway, combined with additional enabling or bridging subjects relevant to their chosen progression route.

We welcome entry to the UTC in Year 10 from students of all ability levels. It is therefore possible that some students will complete Key Stage 4 without a set of Level 2 qualifications that would support successful entry into Level 3 study. Where tutors conclude, in discussion with students and their parents, that they are capable of reaching the required level (and in particular reaching the necessary level in English and Mathematics) we offer a one year programme of consolidation study in Year 12.

In both Key Stage 4 and sixth form, a distinctive feature of the UTC is the under-pinning business and personal skills curriculum supported by enrichment activities, work placements, mentoring and regular contact with employers and University specialists. This is reinforced by provision of physical education and moral/ethical/religious education.

4.2 The role of projects

Project-based learning is a crucial element in our strategy to develop deep learning and build students' problem-solving, planning and team-working skills. We expect our students to thrive in the context of applied learning and to gain insight into the real-world application of their learning through integrated projects. This is also important in providing progress in English and Mathematics through contextualisation.

Projects, of varying lengths, are based on challenges set by employers and the University. They reflect real developments and innovations and have a tangible output in the form of a product, design, report or presentation. The employers and University staff brief students on the client requirements for the challenge and set out the context and parameters. They and/or undergraduate student ambassadors and apprentices guide the students during the challenge and receive, review and assess the final outputs.

All projects are linked to required curriculum content and, where feasible without distorting the challenge, are mapped across several curriculum areas requiring a team approach from teaching staff to ensure aligned lesson content. Transferable personal skills are mapped against students' PHSE development programme, monitored by personal tutors. English and Mathematics specialists have a particular role to play in ensuring a strong learning element in each project relating to the development of required core skills.

As students' skills develop, some projects will be developed in teams. Each student will be allocated a formal role within the project team structure, backed by a clear role description and person specification. These roles will be rotated in successive projects. Most project work will be undertaken during lesson time, but there will also be scope for extended challenges in enrichment time, linked to national competitions such as Formula 1 for Schools or Vex Robots or to longer-term accreditation frameworks such as the Duke of Edinburgh's Award and the Combined Cadet Force syllabus. Where this fits with the balance of a student's individual learning plan, we will consider accrediting skills displayed in longer projects under the Extended Project Qualification.

The driving purpose of the projects is:

- to develop investigative and enquiry skills in realistic work challenges;
- to engage and develop the enthusiasm of our employers and University partners;
- to develop transferable research and problem-solving skills;
- to boost students skills in assessing client needs and communicating outcomes;
- to encourage students to value the inputs of mentors and expert advisers;
- to promote innovative behaviour and an understanding of risk; and
- to build students' understanding of career progression routes.

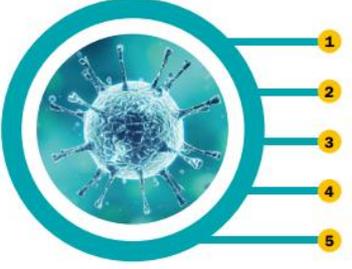
The diagram shows the first Key Stage 4 project that was supported by Public Health England and covered cross-curricular health and workshop/laboratory safety.

Example: Public Health and Salisbury NHS Foundation Trust Health and Safety Challenge



Public Health England

Years 10 and 11



- 1** Explore what safe working means in the context of UTC equipment.
- 2** Develop rules for safe behaviour when using equipment.
- 3** Study a dangerous virus and how it spreads.
- 4** Plan a campaign to help young people avoid getting the virus.
- 5** Be able to explain how to keep your body healthy.

Teachers across a wide range of subjects would work together to help you respond:

<p>Biology: How viruses spread and how your body develops</p> <p>Chemistry: How to block viruses from entering the body</p> <p>Computer Science: How computer viruses operate and designing a healthy lifestyles App.</p> <p>Engineering: How to use safety equipment and keep safe around machinery.</p>	<p>Maths: How to model virus spread and predict the probability of getting ill.</p> <p>Geography: Impact of climate and living conditions on health.</p> <p>English: How to write guidelines to influence behaviour.</p> <p>PHSE: Sexually transmitted viruses and healthy lifestyles.</p>
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The project support specific course content in Biology and Chemistry, but extended to aspects of online safety in Computer Science and PHSE and directly addressed safe operating procedures in Engineering. English and Mathematics skills were embedded throughout the project and in the assessment criteria.

The extended UTC day and the opportunity for out of hours reinforcement activity (online and through the Moodle virtual learning environment) support the model by providing freedom for students to explore project briefs flexibly. The degree of freedom and innovation in project outcomes will grow as students progress through the UTC.

Early projects concentrate on developing planning, communication and leadership skills while later projects will allow students to develop team-working skills and apply their deep learning to produce innovative outputs that will demonstrate their potential value to an employer.

