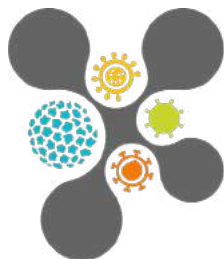


# 2024 Prospectus

Sixth Form



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

Part of United Learning



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# WHAT DOES CAMBRIDGE ACADEMY FOR SCIENCE AND TECHNOLOGY 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 different schools 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 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*



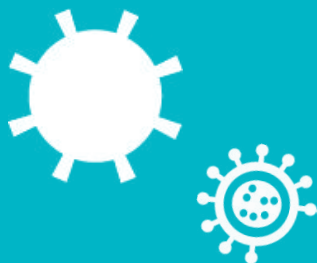


## Industry Links

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

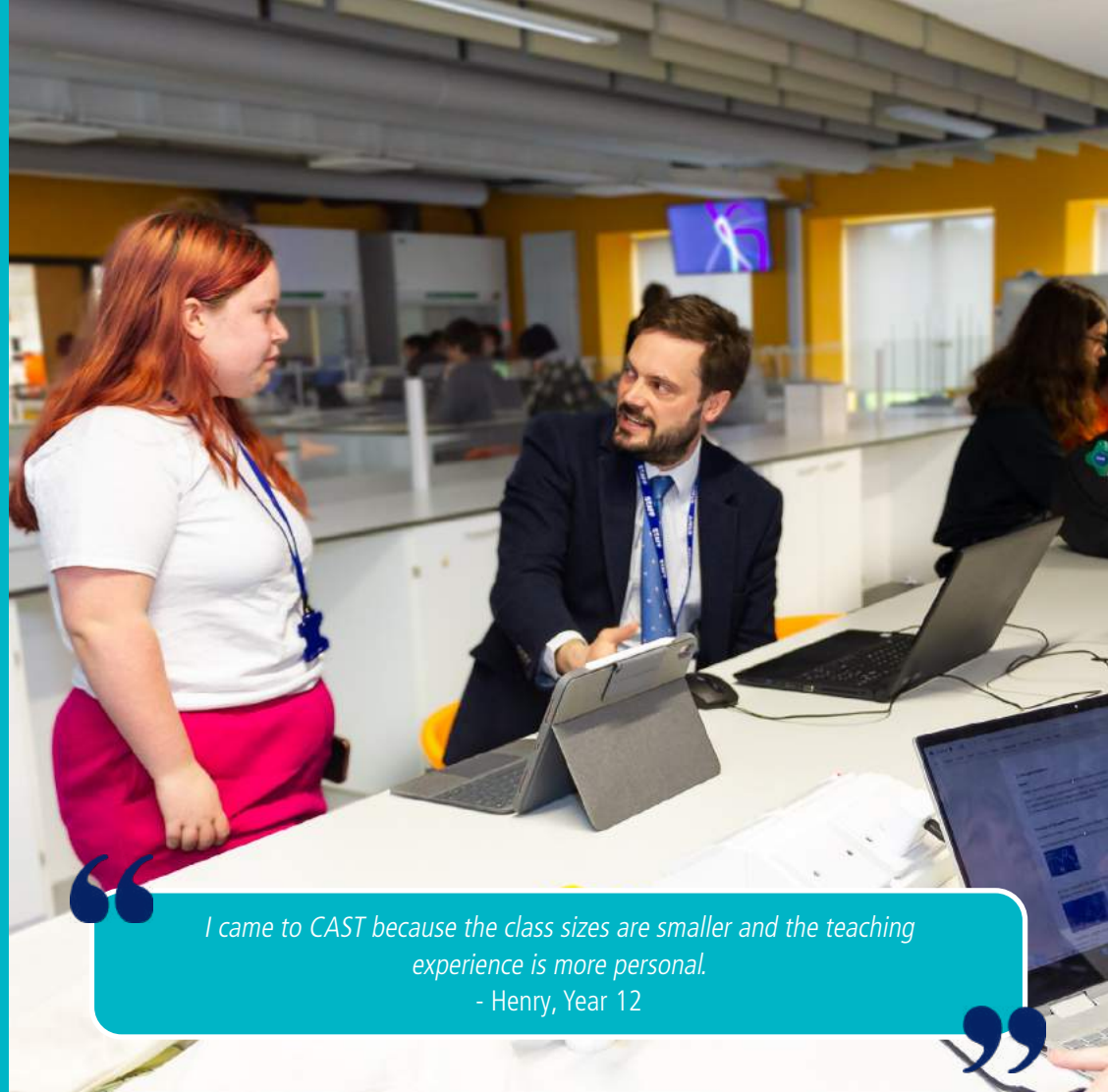


## Careers Support

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.



