



Newport Girls' High School Curriculum Summary

Faculty: Art and Design Technology Faculty	Subject: Design and Technology
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Our Vision

Faculty Vision

The Art and Design Technology Faculty gives students the chance to develop their knowledge, confidence and to articulate their hard work and progress. Within this Faculty, we aim to create the very best artists, designers and creative thinkers.

The Art and Design Technology Faculty is dedicated to developing critical thinking and visual literacy through a challenging and engaging environment. We hope to develop a lifelong passion to learn, explore, create and work like those in the field would. Our subjects empower students through collaboration and encourages the sharing of ideas and with peer critiques students are guided to be positive, specific and helpful to discuss their own work and that of others. By placing this focus on our curriculum, we want to make learning accessible, rewarding, thought provoking and meaningful to all, allowing us to challenge students to problem solve and reach their potential.

The Faculty staff have a passion for their subject and this enthusiasm permeates through each learning experience planned to excite students to think and create.

Subject Vision

To foster curiosity, ingenuity and imagination through personal involvement of combining practical and technological skills with creative thinking to design and make products of increasing challenge that initiates independent thought, solves problems and enhances self-confidence. All students should be able to apply an iterative design process to provide solutions to given problems they are faced with in society and through their project development, allowing them to develop the ability to argue, justify and present with confidence and clarity.

Curriculum Intent

The curriculum has been designed to develop; design, knowledge, making and evaluation, the key principles of the Design Technology specifications. Design awareness is the understanding that all of the items or products we interactive with on a daily basis are designed for a reason. All students should be made aware that design, development and realisation provide products or systems for human wants and requirements. Students need to know that design is there to develop and improve the quality of comfort, transport, physical needs, communication, health as well as for aesthetic reasons.

Real world problems are used to develop the students understanding of the huge, life-changing role and impact a designer can have:

- Knowledge of important design movements and their origins from culture and how this has impacted society and fashion.
- Knowledge of materials, their origins, strengths and weaknesses to help develop outcomes that are more realistic and commercially viable.
- Good understanding of how environmental considerations can impact design decisions, both positively and negatively.
- Knowledge of how Ergonomics and design impacts lives regardless of their needs and situations.

At KS3, students study a wide range of topics with the aim of providing a foundation of the key principals of Design and Technology. We feel that KS3 should be an enjoyable, yet challenging introduction to a range of techniques and approaches centring around the design process. Programs of learning are always under review with a view to adapting the content to make them relevant to the modern world and therefore relevant to the lives of our students.

The enthusiasm and commitment of the departmental staff ensures students enjoy their lessons and make excellent progress throughout the key stage, whilst also developing a sound understanding of design principals which many take forward to develop in KS4.

At KS4, we study the AQA syllabus for Design and Technology. This 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, applying technical and practical expertise. Our GCSE allows students to study core technical, designing and making principles, including a broad range of design processes, materials techniques and equipment. Students will also have the opportunity to study specialist technical principles in greater depth. This course supports the seamless transition into KS5.

At KS5, students continue with a creative and thought-provoking qualification, giving students the practical skills, theoretical knowledge and confidence to succeed in a number of careers, especially those in the creative industries. Students investigate historical, social, cultural, environmental and economic influences on design and technology, whilst enjoying opportunities to put their learning in to practice by producing prototypes of their choice. Students will gain a real understanding of what it means to be a designer, alongside the knowledge and skills sought by higher education and employers.

Curriculum Sequencing Rationale & Implementation

The order in which projects are taught is designed to lay the foundations for further studies at all future key stages. Most importantly all projects are based around the design process, this being key through all levels of design education and of course in the world of work. Through relevant projects students will build an understanding of how this works and be introduced to increasing level of complexity of the process and its constituent parts. Students will explore design solutions to real life problems, ensuring ideas and thinking are clearly recorded and presented in folders. Students will also develop knowledge and understanding of materials, techniques and industrial systems. The curriculum is structured to allow students to seamlessly develop their understanding of the subject and progressively increase practical skills and knowledge of industrial processes.

