



**Cambridge Academy
for Science and Technology**
The best in everyone™

Part of United Learning

Sixth Form Prospectus 2025



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What do we offer?

CAST is an inspiring, specialist science academy. The college offers a sixth form programme of A level or T level courses along with a unique opportunity to work with nearby business organisations involved in science, engineering and technology. Situated in the heart of Cambridge's Biomedical Campus, the college is surrounded by world-leading academic and commercial organisations which sponsor, support and contribute to the life and work of the college.

CAST Sixth Form is a high performing, firmly established sixth form with a strong track record of both academic excellence and student progress. With students from many educational backgrounds, both national and international, the sixth form has a vibrant atmosphere with a wealth of opportunities, while at the same time being small enough to ensure our students are all known and treated as individuals. If you choose to join us we can help you achieve the highest possible

academic outcomes through a combination of outstanding teaching, our unique position as an academy for science and technology along with the close support needed to thrive in a more independent environment.

Students work in state-of-the-art laboratories and facilities, learning in innovative and exciting ways, supported by CAST's unique partnerships with business. CAST therefore gives its students a head start into their future careers. Business employees lead college Challenge projects. These engage and stretch all students for one day a week, every week, introducing them to real and relevant research and work. This provides every learner with a portfolio of experiences and attributes that are highly prized by universities and employers alike.

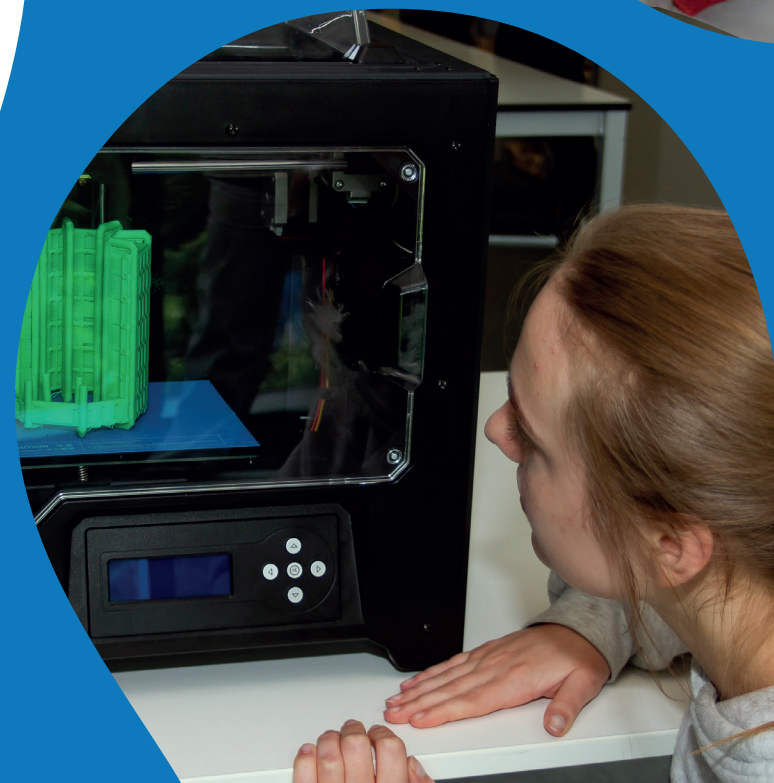
CAST is a United Learning school and is also supported by the Baker Dearing Trust as a University Technical College (UTC).

“
I came to CAST because it offers excellent opportunities to go into medicine and the CAST environment feels personalised and really lovely.”

Grace, Year 12

“
I love having teachers that come from being experts in their fields, having been real scientists beforehand. It really helps us to understand the workplace, and the progression into it.”

Lawrence, Year 13





Real experience from the start

As a University Technical College, Cambridge Academy for Science and Technology was established on the Cambridge Biomedical Campus. The college has always worked closely with a wide range of organisations across academia, healthcare, and industry to develop and deliver its curriculum to ensure that it meets the needs of all students interested in pursuing a career within STEM industries. Our aim is that when students leave the college, they not only have the excellent academic qualifications that they will need to achieve jobs in these industries, but also the practical and employability skills that they will need to enable them to excel when they get there.

We work with a wide range of organisations in and around Cambridge to help achieve these goals in a range of different roles, including:

- On our governing body
- Delivering Challenge Projects to our students
- Providing work experience placements
- Providing careers guidance
- Supporting curriculum teaching
- Developing our curriculum



Some of the employers who have worked with CAST students:



Inspiring future innovation

Being a good scientist is more than just knowing about the subject, it is being able to do it. That doesn't mean just repeating the experiments of the past but being able to design and perform your own experiments using modern techniques and technology. Throughout the sixth form students engage in Challenge projects, these are extended STEM based projects developed and delivered in close collaboration with partners in industry, health care and academia in association with CAST. All projects have a clear 'challenge' that students must overcome and some form of industry matched outcome at the end. Challenge sessions will include seminars/masterclasses, practical activities, independent work and student presentations.