The project-based curriculum is at the heart of the UTC model and is central to the harnessing of expertise from our external partners. As the size of the student body grows we will use an approach from partner UTCs by developing a link between project performance and tangible rewards under the students' pastoral company structure.

All teaching and administrative staff can potentially be asked to contribute to the project-based and/or enrichment curriculum, ensuring that it is:

- interdisciplinary and supported by theme-based contributions from across the student's individual learning plan;
- supported by personal tutors as part of their management of student's personal development;
- mapped against the underpinning business and social skills curriculum (see section 1.8);
- reflected in the UTC's culture and pedagogy;
- rewarding and stimulating for the employer and University partners;
- flexible and inspiring, leaving room for innovation and risk; and
- supporting and requiring a team approach to teaching and learning.

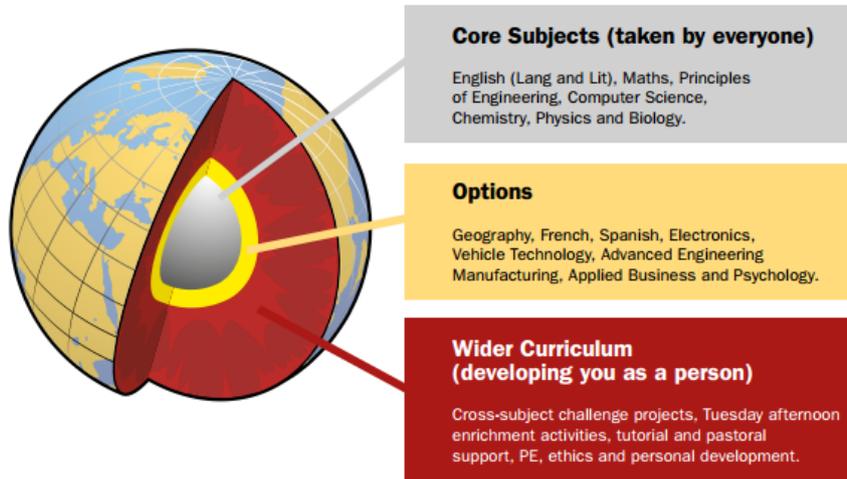
4.3 Detailed plans for Key Stage 4

The diagram on the following page summarises our curriculum structure in Key Stage 4. The level at which each student studies the subjects depends on their prior attainment and personal targets. The vast majority of learning is at Level 2, with stage accreditation at Level 1 in some applied subjects and stretch options at Level 3 for students capable of more rapid progress.

Subjects shown in the small dark circles are non-examination elements. The outer circles are intended to show that pastoral curriculum and project-based learning support and link all aspects of the curriculum offer and that it will be the responsibility of all teaching staff to contribute to those elements.

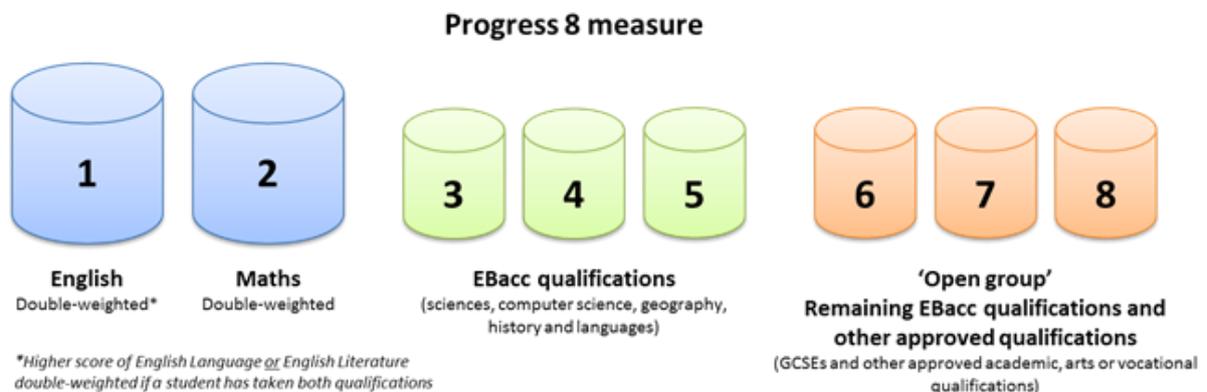
Key Stage 4 curriculum

Years 10 and 11



All students study English, Mathematics, Chemistry, Biology, Physics and Computing Science plus Design Engineering. Engineering subjects are OCR Level1/2 Cambridge Certificates developed out of the well-respected Engineering Principal Learning elements.