*I came to CAST because the class sizes are smaller and the teaching experience is more personal.*

*- Henry, Year 12*

## Excellent Facilities

Our state of the art building opened in 2014 providing a fabulous learning and teaching facility. A sense of space is very important at Cambridge Academy for Science and Technology – the environment is free from crowding and clutter, with areas set aside for social time, independent study, small group work and of course the classrooms, laboratories and lecture theatre offer dedicated purpose-built provision. Our independent learning spaces provide a flexible, hot desk office working environment encouraging students to develop professional working practices: planning their time and moving between individual independent study, lessons, practical work and social time.

# CHALLENGE PROJECTS WITH INDUSTRY

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 Cambridge Academy for Science and Technology (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

Where possible Challenge Projects comply with externally verified awards and certificates, such as the Baker Award, with students completing self, peer and teacher led evaluations. Students also 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, 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, consequently, the results are particularly strong.



These are some of the employers who have been involved with the Challenge Projects



CANCER  
RESEARCH  
UK

CAMBRIDGE  
INSTITUTE



CAMBRIDGE  
WATER  
COMPANY



MRC Laboratory  
of Molecular  
Biology



ARM



Gurdon  
INSTITUTE

UNIVERSITY OF  
CAMBRIDGE



AVEVA

NHS

Cambridge  
University Hospitals  
NHS Foundation Trust



M  
MOTT  
MACDONALD



AstraZeneca



FORM THE FUTURE

Cambridge University  
Botanic Garden

NIHR | Cambridge Biomedical  
Research Centre

MORGAN  
SINDALL

ZEISS

Babraham  
Institute

illumina



# COURSES

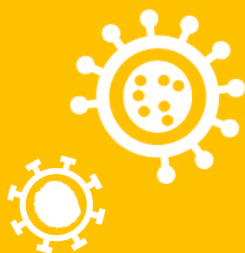
## THE SIXTH FORM STUDY PROGRAMME

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) and English (4) with at least a grade 6 in the subjects chosen at A level.

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



### T levels

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

- Science
- Healthcare Science
- Health

### Other Qualifications

- Level 3 Core Maths
- Extended Project Qualification



# A LEVELS

## A LEVEL BIOLOGY

### Why study 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. 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

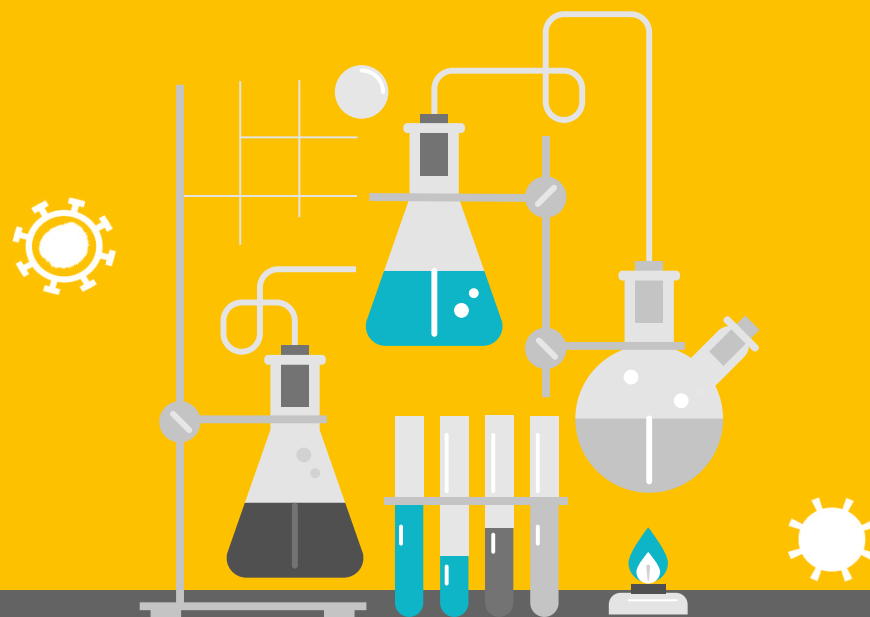
### Why study Chemistry?

