Newport Girls' High School **Y7-11 Learning Overview**

Subject:	Design Technology	Lead Teacher:	R Williams	Year:	8

Curriculum organisation

Students are taught in mixed groups of **20** for **one** hour per week. They are not grouped by ability.

Overview of Topics & Key Information

Term	Unit(s) of Work	Key Enquiry Questions	Key Content/ Terminology	Skills developed	How will your child be learning?
Autumn Term	Computer aided modelling. 3D design software. Architectural design project. Design research skills.	• How do we produce different presentation images of our designs? • Why are these techniques used? • How can we apply Computer Aided Design techniques to our own designs? • Why is understanding past products important when designing? • Where can we use the influence of the user in the design process?	• Computer Aided Design software introduction. • Scale size and measures within design. • Graphical representation of designs. • Research (Product Analysis). • Target market. • Functional and aesthetical appeal to inform the design of innovative solutions.	• Producing virtual 3d models. • Evidencing the design process. • Understanding the work of others. • Knowing a target market and their needs. • Design considerations for a product.	• Whole class discussion • Pair work • Watching short video clips • Research tasks • Individual focus Practical Tasks and activities (building blocks) • Investigation and Research activities. • Demonstration activities • Health and Safety discussions • Group collaborative work with testing focus. • Problem-solving and investigation tasks. • Communication tasks. • Use of whole school Rosenshine's principles of instruction-strategies for student autonomy with student led projects and design work, effective and meaningful feedback to increase progress.
Spring Term	Flat packed design challenge 2D design software.	• What investigations will need to take place? • How will you present your ideas? • Why is safety important within products? • What materials will be suitable for this product? • How can we test out our design?	• Theory – Forces and Structures. • Research – Product analysis. • Design development. • Health and Safety (Practical equipment/tools). • Modelling techniques/skills group collaboration. • Testing. • End Testing and Evaluation Techniques.	• Working towards a brief. • Understanding the needs of a user. • Idea generation. • Graphic communication. • Modelling. • Testing and evaluations.	
Summer Term	Flat packed design challenge Food and nutrition .	• How can we test our designs? • How can manufacturing impact the designs produced? • What are the nutritional needs of people and how can this be impacted? • Where does our food come from? • How is seasonal food impacted by this?	• Product development. • Modelling techniques. • CAD package 2d Design tools, interface and techniques. • Mechanism construction and assembly. • Food choice-labelling and safety. • Food provenance.	• Working to a design criteria. • Developing a functional design. • Introduction of Computer Aided Manufacturing. • Understanding food labels and their importance. • Identifying sources of our food.	

Equipment needed for lessons	How will learning and progress be assessed?
• Standard school stationery • Exercise book • Calculator? • Coloured pencils	• End of unit tests (subject knowledge focus) • Formal assessment week (May) • Peer and self assessment • Homework tasks (often research or project based) • Retrieval practice activities • Baseline assessment 1st 2 weeks in September • Final outcomes assessment with targets for development.
Extension & Enrichment opportunities	**What can you do to support your child?**
• In-class extension tasks that are appropriate to activity and thought provoking for early finishers that progress more quickly than peers. • Coaching opportunities during lesson. These often lead to ambassadors for the subject in later years. • Age appropriate engineering summer school and day courses are communicated to students. Example Small Piece Trust.	• Support with practical homework activities and organisation. • CAD packages are free to download for home use to extend skills.
Inclusion	**Inclusion within Design Technology**
• Teachers follow student passports to ensure that the needs of all students with SEND are met. • Work is enlarged to the necessary size for visually impaired students. • Teachers will ensure that classrooms are quiet learning environments where possible and will dim lights to support students with sensory needs. • Students have the use of laptop if they have a SEND need whereby use of a laptop supports them. • Hearing impaired students are supported through use a radio aid and teachers ensure that students can lip read at all times during lessons. • Dyslexic students are encouraged to use coloured overlays when they are required to read long passages. • Use of dyslexic friendly fonts and coloured backgrounds used in PowerPoints/resources. • Students with ADHD are given movement breaks, fidget toys and lessons are 'chunked' to aid concentration. • Students are seated according to their needs, students work with the SENDCo to decide upon this.	• Within projects students learn about a range of designers with a full range of backgrounds. • Students are supported practically by the teacher or TA if a student requires this. • Equipment I adapted where necessary to accommodate the needs of the students with SEND. • Where necessary students are given frequent one to one tutorials and demonstrations to revisit previous techniques and processes taught to support their understanding. • Students are encouraged during designing to think about their own experiences and how these interact with the material/ project they encounter. • Dyslexic students are provided with knowledge organisers for each topic in order to have reference to key terminology and definitions. • Use of visual and audio cues to support processing of written text. • Keywords/ subject specific vocabulary displayed on walls to aid memory. • All teachers employ inclusive pedagogy so not just what they teach but how they teach is inclusive through a variety of delivery techniques (step-by step guides, mind-maps, multiple choice questions, placemats/ written task instructions) and assessment design which contributes to the achievement of all pupils (use of model examples, scaffolder responses)

If you have any questions about this Learning Overview, please contact the named Teacher above.