For students taking a full GCSE programme, these core subjects are supplemented by two additional subjects selected from the list shown. Where appropriate for the student’s individual learning plan, the menu enables attainment of an English Baccalaureate (EBacc) set of qualifications and eight qualifying subjects under the Attainment 8/Progress 8 institutional performance measure. The diagram below summarises the elements making up the Progress 8 measure.



Source DfE Factsheet: Progress 8 measure

We give each student the opportunity to study both English Language and English Literature but will review individual progress and targets during the first term to decide if this is appropriate. It would not be only possible for a student to contribute fully to the Progress 8 measure with only English Language. There would be an institutional risk attached to that since the result would not be double-weighted. However the decision will be based on a judgement in respect of student’s needs.

This table shows the likely timetable structure for a Key Stage 4 student. The model delivers 33 sessions of 55 minutes in length.

		0900-0955	1000-1055	1110-1205	1210-1305	1305-1345	1355-1450	1505-1600	1605-1700
Monday	0845-0900 Registration	PE	PE	15 Min Break Chemistry	Engineering	40 Min Lunch	10 Min Registration Option 1	15 Min Break Option 2	Self Study
Tues	0845-0900 Registration	English Language	Biology	15 Min Break Mathematics	Engineering	40 Min Lunch	10 Min Registration Option 1	15 Min Break Enrichment Activity	Enrichment Activity
Weds	0845-0900 Registration	English Literature	Chemistry	15 Min Break Mathematics	Physics	40 Min Lunch	10 Min Registration Option 2	15 Min Break PSHE	Lecture Theatre
Thurs	0845-0900 Registration	English Language	Chemistry	15 Min Break Computer Science	Physics	40 Min Lunch	10 Min Registration Biology	15 Min Break Mathematics	Self Study
Fri	0845-0900 Registration	English Language	Biology	15 Min Break Computer Science	Physics	40 Min Lunch	10 Min Registration Tutorial	15 Min Break	

Where a student’s individual learning plan indicates a need for additional support in Mathematics and English, we use targeted and contextualised intervention during enrichment time to accelerate progress.

4.4 Detailed plans for the sixth form (Key Stage 5)

In Key Stage 4, the UTC offers some subjects (most notably from the Level 1/2 Engineering suite) that would not be offered in many mainstream schools. However the main distinguishing features of the UTC are the way in which subjects are taught, the central role of employers and the importance of project-based learning. In the sixth form (Key Stage 5) students are encouraged to pursue specialist pathways.

The table below summarises the UTC’s approach to the sixth form curriculum offer. Students access a range of Level 3 qualifications, including both academic and technical qualifications, in order to assemble a relevant portfolio of skills and knowledge.

Science A Levels	Other A Levels	BTEC Engineering Diplomas (with A Level equivalent)	Level 2 Consolidation
You can 'pick and mix' across these three columns. Some of the subjects may be offered as AS qualifications as well.			If you are not quite ready for Level 3 study we can tailor a one year course to get you ready. This will normally feature intensive English and/or Maths plus "missing" GCSEs and Cambridge Technical Engineering qualifications.
Biology A Level	Computer Science A Level	BTEC Subsidiary Diploma (1)	
Physics A Level	Maths A Level	BTEC Extended Diploma (3)	
Chemistry A Level	Further Maths A level		
	English Language A Level		
	Geography A Level		
	Economics A Level		
	Psychology A Level		
	Level 3 Core Maths (Stats)		
	Electronics A Level		
Extended Project (Level 3 qualification in project skills that carries UCAS points)			
Business skills, work placements and projects set by employers and the University of Southampton			

Sixth Form

Students on a Science pathway are typically be considering University entry or are planning an Apprenticeship/Higher Apprenticeship route. Evidence from current “trailblazer” programmes suggest that this will increasingly lead to chartered technician status (RSciTech) and that UTC studies will significantly accelerate progress to this status. Students on the Science pathway can also supplement their A Level studies with Level 3 qualifications (A Level, AS or contextualised) in Mathematics, Statistics or the Extended Project Qualification.

Students on an Engineering pathway have the opportunity to study the equivalent of three A Levels through the BTEC Extended Diploma and to tailor their module choices and project-based learning towards Mechanical, Electrical or Design Engineering. Electronics is also available as a separate A Level. We are monitoring attempts to develop an Engineering A Level with significant contextualisation although this was not available for our first cohort.

Where students are clear that they want to target an Apprenticeship/Higher Apprenticeship route to Engineering employment, the BTEC route offers a well-understood and respected option. We work with employer partners to map the context of this pathway against the revised Apprenticeship syllabus. Where students are clear that they wish to enter full-time higher education in an Engineering discipline, we work closely with the University of Southampton and external careers advisers to ensure an effective choice of post-16 programme.