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. 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 PHYSICS

## Why study 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. 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 MATHS

## Why study 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. 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 FURTHER MATHS

## Why study 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

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 COMPUTER SCIENCE

## Why study 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

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 PROFESSIONAL CONSTRUCTION PRACTICE

## Why study Professional Construction Practice?

The construction sector is vital to any country for maintenance, improvement and growth of its infrastructure, buildings and engineering stock. A comprehension of institutional standards, procedures and business processes of the specialised disciplines that drive and administer the industry is relevant to all those who work or desire to be part of this established sector. The course provides learners with a comprehensive framework of knowledge, understanding and promotion of applied skills that this multi-disciplined sector relies upon. Studying this qualification will encourage research, prompt investigation and analysis of the aspects and impacts of the construction disciplines and their interrelationships through collaboration. This will give rise to an understanding of the diverse roles within the construction industry and yield transferable skills.

## Content

In Years 12 and 13 the students follow the WJEC Professional Construction Practice specification. This introduces and develops the skills of planning, designing, construction, sustainability and impact on the environment as applied to the construction industry.



# A LEVEL ENGLISH LANGUAGE/LITERATURE

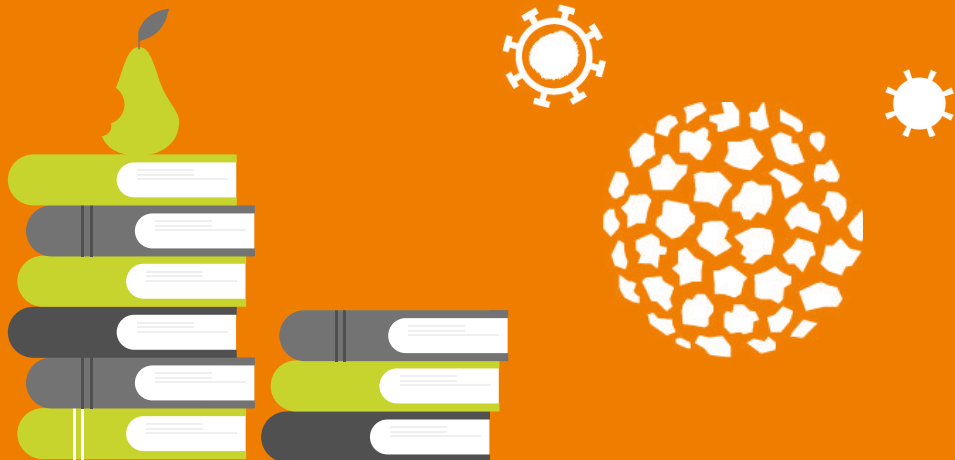
## Why study English Language and Literature?

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

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

## Why study 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 GEOGRAPHY

## Why study 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 PSYCHOLOGY

## Why study 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.



*Lots of respect and trust between teachers and students.*  
- Holly, Year 12

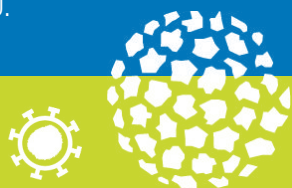




# T LEVELS

T Levels are new courses that follow GCSEs and are equivalent to 3 A Levels. They have been co-created by the industry you want to be a part of, so you can gain the knowledge and skills you need to leap ahead of the crowd and into your desired career. They are assessed by a combination of exams and practical activities throughout the course rather than just at the end of course examinations.

