

Engineering @ WBS Year 11 Roadmap

Subject Aim: Students will supplement prior knowledge of theory concepts and the practical workshop skills that they have covered during Y10 with additional skills specific to their NEA context. The structure of the Year 11 course is centred around the completion of the NEA project in which will demonstrate their knowledge of a range of engineering skills and techniques to build a functioning system in response to a brief set by the exam board.

NEA STAGE 1		ASSESSMENT IN YEAR 11
AUTUMN TERM	<p>Problem analysis</p> <p>Analysis of the problem</p> <p>Design brief</p> <p>Relevant variables that may affect the solution</p> <p>Research into existing solutions</p> <p>Detailed systems research</p> <p>System specification</p>	<p>NEA project will be assessed as follows:</p> <p>Regular submissions for folio sections to be submitted to Brightspace throughout the project. Individual teacher feedback provided for improvement of NEA available via documents linked to Brightspace portfolio.</p>
	NEA STAGE 2	
SPRING TERM	<p>Problem solving / Modelling</p> <p>Systems block diagrams to describe a range of possible solutions</p> <p>Justified choice of systems solution for further development</p> <p>Systems development drawings</p> <p>NEA off-timetable day—development of systems /modelling of systems</p>	<p>Homework is focussed on completion and improvement of the NEA folio throughout Y11. This is also supplemented with a program of testing on functional maths & science skills set via a range of tests on paper, Brightspace quizzes and online tests</p>
	NEA STAGE 3	
SPRING TERM	<p>Development drawings & CAD modelling</p> <p>Systems development modelling</p> <p>Working engineering drawings of final prototype system</p> <p>Work begins on final prototype of engineered system</p>	<p>Content in the form of revision textbook chapters for each of the theory aspects of the syllabus can be found on Brightspace and is intended to support students when revising for the Brightspace quizzes and mock exam.</p> <p>Maths & Science functional skills revision materials available on Brightspace</p>
	NEA STAGE 4	
SPRING TERM	<p>Engineering skills—Manufacture of prototype</p> <p>Work continues on final prototype of engineered system</p> <p>Engineered solution is given an interim demonstration</p>	<p>SMSC and British Values: Please see The Creative Designs Department’s SMSC Document. Throughout the course students will discuss various Product Design related careers and what skills are linked to real jobs in the industry. This will be driven by certain aspects of the specification content. Cultural Capital: Cultural Capital: Students will study a wide range of designers from a variety of backgrounds, and will also view and study different social, economic and cultural groups from a variety of backgrounds so that they can be encouraged to emphasise and relate to others demonstrating that they can also achieve their aspirational dreams irrespective of their own background. Extra-curricular lessons will also run every week to help support students with their theory, NEA and practical work and it is essential students use these facilities to reach their potential grades.</p>

SUMMER TERM	NEA STAGE 5	TOPIC 6 - NEA
	<p>NEA – Testing and evaluation</p> <p>Final prototype of engineered system is submitted Testing and evaluation of system is carried out and report is submitted Final NEA folio is submitted MOCK EXAM to take place during final week of term</p>	<p>Exam revision programme</p> <p>All aspects of syllabus to be covered in the run-up to the exam period Audit of spec carried out by students to identify weaker areas of knowledge</p>

Where Next?

The outcomes of the course are assessed in the summer exam series.
 The department offers a route through to A level study via the Edexcel Product Design course