While a BTEC route into full-time University study is possible, even for the most sought-after universities, this requires a straight Distinction profile and, for some Russell Group institutions, A Level Mathematics. For some students, depending on their intended choice, a combination of a BTEC Subsidiary Diploma or A Level Electronics with Mathematics, Physics or Further Mathematics is a wiser route.

Our employers have advised us that there is an increasing demand, locally and nationally, for students with Computer Science and applied cyber skills. There is a further progression pathway into Computer Science employment encompassing Computing and Mathematics qualifications with clear and relevant applications of learning to business challenges. This is a group of students for whom the Extended Project may be of particular value.

All Level 3 students within the sixth form will have the ability to support their study options with relevant work placements and we welcome opportunities for students to have repeat placements with relevant employers. In Year 13, the business skills programme will take the form of a “mini-MBA”, taking a carousel approach to develop students’ all-round understanding of business functions, strategy and leadership.

Students on the three-year pathway will typically be judged capable of progressing to Level 3 study but will not yet have achieved the necessary Maths and/or English qualifications. The one-year consolidation programme will concentrate on Level 2 Engineering including its strong contextualised Mathematics and English components. This will strengthen students’ likelihood of sustainable progression to Level 3 (either in the UTC or elsewhere).

Where students are ready for further stretch, we will work with the University of Southampton, Wiltshire College and Higher Apprenticeship providers to give access to Level 4 modules in relevant disciplines, reinforced by stretching industrial project challenges. We will also make effective use of industrial mentors, typically young graduates and ex-Apprentices who are at the early stage of their careers in our partner organisations.

As students rise through the UTC, and especially in sixth form, they are expected to develop a growing set of life, social, employability and enterprise skills and are guided to do so by their personal tutor. This will include opportunities to take on responsibility, for example by leading teams, running STEM activities in local primary schools, rising through the Combined Cadet Force structure or becoming engaged in community volunteering.

Once we have four year cohorts present there will also be opportunities to mentor younger students within the tutor group structure and we will examine the effectiveness of mixed-aged project work in other UTCs. The aim of this element will be to develop:

- independence;
- resilience;
- peer review and supportive feedback skills;
- emotional intelligence and empathy;
- a healthy lifestyle; and
- active citizenship skills.

5. Student Support

5.1 Literacy, numeracy, ICT and functional skills

These aspects are embedded throughout both the accredited curriculum areas and the underpinning business and personal skills curriculum. We screen all students for evidence of barriers to effective progress in literacy and numeracy, for example as a result of dyslexia, dyscalculia or dyspraxia, and have identified intervention groups in Maths and English for special support through our Special Educational Needs (SEN) Co-ordinator. We recognise that these conditions exist on a spectrum and may go undetected or be insufficiently recognised during Key Stage 3.

It is the role of Mathematics and English curriculum leaders, working with the SEN Co-ordinator, to ensure that there is a high awareness among all staff of approaches that encourage good performance in literacy and numeracy. All schemes of work promote reading, writing, spelling, grammar and punctuation including understanding the appropriateness of different formats to different business and social contexts. Personal tutors and curriculum delivery staff work together to ensure early detection and intervention where students need additional support, both at the time of transfer and throughout the students' UTC career.

Progress in numeracy is supported by embedded and appropriately contextualised mathematical content in most project challenges, led by Mathematics specialists. Students are encouraged to recognise the application of Mathematics across all curriculum subjects and to develop effective skills to apply and evaluate data and other mathematical outputs. This will include economic literacy, for example the understanding of interest rates, pension portfolios and the net present value of future cost and income flows.

Effective and discriminating application of ICT is central to the UTC's culture, supporting effective teaching and learning strategies and allowing students to access safely external information sources. Students are developed as active harnessers rather than passive users of ICT and do so within a culture of safe online behaviour. The support of this aspect is an important contribution of cyber specialists from a number of our partner organisations.

We will work closely with education partners to review additional support needed by students whose first language is not English. There is not a high incidence of additional language speakers in Wiltshire compared to other parts of the country and this, in the medium term, is an area that will be best-served by buying in partnership support (for example from Wiltshire College which has expertise in additional language support).

5.2 Special educational needs

South Wiltshire UTC will welcome applications from students with special educational needs (SEN) and work hard with parents/carers, previous schools and medical specialists to prepare effective transition.

We have appointed a Special Educational Needs Co-ordinator (SENCo) whose role will include:

- identifying SEN among all new students and planning appropriate levels of support;
- liaising with parents/carers and relevant external agencies;
- raising the awareness level and adaptive skills of all UTC staff to ensure students with SEN progress at least as well as their peers;
- procuring relevant support and equipment from external agencies;
- working with employers and SEN specialists in the University to ensure that students with SEN can access all aspects of the UTC curriculum, including work placements and enrichment activities;
- working with personal tutors, students and parents to identify and plan effective progression pathways;
- supporting cross-UTC strategies to value diversity, promote equality and build mutual respect; and
- working with the identified lead governor for SEN issues on the UTC Board to ensure effective strategic oversight of SEN issues.

