



The Design and Technology Department will seek to ensure that all pupils:

- Achieve the highest possible standard of achievement
- Benefit from a curriculum which contains: breadth, balance, relevance, differentiation, progression and continuity.

### Curriculum Intent

Students are central to everything that we do. Our curriculum is designed to:

- Create a safe environment where there is an emphasis on success and potential, and where all individuals and their achievements are valued and celebrated.
- Provide a broad and balanced design and technology curriculum which encompasses a wide range of learning experiences and one that reflects the needs of users as well as social, moral, environmental and ethical issues.
- Include the teaching of accurate and effective use of appropriate tools, equipment, techniques and processes including CAD/CAM.
- Develop pupils understanding of design and technological processes and products, their manufacture and their contribution to our society.
- Foster pupil's enjoyment, satisfaction and purpose in designing and making things.
- Use the broad and multi-disciplinary nature of design and technology as a vehicle to help pupils develop their knowledge, confidence and understanding of Literacy, Numeracy and ICT.

The aims of our curriculum are to:

- Educate for life and provide them with skills and knowledge that goes beyond that of examinations.
- Provide equal opportunities for **all** our students.
- Offer a broad and balanced approach to learning, ensuring relevance, challenge, progression and continuity in all its structured activities.
- Provide programmes of learning which suit the learning styles of individual students.
- Allow flexibility to meet the needs of each student – thus ensuring that all students can achieve at least their expected attainment and progress.
- Develop local and global awareness.

In Design and Technology, we strive to ensure that students and staff have safe and pleasant conditions in which to work. The atmosphere should be one which reflects commitment to learning and progress, tolerance, care and respect of others and the environment, whilst celebrating the success of those who are part of the community.



## **Curriculum 2018/2019**

The curriculum at Wolstanton is aimed to provide a personalised experience for our students, designed to meet their individual needs. As such, in Design and Technology we endorse this by;

- Treating all students as individuals.
- Planning learning to meet the needs of all of our students.
- Offering a range of multi-disciplinary aspects of design and technology
- Focusing on developing students' skills.
- Providing different curriculum pathways.
- Providing a range of extended learning experiences outside of the classroom.
- Ensuring students have access to high quality information, advice and guidance.

### **Years 7, 8, 9 Curriculum Intent**

Design technology prepares pupils to take part in the development of tomorrow's rapidly changing world and in Years 7 to 9 our aim is to develop and enhance our students' practical skills and knowledge. To achieve this, we encourage students to become autonomous and creative thinkers and problem-solvers. It enables them to identify needs and opportunities and to respond by developing ideas, and eventually making products and systems.

### **Key Concepts**

Through their studies of Design and Technology students combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design technology helps and supports pupils to become discriminating and informed consumers and potential innovators.

### **Key Processes**

The Key processes of "Design, Make and Evaluate" will be delivered through a multi-disciplinary approach, whereby students will have the opportunity to design and make products in Design and Technology or Food Preparation and Nutrition.

### **Personalised Learning and Thinking Skills**

- Students will continue to gain independence in working creatively through the exploration of materials/ingredients and the use of different tools and processes.
- Students will be expected to evaluate and refine their work more critically, by becoming discriminant reflective learners.
- Students may be expected to use the work of others as a vehicle to develop their own work and skills as both individuals and as part of a team



## **KS3 information**

### **CONTENT Year 7-9**

In Year 7-9, students will follow a carousel curriculum, allowing them to study both Design and Technology and Food Preparation and Nutrition. Throughout all activities in Design and Technology students will develop a wide range of practical skills, using a variety of tools, equipment, techniques, materials and ingredients, as well as using CAD and CAM. They will have the opportunity to explore the work of different designers, current trends and explore different materials and ingredients which will deepen their understanding. Students are expected to develop ideas and knowledge in their workbooks. Emphasis is placed on developing in students, the confidence to express and communicate and develop ideas through a variety of media and skills.

### **Methods of Assessment**

- Peer and self-assessment throughout the project, at the end of which a Grade W-9, will be issued via teacher assessment.
- Students evaluate their own and others' work, to enable them to adapt and refine their own designs and products at different stages of the iterative design and make process
- Students will analyse, select and make reasoned choices when developing products and outcomes.
- Students develop design ideas and concepts when creating their products.
- They organise and present their own material and information in appropriate forms.
- Targets are set via the school's approach to assessment and feedback.