Through Challenge Projects students develop a range of knowledge and skills including:

- A practical understanding of science
- Practical science skills
- An underpinning of curriculum teaching
- Transferable skills such as teamwork, leadership, and literacy
- Gain careers guidance

Students keep track of the skills that they have learnt through competency checklists and project evaluation forms in their Portfolio of Achievement. More and more universities are asking for supra-curricular education, learning about academic subjects beyond the school curriculum. Similarly, apprenticeship providers and employers are looking for students with developed practical skills.

Throughout the sixth form students have a choice of projects that they can choose from across a wide range of scientific disciplines, including biomedical, computer science, engineering, physics, chemistry, medicine and ecology. Wherever possible the aim is that projects are as interdisciplinary as possible to mirror the skills needed in the future. Students are able to choose projects that support their academic studies, allow them to try out new areas, or look interesting. They are particularly helpful in allowing students to try out areas of study that they may want to continue with in the future.

As part of the Challenge programme all students at CAST complete the Extended Project

Qualification (EPQ). Students get considerable time and support in college to help them with this; they have also had extensive experience of working on projects before they start.

“
The Challenge Projects have been invaluable, working and meeting with professionals from industries and having the opportunity to learn new skills for the future.
”

Eli, Year 12

“

As an employer, I love working with CAST students as they are always enthusiastic about their future careers and are equipped with the kinds of STEM skills that we really need.”

Charlotte Steggall,
Early Careers and Social Media Manager
AVEVA Group plc

What employers say about CAST

“

CAST students are very switched on to the world of STEM; they engage effectively and are always fun to work with.”

Oliver Clarke, Head of Division ZEISS Research Microscopy Solutions

“

Morgan Sindall Construction has partnered with CAST, as they embed employer engagement and applied learning as part of their curriculum delivery, which gives us a great opportunity to identify future talent for our degree apprenticeships, summer placement and graduate opportunities that we recruit for each year.”

Helen Clements, Social Value Manager Morgan Sindall

“

I believe the CAST students work experience with Cambridge University gives them a very memorable experience and insight into working in science.”

Alan Graham, Deputy Director of Operations and Facilities University
Biomedical Services University of Cambridge

“

CAST is unique amongst schools locally in putting students' future careers at the heart of everything they do.”

Anne Bailey, CEO and Co-founder at Form the Future

Supporting students to succeed

The transition from school to Sixth Form and beyond is an exciting time and one which brings many challenges. We aim to support and guide students every step of the way bridging the divide between school, university and employment.

Extracurricular and Supercurricular Opportunities

At CAST, we recognize that learning extends beyond the classroom. Our vibrant community encourages students to explore both extracurricular and supercurricular activities. The term "extracurricular" encompasses a wide range of pursuits, including sports, charity work, and creative endeavours. For example, CAST students can enrol in the Gold

Duke of Edinburgh award and organise their open expedition with a provider of their choice to complete the award. Students have the chance to engage in these activities, fostering personal growth and developing skills that complement the formal curriculum. But we don't stop there. Our commitment to holistic education extends to "supercurricular" opportunities—activities centred around career development. These might involve attending degree-related guest lectures, gaining work experience, or participating in academic competitions. At CAST, we believe in nurturing well-rounded individuals who thrive both academically and personally.

Beyond coursework, CAST offers a rich tapestry of enrichment opportunities. Our Student Leadership Programme empowers students to take on extra responsibilities. Whether it's peer mentoring, contributing to the Cambridge Festival, serving on the Student Leaders' Council, or organising social and charity events, students can make a meaningful impact. Additionally, we invite students to join our medical society, where they can explore healthcare-related interests. But the adventure doesn't end there. We organise day trips and residential excursions, including visits to renowned institutions like CERN. And for those who love the slopes, our ski trip

“

Serving on the student council has allowed me to reflect on my own growth as a leader and collaborator. It has taught me that leadership is not about authority but about encouraging voices especially those that often go unheard. Every challenge faced and milestone achieved has shaped me into a more thoughtful and effective advocate, to build a better community. ”

Lilly, Year 13

“

I believe tutor time is my favourite time in the classroom. I believe the topics we discuss are very important. Additionally, VESPA creates a good understanding of the expectations at CAST and how to perform during exams etc. ”

Oliver, Year 12

is an exhilarating experience. Furthermore, students can showcase their academic prowess by participating in local and national competitions. At CAST, we believe in fostering curiosity, leadership, and a passion for lifelong learning.

