Engineering FAQs

1. **Why study Engineering at TSS?**

   Engineering is an interesting, exciting and fast-moving subject and career choice. There is a never-ending world of opportunities available for someone who gains qualifications in engineering at GCSE, A level, apprenticeship or Degree level. Taking GCSE Engineering is the first step on a very exciting journey. Whether you have an interest in sport, the environment, electronics or mechanics there is an engineering career for you. There is currently a lack of people with the right skills to become engineers so there are many jobs in this sector, if it is something you want to take further. At TSS we have some highly skilled teachers with industrial backgrounds and also modern equipment which you would benefit from if you chose this subject at GCSE.

2. **Who is the course available too?**

   GCSE Engineering is a very challenging subject, due to the considerable Maths and Science content. Therefore, we only advise pupils who are currently in the top sets of their Maths and Science lessons to take the course. You must have also shown an enthusiasm towards your D&T lessons at KS3 and possibly been involved in the STEM Club activities in Years 7 - 9. I know this may come as a disappointment to some but there is also the Design &Technology GCSE, which is also an exciting subject, covering similar content and can lead to a career in engineering as well.

3. **What exactly does the course involve?**

   The course is split into two sections. The NEA (coursework) which forms 40% of the overall grade and the exam, which is worth 60%. Year 10 is a very intensive year covering all the necessary theory work needed to do well in the exam at the end of Year 11. We cover topics such as, mechanics, electronics and programming, material uses and properties, engineering manufacturing techniques and pneumatics, just to mention a few. As a school we also have links with many local engineering companies, and we use them to show pupils what the real world of engineering is like. In Year 11 pupils will mainly be working on their NEA (coursework). This is a real-world problem set by the exam board which pupils need to use their engineering knowledge and skills to solve. This will include research into the problem, designing and use of CAD/CAM equipment to manufacture working prototypes.

4. **What if I need further support with my work?**

   The workshops and teachers are always available after school or at lunch time to help you move forward with your work. You will find the teachers in the

Technology faculty helpful and keen to answer any questions or problems you may have.

5. Where next?

The opportunities for people with qualifications in engineering are endless. There are so many different sectors within engineering that whatever interest you have there is career in Engineering relating to it. I have listed a few examples below but there are even more than I mention. We run A level Product Design and many pupils match that course with A level Maths and Physics and go on to study Engineering at Degree Level. There are also many Engineering Apprenticeships available to take once you finish your A levels and because we have great links with local Engineering companies, we could help you out with that process.

6. Future career pathways include:

- Chemical Engineer
- Bimolecular Engineer
- Materials Engineer
- Molecular Engineer
- Corrosion Engineer
- Process Engineer
- Civil Engineer
- Environmental Engineer
- Geo-technical Engineer
- Structural Engineer
- Mining Engineer
- Transport Engineer
- Water Resources Engineer
- Electrical Engineer
- Electronic Engineering
- Computer Engineering
- Power Engineering
- Optical Engineering
- Mechanical Engineering
- Acoustical Engineering
- Manufacturing Engineering
- Optomechanical Engineering
- Thermal Engineering
- Sports Engineering
- Vehicle Engineering
- Power Plant Engineering
- Energy Engineering
- Software Engineering
- Computer-aided engineering
- Cryptographic Engineering
- Tele-traffic Engineering
- Web Engineering
- Systems Engineering
- Aerospace Engineering
- Agricultural Engineering
- Applied Engineering
- Biomedical Engineering
- Biological Engineering
- Building Services Engineering
- Energy Engineering
- Railway Engineering
- Industrial Engineering
- Mechatronics Engineering
- Management Engineering
- Military Engineering
- Nano Engineering
- Nuclear Engineering
- Petroleum Engineering
- Textile Engineering

7. What opportunities are there to support my learning in Engineering?

- Site visits to see what it is really like to work as an engineer. The visits also link to the curriculum and pupils learn from professionals.
- Take part in competitions either school based, regional or national, to improve soft skills such as teamwork and presentation skills.
- Have the opportunity to gain Crest awards (which is like DofE but in STEM).

8. Will I need any specialist equipment to study Engineering at KS4?

You will need to use the AQA GCSE Engineering revision guide, which will be very useful to help with learning the theory work. We have plenty of specialist materials and equipment at the school which we use during lessons. It would also be great to purchase an A3 folder to store class work in.

What if I have further questions about taking Engineering?

No problem! Please get in touch with Mr Green or Mr Collis on gen@titussaltschool.co.uk or cos@titussaltschool.co.uk . We would be more than happy to discuss any questions you currently have.