Curriculum Design Features

- Excellent teaching delivered by teachers with a deep knowledge of their subject.
- High expectations at all times and a belief that all students can meet those expectations (taking the ceiling off topics and lessons).
- Develop students' key skills of teamwork, leadership, listening, presenting, creativity and problem-solving across the curriculum.
- An emphasis on the increase of Oracy across all areas of the curriculum to evaluate, analyse and support their design decisions.
- An opportunity for all to access the cultural capital this provides.
- Using latest technologies and strategies as teaching tools to improve the learning for the student both at school and when they are learning at home.
- A flexible curriculum which allows students to follow their talent and interests as well as providing extra support and challenge, emphasised at KS4 and developed further at KS5.
- Coordination between subjects so that students have rich opportunities to draw on knowledge and skills from across the curriculum within each subject.
- A five year Scheme of Learning to allow the best progress within the subject from KS2 and develop skills that are often lacking or not developed when they arrive at high school.
- A two year curriculum plan at KS5 to allow time for students to develop a deep knowledge of their chosen subject.
- Data and knowledge of the student used to produce lessons that will stimulate and engage them enabling students to be challenged and stretched.

- Assessment strategically planned into schemes of work enabling teachers to give high quality feedback to students and parents and using the student/parent/school partnership to support the development of the student.
- The curriculum is regularly reviewed in order to ensure that it meets the needs of our learners' development
- Our curriculum is built around problem-based learning. Students are grouped in years 7 & 8 and taught to provide solutions amicably and realistically.

KS3:

The topics in the curriculum focus on graphics and CAD/CAM. Due to a reduction in class sizes in y7 and y8 this is now being reviewed with a return of some more practical elements.

Our introduction to Y7 focuses upon graphics, nutrition and packaging. Through this, students are introduced to and are able to develop an understanding of key nutritional information and its relevance to them. They also learn about the presentation of ideas, drawing and modelling of concepts through investigation and creativity. This allows students a broad experience across the ability range and provides students with less prior experience of DT an opportunity to augment their skills.

In Y8 students are introduced to CAD/CAM through an architectural project where students will work precisely and accurately to set restrictions. This will develop into project work where students are encouraged to be truly independent learners and develop key skills of teamwork, leadership, listening, presenting, creativity and problem-solving across the curriculum.

KS4:

Having completed the full KS3 course by the end of Year 8, students commence GCSE courses in Year 9. This begins with the highly creative and enjoyable jewellery project. This builds upon prior learning relating to CAD/CAM and also introduces a number of key materials and techniques. In particular students will experience using a range of hard woods, metal casting and advanced laser cutting. A more concentrated focus on technology theory is necessary to prepare students for the GCSE exam. To this end students will participate in focused theory lessons.

During year 10, students begin examination preparation whilst increasing their independent and group work skills, knowledge and understanding of a broad range of material properties (physical and mechanical). Students learn about new and emerging technologies that directly impact on the solutions. Having the knowledge of specialist technical principles then supports the student in problem solving and practically applying solutions to meet the client requirements.

Year 11 enables individuals to produce a portfolio building on their previously gained knowledge and skills. The evidence equates to 50% of their overall GCSE grade. The coursework element of the subject provides the student with the opportunity to show evidence of their knowledge, skills and understanding whilst demonstrating they can apply the design process effectively and meet the requirements of their chosen client. The coursework challenges the student as the context is set by the examination board AQA. During this time, students will complete tutorials with the teacher with an emphasis for the student to complete an independent, organised and time managed response. Key assessments are undertaken with timely delivered theoretical lessons to gauge individual understanding and to support the student so they are prepared for their final examination and Key Stage 5 Product Design. The opportunity to apply for an Arkwright Scholarship is introduced and if successful the student gains links with a company and has financial backing during their A Level studies. The companies often allow the students to expand on their practical work experience and work shadowing that is so valuable in forming professional relationships in industry.

KS5:

A summer investigation research project is set over the summer on the completion of year 11 to allow students entering year 12 to gain historical information about Design Movements and the work of past and present designers. Students interests are considered when setting projects in year 12 and the student begins to set their own challenging design and make briefs. These mini projects support UCAS applications and provide evidence of the quality of their A3 work, whilst having the opportunity to experiment with various materials and manufacturing processes. As the students produce evidence of their abilities, additional theoretical studies that build on previous knowledge and understanding take place in and outside of school time. Detailed Case Studies and analysis of

examination questions and techniques also run parallel to support the student in becoming proficient in the subject. As students enter year 13 they expand on their experience and skills. The students select a context then produce a 45-page portfolio and a 3d outcome that is challenging, meets the need of a specific client and solves a focused problem that they individually set. Students are encouraged to complete practical investigations, engage with their client and produce innovative designs, prototypes and a final 3d outcome applying industrial practices to ensure the produce is vigorously tested. The student is now in the position to have the skillsets required to design and make marketable products using a broad range of materials, techniques and manufacturing processes.

For specific information relating to the content of the curriculum in each year group, opportunities for wider personal development and enrichment, and ways for parents to support their child in their learning within this subject, please see the Learning Overviews on our website.