5.3 Pastoral support

All students have a personal tutor. When we have four age cohorts present these tutor groups will in turn be organised within a “company” structure that will form the basis of internal student competitions and some social aspects. Four companies will earn credits and debits during the year through individual and team performance, causing their share price to rise or fall. Whole UTC successes or disappointments will trigger the share prices of all four companies to rise or fall. We envisage that share prices will be used at the end of term to distribute resources and rewards (for example trips or group benefits).

The primary role of personal tutors is to monitor each student’s academic and personal progress and to agree and monitor stretching personal progress targets. This includes regularly reviewing, with students and parents, progress against both academic/technical and personal targets (for example at parents’ evenings).

The purpose of the pastoral system is to be to:

- help all students to achieve their full potential;
- develop students’ abilities to be self-critical and accept responsibility;
- ensure students are happy and safe in the UTC and in activities related to the UTC, including their external online lives, and discharge statutory duties;
- develop students’ abilities to plan their own future and assess alternative pathways to the achievement of their goals;
- develop skills of advocacy, mentoring and resilience;
- develop students’ abilities to assemble coherent arguments and arrive at informed moral decisions based on mature consideration;
- provide an easily understood framework of progress within which to have dialogue with parents;

- reward success and develop students' maturity in considering the positive and negative consequences of potential actions;
- provide a forum in which students can reflect on and assimilate their contacts with the world of work and the wider community;
- ensure mentoring and work placement opportunities are appropriate, well-planned and deliver long-term benefits;
- liaise effectively with a wide range of relevant external agencies and organisation; and
- apply corrective sanctions where necessary to realign students' progress.

We have established tight monitoring of lateness and absence, facilitated by a culture of continuous dialogue between the UTC and parents. Students are encouraged to take responsibility for their attendance, reinforced by professional attitudes to punctuality and responsibility in the workforce, for example by contacting reception if a bus is running late. Collective punctuality and attendance will in future form part of the share-price indicator for student companies.

Registration is electronic to facilitate real-time management of attendance and punctuality issues and provide live feedback to parents/carers via the parent portal.

5.4 Pupil Premium

South Wiltshire is a relatively affluent area, but with significant pockets of both rural and urban deprivation including some of the most deprived wards in Wiltshire. The UTC's catchment area also includes a number of wards in Hampshire and Dorset with high deprivation indicators. We have separately identified Pupil Premium funding within the UTC's budget and will publish transparent information on our uses of this resource. This includes both preventative measures that reduce under-performance (for example subsidised breakfast) and support aimed at rectifying past under-performance (for example the employment or buying in of support from specialist learning coaches). We have also established a bursary fund to ensure all students have access to additional activities that enrich the curriculum. This is supported by voluntary donations and the reinvestment of commercial income (for example facilities letting).

The demography of South Wiltshire means that we have above average levels of students triggering the Service Element of the Pupil Premium, reflecting the relatively high priority for students from Service families within our Admissions Criteria. The intention of the Service Element is to allow education institutions to provide additional pastoral and emotional support for young people from Service families, including specialist counselling and mentoring for those who may be emotionally at risk from the current or past Service involvement on the part of their parents or carers. We will work closely with 1 (Artillery) Brigade and the Army Families Federation in assessing the best use of this resource.

5.5 Assessment, reporting and monitoring

We view assessment, reporting and monitoring as an essential element of student support. Students agree clear targets and both students and their parents are given support in understanding these targets and the amount of progress necessary to achieve them. In particular we work with students and parents to develop and explain both minimum and stretch targets and link these closely to students' developing progression ambitions. Initial target-setting has been strongly influenced by Key Stage 2 test results and the CAT4 data we will gather on entry.

We are working with like-minded UTCs to develop common practice and benchmarking data in respect of target-setting.

Students' learning and achievement is assessed regularly (at least at the end of every half-term). During the latter part of a student's first year this will include progress on personal skills, where a strong element of self-assessment and reflection will be used. Individual learning plans will form the basis of the regular assessments and our management information system is configured to provide both landmark and real-time data on individual students and identified groups for example:

- those in receipt of free school meals;
- looked after or previously looked after children;
- students from Service families;
- students with especially long or complex journeys to the UTC;
- students with SEN; and
- those indicated by CAT4 data to have the potential for especially rapid progress).

Data on these and other identifiable groups are used to support individual target-setting but also be used to help tutors and learning support staff to anticipate and prioritise support needs.

