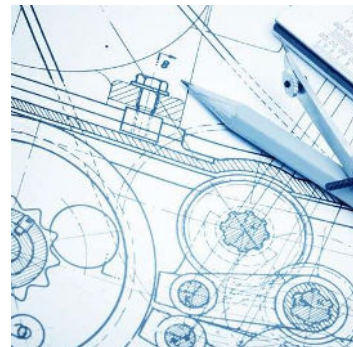
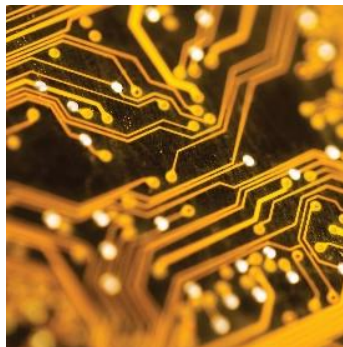
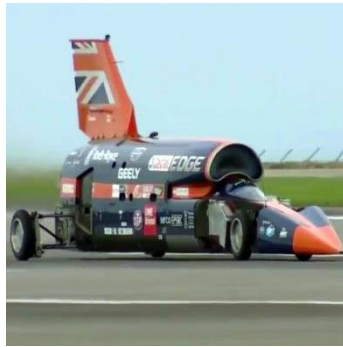


ENGINEERING

Level 3 Cambridge Technical Extended Certificate



WHY CHOOSE ENGINEERING?

Engineers are fantastic problem solvers that use a combination of **maths** and **physics** to understand and investigate the world around them.



There are many types of engineers including **mechanical** engineers, **electrical** engineers, **CAD** engineers and **material** engineers. You will learn about the fundamental concepts in each of these disciplines and discover strategies that will enable you to solve a huge variety of problems.

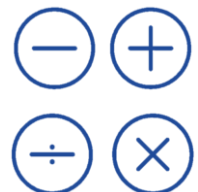
Our Engineering course can be studied in isolation as a pathway to vocational routes such as **engineering apprenticeships**, or in combination with A-level Physics / A-level Mathematics to facilitate more traditional academic routes into engineering.



WHAT WILL YOU STUDY?

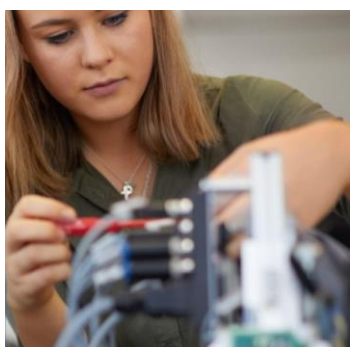
Year 1			Year 2		
Science for Engineering	Mathematics for Engineering	Mechanical Engineering	Materials Science	Electrical Engineering	CAD Project
<ul style="list-style-type: none"> • Motion • Forces • Moments & Torque • Energy & Power • Materials • Circuits • Pressure • Fluid Flow • Heat • Thermal Physics • Gas Laws 	<ul style="list-style-type: none"> • Geometry • Algebra • Solving Equations • Graphs • Exponentials • Logarithms • Calculus • Statistics • Probability 	<ul style="list-style-type: none"> • Motion • Forces • Moments • Energy & Power • Materials • Friction • Geometry • Beams • Levers • Pulleys • Gears 	<ul style="list-style-type: none"> • Material categories • Atomic structure • Material forms • Failure modes • Manufacturing processes • Internal structures of steel • Heat treatment methods • Plastics • Smart materials 	<ul style="list-style-type: none"> • Circuits • Resistance • Electrical Power • AC • Inductance • Capacitance • Motors • Power distribution • Rectifiers • Circuit Breakers • Op Amps 	<ul style="list-style-type: none"> • You will learn how to interpret technical drawings and create your own. • You will develop the skills to create 3D models using different surface techniques and use software to show assembly of multiple parts.
January Exam	May Exam	May Exam	Coursework	January Exam	Coursework

Our Engineering course is split into **6 units**. The first year of the course is assessed by 3 written examinations with a high degree of mathematical content. You will be expected to use a formula book to rearrange and solve equations in nearly every Engineering problem you are faced with.



Unlike many other vocational Engineering routes, this course is designed to get you to **think** like an Engineer and help you develop the advanced mathematical tools and strategies needed to conquer any problem.

ABOUT THE QUALIFICATION



At the end of two years you will gain a **Cambridge Technical Extended Certificate in Engineering** – an A-level-equivalent that is highly regarded by employers and many universities. This will allow you to progress onto University Engineering degrees (with A-level Maths), onto Engineering foundation degrees (without A-level Maths) as well as onto many of the most competitive Engineering apprenticeships.

The skills you develop as part of the course are highly valued by employers and provide the necessary building blocks should you wish to follow a career path into the engineering profession.



Cambridge Technical qualifications are graded as pass, merit, distinction and distinction star. If you choose to apply for Higher Education courses at University, your grade will be converted into UCAS points in the same way that A-level qualifications are:

A-level	UCAS Points	Engineering (2 Years)	UCAS Points
A*	56	Distinction*	56
A	48	Distinction	48
B	40		
C	32	Merit	32
D	24		
E	16	Pass	16

OUR TRACK RECORD

Our students consistently achieve results that exceed the nationwide average:

	Engineering Results 2022		Engineering Results 2023	
	WSFC	National	WSFC	National
Distinction or Distinction*	73.3%	49.0%	61.9%	48.8%

EXTRACURRICULAR OPPORTUNITIES

Alongside Engineering you will have the opportunity to join our **Physics & Engineering Academy** which will help develop your practical and team problem solving skills. You will be set challenges to complete outside of your usual Engineering lessons and in the second year we are currently running an extracurricular practical electronics course.



WHAT OUR STUDENTS SAY ★★★★★

“I wanted to say thank you for all of the help and guidance you gave me while I was at WSFC and to let you know that the **course and materials that you produced gave immense help throughout my university experience.** The engineering course at WSFC was a brilliant basis for mechanical engineering at university and the way it was delivered during those classes **provided the groundwork needed to succeed at university**”

Henry (class of 2019-21)

“I was just getting in touch to let you know that I was successful with the QUEST **Civil Engineering** scholarship application and thank you for signposting me to it... I would also like to mention that I've found **the engineering course really links with what I've started studying here at university**, especially the two pieces of coursework. So I'm very glad that the course was on offer!”

Emma (class of 2021-23)

“WSFC Physics & Engineering department has **the best teachers I have ever had**, and the **workbooks** for engineering are quite literally godlike. You could learn the entire course to a merit level off the books alone... **they are incredibly well made.**”

Morgan (class of 2023-25)



Scan this QR code to see a video of one of our former students discuss her experience of studying Engineering at WSFC. She achieved a Distinction Star in Engineering and went on to study *Aerospace Engineering with Pilot Studies*.



ENTRY AND SKILL REQUIREMENTS

- Minimum of Grade 5 in GCSE Combined Science or Grade 5 in GCSE Physics
- Minimum Grade 5 in GCSE Maths.

Please bear in mind, there is a high maths content in Engineering so students will also be expected to study Core Maths or another maths course alongside Engineering.

CONTACT US:

Telephone: 01905 362600

Email: enquiries@wsfc.ac.uk