Setting Aspirational Targets with Alps: A Brief Overview

At CAST, we foster an Alps culture that encourages both staff and students to aspire for excellence. This begins with target setting, specifically Minimum Expected Grades (MEGs), which serve as the foundation for student goals. With Alps, we base these targets on the progress achieved by students in the top 25% of schools and colleges nationally. The process involves analysing prior attainment bands, identifying schools or colleges with exceptional progress, and defining MEGs accordingly. These MEGs represent the average grades that, if attained, would place us in the top 25% for progress. Beyond MEGs, we emphasise personalised subject targets, ensuring that students understand their potential and

aim higher. By sharing this aspirational message, involving parents, and highlighting success stories, we empower students to thrive academically and personally.

VESPA Mind set and independent learning

At CAST, we recognise that excelling in A Level or T Level courses is not solely about innate intelligence; it is about fostering the right habits, attitudes, and study strategies. That is why we embrace the VESPA mindset (Vision, Effort, Systems, Practice, and Attitude). VESPA integrates insights from psychology, business, and sports to motivate and support students in reaching their full potential. The program is delivered during form tutor time.

This comprehensive approach identifies key behaviours necessary for success and aids students in managing their workload effectively. VESPA's five pillars serve as guiding principles: Vision clarifies goals, Effort measures proactive study hours, Systems ensure organisational skills, Practice

fosters skill development, and Attitude promotes resilience in the face of setbacks. At CAST, we integrate these principles into daily routines, incorporating them in lessons, assemblies, form time activities, and coaching meetings to create a holistic environment conducive to academic achievement and personal growth. By nurturing the VESPA mindset, we empower students to thrive academically and beyond.

Additionally, through our commitment to fostering independent learning in the Sixth Form, we equip students with the autonomy and essential skills they need for success. We support our students by providing UPLEARN which gives students comprehensive A*/A grade subject materials designed to enhance study efficiency through students' dedication.

Careers and pastoral support

Progression is at the centre of all that we do at Cambridge Academy for Science and Technology. We want every one of our students to have the best possible chance of succeeding in their chosen career path. Therefore, we expect each student to achieve their best in their academic studies, Challenge project work and in the many other opportunities that we provide.

To support students in progressing to their chosen careers we provide a bespoke careers guidance programme facilitated by staff that are passionate about students achieving their ambitions. Each student receives personalised guidance in developing CV writing skills, interview technique, university and apprenticeship applications. To support students in progressing to their chosen careers we provide a week's work experience for all our year 12 students. We have bespoke support for those applying to Oxbridge, Medicine, Dentistry and Veterinary Science.

Because our students meet so many employers they learn about a wide range of careers and develop the skills and confidence to conduct themselves in a professional environment. Involving employers at the heart of our education enables students to build professional networks and opens doors and work experience opportunities that are not always available elsewhere.

Sixth form leadership team

The Head of Sixth Form and the Pastoral Team will be on hand to ensure the level of support students need is available whenever it is required.

Academic tutor team

When students join the sixth form, they are allocated a form tutor who has dedicated time both to get to know and to support students and prepare them for their next steps. Students have regular and formalised group sessions with their tutor to discuss progress, help solve any problems, agree targets and to study aspects of the wider world.

Tutors work closely with students, subject teachers and, if appropriate, the Student Support Team. This ensures that they have a thorough understanding of a student's need and can offer the best advice to help every student achieve their full potential.