During the course of the first academic year, parents/carers will be given access to real time data through a password-protected parent portal on the UTC's Progresso management information system. They will be encouraged to be active partners with their children, tutors and other partners (such as placement providers and mentors) in monitoring and assessing students' progress. To support this we will harness a wide range of live and online vehicles for mutual communication between parents/carers and the UTC.

We hold regular email briefings, open events and information evenings where parents/carers can gain a rich understanding of the progress and potential of their children. Parents/carers are encouraged to become part of a cycle of support and improvement based on assessment, reflection/review, guidance and action planning.

5.6 Healthy eating

Healthy eating is addressed and encouraged through the Biology and pastoral curriculums as well as featuring in relevant project work (for example working with 1 (Artillery) Brigade, Salisbury NHS Hospital Trust and the Cadet Force syllabus to establish the link between diet and physical/mental performance).

Catering is contracted out for both the restaurant (all ages) and the front of house café (sixth formers and members of the public). The requirement on contractors to encourage and promote healthy eating forms part of the contractor selection process, for example the design of the restaurant kitchen excluded provision for deep fat frying.

6. Teaching and Learning

6.1 Our learning culture

South Wiltshire UTC is a learning community embedded with the values set out in section 1.2 of this brief. We are working to create an environment in which all students and staff understand the value and power of learning and welcome new ideas, new experiences and opportunities to develop. Staff, individually and collectively, guide and facilitate students' learning and welcome occasions when students' knowledge surpasses their own. Our focus is on what is sometimes called metacognition – learning how to learn. Our staff are flexible and responsive to students' needs and learning styles and personalise learning to maximise the progress of each individual.

Central to the learning culture is a concept of pedagogy that moves away from past perceptions of teachers transmitting a fixed body of approved knowledge into the memories of students. We believe that the key determinants of students' future success will be their ability to acquire skills and knowledge eclectically and apply these flexibly to solve real world problems. Our supporting employers have told us (see section 1.8) that these are the attributes they seek and will reward in young people.

If we are to instil these attitudes in students, learning at the UTC must be a partnership between teachers and students, supported by easy access to the skills, knowledge and experience of employers, the academic community and the growing world body of information. The role of teachers is to inspire and nurture students' innate curiosity and thirst for knowledge and develop their abilities to learn.

Pervasive technology is important in creating the potential for this culture to thrive, allowing teachers and students to draw down information and ideas from a wide variety of sources in a wide variety of media. Fullan and Langworthy (2014)³ describe the resulting ability to apply knowledge to a wide range of contexts as “deep learning” and this has echoes in more established educational theory such as Bloom's taxonomy. We share Fullan and Langworthy's vision of teachers and students:

“... teaming up to make learning irresistibly engaging and steeped in real-life-problem-solving.”

They have labelled this co-creation approach “a new pedagogy” although it describes what good teachers have always done; giving their students a lifelong love of learning and equipping them with the skills and confidence to apply that learning to whatever challenges they face in life and work.

³ Op cit.

6.2 Staff recruitment

Our concept of effective learning will underpin our recruitment and development of staff. We successfully recruited our initial cohort of staff from a wide range of backgrounds and are especially keen to find teaching staff who have applied their knowledge in relevant industrial or community settings. In future this may include some staff who are new to formal teaching but who are skilled communicators with a passion for the sharing of understanding.

We are developing a stretching and supportive framework of staff training and development and will provide all staff who are new to formal teaching with the opportunity to gain qualified teacher status at a pace and within a timescale that is appropriate to their needs and the progress of their students. We have also identified specific support from a member of the Senior Leadership Team for newly qualified teachers (NQTs). All staff are expected to seek continuous improvement in the quality of teaching and learning and to seek every opportunity to share effective practice and develop in areas of relative weakness.

As an institution, we:

- have a contractual entitlement to continuing professional development placements with an employer or the University;
- seek insights from Ofsted's framework of inspection and regular reports on teaching effectiveness;
- work in partnership with other schools and colleges, including those with teaching school and hub status;
- welcome specialist support from colleagues in the University of Southampton including its School of Education;
- absorb and reflect key messages from educational research and models of effectiveness, such as Collaborative Learning, the Accelerated Learning Model and the Professional Standards for Teachers in England.

We aim to give experienced staff and curriculum leaders the role and skills of learning coaches and ensure that all staff have access to mentoring and professional updating opportunities both inside the UTC and within our wider partner community. A distinctive characteristic of the UTC will be the inputs of our employer and education partners. All teaching staff have a responsibility to grow and manage a pool of expert witnesses, case studies and reference points relevant to their curriculum area and this is built into their role descriptions and targets.

