



OVERVIEW

The Engineering course prepares students for a career in engineering, it provides in depth knowledge of nine sectors and the careers available in all these areas. Students will develop an understanding of how to manufacture products from orthographic drawing, through manufacture to evaluation, using a range of media and materials, from hand tools to CAD, metal to ceramics.

The synoptic brief is released early September, students will have all knowledge needed prior to participation, but there are teaching opportunities available as an introduction/recap to each section of the synoptic project.

Autumn

Production planning techniques

1. Risk assessment
2. Control and quality control measures.
3. Flow charts
4. Gantt charts
5. Spreadsheets
6. Time planning

NEA released by NCFE October 1st

1. Analysis of the project brief
2. Independent research (2 hours)
3. Materials research (1 ½ hours)
4. Hand drawn engineered drawings (2 ½ hours)
5. BS8888 Standards (1 hour)
6. CAD drawings (2 ½ hours)
7. Production plan (3 hours)
8. Manufacturing (6 hours)
9. Evaluation (1 ½ hours)

Assessment:

Teacher assessment – Students will be assessed in each of the sections shown on the left and marked according to the exam board criteria shown below:

AO1 Recall knowledge and show understanding
AO2 Apply knowledge and understanding
AO3 Analyse and evaluate knowledge and understanding
AO4 Demonstrate and apply technical skills and processes
AO5 Manage and evaluate the project

Spring

Exam preparation

- Unit 1 – Engineering sectors
- Unit 2 -Science and Maths in Engineering
- Unit 3 – Reading engineering drawings
- Unit 4 – Properties, characteristics and selection of engineering materials.
- Unit 5 – Engineering tools, equipment and machines
- Unit 6 - Hand drawn Engineering drawings
- Unit 7 - Computer-aided design (CAD) engineering drawings
- Unit 8 - Planning techniques

Assessment:

For each unit revisited there will be an end of unit test which will be marked using exam board marking criteria.

All practice exam papers will be either marked in class as self-assessment, by teacher as a full marking or as a progression task with sampled marking.

Summer

External exam will take place during the summer exam series.

Useful resources for supporting your child at home:

Excellent design sketching tutorials:

[product designer maker - YouTube](#)

Student access to Focus eLearning – direct link given to students.

Homework:

Homework will be set fortnightly; students will have a digital Unit book which they will respond to research and questions online.