CAST have been working closely with Anglia Ruskin University to dovetail the CAST T Level offer within ARU's degree level apprenticeship programme. Any T Level students achieving an appropriate job offer are assured the opportunity to complete a degree level apprenticeship at ARU.



## T LEVEL SCIENCE

T Level Science is aimed at students who are interested in pursuing a career in laboratory science. The core element of a T Level in Science 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.



## T LEVEL HEALTHCARE SCIENCE

The core element of a T Level in Healthcare Science will boost your knowledge in a range of topics such as the principles of good scientific and clinical practice, as well as standard operating procedures, management of equipment and work areas, and the importance of quality standards and health and safety. Healthcare Science is critical, not only for the delivery of current healthcare, but also to develop innovative tests and treatments for the future.

You will then specialise in the skills you need to assist in healthcare such as working with patients, performing tests, quality control, ethics, collecting and processing samples, career paths, regulations, infection control and data management.

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 laboratory, hospital or 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 to work in a hospital or other healthcare setting.

## T LEVEL HEALTH

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.



# OTHER QUALIFICATIONS

## LEVEL 3 CORE MATHS

### Why study 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 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.

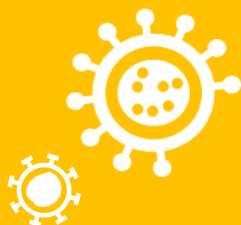
### Content

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.



## EXTENDED PROJECT QUALIFICATION

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. 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, consequently, the results are particularly strong.

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



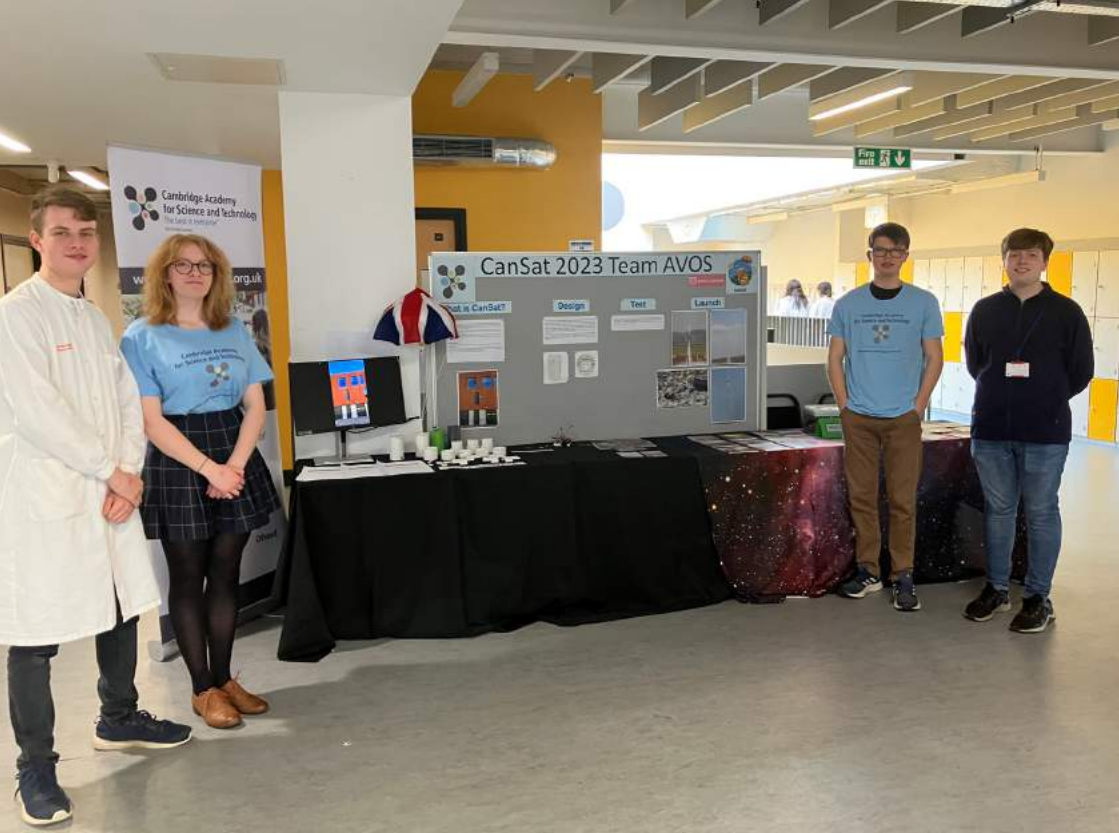
These are skills that are particularly useful for students as they move on to university, apprenticeship and work. The qualification carries UCAS points and every year we have students who gain university places as a result of this. Furthermore, a number of universities offer reduced entry offers to 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.