6.3 Monitoring teaching and learning

The delivery of a learning session forms part of all teaching staff recruitment (including senior leadership roles) and is a significant factor in appointments. Where teaching staff do not have qualified teaching status they are offered development support to achieve this within an agreed timescale. The culture and ethos within the UTC is such that teaching and support staff will frequently observe or contribute to parts of each other's lessons and teaching area doors will be open much of the time to encourage staff who are not teaching to sample other subjects. Students will also be encouraged to comment, regularly and easily, on teaching and learning.

A programme of regular observations by curriculum leaders and senior leadership team members began during the first term of operation. Staff are encouraged to volunteer for the opportunity to be observed where they feel their lessons are displaying transferable good practice or where an aspect is causing them concern and they need support or coaching. In addition there is a programme of unannounced lesson observations, with an aim of identifying transferable good practice and establishing areas for improvement.

The programme of observations may in future include the monitoring of substantive inputs from expert witnesses from employers and the University. Where such inputs are contributing to a lesson, the overall responsibility for effective teaching and learning will rest with the lead member of staff.

6.4 Induction and development

All staff (teaching and support) and all staff from partner organisations contributing to learning at the UTC are given formal induction relevant to their contribution but which as a minimum will include:

- safeguarding and child protection procedures;
- health & safety policy and relevant practices;
- effective and safe use of learning technology; and
- UTC vision and ethos.

UTC staff, exemplified by those senior and curriculum leadership roles, are expected to demonstrate:

- professionalism and commitment to excellence;
- high ethical and moral standards;
- commitment to diversity and equality;
- understanding of deep learning and effective pedagogy;
- strong commitment to maintaining the currency and relevance of their skills and expertise;
- strong focus on progress and attainment;
- confidence with data and the willingness to set and monitor evidence-based targets;
- willingness to innovate and take informed risks;
- flexibility and a problem-solving approach to set-backs and barriers;
- willingness to take personal responsibility for performance and outcomes; and
- respect for students, fellow staff, parents and wider stakeholders.

These qualities will form the basis of a programme of formal performance review and management with the aim being to ensure that all staff feel valued, stretched, challenged and supported. The achievements of staff performing to an exceptional level will be recognised and celebrated while clear programmes of improvement will be put in place for those performing below the required standard. The underlying assumption will be of a rising baseline of acceptable performance.

7. Governance and Organisation

7.1 Governance

The UTC is an Education Trust governed under the principles laid down by the Academies Act, charity legislation and the Articles of Association of South Wiltshire UTC Limited. Depending on whether a particular decision is subject to education, charity or business legislation (or a combination of these) the UTC Board members may be acting as school governors, charity trustees and corporate directors with all the ethical and legal responsibilities this implies.

The composition of the UTC Board is subject to flexibility and review within the constraints laid down by the Articles, with special powers being reserved for the original member organisations which underwrite the company's guarantee. Regular reviews ensure that the UTC Board is operating effectively, has a diverse and balanced membership and has access to sufficient expertise and experience to discharge its functions. The Board is serviced by a clerking function that will be independent of the UTC Management.

The Articles of Association, as currently phrased, allow the following Board structure:

- three directors nominated by the original member organisations;
- up to six directors nominated by organisations listed in Article 12B (lead employers and the University of Southampton);
- additional directors (unlimited in number) appointed for their personal or professional knowledge (Article 16);
- the Principal;
- two parent governors;
- a staff governor; and
- up to three further directors co-opted for their expertise in specific aspects of operation (for example special educational needs).

The role of the Board is to:

- establish and promote the educational character of the UTC;
- discharge statutory duties;
- challenge management constructively and hold it accountable to the vision and aims;
- understand the strengths and weaknesses of the UTC and take steps to ensure continuous improvement in its performance;
- understand the quality of teaching and learning in the UTC and how this impacts on different groups of learners;
- establish and maintain a full understanding of relevant statistical data (internal and external) on the performance of the UTC;
- act in a decisive and timely manner to address under-performance; and
- ensure that the UTC's financial and physical resources are managed effectively.

A formal scheme of delegation has been established to clarify the differing but inter-linked responsibilities of the Principal and the Board. All new Board members receive formal induction.

7.2 Organisation

The senior leadership team of the UTC comprises:

- the Principal;
- a Vice Principal with responsibility for strategic development of Engineering and allied subjects and a range of specific cross-UTC responsibilities;
- a Vice Principal with responsibility for strategic development of Science and allied subjects and a range of specific cross-UTC responsibilities; and
- a Director of Business with responsibility for information management, resource management, income generation and the management of contracted services.

The two Vice-Principals will be jointly responsible for teaching and learning, curriculum development and quality across all subject areas and for ensuring that students learn in an innovative and integrated environment. In larger subject areas, for example English, Mathematics and the UTC's specialisms, curriculum leadership roles will be established but the emphasis will be on a flat and lean reporting structure.

