Year 11 -Bilton School Planning for Progress over Time - Engineering Design Programme of

INTENT: To develop knowledge and understanding of the designing, making and analysing skills used by an Engineer. Students are to apply this knowledge over the course of key stage 4.

The bigger picture: This course links with Art as it coincides with the drawing units they cover in key stage 3. It also links with ICT and computing as they cover design as one of their topics. In order to raise achievement we have introduced 2 units during key stage 3 to improve Cad skills. We run a trip to JLR as a memorable experience in key stage 4 This gives a students the chance to see

ubject: Cambridge National Engineering Design - Level 1/2 Certifica

R1O5	Theory: Design briefs, specifications and user requirements
R106	Analysis: Product analysis and research
R107	Designing: Developing and presenting engineering designs
R108	Making: 3D design realisation

Spec code - J831. J841 - Component code 601/1411/3

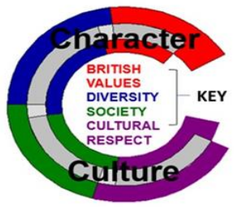
IMPLEMENTATION

Year 11	Term 1 -								Term 2 -							Term 3 -						Term 4 -						Term 5 -					Term 6 - R108						
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	R108	R108	R108	R108	R108	R108	R108	R108	R108	R108	R108	R108	R108	R106	R106	R106	R106	R106	R106	R106	R106	R106	R106	R106	R106	R106	R106	EXAMS Preparation 7	EXAMS	EXAMS	EXAMS	EXAMS							
Progress and assessment	**Assessment 1** - LO1a and b **Assessment 2** - LO2								**Assessment 3** - LO3 Making **Assessment 4** - Evaluating							**Assessment 5** - Overall R108 **Assessment 6** - Overall R108						Assessment 7 - LO1 Assessment 8 - LO2						Assessment 9 - Overall R106										
Homework	Complete classwork - attend inytervention on a tHirsday or Friday to catch up with Practical classwork								Complete classwork - attend inytervention on a tHirsday or Friday to catch up with Practical classwork							Work on R106 From home, in the library						Work on R106 From home, in the library						Extra intervention - After school club - 1:1										
Key Vocabulary	See class powerpoint and revision booklet								See class powerpoint and revision booklet							See class powerpoint and revision booklet						See class powerpoint and revision booklet						See class powerpoint and revision booklet										
Connected Knowledge	**Links:** ICT Computing, Art, Business, Maths, Science - Physics,								**Links**: ICT Computing, Art, Business, Maths, Science - Physics,							**Links:** ICT Computing, Art, Business, Maths, Science - Physics,						**Links:** ICT Computing, Art, Business, Maths, Science - Physics,						**Links**: ICT Computing, Art, Business, Maths, Science - Physics,										

IMPACT: Students will be able to measure progress using tracking sheets on the departmental PLC and school reporting system and data input. Students will have a tracking sheet that documents progress, giving specific feedback, actions and allow students to improve work and respond to the feedback. All assessments will use a generic criteria AND be moderated through dept meetings to measure progress over time within and across year

TOPIC:

R105	1	The design cycle. The identify, design, optimise and validate phases
	2	User requirements, aesthetics, ergonomics, anthropometrics, safety etc.
	3	Product requirements, function, performance, target group
	4	Materials, manufacturing and production considerations
	5	Sustainability, LCA and environmental pressures
	6	Safe working practice, regulations, legislations and safeguards
	7	Wider influences on the design of a new product, market pull/push, cultural fashions etc
R106	8	Existing product analysis
	9	Product disassembly
R107	10	Generate a design proposal
	11	Develop designs using engineering drawing
	12	Communicate designs using CAD software
R108	13	Planning a prototype
	14	Make a prototype
	15	Evaluation of the success of a prototype



Character and Culture is embedded throughout the programme of study and coded as shown above

END POINTS:
At the end of the Engineering Design Unit students will be able to:
1) Understand theory topics
2) Analyse exiting products
3) Design a product 4) Make a product Buzz words/phrases: Design brief, specification, user requirements, analysis, design and make

They will be able to do this by:
1) Creating an e-folio
2) Creating a final model
3) Successfully answer questions in the exam