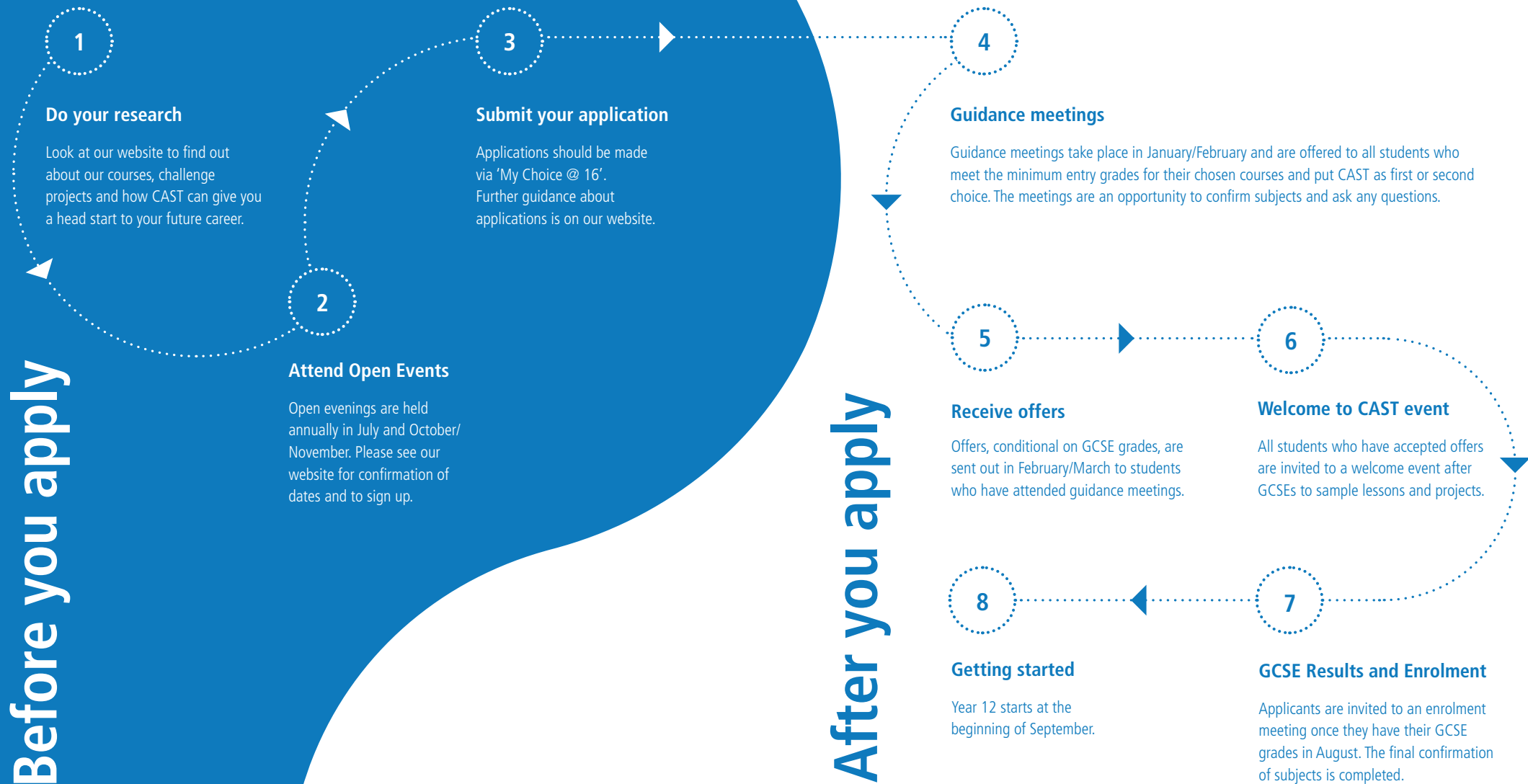
Special Educational Needs and Disability

Our dedicated SEND staff develop individual support plans with students and their families to support classroom teachers in getting the best from everyone. Specific support structures for those with local authority education and health care plans for high level needs are thoughtfully designed and delivered.



Sandra studied Biology, Psychology and Chemistry at A Level, as well as an Extended Project Qualification and Level 3 Mathematical Studies. Sandra is reading Zoology at the University of Sussex. This follows on from the top GCSE grades Sandra achieved whilst studying at CAST.

Your application journey



The Sixth Form study programme

Students can choose from either A Levels or T Levels

A levels

The minimum entry requirement is 7 GCSEs (grade 4-9), including Maths (5; 6 if studying Sciences; 7 if studying Further Maths) and English (4) with at least a grade 6 in the subjects chosen at A level.

- Biology
- Chemistry
- Computer Science
- English Language/Literature
- Environmental Science
- Further Maths
- Geography
- Maths
- Physics
- Psychology

T levels

The minimum entry requirement is 5 GCSEs (at grade 4-9 including Sciences (5), Maths (5) and English (4).

- Health (Adult Nursing)
- Science (Laboratory Science)

Other Qualifications

- Level 3 Mathematical Studies (Core Maths)
- Extended Project Qualification

“

I came to CAST as I have a great interest in STEM subjects. The teaching is interactive and teachers are very supportive in trying to help you improve and learn. ”

Toby, Year 12



A Level Biology

Biology is an exciting and dynamic subject at the heart of modern healthcare, research, agriculture, conservation and sustainability. Not only does this course provide a good introduction to understanding how our own body works, but it also explores the wider aspects of life on Earth and how we understand it. Biology provides an essential background for anyone considering a career in science. Studying this subject

also promotes an understanding of the most topical issues such as stem cell technology, drug development, global warming and conservation.

Qualifications in Biology lead onto a very wide range of university courses, apprenticeships and careers, which can include traditional careers such as medicine, veterinary science, and research to media, forensics, diagnostics, law and many, many, more.

Content

In Years 12 and 13 the students follow the OCR Biology A specification H420.

This develops many of the ideas and theories studied at GCSE such as genetics, homeostasis, bioenergetics and ecology.

The course consists of 6 taught modules and 12 Practical Endorsement Activities.