8. External relationships supporting the UTC

8.1 Employers

The involvement of employers is fundamental to the unique characteristics of the UTC. In addition to core partners who nominate directors on the UTC Board, we have established a wider cohort of employers throughout the recruitment area whose operations or employment patterns are relevant to the skill development of UTC students. Regular briefing events will be established to ensure that these employers understand the potential benefits of the UTC and how they can contribute to its effectiveness.

The role of employers will include, but not be limited to:

- validating and guiding the curriculum;
- advising on skill needs and employment trends;
- setting and helping to assess business challenges;
- providing case studies and examples of career structures;
- providing guest lecturers and expert witnesses;
- providing young employees to mentor and inspire UTC students;
- providing access to specialist equipment and facilities and advising on the purchasing of specialist equipment;
- adopting parts of the UTC and helping to build a professional environment;
- providing mentoring and professional updating opportunities for UTC staff;
- lending or donating relevant specialist equipment;

- providing work experience, extended placements and sponsorship opportunities;
- supporting the students' acquisition of application and interview skills;
- supporting open events for prospective students and parents;
- sponsoring teams taking part in competitive challenges;
- providing a communication channel for their employees; and
- contributing to summer schools and one-off activities.

8.2 Education partners

Our main education partners are the University of Southampton and Wiltshire College. Both provide relevant higher education progression routes for students leaving the UTC at 18 and Wiltshire College also offers vocational progression routes at 16.

The University and the College play an important part in guiding and validating the UTC curriculum and there are opportunities for joint procurement of services and possibly joint appointments in specialist areas with the College.

8.3 Working with schools

South Wiltshire UTC engaged in active and transparent communications with the 46 secondary schools in its main recruitment area from the beginning of the pre-opening phase. The UTC Principal attends the Wessex Partnership group of South Wiltshire schools and contributes to its Fair Access Panel and innovative arrangements for alternative provision.

We work hard to enter into dialogue with schools and have attended a number of careers events and school assemblies to explain the special nature of the UTC's provision. Many schools have recognised that the UTC is likely to recruit a relatively small number of students from any one school but some schools, especially those with relatively small rolls and/or operating in rural areas, are concerned about the impact of the UTC. The UTC Principal and/or Vice Principals meet with all applicants to the UTC and their parents to ensure that they are making an informed choice and understand the level of commitment necessary to do well at the UTC.

We aim to have professional working relationships with all secondary schools, especially around the design and support of smooth and effective transition at both Year 10 and Year 12. We seek co-operation from schools to provide timely and comprehensive information on students' past attainment and targets.

We are in the early stages of dialogue with local schools about specific partnership working, for example:

- infill arrangements in both directions to support minority subjects at Level 3;
- potential joint appointments in skill shortage areas;
- inter-school competitions and events;
- co-ordination with schools offering Combined Cadet Forces or hosting Community Cadet Force activity;
- shared facilities (for example to support physical education); and
- peer networks in relevant subjects.

We are also in dialogue with local primary schools to design a programme of volunteering whereby our students will lead self-contained STEM activities as part of their enrichment programme.

8.4 Links with local authorities

The involvement of Wiltshire Council was fundamental to the establishment of the UTC. The Council has provided the UTC site and considerable support from its education, ICT and economic specialists. The creation of the UTC is also an important element of the Local Enterprise Partnership and Military Civilian Integration Partnership's strategies for South Wiltshire. This includes the creation of a higher education life Sciences hub at Porton, where the UTC aims to have a long-term curriculum presence for specialist sixth form Science delivery.

South Wiltshire UTC's recruitment area will also include parts of Dorset, Hampshire and Southampton. We have initiated dialogue with education and economic development personnel in each of the authorities and will look to strengthen those links as the UTC develops.

In addition, the Principal represents education interests on the Military Covenant Management Board and the Local Area Youth Network.

8.5 Wider stakeholder involvement

South Wiltshire UTC aims to be an active and influential presence in the sub-region and is already a well-established participant in, or actively linked to, many local organisations and forums. This includes, but is not limited to:

- Salisbury Chamber of Commerce and Industry
- Federation of Small Businesses
- Salisbury Business Improvement District
- Salisbury Dyslexia Association
- Salisbury and District Institution of Mechanical Engineers
- Salisbury Muslim Association
- Wiltshire Parent Carer Council
- Wessex Life Sciences Cluster
- Wessex Academic Health Sciences Network
- Swindon and Wiltshire Local Enterprise Partnership
- Andover Lean Manufacturing Network
- SEMTA Sector Skills Council
- Salisbury Royal Society of Arts Branch
- Army Families Federation
- Institution of Engineering and Technology
- STEMnet (and local deliverer Catalyst)
- Women in Science, Engineering & Technology
- Women Rock Science