Some of the projects that students have completed include:

- Studying pike behaviour
- Designing a building a motorised long board
- Creating a computer game
- Exploring the influence of botany on medicinal drug development
- Exploring the impact of class on the culture of Korea
- Making a cookbook of sustainable recipes







# STUDENT DESTINATIONS

At Cambridge Academy for Science and Technology our goal is that all of our students progress onto further or higher education, training or employment. The majority of year 13 students progress onto university, the vast majority studying STEM courses. Each year we have students who achieve places at the UK's top universities, including Cambridge, Oxford and Russell Group Universities. We also regularly have students achieving places to study Medicine.



*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.*

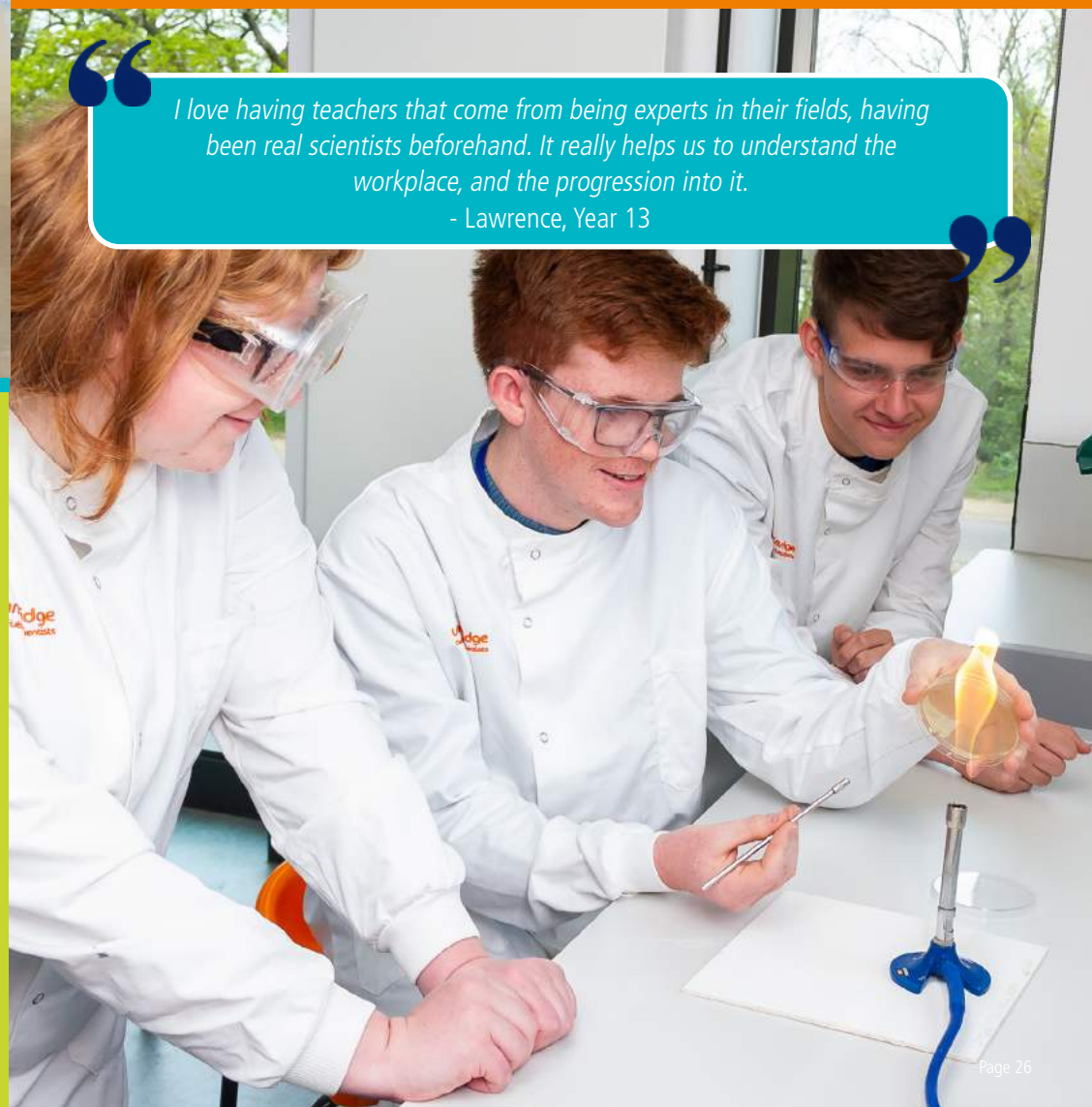
- Lawrence, Year 13



# ENRICHMENT

At CAST we create an environment where students can grow and develop as people, nurturing interests that are wider than the formal curriculum and offer a range of enrichment