### **Extended Learning Expectations**

In the Design & Technology, homework is set on a regular basis for all students. It is an important aspect of teaching and learning. It reinforces, extends or compliments work completed during school time; it enables pupils to develop skills, attitudes and habits involved in independent study; it allows work during school time to be focused on learning and practical activities where the presence of a teacher is essential; and it provides opportunities to inform parents (further) about the nature and the standards of their children's Design & Technology activities and education.

### **Homework Frequency**

One-hour tasks set once every two-three weeks or more when required by a project to allow for more time.

### **Specialist Equipment**

It is essential that all students bring a pen and HB pencil for all design and technology lessons. It would be useful for students to have access to a calculator and coloured pencils for homework.



## **Years 10 & 11 Curriculum Intent**

### **KS4 information**

#### **Design and Technology**

GCSE Design and Technology will prepare students to participate confidently and successfully in an increasingly technological world. Students will gain awareness and learn from wider influences on Design and Technology including historical, social, cultural, environmental and economic factors. Students will get the opportunity to work creatively when designing and making and apply technical and practical expertise.

Throughout KS4 Design and Technology focuses on the practical application of Core technical principles, Specialist technical principles and Designing and making principles.

The KS4 design and Technology Curriculum aims to provide students with opportunities to explore a range of materials to include drawing, CAD, CAM, modelling/prototyping as well as using traditional craft techniques to realize their own products.

#### **Teaching And Assessment Arrangements**

- Classes are organised into mixed ability groups. Homework is usually set fortnightly and assessed using GCSE criteria and grades.
- 50% of the subject mark is obtainable through coursework where the student is given 40 hours to demonstrate their abilities with materials, processes and equipment where they will construct their own design to fulfil one of the set criteria given by the examination board
- The other 50% of the subject mark is available through an exam which includes questions that allow students to demonstrate their ability to:
  - recall information
  - draw together information from different areas of the specification
  - apply their knowledge and understanding in practical and theoretical contexts.

#### **Assessment**

Students will be assessed against the following objectives:

- AO1: Identify, investigate and outline design possibilities to address needs and wants.
- AO2: Design and make prototypes that are fit for purpose.
- AO3: Analyse and evaluate:
  - design decisions and outcomes, including for prototypes made by themselves and others
  - wider issues in design and technology.
- AO4: Demonstrate and apply knowledge and understanding of:
  - technical principles
  - designing and making principles.



## **Non-Examined Assessment**

The Non-exam assessment will contribute towards 50% of the students overall mark. The NEA project in its entirety should take between 30-35 hours to complete and consist of a working prototype and a concise portfolio of approximately 20 pages of A3 paper, equivalent A4 paper or the digital equivalent.

## **Extended Learning**

All students are expected to complete extension work. They are encouraged to use the local library, museums, together with Internet websites, to deepen their understanding of the iterative design process, the work of designers and technological developments

## **Study Support**

Students are given the opportunity to complete work at lunchtime and after school, on days convenient to staff, starting September and throughout the academic year.

## **Homework Frequency**

Students need to complete at least one hour of extra study each week. This is essential if they wish to complete the course.

## **Homework Types**

- Completion of work started in class.
- Revision activities for examination preparation
- Designing based activities

## **Specialist Equipment**

- HB pencil and Black Pen
- Calculator
- Protractor
- 300mm Ruler
- 2D design (Student version available for school)

## **Constructing the Built Environment**

Constructing the built environment will allow students to acquire and apply knowledge, skills and understanding through purposeful learning tasks set within the construction sector with many of the characteristics of real work. Constructing the built environment follows a concept of a 'plan, do, review' approach to learning where students are introduced to a context for learning, review previous learning to plan activities, carry out activities and review outcomes and learning. This approach mirrors many work related activities in constructing the built environment. It will give students a broad appreciation of work in construction sector and wider opportunities for progression into further education, employment or training. Students will be able to explore a range of constructional techniques through practical investigations of materials and techniques.



## **Teaching and Assessment arrangements**

Classes are organised into mixed ability groups. Classwork and practical activities are assessed using Vocational criteria and grades. Students will be able to carry out a range of constructional techniques and activities as well as undertaking a range of theoretical lessons to develop understanding of safety, materials, processes, roles and responsibilities of those within the construction sector.

