Years 10 & 11

GCSE Design and Technology

Course Content

The course is spilt into the following two areas:

* Component 01 - Principles of Design and Technology - 2-hour external examination - 50% of final grade.

* Component 02 - Iterative Design Challenge - Approximately 40 hours of internal controlled assessment - 50% of final grade.

Before students start Component 02 in June of Year 10, they will work on multiple short projects focusing on developing their design skills, making skills and theoretical knowledge of a whole range materials and processes.

The students will also cover all of the theory content in Y10 to prepare them for Component 1 so they can focus on their coursework and revisions during Y11.

Component 02 will start in June of the first year of the course. Students will design and make a product using the iterative design process that responds to a contextual challenge released by the exam board on June 1st. At the end of the project, students will submit multiple prototypes, a final prototype and a design portfolio that explains the journey of their idea and how they have attempted to respond to the contextual challenge.

Following the submission of the controlled assessment, students will then focus their attention to Component 01 which is a 2-hour written examination testing the theoretical aspect of the course.

Homework

Pupils should expect to receive an hour of homework a week, which will consist of a variety of research, design-based tasks, and revision for formative tests.

Equipment

Pupils may bring a craft apron to lessons. However, aprons are provided. All workshop tools will be provided. Pupils are required to purchase the course textbook and can chose to also purchase a course revision guide to aid them with their studies.

Visits/Extra-curricular

In Year 10 pupils will have to opportunity to visit the Design Museum in London offering them real insight into the design world and allowing them to further develop their knowledge preparing them better for their exam and coursework. Participation in work experience to gain design experience is an optional element of the course but is encouraged.

Engineering Manufacture

Course Content

The course is split into three different units.

1. **R014:** This is assessed by an exam. In this unit you will learn about the different types of manufacturing processes, and the different materials that can be used within manufacturing. Topics include manufacturing processes; engineering materials; manufacturing requirements; developments in engineering manufacture.
2. **R015:** This is assessed by a set assignment. In this unit you will learn how to safely plan and produce a one-off product by using appropriate processes, tools and equipment. Topics include planning the production of a one-off product; measuring and marking out; safely use processes, tools and equipment to make a product.
3. **R016:** This is assessed by a set assignment. In this unit you will learn how to manufacture using simple jigs and templates to support manufacturing in volume using Computer Aided Design (CAD) software and Computer Numerical Control (CNC) equipment. Topics include preparing for manufacture; developing programmes to operate CNC equipment; safely using processes and equipment to make products in quantity.

Assessment

Students will study three units which will provide them with a clear and coherent understanding of the world of engineering manufacture. Considerable time is spent learning both practically and theoretically about many engineering manufacturing techniques and processes. Students will also spend a lot of time completing practice questions and understanding exam technique throughout the course. The exam (R014) makes up 40% of your overall grade and then R015 and R016 are worth 30% each.

<u>In Yr10 we will focus on:</u>

- **Mock coursework:** This will be a practical task to equip you with the knowledge needed for completing R015.
- **R014:** principles of manufacturing (**exam**) 40%
- **R015:** manufacturing a one-off product (**NEA coursework**) 30%

<u>In Yr11 we will focus on:</u>

- **R016:** manufacturing in quantities (**NEA coursework**) 30%
- **R014 revision:** principles of manufacturing (**exam**)

Homework

Pupils should expect to receive an hour of homework a week, which will consist of a variety of research, engineering-based tasks, and revision for formative tests.

Equipment

Pupils may bring a craft apron to lessons. However, aprons are provided. All workshop tools will be provided. Pupils are required to purchase the course textbook and course revision guide to aid them with their studies.

Visits/Extra-curricular

Participation in work experience to gain vital engineering experience is an optional element of the course but is encouraged.

GCSE Food Preparation and Nutrition

Course Content

The course is spilt into five areas; food, nutrition and health, food science, food safety, food choice and food provenance.

Pupils will complete three assessments:

- Paper : Food Preparation and Nutrition - written exam (1 hour and 45 minutes), 100 marks and worth 50% of GCSE grade.
- Non-Exam Assessment (NEA) - Task 1 - Food Investigation - Students understand the working characteristics, functional and chemical properties of ingredients. Worth 15% of GCSE.
- Non-Exam Assessment (NEA) - Task 2 - Food Preparation Assessment - Students will prepare, cook and present a final menu of three dishes within a single period of no more than three hours, planning in advance how this will be achieved. Worth 35% of GCSE.

Homework

Pupils should expect to receive an hour of homework a fortnight, which will consist of a variety of research, food preparation and nutrition-based tasks, and revision for formative tests including using the online revision tool, Seneca. Parents will be able to access Seneca via email to track their child's progress.

Equipment

Pupils may bring an apron to lessons. However, aprons are provided. All kitchen tools will be provided. Pupils are required to purchase ingredients, the course textbook and course revision guide to aid them with their studies.

Visits/Extra-curricular

Participation in work experience to gain vital food preparation and nutrition experience is an optional element of the course but is encouraged.

Suggested Reading

AQA GCSE Food Preparation and Nutrition Second Edition : Tull, Anita, et al

AQA GCSE Food Preparation & Nutrition: Revision Guide : Tull, Anita

GCSE AQA Food Preparation and Nutrition: Illustrated Revision and Practice

Online Resources

Seneca - Seneca - Learn 2x Faster

BBC Bitesize - GCSE Design and Technology: Food Preparation and Nutrition - BBC Teach