opportunities. There is also the possibility of taking on extra responsibility through our Student Leadership Programme: this could include peer mentoring, paired reading, being on the Student Leaders' Council or organizing social and charity events.

We also offer a number of day and residential trips, including a visit to CERN and a ski trip, as well as the opportunity to participate in local and national competitions.





# STUDENT SUCCESSES

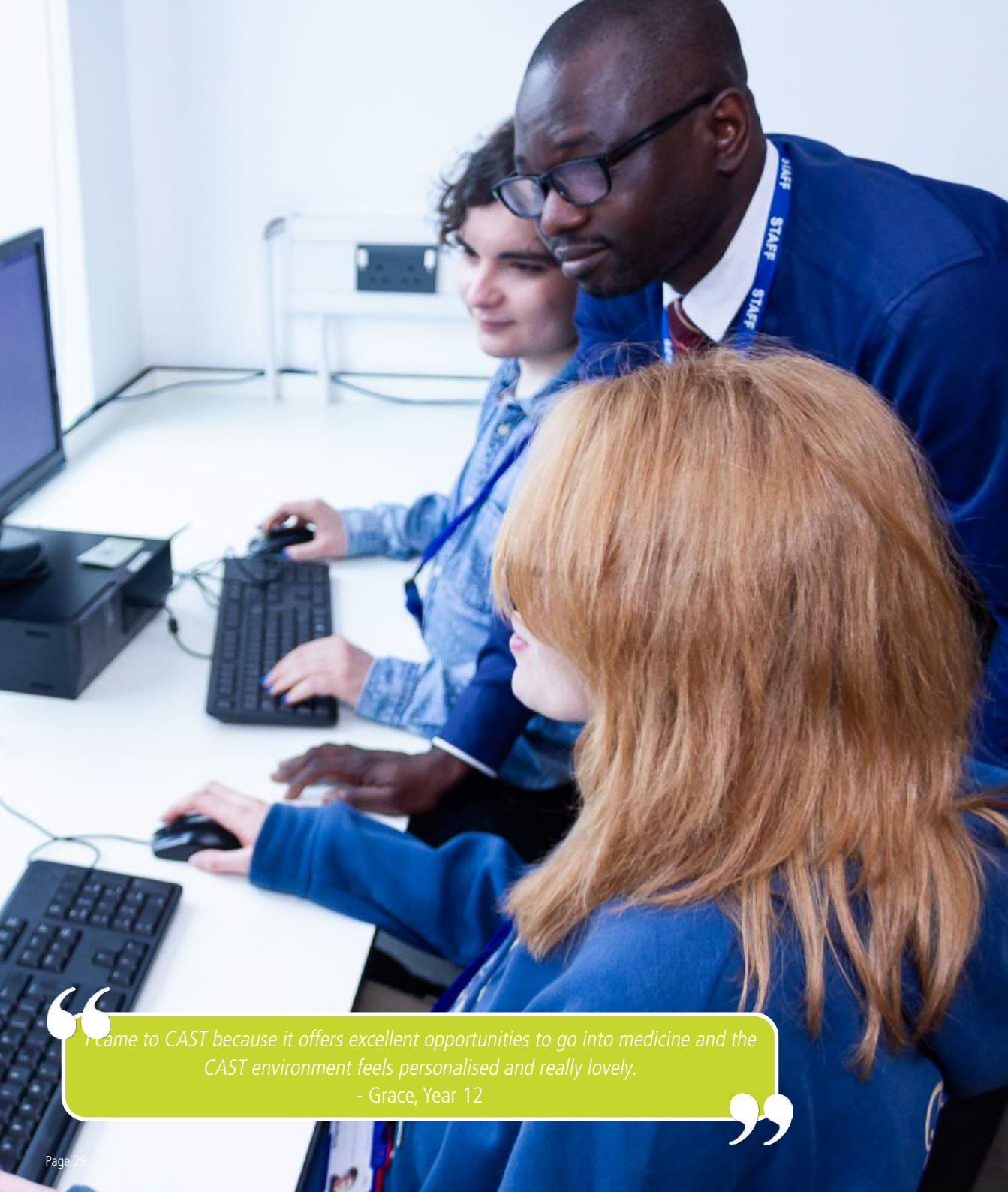
**Josh** secured a place to read medicine at Kent Medway University. He started at CAST in the sixth form, studying Biology, Computer Studies, and Chemistry at A level as well as an Extended Project Qualification and Level 3 Mathematical Studies. Some of the projects Josh was involved in whilst at CAST included building an electrocardiogram, writing software to diagnose conditions identifiable from the patient's ECG trace, and working with scientists in the Challenge Programme to design a project to have a greater understanding of E. coli. He said, *"CAST is a unique school and ideal for those who want to pursue a career in STEM"*.