### **Assessment**

Pupils will be assessed against the following objectives:

Safety and security in the construction industry

- **LO1** Know health and safety legal requirements for working in the construction industry
- **LO2** Understand risks to health and safety in different situations
- **LO3** Understand how to minimise risks to health and safety
- **LO4** Know how risks to security are minimised in construction

Planning constructional projects

- **LO1** Know job roles involved in realising construction and built environment projects
- **LO2** Understand how built environment development projects are realised
- **LO3** Be able to plan built environment development projects

Developing Construction Projects

- **LO1** Be able to interpret technical information
- **LO2** Know preparation requirements for construction tasks
- **LO3** Be able to use construction processes in completion of construction tasks

### **Internal Assessment (coursework)**

Coursework comprises of one assignment, whereby students are required to plan, carryout and evaluate 3 different constructional activities. The coursework should take no-more than 15 hours to complete; this includes carrying out practical activities and recording/evaluating.

### **Extended Learning**

All students are expected to complete extension work. They are encouraged to use the Internet websites in order to broaden their knowledge of constructional activities and processes.

### **Study Support**

Students are given the opportunity to complete work at lunchtime and afterschool on days convenient to staff, starting September and throughout the academic year.



## **Homework Frequency**

Students need to complete at least one hour of extra study each week. This is essential if they wish to complete the course.

## **Homework Types**

- Completion of work started in class.
- Revision activities for examination preparation
- Designing based activities

## **Specialist Equipment**

- Safety boots or old shoes/trainers
- Overalls (provided in school)
- PPE (provided in school)
- HB pencil and black pen
- Calculator
- Protractor
- 300mm Ruler

## **Food Preparation and Nutrition**

GCSE Food Preparation and Nutrition is an exciting and creative course which focuses on practical cooking skills to ensure students develop a thorough understanding of nutrition, food provenance and the working characteristics of food materials. Food Preparation centres on nurturing students' practical cookery skills to give them a strong understanding of food preparation and nutrition. The curriculum is explored through food preparation and making activities and students will be expected to make connections between theory and practice to apply their understanding of food and nutrition to practical preparation. The KS4 curriculum will focus on five core topics;

- Food, nutrition and health
- Food science
- Food safety
- Food choice
- Food provenance.

As well as deepening students understanding of food preparation and nutrition and providing them with opportunities to develop important life skills, the curriculum also intends to ensure that students develop the necessary skills for further study, or embark on an apprenticeship or full time career in the catering or food industries.

## **Teaching and Assessment arrangements**

- Classes are organised into mixed ability groups. Students will be expected to undertake a range of practical activities as well as undertaking theory based learning about the different aspects of Food Preparation and Nutrition. Homework is usually set fortnightly and assessed using GCSE criteria and grades.



- 50% of the subject mark is obtainable through 2 NEA assignment (coursework) Food Investigation task and Food Preparation Assessment
- The other 50% of the subject mark is available through an exam which includes questions that allow students to demonstrate their ability to:
  - recall information
  - draw together information from different areas of the specification
  - apply their knowledge and understanding in practical and theoretical contexts.

## **Assessment**

Students will be assessed against the following objectives:

- AO1: Demonstrate knowledge and understanding of nutrition, food, cooking and preparation.
- AO2: Apply knowledge and understanding of nutrition, food, cooking and preparation.
- AO3: Plan, prepare, cook and present dishes, combining appropriate techniques.
- AO4: Analyse and evaluate different aspects of nutrition, food, cooking and preparation including food made by themselves and others.

## **Non-Examined Assessment**

The Non-exam assessment (2 assignments) will contribute towards 50% of the students overall mark. NEA project one should take approximately 10 hours comprising of research, investigation and summarizing the functions or properties of certain ingredients. NEA project two should take approximately 20 hours comprising of contextual research, carrying out planned and evaluated practical tasks, culminating in a 3 hour practical, where 3 different dishes must be made.

## **Extended Learning**

All students are expected to complete extension work. They are encouraged to source and select ingredients for their practical activities. They are encouraged to watch food related TV programmes, visit restaurants with family and friends as well as using Internet websites, to deepen their understanding of food preparation techniques, ingredients and nutrition.

## **Study Support**

Students are given the opportunity to complete work at lunchtime and after school, on days convenient to staff, starting September and throughout the academic year.

## **Homework Frequency**

Students need to complete at least one hour of extra study each week. This is essential if they wish to complete the course.

## **Homework Types**

- Completion of work started in class.
- Revision activities for examination preparation
- Preparation of ingredients for practical activities
- Using online revision tools such as Seneca learning to support understanding



### **Specialist Equipment**

- HB pencil and Black Pen
- Students are expected to bring in their own ingredients for practical activities (recipes are provided in advance to let pupils know)
- School will provide all specialist equipment and tools needed for practical lessons