



St John's Curriculum Overview – Year 13



Subject title	A2 Product Design - Edexcel
Setting arrangements	Mixed ability
Time allowance each fortnight	9 periods

Introduction
Students use their understanding of theory concepts along with designing and making skills from previous projects within a major NEA project. The project involves identifying a problem through working with a client. Students must show independence and project management skills to be successful.

Topics, Skills and Assessment covered during the course

	Topics covered	Skills developed	Assessment
Term 1	Major NEA Project Theory - Design in society	<ul style="list-style-type: none"> • Problem identification and exploration • Research and investigation skills • Analysis of research • Specifications developed based on results of feedback • Design ideas • Design through history • Planned Obsolescence • Smart Materials • Form vs. Function • Mass manufacture 	Practice exam questions Student led and researched presentations and handouts assessed.
Term 2	Major NEA Project Theory - Sustainability	<ul style="list-style-type: none"> • Analysis of ideas • Development of ideas • Physical & CAD modelling, testing and evaluation of ideas in consultation with client • Final Design and review • Planning of manufacture • Offshore manufacture • Principles of sustainable design 	Practice exam questions

		<ul style="list-style-type: none"> • Cleaner Design & Technology in industry • Recovery of materials 	Student led and researched presentations and handouts assessed.
Term 3	<p>Major NEA Project</p> <ul style="list-style-type: none"> - Planning & manufacture <p>Theory</p> <ul style="list-style-type: none"> • Industrial & commercial techniques 	<ul style="list-style-type: none"> • Orthographic Projection • Exploded views & cutting list • Lay plans • Production Plan • Risk Assessments • Material sourcing, preparation and manufacture of product • Manufacturing systems • Just in Time • Quick Response Manufacture • Concurrent Manufacturing • Enterprise Resource Planning • Product Data Management • Flexible Manufacturing Systems • Robotics in manufacture • Automatic Storage & Retrieval Systems (ASRS) / Automatic Guided Vehicles (AGVs) 	Practice exam questions Student led and researched presentations and handouts assessed.
Term 4	<p>Major NEA Project</p> <ul style="list-style-type: none"> - Manufacture - Evaluation <p>Theory</p>	<ul style="list-style-type: none"> • Manufacturing and assembly of product • Making Diary • Finishing • QC • Testing of product against Specification • Final client feedback • Revision of Yr12 topics 	Internal assessment of NEA project Internal moderation External moderation of NEA by Edexcel Mock exam Practice exam questions Student led and researched presentations and handouts assessed.
Term 5	Theory	<ul style="list-style-type: none"> • Exam preparation & technique • Revision of all topics 	Practice exam questions

Resources Recommended for Revision and where they are available:

Edexcel A Level Design & Technology – Product Design – Resistant Materials
Technology Textbook by Pearson/ Jon Attwood

Students to download **Solidworks** professional CAD software available to
students with license (available from Mr England).

Homework:

Students expected to continue to make (supervised) practical progress
during study periods.

Additional support and help for the course

Technician support
Solidworks 3D CAD support from Mr England