**Sammy** studied Physics, Computer Studies, Mathematics and Further Mathematics at A level and completed an Extended Project Qualification and secured a place at York University to read Computer Science. Sammy said, *"My two years in the sixth form at CAST were 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. I have had an incredible time"*.

**Betty** secured a place at York University to study Psychology. She completed her GCSEs at CAST, gaining top grades before moving into the CAST Sixth Form, studying Chemistry, Biology and Psychology at A level as well as an Extended Project Qualification and Level 3 Mathematical Studies. She was an active member of the College community, taking part in Challenge Projects with the Babraham Institute, AstraZeneca, and Cancer Research UK to enhance her scientific skills. She said, *"Teachers at CAST are really supportive and it helped being in a smaller sixth form – all of my teachers were quick to support and help me when needed"*.







# STUDENT SUPPORT IN THE SIXTH FORM

## **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 to bridge the divide between school, university and employment.

## **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 tutor who has dedicated time both to get to know and to support students during their time at CAST and also to prepare students for the next step. Students have regular and formalised group sessions with their tutor to discuss progress, help solve any problems that arise and agree targets and to study aspects of the wider curriculum. 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 to achieve the highest possible levels of success in all areas of Sixth Form life.

## **Student guidance team**

Further guidance will be readily available from a variety of other professionals including from the Careers Coordinator and the Assistant Principal with responsibility for Careers and Higher Education.

## **Special Educational Needs and Disability**

Our dedicated SEND staff develop individual support plans with students and their families to ensure that classroom teachers are informed of the best teaching approaches. Specific support structures for those with local authority education and health care plans for high level needs are thoughtfully designed and delivered.



*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*





# APPLYING FOR A PLACE

If you are interested in joining Cambridge Academy for Science and Technology in Year 12 to join the Sixth Form 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](mailto:admissions@CambridgeAST.org.uk) or call us on 01223 271569. 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.