A Level Chemistry

Chemistry is sometimes known as the 'central science' because it helps to connect physical sciences, like maths and physics, with applied sciences, like biology, medicine and engineering. It helps you to develop research, problem solving and analytical skills. It helps you to challenge ideas and show how you worked things out through logic and step-by-step reasoning. Chemistry often requires teamwork and communication skills too, which is great for project management. Chemistry opens the doors to many careers and courses.

A Level Chemistry is essential for a degree in medicine. Qualifications in Chemistry will help you get ahead in most STEM (Science, Technology, Engineering & Maths) careers and more besides. It is an important subject for careers in medicine, environmental science, engineering, toxicology, metallurgy (studying how metals behave), space exploration, developing perfumes and cosmetics, pharmaceuticals, science writing, research and many more.

Content

In Years 12 and 13 the students follow the OCR Chemistry A specification H432.

This develops many of the ideas and theories studied at GCSE such as quantitative chemistry, energy, organic chemistry, rates of reaction and analysis of compounds. The course consists of 6 taught modules and 12 Practical Endorsement Activities. Students are encouraged to read around the subject outside of class and to be aware of current scientific developments.

A Level Computer Science

The aim of the Computer Science department at CAST is to develop the knowledge and skills required for our students to play an active role in the digital world that surrounds them. Developing a firm grasp of computing concepts will help them get the best from the systems they use, solve problems when they go wrong and create new systems when they are required. There can sometimes be confusion about the differences between ICT and computing. Computer Science refers to the processes used to create computer programs/systems and applications

combined with the theory behind those processes. On the other hand, information technology refers to the application of computer programs and tools to solve problems. Computing in industry is essentially a practical subject that applies theory to design and develop products for clients. With this in mind, we have expanded our curriculum to reflect modern business practice. Most learning is delivered through projects, which involve project management, teamwork, report writing and the use of industry-standard tools.

Content

In Years 12 and 13 the students follow the WJEC/Eduqas Computer Science specification.

The course aims to develop students who can apply theoretical knowledge to practical tasks, design and produce high-quality programs, and be aware of their contribution to society and understanding how the course material relates to industry practices. With these aspirations in mind, we have developed a series of projects which are tackled in teams or individually.

A Level English Language & Literature

English Language & Literature A Level is a course which combines aspects of linguistic study with the analysis of literary and non-literary texts. The range of texts is wide, covering poetry, prose and drama in addition to an anthology of non-literary texts linked by a common theme. Moving you on from GCSE level study, you will explore literary criticism as well as learning about language theories and how they shape verbal and written discourses.

Content

Students follow the AQA English Language & Literature specification 7707. In Year 12, after an introduction to the language frameworks you will then move onto the 'Telling Stories' module, where you will study a diverse anthology of fiction, non-fiction and spoken texts. With your second teacher, you will study a second module, 'Imagined Worlds', a literary study of a classic contemporary text. Later in this year, you will study a second literary text, *The Great Gatsby*, exploring the writer's craft in characterisation, narrative perspective and literary symbolism, after which you learn to recast events of the original text from a different character's perspective and then provide a written commentary on the linguistic choices you made.

In Year 13, students study a Shakespearean text, complete the Telling Stories module and begin revising the other elements in readiness for exams. You will also begin work on a language investigation (Non-Examined Assessment) looking at a literary and non-literary text of your choice and investigating how a common aspect is represented in both. This can be wide ranging and topics could include, for example, looking at the representation of women in a literary text and song-lyrics, or the representation of soldiers in war poetry and war reports or propaganda posters. Current texts being studied include: *The Handmaid's Tale* by Margaret Atwood, poetry by Seamus Heaney, *The Great Gatsby* by F Scott Fitzgerald and Shakespeare's *Othello*.

A Level Environmental Science

Environmental Science is an interdisciplinary science that includes many areas including biology, chemistry, physics, maths and geography. It is a very rapidly growing field that encompasses careers from politics to conservation biology, nuclear physics to sustainable building and much else as well. The number of jobs in the environmental science sector is growing by around 5% annually as we recognise the importance of effectively managing our interaction with the environment whilst continuing to maintain and improve our quality of life.

The A Level Environmental Science course builds upon the knowledge gained across GCSE subjects and draws together a wide range of topics and skills. It helps you to understand the Earth's processes, both physical and biological. It allows you to discuss the impact of human activity on the environment and evaluate strategies used to reduce climate change, energy requirements, conservation and

agriculture and thinks about how these often competing needs can be balanced. You will learn how to develop accurate research methods that will allow you to collect representative data as well as understand how mathematical analysis is used to validate theories. As part of your studies, you will undertake practical field activities using specialist equipment to collect data for study.

Environmental Science is a new and emerging area of study that is focussed on the development of strategies to overcome global issues that we are currently facing. It can lead on to a range of degree level courses or apprenticeships in many careers such as environmental consultant; environmental engineer; environmental education officer; environmental manager; marine biologist; nature conservation; sustainability consultant; water quality scientist; geoscientist and many others.

