YEAR 9 CURRICULUM SUMMARY

When?	Key Learning Objectives Key Questions (including generic skills, study skills and exam skills)	Teaching/Learning methods Differentiation Opportunities (SEN/ G &T / EAL)	Assessment
½ Year rotation Finishing with the major design & make task		Lessons are broken down into 8 minute sections subliminally (maximum attention span of young adolescents). As this is a practical based lesson with new skills being acquired and then further developed, demonstrations are kept minimal to maintain effectiveness. After 8 minutes pupils are refocused using questioning or another demonstration. Plenaries are used at the end of the lesson to tie up loose ends and embed the learning of the lesson. The aim of the year 9 Design and technology curriculum is to **develop fine motor skills** that will be used in KS4.	The pupils are assessed using the following mediums: • Higher order questioning • Peer discussion • Self-assessment • Peer assessment • Practical outcomes • Quality of portfolio work (grading and marking based on attainment and effort) • Engagement in the lesson • End of module grading • Homework tasks Engagement and ability to work with others effectively and develop.
4 weeks	**<u>Mobile phone holder</u>** A small design and making task. Research & Analysis of the problem with a simple specification. Creating a range of design ideas work with a set specification and a limited number of their own points. Also working from a set materials list. Development & final idea to be modelled before manufacture. Knowledge & skills; Thermo plastics/plastic memory. Shaping & cutting Acrylic. Cleaning up the edges & polishing. Using the strip heater. CAD/CAM – using the vinyl cutter to add decal.	**Demo of the use of the vinyl cutter and the software. Talk about economic use of the vinyl to bring down the cost and save resources.** **H&S whilst using strip heater – demo different angled bends. Reinforce team work here can be used and important.**	
4 weeks	**<u>Graphics Module</u>** Plane & solid geometry exercises designed to support correct uses of drawing board and graphics equipment. 3rd Angle Projection fully dimensioned leading to an Isometric view of the same product. Introduction to using a drawing board with a parallel motion. Front elevation exercise leading to copying techniques and rendering exercise.	**Demo techniques. Give examples of how these views can be used to illustrate design work and final design working drawings.**	

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4 weeks 4 weeks	**ProdeskTop Module** A basic introduction to CAD drawing software. How to create 2D designs. How to generate a 3D object. How to save these files. Amend them. Apply colour and texture and export to create a working drawing. Saving as an STL files. **Food Technology** To help develop further, individuals recognise that food is a basic requirement of life and should be enjoyed. Food preparation: promote acquisition of food skills; encourage high food safety and hygiene standards; apply healthy eating knowledge; use a range of food to create a range of recipes that the students can produce a menu to cook for family and friends at home. (starter, main, desert and accompaniment). Build more knowledge of the cooking area. **Desk Tidy Project** This is a design & make exercise. Students will be able to draw on the skills acquired in other modules this year and from years 7&8. There will be a limited materials list but students will be expected to follow the situation and design brief. Research and analyse the problem. Create a range of ideas. Develop them into a final design and create a part list and costing for the product. Modelling where necessary and then make their product. All changes should be recorded, product tested and evaluated.	**Mention the use of plans for manufacture and parts lists.** **Demo all techniques.** **Demo a STL file that has been saved and send it to the 3D printer. This will show how the software can link to hardware to create an outcome.** **Demo all skills & processes. Importance to stress the creatation of a whole menu so as the students can create a family meal and begin to develop life cooking skills that will support them throughout their lives.** Show how to create a detailed parts list with costing. Demo butt, mitre and finger joints. Importance of cleaning up the materials before gluing so as they are	

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		not left with pencil marks on the inside that they can't remove. The pupils complete **peer discussion, class discussion and independent work** during these weeks. At the end of the module the pupils complete an evaluation. This is to promote metacognition and embed the learning through reflection. Pupils **self- assess and peer assess using the rubric** in the booklet. The pupils are differentiated over the weeks of the module using bloom's taxonomy with the higher ability pupils getting onto the Create section. As it is an introductory module they all start on the same starting point but should finish on different points depending on their ability. Work is **scaffolded using handouts and help sheets** as well as extension tasks based on more advanced metallurgy topics handed out to the higher achieving pupils.	