*Teachers deliver professional and well crafted lessons backed by their expertise in the field.*

*- Sam, 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

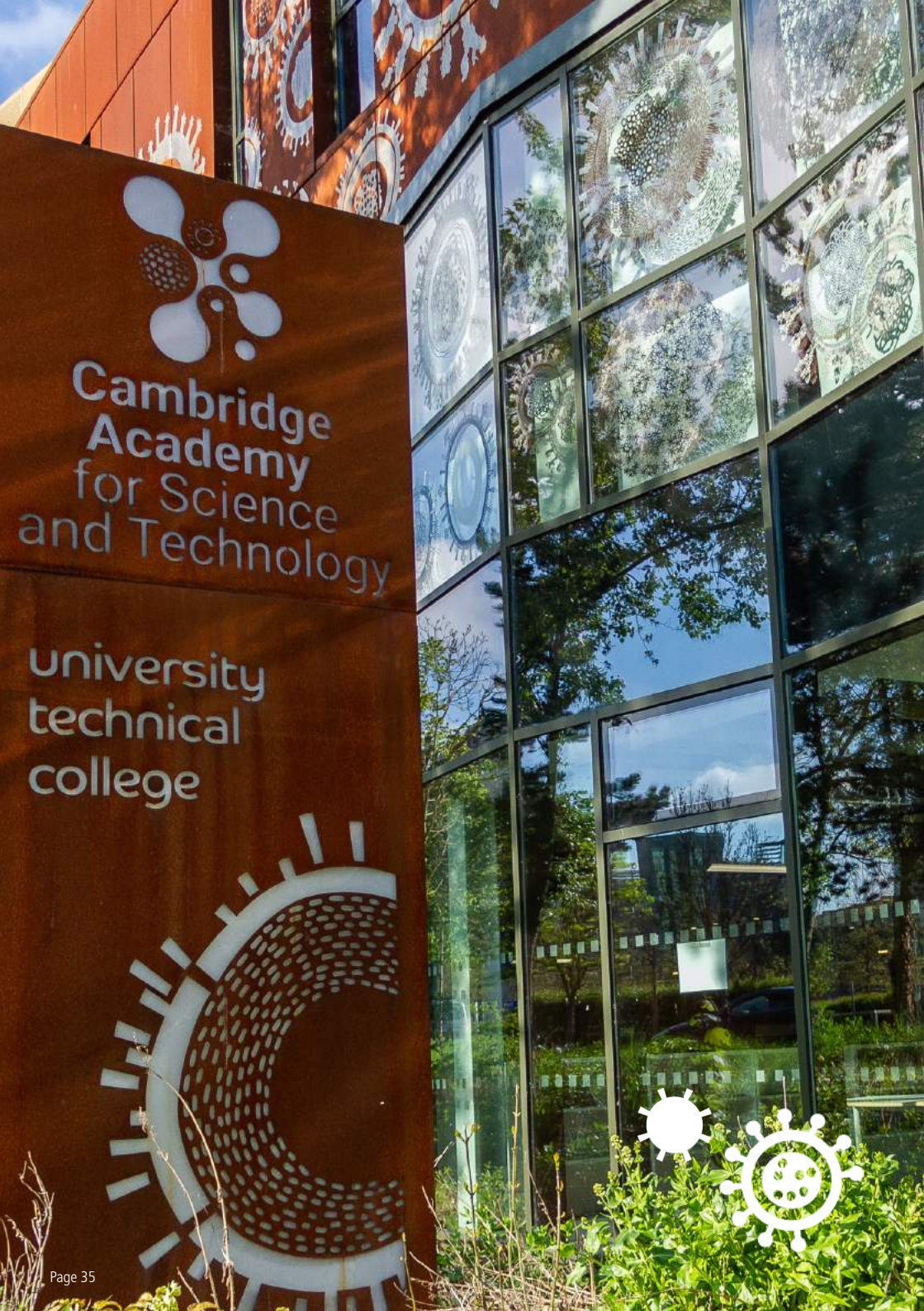
**Respect** - of ourselves and others in all that we do

**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.



# EMPLOYER QUOTES

"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

"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

"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

"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

"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



We look forward to seeing you  
in our Lecture Theatre soon!





# Cambridge Academy for Science and Technology

Robinson Way

Cambridge

CB2 0SZ



01223 724300



[enquiries@cambridgeast.org.uk](mailto:enquiries@cambridgeast.org.uk)



[cambridgeast.org.uk](http://cambridgeast.org.uk)



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

Part of United Learning



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