Content

A Level students follow the AQA Environmental Science specification 7447. The course consists of 7 taught modules.

1. The living environment
2. The physical environment
3. Energy resources
4. Pollution
5. Biological resources
6. Sustainability
7. Research methods

A Level Further Maths

An A level in Further Maths provides you with the extended skills to reason and problem solve in a variety of contexts and provides a framework with which the students can access the sciences, engineering and all careers requiring a high degree of maths knowledge and application.

Content

In Years 12 and 13 the students follow the OCR Further Maths specification H645.

A-level Further Maths is offered for the most able mathematicians and those who wish to develop a deeper mathematical understanding. When studying this course, the students are introduced to interesting new areas of pure mathematics such as complex numbers, matrices and develop further their knowledge in both statistics and mechanics.

A Level Geography

With the threat of climate change and its impact on all aspects of life there has never been a more important time to study a subject that explains the dynamic interplay of humankind and the natural world.

Geography at CAST is based on a balanced framework of physical and human geography and it allows students to investigate the link between the two themes. At CAST we encourage students to develop a problem-solving approach to contemporary geographical challenges so that students are inspired by the immediate relevance of the subject matter and empowered by knowledge that they can make a difference.

Both the physical and human dimensions of the course come together with a common focus on mitigating the causes and adapting to the effects of climate change.

Geography opens doors to many careers and courses. Qualifications in Geography lead on to a very wide range of university courses, apprenticeships and careers, which can include areas such as teaching, town planning, land management, aid work and development, research, journalism, meteorology, air traffic control and aviation amongst others.

Content

In Years 12 and 13 the students follow the AQA Geography specification 7037.

This builds on many of the topics studied at GCSE such as coastal systems and landscapes, contemporary urban environments, ecosystems under stress, and the positive and negative impacts of globalisation. Students also undertake a 3000-4000-word Independent Investigation, where they develop both fieldwork and academic skills that will prepare them for further research at a higher level. The course consists of 6 taught modules and includes four days of practical fieldwork in an urban and coastal area.

A Level Maths

A level Mathematics is an interesting and challenging course which extends the methods learned at GCSE level and includes the study of applications of mathematics in both statistics and mechanics.

An A level in Maths provides you with the essential skills to reason and problem solve in a variety of contexts and provides a framework with which the students can access the sciences, engineering and all careers requiring a high degree of numeracy and logical thinking.

Content

In Years 12 and 13 the students follow the OCR Maths A specification H240.

This develops many of the ideas studied at GCSE including statistics but also further develops their skills in calculus, trigonometry, algebra and mechanics.

A Level Physics

Physics encompasses the whole of the Universe from the largest galaxies to the smallest of subatomic particles. It is therefore the most basic and fundamental science. It is crucial to understanding the world around us, the world inside us, and the world beyond us. This understanding can then challenge our imagination which eventually leads to great discoveries and technologies that can change the lives of us all.

A study of physics provides a basis to many of the other sciences, including biology, chemistry, the medical sciences, oceanography, seismology, and astronomy as well as all areas of engineering.

Content

In Years 12 and 13 the students follow the OCR Physics A specification H556.

This develops many of the ideas and theories studied at GCSE such as forces, energy and motion as well as adding quantum physics, medical physics, cosmology and astrophysics.

A Level Psychology

Psychology is the scientific study of the mind and human behaviour, as such psychology centres around gaining understanding of the many facets of the human form. By studying Psychology students will be able to hone analytical and organisational skills and learn about scientific research methods, including collecting and working with data. Learning about human behaviour can also help to build your communication skills and improve your teamwork and leadership skills.

Psychology is a science. The defining feature of any science is the objective approach that is used to advance our knowledge. In Psychology we use this scientific approach to learn about behaviour and mental life. Psychology provides an excellent training in analytic thinking and scientific research methods that are applicable to a broad range of careers.

Content

Students follow the AQA Psychology Advanced specification 7182.

Whatever career you pursue, a background in Psychology will enhance your employability. Studying Psychology can help you understand yourself and other people by learning about aspects of human behaviour that will help you in daily life, including your interactions with others, your learning and memory performance, your ability to cope with pressure and your understanding of the causes of psychological disorders. Also, it is beneficial to have an understanding of human behaviour, be it social interaction, language and communication, human motivation and emotion, or the process of decision-making. Knowledge about brain function and behaviour is of considerable benefit to students studying other science courses.



“

My two years in the Sixth Form at CAST have been the best two years of my life so far. I cannot thank the teachers enough and I have enjoyed being in a small and supportive community of peers. CAST has given me wonderful opportunities in order for me to achieve these results and to go onto university and a future career in STEM. I have had an incredible time.

”

Sammy

T Level Health (Adult Nursing)

The core element of a T Level in Health will boost your knowledge in a range of topics such as the principles of good scientific and clinical practice, as well as fundamental scientific concepts; not to mention your understanding of standard operating procedures, management of equipment and work areas, stock control and storage, and the importance of quality standards, health and safety. As health is one of the fastest growing industry sectors, you will have a chance to make a huge difference to other people's lives and society as a whole.

You will then specialise in the skills you need for your future job, such as patient centred care, carrying out simple clinical procedures and taking clinical measurements, safeguarding, ethics, infection control and responding to incidents and emergencies.

Finally, you will be able to put everything you learn into practice, with a substantial industry placement of around 45 days. This will give you an amazing opportunity to work with an employer while you study, in a hospital or other healthcare setting, and gain invaluable experience as well as key skills that employers are looking for.

Where could this course take me?

Following a T Level, you could progress straight into a skilled profession or continue your studies with a degree or higher apprenticeship. The course is ideal for those planning a career in a hospital or other healthcare setting, such as nursing, midwifery, paramedic, physiotherapy, etc.

CAST is the first college in Cambridgeshire to offer the Government's flagship T Level programme. T Levels have been designed in collaboration with employers, including several in Cambridge to ensure students are ready for employment and have the skills needed in the industries that they wish to enter. T Levels are large qualifications, equivalent to 3 A Levels, that include learning academic content, practical and employability skills and gaining an understanding of relevant industries. In addition to the college taught course T Level students also complete a 3 month work placement to gain industry experience. The T Levels are assessed by a mixture of examination and practical assessments.

T Level Science (Laboratory Science)

T Level Laboratory Science is aimed at students who are interested in pursuing a career in laboratory science. The core element of this T Level will boost your knowledge in a range of topics such as the principles of good scientific and clinical practice, as well as fundamental scientific concepts; not to mention your understanding of standard operating procedures, management of equipment and work areas, stock control and storage, the importance of quality standards, health and safety. And as the science industry is so innovative, you will gain a better understanding of the world around you.

You will then specialise in Laboratory Sciences understanding how to design and perform experiments, keep good records and problem solve when things go wrong.

Finally, you will be able to put everything you learn into practice, with a substantial industry placement of around 45 days. This will give you an amazing opportunity to work with an employer while you study, such as a chemical, pharmaceutical or biotechnology company, and gain invaluable experience as well as key skills that employers are looking for.

Where could this course take me?

Following a T Level, you could progress straight into a skilled profession or continue your studies with a degree or higher apprenticeship. The course is ideal for those wanting a career in practical laboratory work.

Other Qualifications

Level 3 Mathematical Studies (Core Maths)

Students who are not studying Maths at A level are expected to study Core Maths as part of their sixth form programme of study.

This Level 3 Certificate in Mathematical Studies qualification will consolidate students' mathematical understanding, build their confidence and competence in applying mathematical techniques to solve a range of problems and introduce them to new techniques and concepts that will prepare them for further study and future employment within a broad range of academic, professional, and technical fields.

Core Maths aims to prepare students for the mathematical demands of higher education and work where there is a distinct mathematical or statistical element, but where the mathematical demands do not stretch to a requirement for A-level Mathematics.

Content

In Years 12 and 13 the students follow the AQA Level 3 Mathematical Studies specification 1350. The course consists of material that is assessed in two examination papers at the end of Year 13.

Paper 1 content is taught in Year 12 and paper 2 content in Year 13.

The main topics are analysis of data, maths for personal finance and estimation.

There are 2 options with the Paper 2 content and which option is chosen will depend upon the needs of the students and which material is most appropriate for their future studies and career. All students complete a core on critical analysis of given data and models and then either statistics techniques topics or critical path and risk analysis.

Other Qualifications

Extended Project Qualification

As part of the Challenge programme all students at CAST complete the OCR Extended Project Qualification (EPQ).

The EPQ develops or extends a variety of skills by allowing students to complete a free choice of project. This project allows learners to pursue a theme/topic based either on a subject they are already studying or in an area that is of particular personal interest. It also provides an opportunity to complete something entirely new.

To support them in their project each student is assigned a mentor who will provide them with individualised support and advice. Students get considerable time and support in college to help them with this; they have also had extensive experience of working on projects before they start.

The outcome of the project can be a performance/event, report, dissertation, artefact.

The EPQ allows students to develop a range of transferable skills, including:

- Independent working
- Develop their research and investigation skills
- Problem-solving skills
- To critically engage with a theme/topic
- Development of writing and technology skills
- Communication skills
- Time management

These are skills that are particularly useful for students as they move on to university, apprenticeship and work. The qualification carries UCAS points and every year we have students who gain university places as a result of this. Furthermore, a number of universities offer reduced entry offers to students with relevant EPQs and some also offer financial bursaries. The skills learnt are also useful for demonstrating skills for those applying for apprenticeships and work.

“

Challenge projects are an interesting and interactive way help to provide extra practical experience which are desirable for universities, and they are unique to CAST. EPQ provides an excellent opportunity to explore other interests or learn something new under the guidance of an experienced teacher.”

Tom, Year 12



CAST is part of United Learning

United Learning is a group of schools which aims to provide excellent education to children and young people across the country.

We seek to improve the life chances of all the children and young people we serve and make it our mission to bring out the best in everyone – students, staff, parents and the wider community. We are uniquely united across both the state and the independent sectors; we make learning and improvement our focus. Together, we are one of the country's leading education providers, currently educating over 60,000 students and employing over 8,000 members of staff including over 4,000 teachers.

We provide a broad education, which prepares young people to progress in learning and to make a success of their lives. We focus sharply on the evidence of what makes it more likely that young people will progress and succeed, apply that to our practice and continue to learn and develop our schools. We make it a priority to provide teachers with excellent professional support and development, so that every child receives an excellent experience.

Through being a group, we can offer more to both staff and young people than any single school could offer alone. The growing range of outstanding group-wide activities that we can provide will mean that more young people will have truly exceptional and inspiring experiences. Already, we believe that our group contains the most developed relationships and practical interaction between independent and state schools in the country, creating benefits for all the schools involved.

United Learning Ethos and Values

Our approach is underpinned by a sense of moral purpose and commitment to doing what is right for children and young people, supporting colleagues to achieve excellence and acting with integrity in all our dealings within and beyond the organisation, in the interests of young people everywhere.

We summarise this ethos as the best in everyone. This ethos underpins our core values:

- Ambition – to achieve the best for ourselves and others
- Confidence – to have the courage of our convictions and to take risks in the right cause

- Creativity – to imagine possibilities and make them real
- Respect – of ourselves and others in all that we do
- Enthusiasm – to seek opportunity, find what is good and pursue talents and interests
- Determination – to overcome obstacles and reach success

As a single organisation, we seek to bring together the best of independent and state sectors, respecting both traditions and learning from each. We believe that each of our schools is and should be distinctive – each is committed to developing its own distinctive strengths and identity while sharing our core values as institutions which promote service, compassion and generosity. This ethos is our expression of our Christian roots, in schools which are fully inclusive and both welcome and respect students and staff of all faiths and none.



CAST is a University Technical College

What is a UTC?

University Technical Colleges (UTCs) are government-funded schools with a STEM (Science, Technology, Engineering and Maths) focus. They provide a unique and relevant approach to education which addresses the changing needs of students and employers in the 21st Century. Established by companies and universities in areas of high demand for talent, UTCs provide sought-after technical qualifications and experience and benefit from industry standard equipment and specialist staff to provide students with the skills valued by employers.

The UTC Mission

Our mission is to provide young people with a relevant education in a fast-changing world and provide employers with the skilled workforce needed for UK industry to thrive. We offer young people the education they need today to equip them for tomorrow's careers.

About UTCs

UTCs are a national family of almost 50 state-funded schools

that offer a distinctively different educational choice from other schools. They offer a secondary-age education for Key Stage 4 and Key Stage 5 (usually age 14-18) with some starting earlier at Key Stage 3.

UTCs are more than just a school. As well as providing a strong grounding in the core subjects of English, Maths and Science, each UTC has one or more technical specialism linked to their local industry partners. The curriculum provides a blend of academic and technical learning, with balance appropriate to each Key Stage. Programmes of study demonstrate high academic and technical ambition for all pupils, building the vital employability skills, personal values and professional behaviours required by UTC leavers for rapid progression into the UTC's target technical sector. UTCs invest in young people's enthusiasm and aptitude for science, maths and technology, and in doing so accelerate their progression to a career in a technical field.

Baker Dearing Educational Trust University Technical Colleges®

Baker Dearing Educational Trust was founded by Lord Baker and Lord Dearing in 2009 to promote the concept of University Technical Colleges ("UTCs"). It is a small, flexible charity that sits at the centre of the UTC network and focuses on promoting and supporting new and existing UTCs.

Your future starts here

If you are interested in joining Cambridge Academy for Science and Technology you should apply as detailed below.

Students from anywhere in the region can apply. Places are not limited to those living in Cambridgeshire. Applications should be made via 'My Choice at 16'. If you are currently attending a school outside of Cambridgeshire, please select 'Out of Area or Not Listed' as your current school.

If you have any questions, please email:

admissions@CambridgeAST.org.uk

or call us on 01223 724300.

For more information, please visit our website.

Joining the sixth form at CAST means being part of a wider community of schools and Sixth Forms.

Robinson Way,
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**Cambridge Academy
for Science and Technology**
The best in everyone™

Part of United Learning